July 07, 2020

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

TEL: (916) 786-3302
FAX:

Workorder No.: N041072

RE: PG&E Topock - GMP, RC000753.801D

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 22, 2020 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

Nancy Libucao for

Puri Romualdo
Laboratory Director

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CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041072

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Analytical comments for EPA 218.6:

Dilution was necessary for samples N041072-003 and -004 due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical comments for SM4500-NO3F:

RPD for N041072-003CDUP sample duplicate is outside criteria; however, the associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *07-Jul-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041072
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N041072-001A	MW-59-100-Q220	Groundwater	6/22/2020 11:44:00 AM	6/22/2020	7/7/2020
N041072-001B	MW-59-100-Q220	Groundwater	6/22/2020 11:44:00 AM	6/22/2020	7/7/2020
N041072-001C	MW-59-100-Q220	Groundwater	6/22/2020 11:44:00 AM	6/22/2020	7/7/2020
N041072-001D	MW-59-100-Q220	Groundwater	6/22/2020 11:44:00 AM	6/22/2020	7/7/2020
N041072-002A	MW-57-070-Q220	Groundwater	6/22/2020 12:51:00 PM	6/22/2020	7/7/2020
N041072-002B	MW-57-070-Q220	Groundwater	6/22/2020 12:51:00 PM	6/22/2020	7/7/2020
N041072-002C	MW-57-070-Q220	Groundwater	6/22/2020 12:51:00 PM	6/22/2020	7/7/2020
N041072-002D	MW-57-070-Q220	Groundwater	6/22/2020 12:51:00 PM	6/22/2020	7/7/2020
N041072-003A	MW-57-185-Q220	Groundwater	6/22/2020 1:31:00 PM	6/22/2020	7/7/2020
N041072-003B	MW-57-185-Q220	Groundwater	6/22/2020 1:31:00 PM	6/22/2020	7/7/2020
N041072-003C	MW-57-185-Q220	Groundwater	6/22/2020 1:31:00 PM	6/22/2020	7/7/2020
N041072-003D	MW-57-185-Q220	Groundwater	6/22/2020 1:31:00 PM	6/22/2020	7/7/2020
N041072-004A	MW-912-Q220	Groundwater	6/22/2020 1:41:00 PM	6/22/2020	7/7/2020
N041072-004B	MW-912-Q220	Groundwater	6/22/2020 1:41:00 PM	6/22/2020	7/7/2020
N041072-004C	MW-912-Q220	Groundwater	6/22/2020 1:41:00 PM	6/22/2020	7/7/2020
N041072-004D	MW-912-Q220	Groundwater	6/22/2020 1:41:00 PM	6/22/2020	7/7/2020
N041072-005A	EB-709-Q220	Groundwater	6/22/2020 2:10:00 PM	6/22/2020	7/7/2020

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ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-59-100-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 11:44:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200623B**	QC Batch: **R145269**			PrepDate:			Analyst: **LR**
Specific Conductance	13000	0.10	0.10		umhos/cm	1	6/23/2020 10:40 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-070-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 12:51:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200623B**	QC Batch: **R145269**			PrepDate:			Analyst: **LR**
Specific Conductance	1900	0.10	0.10		umhos/cm	1	6/23/2020 10:40 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-185-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 1:31:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200623B**	QC Batch: **R145269**			PrepDate:			Analyst: **LR**
Specific Conductance	17000	0.10	0.10		umhos/cm	1	6/23/2020 10:40 AM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-912-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 1:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200623B**	QC Batch: **R145269**			PrepDate:			Analyst: **LR**
Specific Conductance	17000	0.10	0.10		umhos/cm	1	6/23/2020 10:40 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041072
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **N041072-001BDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **145269**
Client ID: **ZZZZZZ** Batch ID: **R145269** TestNo: **EPA 120.1** Analysis Date: **6/23/2020** SeqNo: **3827133**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	12910.000	0.10						12890	0.155	2	

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-59-100-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 11:44:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200623A** QC Batch: **R145271** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	2100	17	100		µg/L	500	6/23/2020 10:35 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200624D** QC Batch: **79807** PrepDate: **6/23/2020** Analyst: **CEI**							
Chromium	2200	3.2	25		µg/L	25	6/24/2020 10:40 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-070-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 12:51:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200623A** QC Batch: **R145271** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	610	1.7	10		µg/L	50	6/23/2020 10:45 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200624D** QC Batch: **79807** PrepDate: **6/23/2020** Analyst: **CEI**							
Chromium	530	0.65	5.0		µg/L	5	6/24/2020 10:59 AM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-185-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 1:31:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200623A** QC Batch: **R145271** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	1.3	0.17	1.0		µg/L	5	6/23/2020 12:00 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200624D** QC Batch: **79807** PrepDate: **6/23/2020** Analyst: **CEI**							
Chromium	1.9	0.13	1.0		µg/L	1	6/24/2020 10:54 AM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-912-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 1:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200623A** QC Batch: **R145271** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	1.4	0.17	1.0		µg/L	5	6/23/2020 01:34 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200624D** QC Batch: **79807** PrepDate: **6/23/2020** Analyst: **CEI**							
Chromium	2.0	0.13	1.0		µg/L	1	6/24/2020 09:59 AM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-709-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 2:10:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200623A** QC Batch: **R145271** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/23/2020 02:31 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041072
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R145271** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145271**
Client ID: **PBW** Batch ID: **R145271** TestNo: **EPA 218.6** Analysis Date: **6/23/2020** SeqNo: **3827157**

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

Sample ID: **LCS-R145271** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145271**
Client ID: **LCSW** Batch ID: **R145271** TestNo: **EPA 218.6** Analysis Date: **6/23/2020** SeqNo: **3827158**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.840	0.20	5.000	0	96.8	90	110				

Sample ID: **N041072-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145271**
Client ID: **ZZZZZZ** Batch ID: **R145271** TestNo: **EPA 218.6** Analysis Date: **6/23/2020** SeqNo: **3827162**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4658.600	100	2500	2138	101	90	110				

Sample ID: **N041072-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145271**
Client ID: **ZZZZZZ** Batch ID: **R145271** TestNo: **EPA 218.6** Analysis Date: **6/23/2020** SeqNo: **3827166**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.449	1.0	5.000	1.344	102	90	110				

Sample ID: **N041072-003AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145271**
Client ID: **ZZZZZZ** Batch ID: **R145271** TestNo: **EPA 218.6** Analysis Date: **6/23/2020** SeqNo: **3827167**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.415	1.0	5.000	1.344	101	90	110	6.449	0.529	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041072
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N041072-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145271**
Client ID: **ZZZZZZ** Batch ID: **R145271** TestNo: **EPA 218.6** Analysis Date: **6/23/2020** SeqNo: **3827169**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.395	1.0	5.000	1.404	99.8	90	110				

Sample ID: **N041072-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145271**
Client ID: **ZZZZZZ** Batch ID: **R145271** TestNo: **EPA 218.6** Analysis Date: **6/23/2020** SeqNo: **3827170**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	855.390	10	250.0	613.9	96.6	90	110				

Sample ID: **N041072-002ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145271**
Client ID: **ZZZZZZ** Batch ID: **R145271** TestNo: **EPA 218.6** Analysis Date: **6/23/2020** SeqNo: **3827173**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	608.115	10						613.9	0.949	20	

Sample ID: **N041072-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145271**
Client ID: **ZZZZZZ** Batch ID: **R145271** TestNo: **EPA 218.6** Analysis Date: **6/23/2020** SeqNo: **3827175**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.032	0.20	1.000	0	103	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041072
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-79807** SampType: **MBLK** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/23/2020** RunNo: **145374**
Client ID: **PBW** Batch ID: **79807** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/24/2020** SeqNo: **3831460**

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

Sample ID: **LCS-79807** SampType: **LCS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/23/2020** RunNo: **145374**
Client ID: **LCSW** Batch ID: **79807** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/24/2020** SeqNo: **3831461**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.894	1.0	10.00	0	98.9	85	115				

Sample ID: **N041053-002A-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/23/2020** RunNo: **145374**
Client ID: **ZZZZZZ** Batch ID: **79807** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/24/2020** SeqNo: **3831465**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.439	1.0	10.00	0	94.4	75	125				

Sample ID: **N041053-002A-MSD** SampType: **MSD** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/23/2020** RunNo: **145374**
Client ID: **ZZZZZZ** Batch ID: **79807** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/24/2020** SeqNo: **3831466**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.572	1.0	10.00	0	95.7	75	125	9.439	1.40	20	

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-59-100-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 11:44:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200625B** QC Batch: **R145336** PrepDate: Analyst: **JBB**							
Nitrate/Nitrite as N	2.1	0.063	0.10		mg/L	2	6/25/2020 02:16 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-070-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 12:51:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200625B** QC Batch: **R145336** PrepDate: Analyst: **JBB**							
Nitrate/Nitrite as N	8.8	0.32	0.50		mg/L	10	6/25/2020 02:17 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-185-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 1:31:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200626B** QC Batch: **R145369** PrepDate: Analyst: **JBB**							
Nitrate/Nitrite as N	0.14	0.032	0.050		mg/L	1	6/26/2020 11:24 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-912-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 1:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200626B** QC Batch: **R145369** PrepDate: Analyst: **JBB**							
Nitrate/Nitrite as N	0.12	0.032	0.050		mg/L	1	6/26/2020 11:22 AM

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041072
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID: **MB-R145336** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145336**
Client ID: **PBW** Batch ID: **R145336** TestNo: **SM4500-NO3** Analysis Date: **6/25/2020** SeqNo: **3829118**

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

Sample ID: **LCS-R145336** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145336**
Client ID: **LCSW** Batch ID: **R145336** TestNo: **SM4500-NO3** Analysis Date: **6/25/2020** SeqNo: **3829119**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.465	0.050	0.5000	0	92.9	85	115				

Sample ID: **N041093-007CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145336**
Client ID: **ZZZZZZ** Batch ID: **R145336** TestNo: **SM4500-NO3** Analysis Date: **6/25/2020** SeqNo: **3829121**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.534	0.050	0.5000	0.04720	97.3	75	125				

Sample ID: **N041093-007CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145336**
Client ID: **ZZZZZZ** Batch ID: **R145336** TestNo: **SM4500-NO3** Analysis Date: **6/25/2020** SeqNo: **3829122**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.560	0.050	0.5000	0.04720	102	75	125	0.5335	4.78	20	

Sample ID: **N041093-002CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145336**
Client ID: **ZZZZZZ** Batch ID: **R145336** TestNo: **SM4500-NO3** Analysis Date: **6/25/2020** SeqNo: **3829124**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.185	0.050						1.073	9.92	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041072
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID: **MB-R145369** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145369**
Client ID: **PBW** Batch ID: **R145369** TestNo: **SM4500-NO3** Analysis Date: **6/26/2020** SeqNo: **3830128**

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

Sample ID: **LCS-R145369** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145369**
Client ID: **LCSW** Batch ID: **R145369** TestNo: **SM4500-NO3** Analysis Date: **6/26/2020** SeqNo: **3830129**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.470	0.050	0.5000	0	93.9	85	115				

Sample ID: **N041072-004CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145369**
Client ID: **ZZZZZZ** Batch ID: **R145369** TestNo: **SM4500-NO3** Analysis Date: **6/26/2020** SeqNo: **3830131**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.581	0.050	0.5000	0.1166	92.9	75	125				

Sample ID: **N041072-004CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145369**
Client ID: **ZZZZZZ** Batch ID: **R145369** TestNo: **SM4500-NO3** Analysis Date: **6/26/2020** SeqNo: **3830132**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.604	0.050	0.5000	0.1166	97.4	75	125	0.5812	3.81	20	

Sample ID: **N041072-003CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145369**
Client ID: **ZZZZZZ** Batch ID: **R145369** TestNo: **SM4500-NO3** Analysis Date: **6/26/2020** SeqNo: **3830134**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.086	0.050						0.1421	49.4	20	R

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-59-100-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 11:44:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624D**	QC Batch: **79807**				PrepDate:	**6/23/2020**	Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/24/2020 09:36 AM
Manganese	10	0.26	0.50		µg/L	1	6/24/2020 09:36 AM
Molybdenum	9.0	0.21	0.50		µg/L	1	6/24/2020 09:36 AM
Selenium	1.9	0.36	0.50		µg/L	1	6/24/2020 09:36 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-070-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 12:51:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624D**	QC Batch: **79807**				PrepDate:	**6/23/2020**	Analyst: **CEI**
Arsenic	1.3	0.081	0.10		µg/L	1	6/24/2020 09:40 AM
Manganese	1.5	0.26	0.50		µg/L	1	6/24/2020 09:40 AM
Molybdenum	2.4	0.21	0.50		µg/L	1	6/24/2020 09:40 AM
Selenium	2.8	0.36	0.50		µg/L	1	6/24/2020 09:40 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-185-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 1:31:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624D**	QC Batch: **79807**			PrepDate:		**6/23/2020**	Analyst: **CEI**
Arsenic	4.3	0.081	0.10		µg/L	1	6/24/2020 09:45 AM
Manganese	2.0	0.26	0.50		µg/L	1	6/24/2020 09:45 AM
Molybdenum	78	0.21	0.50		µg/L	1	6/24/2020 09:45 AM
Selenium	ND	0.36	0.50		µg/L	1	6/24/2020 09:45 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-912-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 1:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624D**	QC Batch: **79807**			PrepDate:		**6/23/2020**	Analyst: **CEI**
Arsenic	4.1	0.081	0.10		µg/L	1	6/24/2020 09:59 AM
Manganese	2.1	0.26	0.50		µg/L	1	6/24/2020 09:59 AM
Molybdenum	75	0.21	0.50		µg/L	1	6/24/2020 09:59 AM
Selenium	ND	0.36	0.50		µg/L	1	6/24/2020 09:59 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041072
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-79807** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/23/2020** RunNo: **145374**
Client ID: **PBW** Batch ID: **79807** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/24/2020** SeqNo: **3831496**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-79807** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/23/2020** RunNo: **145374**
Client ID: **LCSW** Batch ID: **79807** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/24/2020** SeqNo: **3831497**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.244	0.10	10.00	0	102	85	115				
Manganese	98.334	0.50	100.0	0	98.3	85	115				
Molybdenum	9.857	0.50	10.00	0	98.6	85	115				
Selenium	10.138	0.50	10.00	0	101	85	115				

Sample ID: **N041053-002A-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/23/2020** RunNo: **145374**
Client ID: **ZZZZZZ** Batch ID: **79807** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/24/2020** SeqNo: **3831501**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.217	0.10	10.00	0	102	75	125				
Manganese	95.958	0.50	100.0	0.3714	95.6	75	125				
Molybdenum	9.940	0.50	10.00	0	99.4	75	125				
Selenium	9.532	0.50	10.00	0	95.3	75	125				

Sample ID: **N041053-002A-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/23/2020** RunNo: **145374**
Client ID: **ZZZZZZ** Batch ID: **79807** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/24/2020** SeqNo: **3831502**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.141	0.10	10.00	0	101	75	125	10.22	0.755	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041072
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N041053-002A-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/23/2020** RunNo: **145374**
Client ID: **ZZZZZZ** Batch ID: **79807** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/24/2020** SeqNo: **3831502**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	96.162	0.50	100.0	0.3714	95.8	75	125	95.96	0.213	20	
Molybdenum	9.772	0.50	10.00	0	97.7	75	125	9.940	1.70	20	
Selenium	9.803	0.50	10.00	0	98.0	75	125	9.532	2.80	20	

Qualifiers:

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

ARCUS02 C: 7/6/2020 12:00 AM
FOLDER R: 6/22/2020
N041072-006A 1 of 1

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement / QA/QC
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD / RTNE
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com, daniel.moore@critigen.com	Address:	Geotracker / RWQCB ✓
Phone: 916-786-3302 / Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com / P.O.# SWA-ASSET-C9817-057	Labspec / CalTrans
Submitted By: Spencer Doolittle		Phone: 949-727-1400, ext 200 / Fax:	Others ✓ / LEVEL III
Title: Field Tech	Phone: 916-786-3302 / Fax:		Specify: RWQCB / LEVEL IV
Signature: Date: 6/22/20	Sampled By: Reggie Tap		Regulatory / Global ID: / Specify State:
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.		
Project Name: PG&E Topock - GMP	Signature: Date: 6/22/20		
Project Number: RC000753.801D			

Matrix: Ground x Sediment; Potable; Soil; NPDES; Other Solid; Surface

Sample Receipt Condition

	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		✓
5. IR number		✓

6. Method of Cooling: Ice
Sample Temp: 5.4°C
Courier: ASSET
Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Oxygen and Deuterium Isotopes (CFIRM), Ice 250 mL poly	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 2x250 mL poly	Alkalinity, Total as CaCO3 (SM2320B) 1 liter poly	Bromide, Sulfate, Chloride (EPA 300.0) 1 liter poly	Fluoride (EPA 300.0) 1 liter poly	Specific Conductance (EPA 120.1) 1 liter poly	Total Dissolved Solids (SM92540) 1 liter poly	Nitrate/Nitrite (SM4500N03) Nitrate; H2SO4 125 mL poly	Total Organic Carbon (SM5310C); H2SO4 3x40 mL poly	Dissolved metals (SW 6020), HNO3 As, Cr, Mn 500 mL poly	Dissolved Metals (SW 6010B); HNO3 As, Cr, Mn, Mo, Se 500 mL poly	Dissolved metals (SW 6020); HNO3 Ag, As, Ba, Be, Cd, Co, Cr, Mg, Mn, Mo, Pb, Sb, Se, Tl, V, Zn 500 mL poly	Dissolved Metals (SW 6010B); HNO3 B, Ca, Cu, Fe, Na, Ni, 500 mL poly	Metals Dissolved (EPA7470A FF) Hg; HNO3 500 mL poly	Dissolved Metals (SW 6010B); HNO3 Potassium 500 mL poly	Total metals, Chromium (non-filtered) (EPA 200.8), HNO3 500 mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N041072-01	MW-59-100-Q220	6/22/2020	11:44		X						X		X			X						E	4	P	BNS	
2	-02	MW-57-070-Q220	6/22/2020	12:51		X						X		X			X						E	4	P	BNS	
3	-03	MW-57-185-Q220	6/22/2020	13:31		X						X		X			X						E	4	P	BNS	
4	-04	MW-912-Q220	6/22/2020	13:41		X						X		X			X						E	4	P	BNS	
5																											
6	-05	EB-709-Q220	6/22/2020	14:10		X																	E	1	P	BNS	
7																											
8																											
9																											
10																											
11																											
12																											

Relinquished by (Signature and Printed Name)	Date/Time	Received by (Signature and Printed Name)	Date/Time
Reggie Tap	6/22/20 1610	MBCARTIN	6/22/20 @ 1610
MBCARTIN	6/22/20 @ 1755	Joanda Rodriguez	6/22/20
			1755

Turn Around Time (TAT)

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

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

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

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

Preservatives:

H=HCL	N=$HNO_{3N=HNO3}$	S=$H_2SO_{4SH=H2}SO_4$	C=4*CC=4*	
Z=$Zn(AC)_{2Z=Zn(AC)2}$	O=NaOH	T=$Na_2S_2O_{3ST=Na2}S_2$		
Others/Specify:	B	(NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy Yellow=Customer's Copy

ASSET Laboratories

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

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

Cooler Received/Opened On:	6/22/2020	Workorder:	N041072
Rep sample Temp (Deg C):	5.4	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

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

Comments:

Checklist Completed By: YR YRJ 6/25/2020

Reviewed By: MBC MBC 6/26/2020

ASSET Laboratories

WORK ORDER Summary

23-Jun-20

WorkOrder: N041072

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/22/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041072-001A	MW-59-100-Q220	6/22/2020 11:44:00 AM	7/6/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041072-001B			7/6/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041072-001C			7/6/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041072-001D			7/6/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/6/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/6/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041072-002A	MW-57-070-Q220	6/22/2020 12:51:00 PM	7/6/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041072-002B			7/6/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041072-002C			7/6/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041072-002D			7/6/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/6/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/6/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041072-003A	MW-57-185-Q220	6/22/2020 1:31:00 PM	7/6/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041072-003B			7/6/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041072-003C			7/6/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041072-003D			7/6/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/6/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/6/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041072-004A	MW-912-Q220	6/22/2020 1:41:00 PM	7/6/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041072-004B			7/6/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041072-004C			7/6/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

23-Jun-20

WorkOrder: N041072

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/22/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041072-004D	MW-912-Q220	6/22/2020 1:41:00 PM	7/6/2020	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/6/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/6/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041072-005A	EB-709-Q220	6/22/2020 2:10:00 PM	7/6/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041072-006A	FOLDER	7/6/2020	7/6/2020		EDD	RWQCB	☐	☐	☐	LAB
			7/6/2020		Folder	Folder	☐	☐	☐	LAB
			7/6/2020		Folder	Level IV Report	☐	☐	☐	LAB
			7/6/2020		Folder	Folder	☐	☐	☐	LAB

July 22, 2020

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

TEL: (916) 786-3302
FAX:

Workorder No.: N041072

RE: PG&E Topock - GMP, RC000753.801D

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 22, 2020 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an amended report. Please disregard all previous documentation that corresponds to the page(s) enclosed.

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

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

Sincerely,

Nancy Sibucao
Laboratory Director

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

ASSET Laboratories **Date:** *22-Jul-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041072

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Analytical comments for EPA 218.6:

Dilution was necessary for samples N041072-003 and -004 due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

The report was amended as the ID for sample N041072-005 was updated. Please see attached correspondence.

Analytical comments for SM4500-NO3F:

RPD for N041072-003CDUP sample duplicate is outside criteria; however, the associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *22-Jul-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041072
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N041072-001A	MW-59-100-Q220	Groundwater	6/22/2020 11:44:00 AM	6/22/2020	7/7/2020
N041072-001B	MW-59-100-Q220	Groundwater	6/22/2020 11:44:00 AM	6/22/2020	7/7/2020
N041072-001C	MW-59-100-Q220	Groundwater	6/22/2020 11:44:00 AM	6/22/2020	7/7/2020
N041072-001D	MW-59-100-Q220	Groundwater	6/22/2020 11:44:00 AM	6/22/2020	7/7/2020
N041072-002A	MW-57-070-Q220	Groundwater	6/22/2020 12:51:00 PM	6/22/2020	7/7/2020
N041072-002B	MW-57-070-Q220	Groundwater	6/22/2020 12:51:00 PM	6/22/2020	7/7/2020
N041072-002C	MW-57-070-Q220	Groundwater	6/22/2020 12:51:00 PM	6/22/2020	7/7/2020
N041072-002D	MW-57-070-Q220	Groundwater	6/22/2020 12:51:00 PM	6/22/2020	7/7/2020
N041072-003A	MW-57-185-Q220	Groundwater	6/22/2020 1:31:00 PM	6/22/2020	7/7/2020
N041072-003B	MW-57-185-Q220	Groundwater	6/22/2020 1:31:00 PM	6/22/2020	7/7/2020
N041072-003C	MW-57-185-Q220	Groundwater	6/22/2020 1:31:00 PM	6/22/2020	7/7/2020
N041072-003D	MW-57-185-Q220	Groundwater	6/22/2020 1:31:00 PM	6/22/2020	7/7/2020
N041072-004A	MW-912-Q220	Groundwater	6/22/2020 1:41:00 PM	6/22/2020	7/7/2020
N041072-004B	MW-912-Q220	Groundwater	6/22/2020 1:41:00 PM	6/22/2020	7/7/2020
N041072-004C	MW-912-Q220	Groundwater	6/22/2020 1:41:00 PM	6/22/2020	7/7/2020
N041072-004D	MW-912-Q220	Groundwater	6/22/2020 1:41:00 PM	6/22/2020	7/7/2020
N041072-005A	EB-709-0620	Groundwater	6/22/2020 2:10:00 PM	6/22/2020	7/7/2020

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-59-100-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 11:44:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200623B**	QC Batch: **R145269**			PrepDate:			Analyst: **LR**
Specific Conductance	13000	0.10	0.10		umhos/cm	1	6/23/2020 10:40 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-070-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 12:51:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200623B**	QC Batch: **R145269**			PrepDate:			Analyst: **LR**
Specific Conductance	1900	0.10	0.10		umhos/cm	1	6/23/2020 10:40 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-185-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 1:31:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200623B**	QC Batch: **R145269**			PrepDate:			Analyst: **LR**
Specific Conductance	17000	0.10	0.10		umhos/cm	1	6/23/2020 10:40 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-912-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 1:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200623B**	QC Batch: **R145269**			PrepDate:			Analyst: **LR**
Specific Conductance	17000	0.10	0.10		umhos/cm	1	6/23/2020 10:40 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041072
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **N041072-001BDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **145269**
Client ID: **ZZZZZZ** Batch ID: **R145269** TestNo: **EPA 120.1** Analysis Date: **6/23/2020** SeqNo: **3827133**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	12910.000	0.10						12890	0.155	2	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-59-100-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 11:44:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200623A** QC Batch: **R145271** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	2100	17	100		µg/L	500	6/23/2020 10:35 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200624D** QC Batch: **79807** PrepDate: **6/23/2020** Analyst: **CEI**							
Chromium	2200	3.2	25		µg/L	25	6/24/2020 10:40 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-070-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 12:51:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200623A** QC Batch: **R145271** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	610	1.7	10		µg/L	50	6/23/2020 10:45 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200624D** QC Batch: **79807** PrepDate: **6/23/2020** Analyst: **CEI**							
Chromium	530	0.65	5.0		µg/L	5	6/24/2020 10:59 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-185-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 1:31:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200623A** QC Batch: **R145271** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	1.3	0.17	1.0		µg/L	5	6/23/2020 12:00 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200624D** QC Batch: **79807** PrepDate: **6/23/2020** Analyst: **CEI**							
Chromium	1.9	0.13	1.0		µg/L	1	6/24/2020 10:54 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-912-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 1:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200623A** QC Batch: **R145271** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	1.4	0.17	1.0		µg/L	5	6/23/2020 01:34 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200624D** QC Batch: **79807** PrepDate: **6/23/2020** Analyst: **CEI**							
Chromium	2.0	0.13	1.0		µg/L	1	6/24/2020 09:59 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *22-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-709-0620
Lab Order:	N041072	**Collection Date:**	6/22/2020 2:10:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_200623A**	QC Batch: **R145271**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/23/2020 02:31 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041072
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R145271** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145271**
Client ID: **PBW** Batch ID: **R145271** TestNo: **EPA 218.6** Analysis Date: **6/23/2020** SeqNo: **3827157**

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

Sample ID: **LCS-R145271** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145271**
Client ID: **LCSW** Batch ID: **R145271** TestNo: **EPA 218.6** Analysis Date: **6/23/2020** SeqNo: **3827158**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.840	0.20	5.000	0	96.8	90	110				

Sample ID: **N041072-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145271**
Client ID: **ZZZZZZ** Batch ID: **R145271** TestNo: **EPA 218.6** Analysis Date: **6/23/2020** SeqNo: **3827162**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4658.600	100	2500	2138	101	90	110				

Sample ID: **N041072-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145271**
Client ID: **ZZZZZZ** Batch ID: **R145271** TestNo: **EPA 218.6** Analysis Date: **6/23/2020** SeqNo: **3827166**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.449	1.0	5.000	1.344	102	90	110				

Sample ID: **N041072-003AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145271**
Client ID: **ZZZZZZ** Batch ID: **R145271** TestNo: **EPA 218.6** Analysis Date: **6/23/2020** SeqNo: **3827167**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.415	1.0	5.000	1.344	101	90	110	6.449	0.529	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041072
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N041072-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145271**
Client ID: **ZZZZZZ** Batch ID: **R145271** TestNo: **EPA 218.6** Analysis Date: **6/23/2020** SeqNo: **3827169**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.395	1.0	5.000	1.404	99.8	90	110				

Sample ID: **N041072-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145271**
Client ID: **ZZZZZZ** Batch ID: **R145271** TestNo: **EPA 218.6** Analysis Date: **6/23/2020** SeqNo: **3827170**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	855.390	10	250.0	613.9	96.6	90	110				

Sample ID: **N041072-002ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145271**
Client ID: **ZZZZZZ** Batch ID: **R145271** TestNo: **EPA 218.6** Analysis Date: **6/23/2020** SeqNo: **3827173**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	608.115	10						613.9	0.949	20	

Sample ID: **N041072-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145271**
Client ID: **ZZZZZZ** Batch ID: **R145271** TestNo: **EPA 218.6** Analysis Date: **6/23/2020** SeqNo: **3827175**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.032	0.20	1.000	0	103	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041072
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-79807** SampType: **MBLK** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/23/2020** RunNo: **145374**
Client ID: **PBW** Batch ID: **79807** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/24/2020** SeqNo: **3831460**

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

Sample ID: **LCS-79807** SampType: **LCS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/23/2020** RunNo: **145374**
Client ID: **LCSW** Batch ID: **79807** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/24/2020** SeqNo: **3831461**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.894	1.0	10.00	0	98.9	85	115				

Sample ID: **N041053-002A-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/23/2020** RunNo: **145374**
Client ID: **ZZZZZZ** Batch ID: **79807** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/24/2020** SeqNo: **3831465**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.439	1.0	10.00	0	94.4	75	125				

Sample ID: **N041053-002A-MSD** SampType: **MSD** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/23/2020** RunNo: **145374**
Client ID: **ZZZZZZ** Batch ID: **79807** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/24/2020** SeqNo: **3831466**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.572	1.0	10.00	0	95.7	75	125	9.439	1.40	20	

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-59-100-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 11:44:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200625B** QC Batch: **R145336** PrepDate: Analyst: **JBB**							
Nitrate/Nitrite as N	2.1	0.063	0.10		mg/L	2	6/25/2020 02:16 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-070-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 12:51:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200625B** QC Batch: **R145336** PrepDate: Analyst: **JBB**							
Nitrate/Nitrite as N	8.8	0.32	0.50		mg/L	10	6/25/2020 02:17 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-185-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 1:31:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200626B** QC Batch: **R145369** PrepDate: Analyst: **JBB**							
Nitrate/Nitrite as N	0.14	0.032	0.050		mg/L	1	6/26/2020 11:24 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-912-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 1:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200626B** QC Batch: **R145369** PrepDate: Analyst: **JBB**							
Nitrate/Nitrite as N	0.12	0.032	0.050		mg/L	1	6/26/2020 11:22 AM

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041072
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID: **MB-R145336** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145336**
Client ID: **PBW** Batch ID: **R145336** TestNo: **SM4500-NO3** Analysis Date: **6/25/2020** SeqNo: **3829118**

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

Sample ID: **LCS-R145336** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145336**
Client ID: **LCSW** Batch ID: **R145336** TestNo: **SM4500-NO3** Analysis Date: **6/25/2020** SeqNo: **3829119**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.465	0.050	0.5000	0	92.9	85	115				

Sample ID: **N041093-007CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145336**
Client ID: **ZZZZZZ** Batch ID: **R145336** TestNo: **SM4500-NO3** Analysis Date: **6/25/2020** SeqNo: **3829121**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.534	0.050	0.5000	0.04720	97.3	75	125				

Sample ID: **N041093-007CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145336**
Client ID: **ZZZZZZ** Batch ID: **R145336** TestNo: **SM4500-NO3** Analysis Date: **6/25/2020** SeqNo: **3829122**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.560	0.050	0.5000	0.04720	102	75	125	0.5335	4.78	20	

Sample ID: **N041093-002CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145336**
Client ID: **ZZZZZZ** Batch ID: **R145336** TestNo: **SM4500-NO3** Analysis Date: **6/25/2020** SeqNo: **3829124**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.185	0.050						1.073	9.92	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041072
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID: **MB-R145369** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145369**
Client ID: **PBW** Batch ID: **R145369** TestNo: **SM4500-NO3** Analysis Date: **6/26/2020** SeqNo: **3830128**

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

Sample ID: **LCS-R145369** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145369**
Client ID: **LCSW** Batch ID: **R145369** TestNo: **SM4500-NO3** Analysis Date: **6/26/2020** SeqNo: **3830129**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.470	0.050	0.5000	0	93.9	85	115				

Sample ID: **N041072-004CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145369**
Client ID: **ZZZZZZ** Batch ID: **R145369** TestNo: **SM4500-NO3** Analysis Date: **6/26/2020** SeqNo: **3830131**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.581	0.050	0.5000	0.1166	92.9	75	125				

Sample ID: **N041072-004CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145369**
Client ID: **ZZZZZZ** Batch ID: **R145369** TestNo: **SM4500-NO3** Analysis Date: **6/26/2020** SeqNo: **3830132**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.604	0.050	0.5000	0.1166	97.4	75	125	0.5812	3.81	20	

Sample ID: **N041072-003CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145369**
Client ID: **ZZZZZZ** Batch ID: **R145369** TestNo: **SM4500-NO3** Analysis Date: **6/26/2020** SeqNo: **3830134**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.086	0.050						0.1421	49.4	20	R

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-59-100-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 11:44:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624D**	QC Batch: **79807**				PrepDate:	**6/23/2020**	Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/24/2020 09:36 AM
Manganese	10	0.26	0.50		µg/L	1	6/24/2020 09:36 AM
Molybdenum	9.0	0.21	0.50		µg/L	1	6/24/2020 09:36 AM
Selenium	1.9	0.36	0.50		µg/L	1	6/24/2020 09:36 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-070-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 12:51:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624D**	QC Batch: **79807**				PrepDate:	**6/23/2020**	Analyst: **CEI**
Arsenic	1.3	0.081	0.10		µg/L	1	6/24/2020 09:40 AM
Manganese	1.5	0.26	0.50		µg/L	1	6/24/2020 09:40 AM
Molybdenum	2.4	0.21	0.50		µg/L	1	6/24/2020 09:40 AM
Selenium	2.8	0.36	0.50		µg/L	1	6/24/2020 09:40 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-185-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 1:31:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624D**	QC Batch: **79807**			PrepDate:		**6/23/2020**	Analyst: **CEI**
Arsenic	4.3	0.081	0.10		µg/L	1	6/24/2020 09:45 AM
Manganese	2.0	0.26	0.50		µg/L	1	6/24/2020 09:45 AM
Molybdenum	78	0.21	0.50		µg/L	1	6/24/2020 09:45 AM
Selenium	ND	0.36	0.50		µg/L	1	6/24/2020 09:45 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-912-Q220
Lab Order:	N041072	**Collection Date:**	6/22/2020 1:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041072-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624D**	QC Batch: **79807**			PrepDate:		**6/23/2020**	Analyst: **CEI**
Arsenic	4.1	0.081	0.10		µg/L	1	6/24/2020 09:59 AM
Manganese	2.1	0.26	0.50		µg/L	1	6/24/2020 09:59 AM
Molybdenum	75	0.21	0.50		µg/L	1	6/24/2020 09:59 AM
Selenium	ND	0.36	0.50		µg/L	1	6/24/2020 09:59 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041072
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-79807** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/23/2020** RunNo: **145374**
Client ID: **PBW** Batch ID: **79807** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/24/2020** SeqNo: **3831496**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-79807** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/23/2020** RunNo: **145374**
Client ID: **LCSW** Batch ID: **79807** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/24/2020** SeqNo: **3831497**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.244	0.10	10.00	0	102	85	115				
Manganese	98.334	0.50	100.0	0	98.3	85	115				
Molybdenum	9.857	0.50	10.00	0	98.6	85	115				
Selenium	10.138	0.50	10.00	0	101	85	115				

Sample ID: **N041053-002A-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/23/2020** RunNo: **145374**
Client ID: **ZZZZZZ** Batch ID: **79807** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/24/2020** SeqNo: **3831501**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.217	0.10	10.00	0	102	75	125				
Manganese	95.958	0.50	100.0	0.3714	95.6	75	125				
Molybdenum	9.940	0.50	10.00	0	99.4	75	125				
Selenium	9.532	0.50	10.00	0	95.3	75	125				

Sample ID: **N041053-002A-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/23/2020** RunNo: **145374**
Client ID: **ZZZZZZ** Batch ID: **79807** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/24/2020** SeqNo: **3831502**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.141	0.10	10.00	0	101	75	125	10.22	0.755	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041072
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N041053-002A-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/23/2020** RunNo: **145374**
Client ID: **ZZZZZZ** Batch ID: **79807** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/24/2020** SeqNo: **3831502**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	96.162	0.50	100.0	0.3714	95.8	75	125	95.96	0.213	20	
Molybdenum	9.772	0.50	10.00	0	97.7	75	125	9.940	1.70	20	
Selenium	9.803	0.50	10.00	0	98.0	75	125	9.532	2.80	20	

Qualifiers:

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

ARCUS02 C: 7/6/2020 12:00 AM
FOLDER R: 6/22/2020
N041072-006A 1 of 1

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement / QA/QC
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD / RTNE
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com, daniel.moore@critigen.com	Address:	Geotracker / RWQCB ✓
Phone: 916-786-3302 / Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com / P.O.# SWA-ASSET-C9817-057	Labspec / CalTrans
Submitted By: Spencer Doolittle		Phone: 949-727-1400, ext 200 / Fax:	Others ✓ / LEVEL III
Title: Field Tech	Phone: 916-786-3302 / Fax:		Specify: RWQCB / LEVEL IV
Signature: Date: 6/22/20	Sampled By: Reggie Tap		Regulatory / Global ID: / Specify State:
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.		
Project Name: PG&E Topock - GMP	Signature: Date: 6/22/20		
Project Number: RC000753.801D			

Matrix: Ground x Sediment; Potable; Soil; NPDES; Other Solid; Surface

Sample Receipt Condition

	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		✓
5. IR number		✓

6. Method of Cooling: Ice
Sample Temp: 5.4°C
Courier: ASSET
Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Oxygen and Deuterium Isotopes (CFIRM), Ice 250 mL poly	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 2x250 mL poly	Alkalinity, Total as CaCO3 (SM2320B) 1 liter poly	Bromide, Sulfate, Chloride (EPA 300.0) 1 liter poly	Fluoride (EPA 300.0) 1 liter poly	Specific Conductance (EPA 120.1) 1 liter poly	Total Dissolved Solids (SM92540) 1 liter poly	Nitrate/Nitrite (SM4500N03) Nitrate; H2SO4 125 mL poly	Total Organic Carbon (SM5310C); H2SO4 3x40 mL poly	Dissolved metals (SW 6020), HNO3 As, Cr, Mn 500 mL poly	Dissolved Metals (SW 6010B); HNO3 As, Cr, Mn, Mo, Se 500 mL poly	Dissolved metals (SW 6020); HNO3 Ag, As, Ba, Be, Cd, Co, Cr, Mg, Mn, Mo, Pb, Sb, Se, Tl, V, Zn 500 mL poly	Dissolved Metals (SW 6010B); HNO3 B, Ca, Cu, Fe, Na, Ni, 500 mL poly	Metals Dissolved (EPA7470A FF) Hg; HNO3 500 mL poly	Dissolved Metals (SW 6010B); HNO3 Potassium 500 mL poly	Total metals, Chromium (non-filtered) (EPA 200.8), HNO3 500 mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N041072-01	MW-59-100-Q220	6/22/2020	11:44		X						X		X			X						E	4	P	BNS	
2	-02	MW-57-070-Q220	6/22/2020	12:51		X						X		X			X						E	4	P	BNS	
3	-03	MW-57-185-Q220	6/22/2020	13:31		X						X		X			X						E	4	P	BNS	
4	-04	MW-912-Q220	6/22/2020	13:41		X						X		X			X						E	4	P	BNS	
5																											
6	-05	EB-709-Q220	6/22/2020	14:10		X																	E	1	P	BNS	
7																											
8																											
9																											
10																											
11																											
12																											

Relinquished by (Signature and Printed Name)	Date/Time	Received by (Signature and Printed Name)	Date/Time
Reggie Tap	6/22/20 1610	MBCARTIN	6/22/20 @ 1610
MBCARTIN	6/22/20 @ 1755	Joanda Rodriguez	6/22/20
			1755

Turn Around Time (TAT)

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

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

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

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

Preservatives:

H=HCL	N=$HNO_{3N=HNO3}$	S=$H_2SO_{4SH=H2}SO_4$	C=4*CC=4*	
Z=$Zn(AC)_{2Z=Zn(AC)2}$	O=NaOH	T=$Na_2S_2O_{3ST=Na2}S_2$		
Others/Specify:	B	(NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy Yellow=Customer's Copy

ASSET Laboratories

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

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

Cooler Received/Opened On:	6/22/2020	Workorder:	N041072
Rep sample Temp (Deg C):	5.4	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

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

Comments:

Checklist Completed By: YR YRJ 6/25/2020

Reviewed By: MBC MBC 6/26/2020

Mary Ann Balilu (maryann.balilu@assetlaboratoriesph.com)

From: Nancy Sibucao <nancy@assetlaboratories.com>
Sent: Wednesday, July 22, 2020 3:16 PM
To: Tina Rice; Dan Moore; Marlon Cartin; Yoandra Rodriguez; maryann.balilu@assetlaboratoriesph.com
Subject: URGENT EDD Issues

Noted Tina. We will update the report except for N041020 as that one has been corrected.

Yoandra/Maryann, please update the IDs for the other work orders asap.

Thanks,
Nancy

From: Tina Rice [mailto:Tina.Rice@critigen.com]

Sent: Wednesday, July 22, 2020, 1:28 PM

To: Nancy Sibucao; Dan Moore; Marlon Cartin

Subject: EDD Issues

Please note that there were duplicate samples taken (I believe I emailed the corrected ID's as they were caught in the login process) and that is causing the EDDs listed below to fail when loading. I have fixed the EDDs and reloaded but the lab reports will need to be updated for the samples in the SDGs, below. Note that they currently end in -Q220 in the EDD/lab reports but since the sample IDs were already used this quarter, they need to be updated to -0620 per below:

sys_loc_code	ClientSampID	WorkOrder
EB-706	EB-706-0620	N041020
EB-707	EB-707-0620	N041043
EB-708	EB-708-0620	N041043
EB-709	EB-709-0620	N041072
EB-710	EB-710-0620	N041093
EB-711	EB-711-0620	N041093
EB-712	EB-712-0620	N041109
EB-713	EB-713-0620	N041109
EB-714	EB-714-0620	N041126
EB-715	EB-715-0620	N041126

From: Nancy Sibucao <nancy@assetlaboratories.com>
Sent: Wednesday, July 22, 2020 12:28 PM
To: Dan Moore <Daniel.Moore@critigen.com>; Marlon Cartin <marlon@assetlaboratories.com>; Tina Rice <Tina.Rice@critigen.com>
Subject: Re: EDD Issues

ASSET Laboratories

WORK ORDER Summary

22-Jul-20

WorkOrder: N041072

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/22/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041072-001A	MW-59-100-Q220	6/22/2020 11:44:00 AM	7/7/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041072-001B			7/7/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041072-001C			7/7/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041072-001D			7/7/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041072-002A	MW-57-070-Q220	6/22/2020 12:51:00 PM	7/7/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041072-002B			7/7/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041072-002C			7/7/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041072-002D			7/7/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041072-003A	MW-57-185-Q220	6/22/2020 1:31:00 PM	7/7/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041072-003B			7/7/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041072-003C			7/7/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041072-003D			7/7/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041072-004A	MW-912-Q220	6/22/2020 1:41:00 PM	7/7/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041072-004B			7/7/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041072-004C			7/7/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

22-Jul-20

WorkOrder: N041072

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/22/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041072-004D	MW-912-Q220	6/22/2020 1:41:00 PM	7/7/2020	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041072-005A	EB-709-0620	6/22/2020 2:10:00 PM	7/7/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041072-006A	FOLDER	7/7/2020	7/7/2020		EDD	RWQCB	☐	☐	☐	LAB
			7/7/2020		Folder	Folder	☐	☐	☐	LAB
			7/7/2020		Folder	Level IV Report	☐	☐	☐	LAB
			7/7/2020		Folder	Folder	☐	☐	☐	LAB

July 08, 2020

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

TEL: (916) 786-3302
FAX:

Workorder No.: N041093

RE: PG&E Topock - GMP, RC000753.801D

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 23, 2020 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

Nancy Liberacao for

Puri Romualdo
Laboratory Director

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

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Analytical comments for EPA 218.6:

Dilution was necessary for samples N041093-001 and -002 due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (2.1 ug/L) and hexavalent chromium (1.2 ug/L) for sample N041093-001 (MW-46-205-Q220) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (23 ug/L) and hexavalent chromium (5.3 ug/L) for sample N041093-002 (MW-46-175-Q220) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (1.0 ug/L) and hexavalent chromium (0 ug/L) for sample N041093-003 (MW-44-125-Q220) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (2.1 ug/L) and hexavalent chromium (1.2 ug/L) for sample N041093-001 (MW-46-205-Q220) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 2.3 and 1.7 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (23 ug/L) and hexavalent chromium (5.3 ug/L) for sample N041093-002 (MW-46-175-Q220) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 26 and 10 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (1.0 ug/L) and hexavalent chromium (0 ug/L) for sample N041093-003 (MW-44-125-Q220) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 1.1 and 0.53 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Analytical comments for SM4500-NO3F:

RPD for N041072-003CDUP sample duplicate is outside criteria; however, the associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *08-Jul-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041093
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N041093-001A	MW-46-205-Q220	Groundwater	6/23/2020 8:50:00 AM	6/23/2020	7/8/2020
N041093-001B	MW-46-205-Q220	Groundwater	6/23/2020 8:50:00 AM	6/23/2020	7/8/2020
N041093-001C	MW-46-205-Q220	Groundwater	6/23/2020 8:50:00 AM	6/23/2020	7/8/2020
N041093-002A	MW-46-175-Q220	Groundwater	6/23/2020 9:31:00 AM	6/23/2020	7/8/2020
N041093-002B	MW-46-175-Q220	Groundwater	6/23/2020 9:31:00 AM	6/23/2020	7/8/2020
N041093-002C	MW-46-175-Q220	Groundwater	6/23/2020 9:31:00 AM	6/23/2020	7/8/2020
N041093-002D	MW-46-175-Q220	Groundwater	6/23/2020 9:31:00 AM	6/23/2020	7/8/2020
N041093-003A	MW-44-125-Q220	Groundwater	6/23/2020 10:40:00 AM	6/23/2020	7/8/2020
N041093-003B	MW-44-125-Q220	Groundwater	6/23/2020 10:40:00 AM	6/23/2020	7/8/2020
N041093-003C	MW-44-125-Q220	Groundwater	6/23/2020 10:40:00 AM	6/23/2020	7/8/2020
N041093-003D	MW-44-125-Q220	Groundwater	6/23/2020 10:40:00 AM	6/23/2020	7/8/2020
N041093-004A	MW-44-125-EB-Q220	Groundwater	6/23/2020 10:14:00 AM	6/23/2020	7/8/2020
N041093-005A	MW-44-070-Q220	Groundwater	6/23/2020 11:17:00 AM	6/23/2020	7/8/2020
N041093-005B	MW-44-070-Q220	Groundwater	6/23/2020 11:17:00 AM	6/23/2020	7/8/2020
N041093-005C	MW-44-070-Q220	Groundwater	6/23/2020 11:17:00 AM	6/23/2020	7/8/2020
N041093-006A	MW-44-070-EB-Q220	Groundwater	6/23/2020 10:51:00 AM	6/23/2020	7/8/2020
N041093-007A	MW-28-090-Q220	Groundwater	6/23/2020 12:07:00 PM	6/23/2020	7/8/2020
N041093-007B	MW-28-090-Q220	Groundwater	6/23/2020 12:07:00 PM	6/23/2020	7/8/2020
N041093-007C	MW-28-090-Q220	Groundwater	6/23/2020 12:07:00 PM	6/23/2020	7/8/2020
N041093-007D	MW-28-090-Q220	Groundwater	6/23/2020 12:07:00 PM	6/23/2020	7/8/2020
N041093-008A	MW-28-090-EB-Q220	Groundwater	6/23/2020 11:41:00 AM	6/23/2020	7/8/2020
N041093-009A	MW-28-025-Q220	Groundwater	6/23/2020 12:41:00 PM	6/23/2020	7/8/2020
N041093-009B	MW-28-025-Q220	Groundwater	6/23/2020 12:41:00 PM	6/23/2020	7/8/2020
N041093-009C	MW-28-025-Q220	Groundwater	6/23/2020 12:41:00 PM	6/23/2020	7/8/2020
N041093-009D	MW-28-025-Q220	Groundwater	6/23/2020 12:41:00 PM	6/23/2020	7/8/2020
N041093-010A	MW-28-025-EB-Q220	Groundwater	6/23/2020 12:15:00 PM	6/23/2020	7/8/2020
N041093-011A	MW-29-Q220	Groundwater	6/23/2020 1:32:00 PM	6/23/2020	7/8/2020
N041093-011B	MW-29-Q220	Groundwater	6/23/2020 1:32:00 PM	6/23/2020	7/8/2020
N041093-011C	MW-29-Q220	Groundwater	6/23/2020 1:32:00 PM	6/23/2020	7/8/2020

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041093
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N041093-011D	MW-29-Q220	Groundwater	6/23/2020 1:32:00 PM	6/23/2020	7/8/2020
N041093-012A	MW-29-EB-Q220	Groundwater	6/23/2020 1:06:00 PM	6/23/2020	7/8/2020
N041093-013A	EB-710-Q220	Groundwater	6/23/2020 1:45:00 PM	6/23/2020	7/8/2020
N041093-014A	EB-711-Q220	Groundwater	6/23/2020 1:50:00 PM	6/23/2020	7/8/2020
N041093-015A	MW-44-115-Q220	Groundwater	6/23/2020 10:41:00 AM	6/23/2020	7/8/2020
N041093-015B	MW-44-115-Q220	Groundwater	6/23/2020 10:41:00 AM	6/23/2020	7/8/2020
N041093-015C	MW-44-115-Q220	Groundwater	6/23/2020 10:41:00 AM	6/23/2020	7/8/2020
N041093-015D	MW-44-115-Q220	Groundwater	6/23/2020 10:41:00 AM	6/23/2020	7/8/2020

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-205-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 8:50:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200624A**	QC Batch: **R145286**			PrepDate			Analyst: **LR**
Specific Conductance	22000	0.10	0.10		umhos/cm	1	6/24/2020 10:00 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-175-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 9:31:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200624A**	QC Batch: **R145286**			PrepDate			Analyst: **LR**
Specific Conductance	19000	0.10	0.10		umhos/cm	1	6/24/2020 10:00 AM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 10:40:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200624A**	QC Batch: **R145286**			PrepDate			Analyst: **LR**
Specific Conductance	2200	0.10	0.10		umhos/cm	1	6/24/2020 10:00 AM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-070-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 11:17:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200624A**	QC Batch: **R145286**			PrepDate			Analyst: **LR**
Specific Conductance	2000	0.10	0.10		umhos/cm	1	6/24/2020 10:00 AM

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

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ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-090-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 12:07:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200624A**	QC Batch: **R145286**			PrepDate			Analyst: **LR**
Specific Conductance	5100	0.10	0.10		umhos/cm	1	6/24/2020 10:00 AM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-025-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 12:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200624A**	QC Batch: **R145286**			PrepDate			Analyst: **LR**
Specific Conductance	1100	0.10	0.10		umhos/cm	1	6/24/2020 10:00 AM

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

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ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-29-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 1:32:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200624A**	QC Batch: **R145286**			PrepDate			Analyst: **LR**
Specific Conductance	2600	0.10	0.10		umhos/cm	1	6/24/2020 10:00 AM

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

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ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 10:41:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200624A**	QC Batch: **R145286**			PrepDate			Analyst: **LR**
Specific Conductance	11000	0.10	0.10		umhos/cm	1	6/24/2020 10:00 AM

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N041093-011BDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **145286**
Client ID: **ZZZZZZ** Batch ID: **R145286** TestNo: **EPA 120.1** Analysis Date: **6/24/2020** SeqNo: **3827632**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	2660.000	0.10						2650	0.377	2	

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-205-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 8:50:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200624A** QC Batch: **R145335** PrepDate							Analyst: **RAB**
Hexavalent Chromium	1.2	0.17	1.0		µg/L	5	6/24/2020 03:32 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200624E** QC Batch: **79820** PrepDate **6/24/2020**							Analyst: **CEI**
Chromium	2.1	0.13	1.0		µg/L	1	6/25/2020 12:07 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-175-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 9:31:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377** PrepDate							Analyst: **RAB**
Hexavalent Chromium	5.3	0.17	1.0		µg/L	5	6/25/2020 07:39 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200624E** QC Batch: **79820** PrepDate **6/24/2020**							Analyst: **CEI**
Chromium	23	0.13	1.0		µg/L	1	6/25/2020 12:12 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 10:40:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200624A** QC Batch: **R145335**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 12:05 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E** QC Batch: **79820**				PrepDate		**6/24/2020**	Analyst: **CEI**
Chromium	1.0	0.13	1.0		µg/L	1	6/25/2020 12:17 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-EB-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 10:14:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_200624A**	QC Batch: **R145335**			PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 10:11 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-070-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 11:17:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200624A** QC Batch: **R145335**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 12:24 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E** QC Batch: **79820**				PrepDate		**6/24/2020**	Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	6/25/2020 12:21 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-070-EB-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 10:51:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_200624A**	QC Batch: **R145335**			PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 10:21 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-090-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 12:07:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200624A** QC Batch: **R145335**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 12:33 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E** QC Batch: **79820**				PrepDate		**6/24/2020**	Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	6/25/2020 12:26 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-090-EB-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 11:41:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200624A** QC Batch: **R145335** PrepDate Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 10:30 AM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-025-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 12:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200624A** QC Batch: **R145335**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 12:43 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E** QC Batch: **79820**				PrepDate		**6/24/2020**	Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	6/25/2020 12:58 AM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-025-EB-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 12:15:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200624A** QC Batch: **R145335** PrepDate Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 04:10 PM

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

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ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-29-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 1:32:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200624A** QC Batch: **R145335**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 12:52 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E** QC Batch: **79820**				PrepDate		**6/24/2020**	Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	6/25/2020 01:03 AM

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

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ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-29-EB-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 1:06:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200624A** QC Batch: **R145335** PrepDate Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 04:29 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-710-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 1:45:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200624A** QC Batch: **R145335** PrepDate Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 04:48 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-711-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 1:50:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_200624A**	QC Batch: **R145335**			PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 05:25 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 10:41:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200624A** QC Batch: **R145335** PrepDate Analyst: **RAB**							
Hexavalent Chromium	4.0	0.033	0.20		µg/L	1	6/24/2020 01:21 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200624E** QC Batch: **79820** PrepDate **6/24/2020** Analyst: **CEI**							
Chromium	3.7	0.13	1.0		µg/L	1	6/25/2020 01:07 AM

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R145335** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **PBW** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829069**

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

Sample ID **LCS-R145335** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **LCSW** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829070**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.812	0.20	5.000	0	96.2	90	110				

Sample ID **N041093-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829076**

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

Sample ID **N041093-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829077**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.009	0.20	1.000	0	101	90	110				

Sample ID **N041093-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829078**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.993	0.20	1.000	0	99.3	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041093-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829082**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.037	0.20	1.000	0	104	90	110				

Sample ID **N041093-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829090**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.035	0.20	1.000	0	103	90	110				

Sample ID **N041093-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829091**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.047	0.20	1.000	0	105	90	110				

Sample ID **N041093-007AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829092**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.017	0.20	1.000	0	102	90	110	1.047	2.87	20	

Sample ID **N041093-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829093**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.047	0.20	1.000	0	105	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041093-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829094**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.066	0.20	1.000	0	107	90	110				

Sample ID **N041093-015AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829095**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.099	0.20	5.000	3.958	103	90	110				

Sample ID **N041092-001BMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829096**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	12.448	0.20	5.000	7.222	105	90	110				

Sample ID **N041092-002BMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829097**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.830	0.20	1.000	2.768	106	90	110				

Sample ID **N041092-002BDUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829098**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.787	0.20						2.768	0.709	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041093-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829102**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.036	1.0	5.000	1.159	97.6	90	110				

Sample ID **N041093-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829104**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.030	0.20	1.000	0	103	90	110				

Sample ID **N041093-012AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829106**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.065	0.20	1.000	0	106	90	110				

Sample ID **N041093-013AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829108**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.023	0.20	1.000	0	102	90	110				

Sample ID **N041093-014AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829112**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.031	0.20	1.000	0	103	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R145377** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **PBW** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830632**

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

Sample ID **LCS-R145377** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **LCSW** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830633**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.858	0.20	5.000	0	97.2	90	110				

Sample ID **N041108-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830635**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.983	0.20	1.000	0	98.3	90	110				

Sample ID **N041108-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830637**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.993	0.20	1.000	0	99.3	90	110				

Sample ID **N041109-015AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830639**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.984	0.20	1.000	0	98.4	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041109-016AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830641**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.001	0.20	1.000	0	100	90	110				

Sample ID **N041109-011ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830652**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.376	0.20						1.340	2.64	20	

Sample ID **N041109-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830653**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.362	0.20	1.000	1.340	102	90	110				

Sample ID **N041109-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830655**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	106.969	2.0	50.00	56.10	102	90	110				

Sample ID **N041109-002AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830656**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	107.527	2.0	50.00	56.10	103	90	110	107.0	0.520	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041109-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830660**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	108.138	2.0	50.00	56.54	103	90	110				

Sample ID **N041109-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830661**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	95.043	2.0	50.00	43.94	102	90	110				

Sample ID **N041109-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830662**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1172.910	20	500.0	657.5	103	90	110				

Sample ID **N041109-012AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830663**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6106.550	100	2500	3554	102	90	110				

Sample ID **N041109-013AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830664**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	38.470	1.0	25.00	13.04	102	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041109-014AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830665**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	571.410	10	250.0	318.1	101	90	110				

Sample ID **N041109-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830667**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.939	1.0	5.000	0	98.8	90	110				

Sample ID **N041109-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830671**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.239	1.0	5.000	5.014	104	90	110				

Sample ID **N041109-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830673**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.149	1.0	5.000	0	103	90	110				

Sample ID **N041109-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830675**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.844	1.0	5.000	0	96.9	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N041093-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	145377
Client ID:	ZZZZZZ	Batch ID:	R145377	TestNo:	EPA 218.6			Analysis Date:	6/25/2020	SeqNo:	3830679

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.434	1.0	5.000	5.288	103	90	110				

Sample ID	N041109-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	145377
Client ID:	ZZZZZZ	Batch ID:	R145377	TestNo:	EPA 218.6			Analysis Date:	6/25/2020	SeqNo:	3830681

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	22.540	0.40	10.00	12.47	101	90	110				

Sample ID	N041109-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	145377
Client ID:	ZZZZZZ	Batch ID:	R145377	TestNo:	EPA 218.6			Analysis Date:	6/25/2020	SeqNo:	3830683

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	22.493	0.40	10.00	12.44	101	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **MB-79820** SampType: **MBLK** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/24/2020** RunNo: **145399**
Client ID: **PBW** Batch ID: **79820** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/24/2020** SeqNo: **3832378**

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

Sample ID **LCS-79820** SampType: **LCS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/24/2020** RunNo: **145399**
Client ID: **LCSW** Batch ID: **79820** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3832379**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.806	1.0	10.00	0	98.1	85	115				

Sample ID **N041093-007DMS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/24/2020** RunNo: **145399**
Client ID: **ZZZZZZ** Batch ID: **79820** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3832387**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.053	1.0	10.00	0.5804	84.7	75	125				

Sample ID **N041093-007DMSD** SampType: **MSD** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/24/2020** RunNo: **145399**
Client ID: **ZZZZZZ** Batch ID: **79820** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3832390**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.234	1.0	10.00	0.5804	86.5	75	125	9.053	1.98	20	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-175-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 9:31:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200625B** QC Batch: **R145336** PrepDate Analyst: **JBB**							
Nitrate/Nitrite as N	1.1	0.032	0.050		mg/L	1	6/25/2020 02:06 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 10:40:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200625B**	QC Batch: **R145336**			PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	0.18	0.032	0.050		mg/L	1	6/25/2020 02:08 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-090-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 12:07:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200625B**	QC Batch: **R145336**			PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	ND	0.032	0.050		mg/L	1	6/25/2020 03:06 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-025-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 12:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200626B**	QC Batch: **R145369**			PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	ND	0.032	0.050		mg/L	1	6/26/2020 11:26 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-29-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 1:32:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200626B**	QC Batch: **R145369**			PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	0.13	0.032	0.050		mg/L	1	6/26/2020 11:27 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 10:41:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200625B**	QC Batch: **R145336**			PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	ND	0.032	0.050		mg/L	1	6/25/2020 02:14 PM

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID **MB-R145336** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145336**
Client ID: **PBW** Batch ID: **R145336** TestNo: **SM4500-NO3** Analysis Date: **6/25/2020** SeqNo: **3829118**

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

Sample ID **LCS-R145336** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145336**
Client ID: **LCSW** Batch ID: **R145336** TestNo: **SM4500-NO3** Analysis Date: **6/25/2020** SeqNo: **3829119**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.465	0.050	0.5000	0	92.9	85	115				

Sample ID **N041093-007CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145336**
Client ID: **ZZZZZZ** Batch ID: **R145336** TestNo: **SM4500-NO3** Analysis Date: **6/25/2020** SeqNo: **3829121**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.534	0.050	0.5000	0.04720	97.3	75	125				

Sample ID **N041093-007CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145336**
Client ID: **ZZZZZZ** Batch ID: **R145336** TestNo: **SM4500-NO3** Analysis Date: **6/25/2020** SeqNo: **3829122**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.560	0.050	0.5000	0.04720	102	75	125	0.5335	4.78	20	

Sample ID **N041093-002CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145336**
Client ID: **ZZZZZZ** Batch ID: **R145336** TestNo: **SM4500-NO3** Analysis Date: **6/25/2020** SeqNo: **3829124**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.185	0.050						1.073	9.92	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID **MB-R145369** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145369**
Client ID: **PBW** Batch ID: **R145369** TestNo: **SM4500-NO3** Analysis Date: **6/26/2020** SeqNo: **3830128**

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

Sample ID **LCS-R145369** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145369**
Client ID: **LCSW** Batch ID: **R145369** TestNo: **SM4500-NO3** Analysis Date: **6/26/2020** SeqNo: **3830129**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.470	0.050	0.5000	0	93.9	85	115				

Sample ID **N041072-004CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145369**
Client ID: **ZZZZZZ** Batch ID: **R145369** TestNo: **SM4500-NO3** Analysis Date: **6/26/2020** SeqNo: **3830131**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.581	0.050	0.5000	0.1166	92.9	75	125				

Sample ID **N041072-004CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145369**
Client ID: **ZZZZZZ** Batch ID: **R145369** TestNo: **SM4500-NO3** Analysis Date: **6/26/2020** SeqNo: **3830132**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.604	0.050	0.5000	0.1166	97.4	75	125	0.5812	3.81	20	

Sample ID **N041072-003CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145369**
Client ID: **ZZZZZZ** Batch ID: **R145369** TestNo: **SM4500-NO3** Analysis Date: **6/26/2020** SeqNo: **3830134**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.086	0.050						0.1421	49.4	20	R

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-175-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 9:31:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E**	QC Batch: **79820**				PrepDate	**6/24/2020**	Analyst: **CEI**
Molybdenum	180	0.21	0.50		µg/L	1	6/25/2020 12:12 AM
Selenium	0.55	0.36	0.50		µg/L	1	6/25/2020 12:12 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 10:40:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E**	QC Batch: **79820**				PrepDate	**6/24/2020**	Analyst: **CEI**
Arsenic	2.6	0.081	0.10		µg/L	1	6/25/2020 12:17 AM
Manganese	330	1.3	2.5		µg/L	5	6/25/2020 04:59 PM
Molybdenum	13	0.21	0.50		µg/L	1	6/25/2020 12:17 AM
Selenium	ND	0.36	0.50		µg/L	1	6/25/2020 12:17 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-070-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 11:17:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E**	QC Batch: **79820**			PrepDate	**6/24/2020**		Analyst: **CEI**
Arsenic	1.8	0.081	0.10		µg/L	1	6/25/2020 12:21 AM
Manganese	230	1.3	2.5		µg/L	5	6/25/2020 05:04 PM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-090-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 12:07:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E**	QC Batch: **79820**				PrepDate	**6/24/2020**	Analyst: **CEI**
Arsenic	1.0	0.081	0.10		µg/L	1	6/25/2020 12:26 AM
Manganese	280	1.3	2.5		µg/L	5	6/25/2020 05:09 PM
Molybdenum	20	0.21	0.50		µg/L	1	6/25/2020 12:26 AM
Selenium	ND	0.36	0.50		µg/L	1	6/25/2020 12:26 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-025-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 12:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E**	QC Batch: **79820**				PrepDate	**6/24/2020**	Analyst: **CEI**
Arsenic	0.52	0.081	0.10		µg/L	1	6/25/2020 12:58 AM
Manganese	2.2	0.26	0.50		µg/L	1	6/25/2020 12:58 AM
Molybdenum	4.1	0.21	0.50		µg/L	1	6/25/2020 12:58 AM
Selenium	1.5	0.36	0.50		µg/L	1	6/25/2020 12:58 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-29-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 1:32:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E**	QC Batch: **79820**				PrepDate	**6/24/2020**	Analyst: **CEI**
Arsenic	8.4	0.081	0.10		µg/L	1	6/25/2020 01:03 AM
Manganese	290	1.3	2.5		µg/L	5	6/25/2020 05:32 PM
Molybdenum	18	0.21	0.50		µg/L	1	6/25/2020 01:03 AM
Selenium	3.3	0.36	0.50		µg/L	1	6/25/2020 01:03 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 10:41:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E**	QC Batch: **79820**			PrepDate	**6/24/2020**		Analyst: **CEI**
Arsenic	2.3	0.081	0.10		µg/L	1	6/25/2020 01:07 AM
Manganese	5.0	0.26	0.50		µg/L	1	6/25/2020 01:07 AM
Molybdenum	68	0.21	0.50		µg/L	1	6/25/2020 01:07 AM
Selenium	ND	0.36	0.50		µg/L	1	6/25/2020 01:07 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-79820** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/24/2020** RunNo: **145399**
Client ID: **PBW** Batch ID: **79820** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/24/2020** SeqNo: **3832411**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-79820** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/24/2020** RunNo: **145399**
Client ID: **LCSW** Batch ID: **79820** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3832412**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.309	0.10	10.00	0	103	85	115				
Manganese	101.371	0.50	100.0	0	101	85	115				
Molybdenum	9.730	0.50	10.00	0	97.3	85	115				
Selenium	10.142	0.50	10.00	0	101	85	115				

Sample ID **N041093-007DMS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/24/2020** RunNo: **145399**
Client ID: **ZZZZZZ** Batch ID: **79820** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3832420**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.478	0.10	10.00	1.020	105	75	125				
Molybdenum	30.448	0.50	10.00	19.86	106	75	125				
Selenium	9.513	0.50	10.00	0	95.1	75	125				

Sample ID **N041093-007DMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/24/2020** RunNo: **145399**
Client ID: **ZZZZZZ** Batch ID: **79820** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3832423**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.378	0.10	10.00	1.020	104	75	125	11.48	0.873	20	
Molybdenum	30.360	0.50	10.00	19.86	105	75	125	30.45	0.288	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N041093-007DMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/24/2020** RunNo: **145399**
Client ID: **ZZZZZZ** Batch ID: **79820** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3832423**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	9.385	0.50	10.00	0	93.8	75	125	9.513	1.36	20	

Sample ID **N041093-007DMS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/24/2020** RunNo: **145420**
Client ID: **ZZZZZZ** Batch ID: **79820** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3833467**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	390.439	2.5	100.0	281.8	109	75	125				

Sample ID **N041093-007DMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/24/2020** RunNo: **145420**
Client ID: **ZZZZZZ** Batch ID: **79820** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3833468**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	389.419	2.5	100.0	281.8	108	75	125	390.4	0.262	20	

Qualifiers:

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

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis
Address: 1410 Rocky Ridge Dr # 330
Address: Roseville, CA 95661
Phone: 916-786-3302 Fax:
Submitted By: Reggie Tep
Title: Field Tech
Signature: Date: 6/23/20
I hereby authorize ASSET Labs to perform the tests indicated below.
Project Name: PG&E Topock - GMP
Project Number: RC000753.801D

Report to: Dan Bush
Company: Arcadis
Email: dan.bush@arcadis.com
daniel.moore@critigen.com
Address: 1410 Rocky Ridge Dr # 330
Roseville, CA 95661
Phone: 916-786-3302 Fax:
Sampled By: Reggie Tep
I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally misislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.
Signature: Date: 6/23/20

Bill to: Marty Bloes
Address:
Address:
Email to: mbloes@pivox.com
P.O.# SWA-ASSET-C9817-057
Phone: 949-727-1400, ext 200
Fax:

EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:

QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:

Sample Receipt Condition (Y / N):
1. Chilled ✓
2. Headspace
3. Container Intact ✓
4. Seal Present ✓
5. IR number 2
6. Method of Cooling: LCC
Sample Temp: 3.8/1.2
Courier:
Tracking No.:

Matrix: Ground x; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	Oxygen and Deuterium Isotopes (CFIRM), Ice	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	Alkalinity, Total as CaCO3 (SM2320B)	Bromide, Sulfate, Chloride (EPA 300.0)	Fluoride (EPA 300.0)	Specific Conductance (EPA 120.1)	Total Dissolved Solids (SM92540)	Nitrate/Nitrite (SM4500NO3) Nitrate; H2SO4	Total Organic Carbon (SM5310C); H2SO4	Dissolved metals (SW 6020), HNO3 As, Cr, Mn	Dissolved Metals (SW 6010B); HNO3 As, Cr, Mn, Mo, Se	Dissolved metals (SW 6020), HNO3 Cr, Mo, Se	Dissolved Metals (SW 6010B); HNO3 Chromium	Metals Dissolved (EPA7470A FF) Hg; HNO3	Dissolved Metals (SW 6010B); HNO3 Potassium	Total metals, Chromium (EPA 200.8), HNO3	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
						250 mL poly	250 mL poly	2x250 mL poly	1 liter poly	1 liter poly	1 liter poly	1 liter poly	1 liter poly	125 mL poly	3x40 mL poly	500 mL poly	500 mL poly	500 mL poly	500 mL poly	500 mL poly	500 mL poly	500 mL poly					
1	N041093-01	MW-46-205-Q220	6/23/2020	8:50		X						X							X				E	3	P	BNS	
2	-02	MW-46-175-Q220	6/23/2020	9:31		X						X		X				X					E	4	P	BNS	
3	-03	MW-44-125-Q220	6/23/2020	10:40				X				X		X			X						E	5	P	BNS	
4	-04	MW-44-125-EB-Q220	6/23/2020	10:14		X																	E	1	P	BNS	
5	-05	MW-44-070-Q220	6/23/2020	11:17				X				X				X							E	5	P	BNS	4
6	-06	MW-44-070-EB-Q220	6/23/2020	10:51		X																	E	1	P	BNS	
7	-07	MW-28-090-Q220	6/23/2020	12:07				X				X		X			X						E	5	P	BNS	MS/MSD
8	-08	MW-28-090-EB-Q220	6/23/2020	11:41		X																	E	1	P	BNS	
9	-09	MW-28-025-Q220	6/23/2020	12:41				X				X		X			X						E	5	P	BNS	
10	-10	MW-28-025-EB-Q220	6/23/2020	12:15		X																	E	1	P	BNS	
11	-11	MW-29-Q220	6/23/2020	13:32				X				X		X			X						E	5	P	BNS	
12	-12	MW-29-EB-Q220	6/23/2020	13:06		X																	E	1	P	BNS	

Reliquished by (Signature and Printed Name): Reggie Tep Date/Time: 6/23/20 1545
Received by (Signature and Printed Name): Date/Time: 6/23/20 1545
Reliquished by (Signature and Printed Name): Date/Time: 6/23/20 1749
Received by (Signature and Printed Name): Yesenia Rodriguez Date/Time: 6/23/20 1749
Reliquished by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)
- A = < 24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

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

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

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

Preservatives:
H=HCL; N=HNO_3 3N=HNO3; S=H_2SO_4 4SW=H2; SO_4; C=4°CC=4°; Z=Zn$(AC)_2$ ZZ=Zn(AC)2; O=NaOH; T=$Na_2S_2O_3$ ST=Na2; S_2; Other/Specify: B (NH4)2SO4/NH4OH

Container Type:
T=Tube; V=VOA; P=Pint; J=Jar; B=Tedlar; G=Glass; M=Metal; M=Metal; C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis
Address: 1410 Rocky Ridge Dr # 330
Address: Roseville, CA 95661
Phone: 916-786-3302 Fax:
Submitted By: Spencer Doolittle
Title: Field Tech
Signature: RR Date: 6/23/20
I hereby authorize ASSET Labs to perform the tests indicated below.
Project Name: PG&E Topock - GMP
Project Number: RC000753.801D

Report to: Dan Bush
Company: Arcadis
Email: dan.bush@arcadis.com
daniel.moore@critigen.com
Address: 1410 Rocky Ridge Dr # 330
Roseville, CA 95661
Phone: 916-786-3302 Fax:
Sampled By: Reggie Tep
I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.
Signature: Date: 6/23/20

Bill to: Marty Bloes
Address:
Address:
Email to: mbloes@pivox.com
P.O.# SWA-ASSET-C9817-057
Phone: 949-727-1400, ext 200
Fax:

EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:

QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:

Sample Receipt Condition (Y / N):
1. Chilled ✓
2. Headspace
3. Container Intact ✓
4. Seal Present ✓
5. IR number 2
6. Method of Cooling: Ice
Sample Temp: 3.0/2.12
Courier:
Tracking No.:

Matrix: Ground x; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Oxygen and Deuterium Isotopes (CFIRM), Ice (250 mL poly)	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (2x250 mL poly)	Alkalinity, Total as CaCO3 (SM2320B) (1 liter poly)	Bromide, Sulfate, Chloride (EPA 300.0) (1 liter poly)	Fluoride (EPA 300.0) (1 liter poly)	Specific Conductance (EPA 120.1) (1 liter poly)	Total Dissolved Solids (SM92540) (1 liter poly)	Nitrate/Nitrite (SM4500NO3) Nitrate; H2SO4 (125 mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL poly)	Dissolved metals (SW 6020), HNO3 As, Cr, Mn (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 As, Cr, Mn, Mo, Se (500 mL poly)	Dissolved metals (SW 6020), HNO3 Cr, Mo, Se (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 Chromium (500 mL poly)	Metals Dissolved (EPA747OA FF) Hg; HNO3 (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 Potassium (500 mL poly)	Total metals, Chromium (EPA 200.8), HNO3 (500 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N041093-13	EB-710-Q220	6/23/2020	13:45		X																	E	1	P	BNS
2	-14	EB-711-Q220	6/23/2020	13:50		X																	E	1	P	BNS
3	-15	MW-44-115-Q220	6/23/2020	10:41		X						X		X			X						E	4	P	BNS
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Reliquished by (Signature and Printed Name): RR Reggie Tep Date/Time: 6/23/20 1545
Received by (Signature and Printed Name): [signature] Date/Time: 6/23/20 1545
Reliquished by (Signature and Printed Name): [signature] Date/Time: 6/23/20 1749
Received by (Signature and Printed Name): Noah Rodriguez Date/Time: 6/23/20 1749
Reliquished by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)
- A < 24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

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

Special Instruction:
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Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs =200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
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6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
6. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.

Preservatives:
H=HCL; N=$HNO_{3(N-HNO3)}$; S=$H_2SO_{4(SH2}$ SO_4; C=4°CC=4°; Z=$Zn(AC)_{2(Z=Zn(AC)2}$; O=NaOH; T=$Na_2S_2O_{3(T=Na2}$ S_2; Other/Specify: B (NH4)2SO4/NH4OH

Container Type:
T=Tube; V=VOA; P=Pint; J=Jar; B=Tedlar; G=Glass; M=Metal; M=Metal; C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

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

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

Cooler Received/Opened On:	6/23/2020	Workorder:	N041093
Rep sample Temp (Deg C):	3.8/1.2	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

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

Comments:

Checklist Completed By: YR YRJ 6/25/2020

Reviewed By: MBC MBC 6/27/2020

ASSET Laboratories

WORK ORDER Summary

24-Jun-20

WorkOrder: N041093

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/23/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041093-001A	MW-46-205-Q220	6/23/2020 8:50:00 AM	7/7/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-001B			7/7/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041093-001C			7/7/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☑	☐	☐	WW
N041093-002A	MW-46-175-Q220	6/23/2020 9:31:00 AM	7/7/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-002B			7/7/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041093-002C			7/7/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041093-002D			7/7/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041093-003A	MW-44-125-Q220	6/23/2020 10:40:00 AM	7/7/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-003B			7/7/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041093-003C			7/7/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041093-003D			7/7/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041093-004A	MW-44-125-EB-Q220	6/23/2020 10:14:00 AM	7/7/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-005A	MW-44-070-Q220	6/23/2020 11:17:00 AM	7/7/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-005B			7/7/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041093-005C			7/7/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

24-Jun-20

WorkOrder: N041093

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/23/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041093-005C	MW-44-070-Q220	6/23/2020 11:17:00 AM	7/7/2020	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041093-006A	MW-44-070-EB-Q220	6/23/2020 10:51:00 AM	7/7/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-007A	MW-28-090-Q220	6/23/2020 12:07:00 PM	7/7/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N041093-007B			7/7/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☑	☐	LSR
N041093-007C			7/7/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☑	☐	WW
N041093-007D			7/7/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			7/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			7/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N041093-008A	MW-28-090-EB-Q220	6/23/2020 11:41:00 AM	7/7/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-009A	MW-28-025-Q220	6/23/2020 12:41:00 PM	7/7/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-009B			7/7/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041093-009C			7/7/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041093-009D			7/7/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041093-010A	MW-28-025-EB-Q220	6/23/2020 12:15:00 PM	7/7/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-011A	MW-29-Q220	6/23/2020 1:32:00 PM	7/7/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-011B			7/7/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041093-011C			7/7/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041093-011D			7/7/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

24-Jun-20

WorkOrder: N041093

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/23/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041093-011D	MW-29-Q220	6/23/2020 1:32:00 PM	7/7/2020	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041093-012A	MW-29-EB-Q220	6/23/2020 1:06:00 PM	7/7/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-013A	EB-710-Q220	6/23/2020 1:45:00 PM	7/7/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-014A	EB-711-Q220	6/23/2020 1:50:00 PM	7/7/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-015A	MW-44-115-Q220	6/23/2020 10:41:00 AM	7/7/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-015B			7/7/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041093-015C			7/7/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041093-015D			7/7/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041093-016A	FOLDER	7/7/2020	7/7/2020		EDD	RWQCB	☐	☐	☐	LAB
			7/7/2020		Folder	Folder	☐	☐	☐	LAB
			7/7/2020		Folder	Level IV Report	☐	☐	☐	LAB
			7/7/2020		Folder	Folder	☐	☐	☐	LAB

July 22, 2020

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

TEL: (916) 786-3302
FAX:

Workorder No.: N041093

RE: PG&E Topock - GMP, RC000753.801D

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 23, 2020 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an amended report. Please disregard all previous documentation that corresponds to the page(s) enclosed.

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

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

Sincerely,

Nancy Sibucao
Laboratory Director

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

ASSET Laboratories **Date:** *22-Jul-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041093

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Analytical comments for EPA 218.6:

Dilution was necessary for samples N041093-001 and -002 due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (2.1 ug/L) and hexavalent chromium (1.2 ug/L) for sample N041093-001 (MW-46-205-Q220) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (23 ug/L) and hexavalent chromium (5.3 ug/L) for sample N041093-002 (MW-46-175-Q220) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (1.0 ug/L) and hexavalent chromium (0 ug/L) for sample N041093-003 (MW-44-125-Q220) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

The report was amended as the ID for samples N041093-013 and -014 were updated. Please see attached correspondence.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (2.1 ug/L) and hexavalent chromium (1.2 ug/L) for sample N041093-001 (MW-46-205-Q220) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved

chromium. The results from the redigested samples were 2.3 and 1.7 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (23 ug/L) and hexavalent chromium (5.3 ug/L) for sample N041093-002 (MW-46-175-Q220) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 26 and 10 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (1.0 ug/L) and hexavalent chromium (0 ug/L) for sample N041093-003 (MW-44-125-Q220) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 1.1 and 0.53 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Analytical comments for SM4500-NO3F:

RPD for N041072-003CDUP sample duplicate is outside criteria; however, the associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *22-Jul-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041093
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N041093-001A	MW-46-205-Q220	Groundwater	6/23/2020 8:50:00 AM	6/23/2020	7/8/2020
N041093-001B	MW-46-205-Q220	Groundwater	6/23/2020 8:50:00 AM	6/23/2020	7/8/2020
N041093-001C	MW-46-205-Q220	Groundwater	6/23/2020 8:50:00 AM	6/23/2020	7/8/2020
N041093-002A	MW-46-175-Q220	Groundwater	6/23/2020 9:31:00 AM	6/23/2020	7/8/2020
N041093-002B	MW-46-175-Q220	Groundwater	6/23/2020 9:31:00 AM	6/23/2020	7/8/2020
N041093-002C	MW-46-175-Q220	Groundwater	6/23/2020 9:31:00 AM	6/23/2020	7/8/2020
N041093-002D	MW-46-175-Q220	Groundwater	6/23/2020 9:31:00 AM	6/23/2020	7/8/2020
N041093-003A	MW-44-125-Q220	Groundwater	6/23/2020 10:40:00 AM	6/23/2020	7/8/2020
N041093-003B	MW-44-125-Q220	Groundwater	6/23/2020 10:40:00 AM	6/23/2020	7/8/2020
N041093-003C	MW-44-125-Q220	Groundwater	6/23/2020 10:40:00 AM	6/23/2020	7/8/2020
N041093-003D	MW-44-125-Q220	Groundwater	6/23/2020 10:40:00 AM	6/23/2020	7/8/2020
N041093-004A	MW-44-125-EB-Q220	Groundwater	6/23/2020 10:14:00 AM	6/23/2020	7/8/2020
N041093-005A	MW-44-070-Q220	Groundwater	6/23/2020 11:17:00 AM	6/23/2020	7/8/2020
N041093-005B	MW-44-070-Q220	Groundwater	6/23/2020 11:17:00 AM	6/23/2020	7/8/2020
N041093-005C	MW-44-070-Q220	Groundwater	6/23/2020 11:17:00 AM	6/23/2020	7/8/2020
N041093-006A	MW-44-070-EB-Q220	Groundwater	6/23/2020 10:51:00 AM	6/23/2020	7/8/2020
N041093-007A	MW-28-090-Q220	Groundwater	6/23/2020 12:07:00 PM	6/23/2020	7/8/2020
N041093-007B	MW-28-090-Q220	Groundwater	6/23/2020 12:07:00 PM	6/23/2020	7/8/2020
N041093-007C	MW-28-090-Q220	Groundwater	6/23/2020 12:07:00 PM	6/23/2020	7/8/2020
N041093-007D	MW-28-090-Q220	Groundwater	6/23/2020 12:07:00 PM	6/23/2020	7/8/2020
N041093-008A	MW-28-090-EB-Q220	Groundwater	6/23/2020 11:41:00 AM	6/23/2020	7/8/2020
N041093-009A	MW-28-025-Q220	Groundwater	6/23/2020 12:41:00 PM	6/23/2020	7/8/2020
N041093-009B	MW-28-025-Q220	Groundwater	6/23/2020 12:41:00 PM	6/23/2020	7/8/2020
N041093-009C	MW-28-025-Q220	Groundwater	6/23/2020 12:41:00 PM	6/23/2020	7/8/2020
N041093-009D	MW-28-025-Q220	Groundwater	6/23/2020 12:41:00 PM	6/23/2020	7/8/2020
N041093-010A	MW-28-025-EB-Q220	Groundwater	6/23/2020 12:15:00 PM	6/23/2020	7/8/2020
N041093-011A	MW-29-Q220	Groundwater	6/23/2020 1:32:00 PM	6/23/2020	7/8/2020
N041093-011B	MW-29-Q220	Groundwater	6/23/2020 1:32:00 PM	6/23/2020	7/8/2020
N041093-011C	MW-29-Q220	Groundwater	6/23/2020 1:32:00 PM	6/23/2020	7/8/2020

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041093
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N041093-011D	MW-29-Q220	Groundwater	6/23/2020 1:32:00 PM	6/23/2020	7/8/2020
N041093-012A	MW-29-EB-Q220	Groundwater	6/23/2020 1:06:00 PM	6/23/2020	7/8/2020
N041093-013A	EB-710-0620	Groundwater	6/23/2020 1:45:00 PM	6/23/2020	7/8/2020
N041093-014A	EB-711-0620	Groundwater	6/23/2020 1:50:00 PM	6/23/2020	7/8/2020
N041093-015A	MW-44-115-Q220	Groundwater	6/23/2020 10:41:00 AM	6/23/2020	7/8/2020
N041093-015B	MW-44-115-Q220	Groundwater	6/23/2020 10:41:00 AM	6/23/2020	7/8/2020
N041093-015C	MW-44-115-Q220	Groundwater	6/23/2020 10:41:00 AM	6/23/2020	7/8/2020
N041093-015D	MW-44-115-Q220	Groundwater	6/23/2020 10:41:00 AM	6/23/2020	7/8/2020

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-205-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 8:50:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200624A**	QC Batch: **R145286**			PrepDate			Analyst: **LR**
Specific Conductance	22000	0.10	0.10		umhos/cm	1	6/24/2020 10:00 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-175-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 9:31:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200624A**	QC Batch: **R145286**			PrepDate			Analyst: **LR**
Specific Conductance	19000	0.10	0.10		umhos/cm	1	6/24/2020 10:00 AM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 10:40:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200624A**	QC Batch: **R145286**			PrepDate			Analyst: **LR**
Specific Conductance	2200	0.10	0.10		umhos/cm	1	6/24/2020 10:00 AM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-070-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 11:17:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200624A**	QC Batch: **R145286**			PrepDate			Analyst: **LR**
Specific Conductance	2000	0.10	0.10		umhos/cm	1	6/24/2020 10:00 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-090-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 12:07:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200624A**	QC Batch: **R145286**			PrepDate			Analyst: **LR**
Specific Conductance	5100	0.10	0.10		umhos/cm	1	6/24/2020 10:00 AM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-025-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 12:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200624A**	QC Batch: **R145286**			PrepDate			Analyst: **LR**
Specific Conductance	1100	0.10	0.10		umhos/cm	1	6/24/2020 10:00 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-29-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 1:32:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200624A**	QC Batch: **R145286**			PrepDate			Analyst: **LR**
Specific Conductance	2600	0.10	0.10		umhos/cm	1	6/24/2020 10:00 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 10:41:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200624A**	QC Batch: **R145286**			PrepDate			Analyst: **LR**
Specific Conductance	11000	0.10	0.10		umhos/cm	1	6/24/2020 10:00 AM

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N041093-011BDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **145286**
Client ID: **ZZZZZZ** Batch ID: **R145286** TestNo: **EPA 120.1** Analysis Date: **6/24/2020** SeqNo: **3827632**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	2660.000	0.10						2650	0.377	2	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-205-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 8:50:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200624A** QC Batch: **R145335** PrepDate							Analyst: **RAB**
Hexavalent Chromium	1.2	0.17	1.0		µg/L	5	6/24/2020 03:32 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200624E** QC Batch: **79820** PrepDate **6/24/2020**							Analyst: **CEI**
Chromium	2.1	0.13	1.0		µg/L	1	6/25/2020 12:07 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-175-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 9:31:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377** PrepDate							Analyst: **RAB**
Hexavalent Chromium	5.3	0.17	1.0		µg/L	5	6/25/2020 07:39 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200624E** QC Batch: **79820** PrepDate **6/24/2020**							Analyst: **CEI**
Chromium	23	0.13	1.0		µg/L	1	6/25/2020 12:12 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 10:40:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200624A** QC Batch: **R145335**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 12:05 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E** QC Batch: **79820**				PrepDate		**6/24/2020**	Analyst: **CEI**
Chromium	1.0	0.13	1.0		µg/L	1	6/25/2020 12:17 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-EB-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 10:14:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_200624A**	QC Batch: **R145335**			PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 10:11 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-070-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 11:17:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200624A** QC Batch: **R145335**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 12:24 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E** QC Batch: **79820**				PrepDate		**6/24/2020**	Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	6/25/2020 12:21 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-070-EB-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 10:51:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_200624A**	QC Batch: **R145335**			PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 10:21 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-090-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 12:07:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200624A** QC Batch: **R145335**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 12:33 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E** QC Batch: **79820**				PrepDate		**6/24/2020**	Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	6/25/2020 12:26 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-090-EB-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 11:41:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200624A** QC Batch: **R145335** PrepDate Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 10:30 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-025-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 12:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200624A** QC Batch: **R145335**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 12:43 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E** QC Batch: **79820**				PrepDate		**6/24/2020**	Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	6/25/2020 12:58 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-025-EB-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 12:15:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200624A** QC Batch: **R145335** PrepDate Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 04:10 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-29-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 1:32:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200624A** QC Batch: **R145335**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 12:52 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E** QC Batch: **79820**				PrepDate		**6/24/2020**	Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	6/25/2020 01:03 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-29-EB-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 1:06:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200624A** QC Batch: **R145335** PrepDate Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 04:29 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *22-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-710-0620
Lab Order:	N041093	**Collection Date:**	6/23/2020 1:45:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200624A** QC Batch: **R145335** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 04:48 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *22-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-711-0620
Lab Order:	N041093	**Collection Date:**	6/23/2020 1:50:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200624A** QC Batch: **R145335** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/24/2020 05:25 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 10:41:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200624A** QC Batch: **R145335** PrepDate Analyst: **RAB**							
Hexavalent Chromium	4.0	0.033	0.20		µg/L	1	6/24/2020 01:21 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200624E** QC Batch: **79820** PrepDate **6/24/2020** Analyst: **CEI**							
Chromium	3.7	0.13	1.0		µg/L	1	6/25/2020 01:07 AM

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R145335** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **PBW** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829069**

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

Sample ID **LCS-R145335** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **LCSW** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829070**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.812	0.20	5.000	0	96.2	90	110				

Sample ID **N041093-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829076**

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

Sample ID **N041093-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829077**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.009	0.20	1.000	0	101	90	110				

Sample ID **N041093-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829078**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.993	0.20	1.000	0	99.3	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041093-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829082**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.037	0.20	1.000	0	104	90	110				

Sample ID **N041093-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829090**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.035	0.20	1.000	0	103	90	110				

Sample ID **N041093-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829091**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.047	0.20	1.000	0	105	90	110				

Sample ID **N041093-007AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829092**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.017	0.20	1.000	0	102	90	110	1.047	2.87	20	

Sample ID **N041093-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829093**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.047	0.20	1.000	0	105	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041093-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829094**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.066	0.20	1.000	0	107	90	110				

Sample ID **N041093-015AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829095**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.099	0.20	5.000	3.958	103	90	110				

Sample ID **N041092-001BMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829096**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	12.448	0.20	5.000	7.222	105	90	110				

Sample ID **N041092-002BMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829097**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.830	0.20	1.000	2.768	106	90	110				

Sample ID **N041092-002BDUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829098**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.787	0.20						2.768	0.709	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041093-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829102**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.036	1.0	5.000	1.159	97.6	90	110				

Sample ID **N041093-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829104**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.030	0.20	1.000	0	103	90	110				

Sample ID **N041093-012AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829106**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.065	0.20	1.000	0	106	90	110				

Sample ID **N041093-013AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829108**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.023	0.20	1.000	0	102	90	110				

Sample ID **N041093-014AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145335**
Client ID: **ZZZZZZ** Batch ID: **R145335** TestNo: **EPA 218.6** Analysis Date: **6/24/2020** SeqNo: **3829112**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.031	0.20	1.000	0	103	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R145377** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **PBW** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830632**

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

Sample ID **LCS-R145377** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **LCSW** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830633**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.858	0.20	5.000	0	97.2	90	110				

Sample ID **N041108-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830635**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.983	0.20	1.000	0	98.3	90	110				

Sample ID **N041108-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830637**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.993	0.20	1.000	0	99.3	90	110				

Sample ID **N041109-015AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830639**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.984	0.20	1.000	0	98.4	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041109-016AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830641**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.001	0.20	1.000	0	100	90	110				

Sample ID **N041109-011ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830652**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.376	0.20						1.340	2.64	20	

Sample ID **N041109-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830653**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.362	0.20	1.000	1.340	102	90	110				

Sample ID **N041109-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830655**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	106.969	2.0	50.00	56.10	102	90	110				

Sample ID **N041109-002AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830656**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	107.527	2.0	50.00	56.10	103	90	110	107.0	0.520	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041109-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830660**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	108.138	2.0	50.00	56.54	103	90	110				

Sample ID **N041109-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830661**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	95.043	2.0	50.00	43.94	102	90	110				

Sample ID **N041109-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830662**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1172.910	20	500.0	657.5	103	90	110				

Sample ID **N041109-012AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830663**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6106.550	100	2500	3554	102	90	110				

Sample ID **N041109-013AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830664**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	38.470	1.0	25.00	13.04	102	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041109-014AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830665**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	571.410	10	250.0	318.1	101	90	110				

Sample ID **N041109-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830667**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.939	1.0	5.000	0	98.8	90	110				

Sample ID **N041109-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830671**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.239	1.0	5.000	5.014	104	90	110				

Sample ID **N041109-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830673**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.149	1.0	5.000	0	103	90	110				

Sample ID **N041109-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830675**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.844	1.0	5.000	0	96.9	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N041093-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	145377
Client ID:	ZZZZZZ	Batch ID:	R145377	TestNo:	EPA 218.6			Analysis Date:	6/25/2020	SeqNo:	3830679

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.434	1.0	5.000	5.288	103	90	110				

Sample ID	N041109-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	145377
Client ID:	ZZZZZZ	Batch ID:	R145377	TestNo:	EPA 218.6			Analysis Date:	6/25/2020	SeqNo:	3830681

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	22.540	0.40	10.00	12.47	101	90	110				

Sample ID	N041109-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	145377
Client ID:	ZZZZZZ	Batch ID:	R145377	TestNo:	EPA 218.6			Analysis Date:	6/25/2020	SeqNo:	3830683

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	22.493	0.40	10.00	12.44	101	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **MB-79820** SampType: **MBLK** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/24/2020** RunNo: **145399**
Client ID: **PBW** Batch ID: **79820** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/24/2020** SeqNo: **3832378**

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

Sample ID **LCS-79820** SampType: **LCS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/24/2020** RunNo: **145399**
Client ID: **LCSW** Batch ID: **79820** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3832379**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.806	1.0	10.00	0	98.1	85	115				

Sample ID **N041093-007DMS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/24/2020** RunNo: **145399**
Client ID: **ZZZZZZ** Batch ID: **79820** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3832387**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.053	1.0	10.00	0.5804	84.7	75	125				

Sample ID **N041093-007DMSD** SampType: **MSD** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/24/2020** RunNo: **145399**
Client ID: **ZZZZZZ** Batch ID: **79820** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3832390**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.234	1.0	10.00	0.5804	86.5	75	125	9.053	1.98	20	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-175-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 9:31:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200625B** QC Batch: **R145336** PrepDate Analyst: **JBB**							
Nitrate/Nitrite as N	1.1	0.032	0.050		mg/L	1	6/25/2020 02:06 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 10:40:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200625B**	QC Batch: **R145336**			PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	0.18	0.032	0.050		mg/L	1	6/25/2020 02:08 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-090-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 12:07:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200625B**	QC Batch: **R145336**			PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	ND	0.032	0.050		mg/L	1	6/25/2020 03:06 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-025-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 12:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200626B**	QC Batch: **R145369**			PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	ND	0.032	0.050		mg/L	1	6/26/2020 11:26 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-29-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 1:32:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200626B**	QC Batch: **R145369**			PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	0.13	0.032	0.050		mg/L	1	6/26/2020 11:27 AM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 10:41:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200625B**	QC Batch: **R145336**			PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	ND	0.032	0.050		mg/L	1	6/25/2020 02:14 PM

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID **MB-R145336** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145336**
Client ID: **PBW** Batch ID: **R145336** TestNo: **SM4500-NO3** Analysis Date: **6/25/2020** SeqNo: **3829118**

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

Sample ID **LCS-R145336** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145336**
Client ID: **LCSW** Batch ID: **R145336** TestNo: **SM4500-NO3** Analysis Date: **6/25/2020** SeqNo: **3829119**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.465	0.050	0.5000	0	92.9	85	115				

Sample ID **N041093-007CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145336**
Client ID: **ZZZZZZ** Batch ID: **R145336** TestNo: **SM4500-NO3** Analysis Date: **6/25/2020** SeqNo: **3829121**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.534	0.050	0.5000	0.04720	97.3	75	125				

Sample ID **N041093-007CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145336**
Client ID: **ZZZZZZ** Batch ID: **R145336** TestNo: **SM4500-NO3** Analysis Date: **6/25/2020** SeqNo: **3829122**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.560	0.050	0.5000	0.04720	102	75	125	0.5335	4.78	20	

Sample ID **N041093-002CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145336**
Client ID: **ZZZZZZ** Batch ID: **R145336** TestNo: **SM4500-NO3** Analysis Date: **6/25/2020** SeqNo: **3829124**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.185	0.050						1.073	9.92	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID **MB-R145369** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145369**
Client ID: **PBW** Batch ID: **R145369** TestNo: **SM4500-NO3** Analysis Date: **6/26/2020** SeqNo: **3830128**

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

Sample ID **LCS-R145369** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145369**
Client ID: **LCSW** Batch ID: **R145369** TestNo: **SM4500-NO3** Analysis Date: **6/26/2020** SeqNo: **3830129**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.470	0.050	0.5000	0	93.9	85	115				

Sample ID **N041072-004CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145369**
Client ID: **ZZZZZZ** Batch ID: **R145369** TestNo: **SM4500-NO3** Analysis Date: **6/26/2020** SeqNo: **3830131**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.581	0.050	0.5000	0.1166	92.9	75	125				

Sample ID **N041072-004CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145369**
Client ID: **ZZZZZZ** Batch ID: **R145369** TestNo: **SM4500-NO3** Analysis Date: **6/26/2020** SeqNo: **3830132**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.604	0.050	0.5000	0.1166	97.4	75	125	0.5812	3.81	20	

Sample ID **N041072-003CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145369**
Client ID: **ZZZZZZ** Batch ID: **R145369** TestNo: **SM4500-NO3** Analysis Date: **6/26/2020** SeqNo: **3830134**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.086	0.050						0.1421	49.4	20	R

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-175-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 9:31:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E**	QC Batch: **79820**				PrepDate	**6/24/2020**	Analyst: **CEI**
Molybdenum	180	0.21	0.50		µg/L	1	6/25/2020 12:12 AM
Selenium	0.55	0.36	0.50		µg/L	1	6/25/2020 12:12 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 10:40:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E**	QC Batch: **79820**				PrepDate	**6/24/2020**	Analyst: **CEI**
Arsenic	2.6	0.081	0.10		µg/L	1	6/25/2020 12:17 AM
Manganese	330	1.3	2.5		µg/L	5	6/25/2020 04:59 PM
Molybdenum	13	0.21	0.50		µg/L	1	6/25/2020 12:17 AM
Selenium	ND	0.36	0.50		µg/L	1	6/25/2020 12:17 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-070-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 11:17:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E**	QC Batch: **79820**			PrepDate	**6/24/2020**		Analyst: **CEI**
Arsenic	1.8	0.081	0.10		µg/L	1	6/25/2020 12:21 AM
Manganese	230	1.3	2.5		µg/L	5	6/25/2020 05:04 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-090-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 12:07:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E**	QC Batch: **79820**				PrepDate	**6/24/2020**	Analyst: **CEI**
Arsenic	1.0	0.081	0.10		µg/L	1	6/25/2020 12:26 AM
Manganese	280	1.3	2.5		µg/L	5	6/25/2020 05:09 PM
Molybdenum	20	0.21	0.50		µg/L	1	6/25/2020 12:26 AM
Selenium	ND	0.36	0.50		µg/L	1	6/25/2020 12:26 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-025-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 12:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E**	QC Batch: **79820**				PrepDate	**6/24/2020**	Analyst: **CEI**
Arsenic	0.52	0.081	0.10		µg/L	1	6/25/2020 12:58 AM
Manganese	2.2	0.26	0.50		µg/L	1	6/25/2020 12:58 AM
Molybdenum	4.1	0.21	0.50		µg/L	1	6/25/2020 12:58 AM
Selenium	1.5	0.36	0.50		µg/L	1	6/25/2020 12:58 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-29-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 1:32:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E**	QC Batch: **79820**				PrepDate	**6/24/2020**	Analyst: **CEI**
Arsenic	8.4	0.081	0.10		µg/L	1	6/25/2020 01:03 AM
Manganese	290	1.3	2.5		µg/L	5	6/25/2020 05:32 PM
Molybdenum	18	0.21	0.50		µg/L	1	6/25/2020 01:03 AM
Selenium	3.3	0.36	0.50		µg/L	1	6/25/2020 01:03 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *08-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-Q220
Lab Order:	N041093	**Collection Date:**	6/23/2020 10:41:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041093-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200624E**	QC Batch: **79820**			PrepDate	**6/24/2020**		Analyst: **CEI**
Arsenic	2.3	0.081	0.10		µg/L	1	6/25/2020 01:07 AM
Manganese	5.0	0.26	0.50		µg/L	1	6/25/2020 01:07 AM
Molybdenum	68	0.21	0.50		µg/L	1	6/25/2020 01:07 AM
Selenium	ND	0.36	0.50		µg/L	1	6/25/2020 01:07 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-79820** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/24/2020** RunNo: **145399**
Client ID: **PBW** Batch ID: **79820** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/24/2020** SeqNo: **3832411**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-79820** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/24/2020** RunNo: **145399**
Client ID: **LCSW** Batch ID: **79820** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3832412**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.309	0.10	10.00	0	103	85	115				
Manganese	101.371	0.50	100.0	0	101	85	115				
Molybdenum	9.730	0.50	10.00	0	97.3	85	115				
Selenium	10.142	0.50	10.00	0	101	85	115				

Sample ID **N041093-007DMS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/24/2020** RunNo: **145399**
Client ID: **ZZZZZZ** Batch ID: **79820** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3832420**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.478	0.10	10.00	1.020	105	75	125				
Molybdenum	30.448	0.50	10.00	19.86	106	75	125				
Selenium	9.513	0.50	10.00	0	95.1	75	125				

Sample ID **N041093-007DMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/24/2020** RunNo: **145399**
Client ID: **ZZZZZZ** Batch ID: **79820** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3832423**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.378	0.10	10.00	1.020	104	75	125	11.48	0.873	20	
Molybdenum	30.360	0.50	10.00	19.86	105	75	125	30.45	0.288	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041093
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N041093-007DMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/24/2020** RunNo: **145399**
Client ID: **ZZZZZZ** Batch ID: **79820** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3832423**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	9.385	0.50	10.00	0	93.8	75	125	9.513	1.36	20	

Sample ID **N041093-007DMS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/24/2020** RunNo: **145420**
Client ID: **ZZZZZZ** Batch ID: **79820** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3833467**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	390.439	2.5	100.0	281.8	109	75	125				

Sample ID **N041093-007DMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/24/2020** RunNo: **145420**
Client ID: **ZZZZZZ** Batch ID: **79820** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3833468**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	389.419	2.5	100.0	281.8	108	75	125	390.4	0.262	20	

Qualifiers:

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

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis
Address: 1410 Rocky Ridge Dr # 330
Address: Roseville, CA 95661
Phone: 916-786-3302 Fax:
Submitted By: Reggie Tep
Title: Field Tech
Signature: Date: 6/23/20
I hereby authorize ASSET Labs to perform the tests indicated below.
Project Name: PG&E Topock - GMP
Project Number: RC000753.801D

Report to: Dan Bush
Company: Arcadis
Email: dan.bush@arcadis.com
daniel.moore@critigen.com
Address: 1410 Rocky Ridge Dr # 330
Roseville, CA 95661
Phone: 916-786-3302 Fax:
Sampled By: Reggie Tep
I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally misislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.
Signature: Date: 6/23/20

Bill to: Marty Bloes
Address:
Address:
Email to: mbloes@pivox.com
P.O.# SWA-ASSET-C9817-057
Phone: 949-727-1400, ext 200
Fax:

EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:

QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:

Sample Receipt Condition (Y / N):
1. Chilled ✓
2. Headspace
3. Container Intact ✓
4. Seal Present ✓
5. IR number 2
6. Method of Cooling: LCC
Sample Temp: 3.8/1.2
Courier:
Tracking No.:

Matrix: Ground x; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	Oxygen and Deuterium Isotopes (CFIRM), Ice	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	Alkalinity, Total as CaCO3 (SM2320B)	Bromide, Sulfate, Chloride (EPA 300.0)	Fluoride (EPA 300.0)	Specific Conductance (EPA 120.1)	Total Dissolved Solids (SM92540)	Nitrate/Nitrite (SM4500NO3) Nitrate; H2SO4	Total Organic Carbon (SM5310C); H2SO4	Dissolved metals (SW 6020), HNO3 As, Cr, Mn	Dissolved Metals (SW 6010B); HNO3 As, Cr, Mn, Mo, Se	Dissolved metals (SW 6020), HNO3 Cr, Mo, Se	Dissolved Metals (SW 6010B); HNO3 Chromium	Metals Dissolved (EPA7470A FF) Hg; HNO3	Dissolved Metals (SW 6010B); HNO3 Potassium	Total metals, Chromium (EPA 200.8), HNO3	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
						250 mL poly	250 mL poly	2x250 mL poly	1 liter poly	1 liter poly	1 liter poly	1 liter poly	1 liter poly	125 mL poly	3x40 mL poly	500 mL poly	500 mL poly	500 mL poly	500 mL poly	500 mL poly	500 mL poly	500 mL poly					
1	N041093-01	MW-46-205-Q220	6/23/2020	8:50		X						X							X				E	3	P	BNS	
2	-02	MW-46-175-Q220	6/23/2020	9:31		X						X		X				X					E	4	P	BNS	
3	-03	MW-44-125-Q220	6/23/2020	10:40				X				X		X			X						E	5	P	BNS	
4	-04	MW-44-125-EB-Q220	6/23/2020	10:14		X																	E	1	P	BNS	
5	-05	MW-44-070-Q220	6/23/2020	11:17				X				X				X							E	5	P	BNS	4
6	-06	MW-44-070-EB-Q220	6/23/2020	10:51		X																	E	1	P	BNS	
7	-07	MW-28-090-Q220	6/23/2020	12:07				X				X		X			X						E	5	P	BNS	MS/MSD
8	-08	MW-28-090-EB-Q220	6/23/2020	11:41		X																	E	1	P	BNS	
9	-09	MW-28-025-Q220	6/23/2020	12:41				X				X		X			X						E	5	P	BNS	
10	-10	MW-28-025-EB-Q220	6/23/2020	12:15		X																	E	1	P	BNS	
11	-11	MW-29-Q220	6/23/2020	13:32				X				X		X			X						E	5	P	BNS	
12	-12	MW-29-EB-Q220	6/23/2020	13:06		X																	E	1	P	BNS	

Reliquished by (Signature and Printed Name): Reggie Tep Date/Time: 6/23/20 1545
Received by (Signature and Printed Name): Date/Time: 6/23/20 1545
Reliquished by (Signature and Printed Name): Date/Time: 6/23/20 1749
Received by (Signature and Printed Name): Yesenia Rodriguez Date/Time: 6/23/20 1749
Reliquished by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)
- A = < 24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

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

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

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

Preservatives:
H=HCL; N=HNO_3 3N=HNO3; S=H_2SO_4 4SW=H2; SO_4; C=4°CC=4°; Z=Zn$(AC)_2$ ZZ=Zn(AC)2; O=NaOH; T=$Na_2S_2O_3$ ST=Na2; S_2; Other/Specify: B (NH4)2SO4/NH4OH

Container Type:
T=Tube; V=VOA; P=Pint; J=Jar; B=Tedlar; G=Glass; M=Metal; M=Metal; C=Can

White=Laboratory Copy
Yellow=Customer's Copy

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CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis
Address: 1410 Rocky Ridge Dr # 330
Address: Roseville, CA 95661
Phone: 916-786-3302 Fax:
Submitted By: Spencer Doolittle
Title: Field Tech
Signature: RR Date: 6/23/20
I hereby authorize ASSET Labs to perform the tests indicated below.
Project Name: PG&E Topock - GMP
Project Number: RC000753.801D

Report to: Dan Bush
Company: Arcadis
Email: dan.bush@arcadis.com
daniel.moore@critigen.com
Address: 1410 Rocky Ridge Dr # 330
Roseville, CA 95661
Phone: 916-786-3302 Fax:
Sampled By: Reggie Tep
I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.
Signature: Date: 6/23/20

Bill to: Marty Bloes
Address:
Address:
Email to: mbloes@pivox.com
P.O.# SWA-ASSET-C9817-057
Phone: 949-727-1400, ext 200
Fax:

EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:

QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:

Sample Receipt Condition (Y / N):
1. Chilled ✓
2. Headspace
3. Container Intact ✓
4. Seal Present ✓
5. IR number 2
6. Method of Cooling: Ice
Sample Temp: 3.0/2.12
Courier:
Tracking No.:

Matrix: Ground x; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Oxygen and Deuterium Isotopes (CFIRM), Ice (250 mL poly)	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (2x250 mL poly)	Alkalinity, Total as CaCO3 (SM2320B) (1 liter poly)	Bromide, Sulfate, Chloride (EPA 300.0) (1 liter poly)	Fluoride (EPA 300.0) (1 liter poly)	Specific Conductance (EPA 120.1) (1 liter poly)	Total Dissolved Solids (SM92540) (1 liter poly)	Nitrate/Nitrite (SM4500NO3) Nitrate; H2SO4 (125 mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL poly)	Dissolved metals (SW 6020), HNO3 As, Cr, Mn (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 As, Cr, Mn, Mo, Se (500 mL poly)	Dissolved metals (SW 6020), HNO3 Cr, Mo, Se (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 Chromium (500 mL poly)	Metals Dissolved (EPA747OA FF) Hg; HNO3 (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 Potassium (500 mL poly)	Total metals, Chromium (EPA 200.8), HNO3 (500 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N041093-13	EB-710-Q220	6/23/2020	13:45		X																	E	1	P	BNS
2	-14	EB-711-Q220	6/23/2020	13:50		X																	E	1	P	BNS
3	-15	MW-44-115-Q220	6/23/2020	10:41		X						X		X			X						E	4	P	BNS
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Reliquished by (Signature and Printed Name): RR Reggie Tep Date/Time: 6/23/20 1545
Received by (Signature and Printed Name): [signature] Date/Time: 6/23/20 1545
Reliquished by (Signature and Printed Name): [signature] Date/Time: 6/23/20 1749
Received by (Signature and Printed Name): Noah Rodriguez Date/Time: 6/23/20 1749
Reliquished by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)
- A < 24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

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

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

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

Preservatives:
H=HCL; N=$HNO_{3(N-HNO3)}$; S=$H_2SO_{4(SH2}$ SO_4; C=4°CC=4°; Z=$Zn(AC)_{2(Z=Zn(AC)2}$; O=NaOH; T=$Na_2S_2O_{3(T=Na2}$ S_2; Other/Specify: B (NH4)2SO4/NH4OH

Container Type:
T=Tube; V=VOA; P=Pint; J=Jar; B=Tedlar; G=Glass; M=Metal; M=Metal; C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

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

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

Cooler Received/Opened On:	6/23/2020	Workorder:	N041093
Rep sample Temp (Deg C):	3.8/1.2	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

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

Comments:

Checklist Completed By: YR YRJ 6/25/2020

Reviewed By: MBC MBC 6/27/2020

Mary Ann Balilu (maryann.balilu@assetlaboratoriesph.com)

From: Nancy Sibucao <nancy@assetlaboratories.com>
Sent: Wednesday, July 22, 2020 3:16 PM
To: Tina Rice; Dan Moore; Marlon Cartin; Yoandra Rodriguez; maryann.balilu@assetlaboratoriesph.com
Subject: URGENT EDD Issues

Noted Tina. We will update the report except for N041020 as that one has been corrected.

Yoandra/Maryann, please update the IDs for the other work orders asap.

Thanks,
Nancy

From: Tina Rice [mailto:Tina.Rice@critigen.com]

Sent: Wednesday, July 22, 2020, 1:28 PM

To: Nancy Sibucao; Dan Moore; Marlon Cartin

Subject: EDD Issues

Please note that there were duplicate samples taken (I believe I emailed the corrected ID's as they were caught in the login process) and that is causing the EDDs listed below to fail when loading. I have fixed the EDDs and reloaded but the lab reports will need to be updated for the samples in the SDGs, below. Note that they currently end in -Q220 in the EDD/lab reports but since the sample IDs were already used this quarter, they need to be updated to -0620 per below:

sys_loc_code	ClientSampID	WorkOrder
EB-706	EB-706-0620	N041020
EB-707	EB-707-0620	N041043
EB-708	EB-708-0620	N041043
EB-709	EB-709-0620	N041072
EB-710	EB-710-0620	N041093
EB-711	EB-711-0620	N041093
EB-712	EB-712-0620	N041109
EB-713	EB-713-0620	N041109
EB-714	EB-714-0620	N041126
EB-715	EB-715-0620	N041126

From: Nancy Sibucao <nancy@assetlaboratories.com>
Sent: Wednesday, July 22, 2020 12:28 PM
To: Dan Moore <Daniel.Moore@critigen.com>; Marlon Cartin <marlon@assetlaboratories.com>; Tina Rice <Tina.Rice@critigen.com>
Subject: Re: EDD Issues

ASSET Laboratories

WORK ORDER Summary

22-Jul-20

WorkOrder: N041093

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/23/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041093-001A	MW-46-205-Q220	6/23/2020 8:50:00 AM	7/8/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-001B			7/8/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041093-001C			7/8/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/8/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041093-002A	MW-46-175-Q220	6/23/2020 9:31:00 AM	7/8/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-002B			7/8/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041093-002C			7/8/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041093-002D			7/8/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/8/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/8/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041093-003A	MW-44-125-Q220	6/23/2020 10:40:00 AM	7/8/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-003B			7/8/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041093-003C			7/8/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041093-003D			7/8/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/8/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/8/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041093-004A	MW-44-125-EB-Q220	6/23/2020 10:14:00 AM	7/8/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-005A	MW-44-070-Q220	6/23/2020 11:17:00 AM	7/8/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-005B			7/8/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041093-005C			7/8/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/8/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

22-Jul-20

WorkOrder: N041093

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/23/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041093-005C	MW-44-070-Q220	6/23/2020 11:17:00 AM	7/8/2020	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041093-006A	MW-44-070-EB-Q220	6/23/2020 10:51:00 AM	7/8/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-007A	MW-28-090-Q220	6/23/2020 12:07:00 PM	7/8/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N041093-007B			7/8/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☑	☐	WW
N041093-007C			7/8/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☑	☐	WW
N041093-007D			7/8/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			7/8/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			7/8/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N041093-008A	MW-28-090-EB-Q220	6/23/2020 11:41:00 AM	7/8/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-009A	MW-28-025-Q220	6/23/2020 12:41:00 PM	7/8/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-009B			7/8/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041093-009C			7/8/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041093-009D			7/8/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/8/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/8/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041093-010A	MW-28-025-EB-Q220	6/23/2020 12:15:00 PM	7/8/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-011A	MW-29-Q220	6/23/2020 1:32:00 PM	7/8/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-011B			7/8/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041093-011C			7/8/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041093-011D			7/8/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/8/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

22-Jul-20

WorkOrder: N041093

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/23/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041093-011D	MW-29-Q220	6/23/2020 1:32:00 PM	7/8/2020	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041093-012A	MW-29-EB-Q220	6/23/2020 1:06:00 PM	7/8/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-013A	EB-710-0620	6/23/2020 1:45:00 PM	7/8/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-014A	EB-711-0620	6/23/2020 1:50:00 PM	7/8/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-015A	MW-44-115-Q220	6/23/2020 10:41:00 AM	7/8/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041093-015B			7/8/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041093-015C			7/8/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041093-015D			7/8/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/8/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/8/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041093-016A	FOLDER	7/8/2020	7/8/2020		EDD	RWQCB	☐	☐	☐	LAB
			7/8/2020		Folder	Folder	☐	☐	☐	LAB
			7/8/2020		Folder	Level IV Report	☐	☐	☐	LAB
			7/8/2020		Folder	Folder	☐	☐	☐	LAB

July 09, 2020

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

TEL: (916) 786-3302
FAX:

Workorder No.: N041109

RE: PG&E Topock - GMP, RC000753.801D

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 24, 2020 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

Nancy Liberacio for

Puri Romualdo
Laboratory Director

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

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Because the results for total dissolved chromium (6.5 ug/L) and hexavalent chromium (5.0 ug/L) for sample N041109-004 (MW-37D-Q220) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (2.6 ug/L) and hexavalent chromium (1.3 ug/L) for sample N041109-011 (MW-63-065-Q220) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Manganese in QC samples N041109-001D-MS and N041109-001D-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Sample N041109-006 was run for several times (9times) at 1x dilution as the RSD of Arsenic is above the 15% criteria. The result of Arsenic in all runs was comparable. Thus, sample that has the lowest RSD which is at 15.4% was reported for this analyte.

Because the results for total dissolved chromium (6.5 ug/L) and hexavalent chromium (5.0 ug/L) for sample N041109-004 (MW-37D-Q220) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 7.6 and 6.0 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (2.6 ug/L) and hexavalent chromium (1.3 ug/L) for sample N041109-011 (MW-63-065-Q220) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 2.9 and 1.7 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

ASSET Laboratories

Date: *09-Jul-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041109
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N041109-001A	MW-66BR-270-Q220	Groundwater	6/24/2020 8:30:00 AM	6/24/2020	7/9/2020
N041109-001B	MW-66BR-270-Q220	Groundwater	6/24/2020 8:30:00 AM	6/24/2020	7/9/2020
N041109-001C	MW-66BR-270-Q220	Groundwater	6/24/2020 8:30:00 AM	6/24/2020	7/9/2020
N041109-001D	MW-66BR-270-Q220	Groundwater	6/24/2020 8:30:00 AM	6/24/2020	7/9/2020
N041109-002A	MW-25-Q220	Groundwater	6/24/2020 9:48:00 AM	6/24/2020	7/9/2020
N041109-002B	MW-25-Q220	Groundwater	6/24/2020 9:48:00 AM	6/24/2020	7/9/2020
N041109-002C	MW-25-Q220	Groundwater	6/24/2020 9:48:00 AM	6/24/2020	7/9/2020
N041109-002D	MW-25-Q220	Groundwater	6/24/2020 9:48:00 AM	6/24/2020	7/9/2020
N041109-003A	MW-906-Q220	Groundwater	6/24/2020 9:58:00 AM	6/24/2020	7/9/2020
N041109-003B	MW-906-Q220	Groundwater	6/24/2020 9:58:00 AM	6/24/2020	7/9/2020
N041109-003C	MW-906-Q220	Groundwater	6/24/2020 9:58:00 AM	6/24/2020	7/9/2020
N041109-003D	MW-906-Q220	Groundwater	6/24/2020 9:58:00 AM	6/24/2020	7/9/2020
N041109-004A	MW-37D-Q220	Groundwater	6/24/2020 10:38:00 AM	6/24/2020	7/9/2020
N041109-004B	MW-37D-Q220	Groundwater	6/24/2020 10:38:00 AM	6/24/2020	7/9/2020
N041109-004C	MW-37D-Q220	Groundwater	6/24/2020 10:38:00 AM	6/24/2020	7/9/2020
N041109-004D	MW-37D-Q220	Groundwater	6/24/2020 10:38:00 AM	6/24/2020	7/9/2020
N041109-005A	MW-14-Q220	Groundwater	6/24/2020 11:28:00 AM	6/24/2020	7/9/2020
N041109-005B	MW-14-Q220	Groundwater	6/24/2020 11:28:00 AM	6/24/2020	7/9/2020
N041109-005C	MW-14-Q220	Groundwater	6/24/2020 11:28:00 AM	6/24/2020	7/9/2020
N041109-005D	MW-14-Q220	Groundwater	6/24/2020 11:28:00 AM	6/24/2020	7/9/2020
N041109-006A	MW-905-Q220	Groundwater	6/24/2020 11:38:00 AM	6/24/2020	7/9/2020
N041109-006B	MW-905-Q220	Groundwater	6/24/2020 11:38:00 AM	6/24/2020	7/9/2020
N041109-006C	MW-905-Q220	Groundwater	6/24/2020 11:38:00 AM	6/24/2020	7/9/2020
N041109-006D	MW-905-Q220	Groundwater	6/24/2020 11:38:00 AM	6/24/2020	7/9/2020
N041109-007A	MW-41D-Q220	Groundwater	6/24/2020 12:31:00 PM	6/24/2020	7/9/2020
N041109-007B	MW-41D-Q220	Groundwater	6/24/2020 12:31:00 PM	6/24/2020	7/9/2020
N041109-007C	MW-41D-Q220	Groundwater	6/24/2020 12:31:00 PM	6/24/2020	7/9/2020
N041109-007D	MW-41D-Q220	Groundwater	6/24/2020 12:31:00 PM	6/24/2020	7/9/2020
N041109-008A	MW-911-Q220	Groundwater	6/24/2020 12:41:00 PM	6/24/2020	7/9/2020

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041109
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N041109-008B	MW-911-Q220	Groundwater	6/24/2020 12:41:00 PM	6/24/2020	7/9/2020
N041109-008C	MW-911-Q220	Groundwater	6/24/2020 12:41:00 PM	6/24/2020	7/9/2020
N041109-008D	MW-911-Q220	Groundwater	6/24/2020 12:41:00 PM	6/24/2020	7/9/2020
N041109-009A	MW-60BR-245-LF_S-Q220	Groundwater	6/24/2020 1:57:00 PM	6/24/2020	7/9/2020
N041109-009B	MW-60BR-245-LF_S-Q220	Groundwater	6/24/2020 1:57:00 PM	6/24/2020	7/9/2020
N041109-009C	MW-60BR-245-LF_S-Q220	Groundwater	6/24/2020 1:57:00 PM	6/24/2020	7/9/2020
N041109-009D	MW-60BR-245-LF_S-Q220	Groundwater	6/24/2020 1:57:00 PM	6/24/2020	7/9/2020
N041109-010A	MW-60-125-Q220	Groundwater	6/24/2020 2:37:00 PM	6/24/2020	7/9/2020
N041109-010B	MW-60-125-Q220	Groundwater	6/24/2020 2:37:00 PM	6/24/2020	7/9/2020
N041109-010C	MW-60-125-Q220	Groundwater	6/24/2020 2:37:00 PM	6/24/2020	7/9/2020
N041109-010D	MW-60-125-Q220	Groundwater	6/24/2020 2:37:00 PM	6/24/2020	7/9/2020
N041109-011A	MW-63-065-Q220	Groundwater	6/24/2020 12:39:00 PM	6/24/2020	7/9/2020
N041109-011B	MW-63-065-Q220	Groundwater	6/24/2020 12:39:00 PM	6/24/2020	7/9/2020
N041109-011C	MW-63-065-Q220	Groundwater	6/24/2020 12:39:00 PM	6/24/2020	7/9/2020
N041109-011D	MW-63-065-Q220	Groundwater	6/24/2020 12:39:00 PM	6/24/2020	7/9/2020
N041109-012A	MW-50-200-Q220	Groundwater	6/24/2020 2:10:00 PM	6/24/2020	7/9/2020
N041109-012B	MW-50-200-Q220	Groundwater	6/24/2020 2:10:00 PM	6/24/2020	7/9/2020
N041109-012C	MW-50-200-Q220	Groundwater	6/24/2020 2:10:00 PM	6/24/2020	7/9/2020
N041109-013A	MW-50-095-Q220	Groundwater	6/24/2020 2:51:00 PM	6/24/2020	7/9/2020
N041109-013B	MW-50-095-Q220	Groundwater	6/24/2020 2:51:00 PM	6/24/2020	7/9/2020
N041109-013C	MW-50-095-Q220	Groundwater	6/24/2020 2:51:00 PM	6/24/2020	7/9/2020
N041109-014A	MW-31-060-Q220	Groundwater	6/24/2020 3:29:00 PM	6/24/2020	7/9/2020
N041109-014B	MW-31-060-Q220	Groundwater	6/24/2020 3:29:00 PM	6/24/2020	7/9/2020
N041109-014C	MW-31-060-Q220	Groundwater	6/24/2020 3:29:00 PM	6/24/2020	7/9/2020
N041109-015A	EB-712-Q220	Groundwater	6/24/2020 3:30:00 PM	6/24/2020	7/9/2020
N041109-016A	EB-713-Q220	Groundwater	6/24/2020 3:40:00 PM	6/24/2020	7/9/2020

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66BR-270-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 8:30:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	17000	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-25-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 9:48:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	2000	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-906-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 9:58:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	2100	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-37D-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 10:38:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	13000	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-14-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 11:28:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	3300	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-905-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 11:38:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	3300	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-41D-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 12:31:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	18000	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-911-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 12:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	18000	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-60BR-245-LF_S-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 1:57:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	17000	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-60-125-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 2:37:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	9100	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-63-065-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 12:39:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	7300	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-50-200-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 2:10:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	20000	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-50-095-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 2:51:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	5800	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 3:29:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	3600	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N041109-001BDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **145328**
Client ID: **ZZZZZZ** Batch ID: **R145328** TestNo: **EPA 120.1** Analysis Date: **6/25/2020** SeqNo: **3828914**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	17290.000	0.10						17310	0.116	2	

Sample ID **N041109-011BDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **145328**
Client ID: **ZZZZZZ** Batch ID: **R145328** TestNo: **EPA 120.1** Analysis Date: **6/25/2020** SeqNo: **3828925**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	7320.000	0.10						7290	0.411	2	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66BR-270-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 8:30:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_200625A** QC Batch: **R145377**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.17	1.0		µg/L	5	6/25/2020 05:08 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_200625B** QC Batch: **79835**				PrepDate		**6/25/2020**	Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	6/25/2020 05:55 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-25-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 9:48:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_200625A** QC Batch: **R145377**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	56	0.33	2.0		µg/L	10	6/25/2020 03:11 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200625B** QC Batch: **79835**				PrepDate		**6/25/2020**	Analyst: **CEI**
Chromium	55	0.13	1.0		µg/L	1	6/25/2020 06:45 PM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-906-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 9:58:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	57	0.33	2.0		µg/L	10	6/25/2020 03:58 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B** QC Batch: **79835**				PrepDate		**6/25/2020**	Analyst: **CEI**
Chromium	56	0.13	1.0		µg/L	1	6/25/2020 06:55 PM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-37D-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 10:38:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	5.0	0.17	1.0		µg/L	5	6/25/2020 05:27 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B** QC Batch: **79835**				PrepDate		**6/25/2020**	Analyst: **CEI**
Chromium	6.5	0.13	1.0		µg/L	1	6/25/2020 07:04 PM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-14-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 11:28:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377** PrepDate Analyst: **RAB**							
Hexavalent Chromium	12	0.066	0.40		µg/L	2	6/25/2020 07:58 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200625B** QC Batch: **79835** PrepDate **6/25/2020** Analyst: **CEI**							
Chromium	12	0.13	1.0		µg/L	1	6/25/2020 07:13 PM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-905-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 11:38:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377** PrepDate							Analyst: **RAB**
Hexavalent Chromium	12	0.066	0.40		µg/L	2	6/25/2020 08:17 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200625B** QC Batch: **79835** PrepDate **6/25/2020**							Analyst: **CEI**
Chromium	12	0.13	1.0		µg/L	1	6/25/2020 07:22 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-41D-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 12:31:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_200625A** QC Batch: **R145377**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.17	1.0		µg/L	5	6/25/2020 06:23 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_200625B** QC Batch: **79835**				PrepDate		**6/25/2020**	Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	6/25/2020 07:50 PM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-911-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 12:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.17	1.0		µg/L	5	6/25/2020 07:01 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B** QC Batch: **79835**				PrepDate		**6/25/2020**	Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	6/25/2020 07:59 PM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-60BR-245-LF_S-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 1:57:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	44	0.33	2.0		µg/L	10	6/25/2020 12:24 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B** QC Batch: **79835**				PrepDate		**6/25/2020**	Analyst: **CEI**
Chromium	42	0.13	1.0		µg/L	1	6/25/2020 08:09 PM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-60-125-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 2:37:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_200625A**	QC Batch: **R145377**			PrepDate			Analyst: **RAB**
Hexavalent Chromium	660	3.3	20		µg/L	100	6/25/2020 12:36 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**			PrepDate	**6/25/2020**		Analyst: **CEI**
Chromium	630	0.65	5.0		µg/L	5	6/25/2020 08:22 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-63-065-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 12:39:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	1.3	0.033	0.20		µg/L	1	6/25/2020 11:55 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B** QC Batch: **79835**				PrepDate		**6/25/2020**	Analyst: **CEI**
Chromium	2.6	0.13	1.0		µg/L	1	6/25/2020 08:27 PM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-50-200-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 2:10:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377** PrepDate							Analyst: **RAB**
Hexavalent Chromium	3600	17	100		µg/L	500	6/25/2020 12:45 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200626B** QC Batch: **79835** PrepDate **6/25/2020**							Analyst: **CEI**
Chromium	3500	3.2	25		µg/L	25	6/26/2020 09:05 AM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-50-095-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 2:51:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377** PrepDate Analyst: **RAB**							
Hexavalent Chromium	13	0.17	1.0		µg/L	5	6/25/2020 12:55 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200625B** QC Batch: **79835** PrepDate **6/25/2020** Analyst: **CEI**							
Chromium	14	0.13	1.0		µg/L	1	6/25/2020 08:55 PM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 3:29:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_200625A**	QC Batch: **R145377**			PrepDate			Analyst: **RAB**
Hexavalent Chromium	320	1.7	10		µg/L	50	6/25/2020 01:04 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**			PrepDate	**6/25/2020**		Analyst: **CEI**
Chromium	280	0.65	5.0		µg/L	5	6/25/2020 09:09 PM

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

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ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-712-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 3:30:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377** PrepDate Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/25/2020 10:58 AM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-713-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 3:40:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377** PrepDate Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/25/2020 11:17 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R145377** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **PBW** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830632**

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

Sample ID **LCS-R145377** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **LCSW** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830633**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.858	0.20	5.000	0	97.2	90	110				

Sample ID **N041108-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830635**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.983	0.20	1.000	0	98.3	90	110				

Sample ID **N041108-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830637**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.993	0.20	1.000	0	99.3	90	110				

Sample ID **N041109-015AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830639**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.984	0.20	1.000	0	98.4	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041109-016AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830641**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.001	0.20	1.000	0	100	90	110				

Sample ID **N041109-011ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830652**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.376	0.20						1.340	2.64	20	

Sample ID **N041109-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830653**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.362	0.20	1.000	1.340	102	90	110				

Sample ID **N041109-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830655**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	106.969	2.0	50.00	56.10	102	90	110				

Sample ID **N041109-002AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830656**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	107.527	2.0	50.00	56.10	103	90	110	107.0	0.520	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041109-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830660**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	108.138	2.0	50.00	56.54	103	90	110				

Sample ID **N041109-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830661**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	95.043	2.0	50.00	43.94	102	90	110				

Sample ID **N041109-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830662**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1172.910	20	500.0	657.5	103	90	110				

Sample ID **N041109-012AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830663**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6106.550	100	2500	3554	102	90	110				

Sample ID **N041109-013AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830664**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	38.470	1.0	25.00	13.04	102	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041109-014AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830665**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	571.410	10	250.0	318.1	101	90	110				

Sample ID **N041109-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830667**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.939	1.0	5.000	0	98.8	90	110				

Sample ID **N041109-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830671**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.239	1.0	5.000	5.014	104	90	110				

Sample ID **N041109-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830673**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.149	1.0	5.000	0	103	90	110				

Sample ID **N041109-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830675**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.844	1.0	5.000	0	96.9	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N041093-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	145377
Client ID:	ZZZZZZ	Batch ID:	R145377	TestNo:	EPA 218.6			Analysis Date:	6/25/2020	SeqNo:	3830679

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.434	1.0	5.000	5.288	103	90	110				

Sample ID	N041109-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	145377
Client ID:	ZZZZZZ	Batch ID:	R145377	TestNo:	EPA 218.6			Analysis Date:	6/25/2020	SeqNo:	3830681

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	22.540	0.40	10.00	12.47	101	90	110				

Sample ID	N041109-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	145377
Client ID:	ZZZZZZ	Batch ID:	R145377	TestNo:	EPA 218.6			Analysis Date:	6/25/2020	SeqNo:	3830683

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	22.493	0.40	10.00	12.44	101	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **MB-79835** SampType: **MBLK** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/25/2020** RunNo: **145420**
Client ID: **PBW** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3832479**

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

Sample ID **LCS-79835** SampType: **LCS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/25/2020** RunNo: **145420**
Client ID: **LCSW** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3832480**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.678	1.0	10.00	0	96.8	85	115				

Sample ID **N041109-001D-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/25/2020** RunNo: **145420**
Client ID: **ZZZZZZ** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3832486**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.966	1.0	10.00	0.4654	85.0	75	125				

Sample ID **N041109-001D-MSD** SampType: **MSD** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/25/2020** RunNo: **145420**
Client ID: **ZZZZZZ** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3832488**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.859	1.0	10.00	0.4654	83.9	75	125	8.966	1.20	20	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66BR-270-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 8:30:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200629D**	QC Batch: **R145443**			PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	0.47	0.032	0.050		mg/L	1	6/29/2020 04:00 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-25-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 9:48:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200629D** QC Batch: **R145443**				PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	13	0.32	0.50		mg/L	10	6/29/2020 04:10 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-906-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 9:58:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200629D** QC Batch: **R145443**				PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	12	0.32	0.50		mg/L	10	6/29/2020 04:00 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-37D-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 10:38:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200629D**	QC Batch: **R145443**			PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	0.92	0.032	0.050		mg/L	1	6/29/2020 03:55 PM

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

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ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-14-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 11:28:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200629D**	QC Batch: **R145443**			PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	3.2	0.16	0.25		mg/L	5	6/29/2020 04:07 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-905-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 11:38:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200629D**	QC Batch: **R145443**			PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	2.8	0.16	0.25		mg/L	5	6/29/2020 04:05 PM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-41D-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 12:31:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200701E** QC Batch: **R145503** PrepDate Analyst: **JBB**							
Nitrate/Nitrite as N	0.14	0.032	0.050		mg/L	1	7/1/2020 04:19 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-911-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 12:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200629D** QC Batch: **R145443** PrepDate Analyst: **JBB**							
Nitrate/Nitrite as N	1.1	0.16	0.25		mg/L	5	6/29/2020 04:11 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-60BR-245-LF_S-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 1:57:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200701E** QC Batch: **R145503** PrepDate Analyst: **JBB**							
Nitrate/Nitrite as N	0.23	0.032	0.050		mg/L	1	7/1/2020 04:22 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-60-125-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 2:37:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200629D**	QC Batch: **R145443**			PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	3.8	0.16	0.25		mg/L	5	6/29/2020 04:08 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-63-065-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 12:39:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200629D**	QC Batch: **R145443**			PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	1.8	0.032	0.050		mg/L	1	6/29/2020 03:58 PM

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID **MB-R145443** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145443**
Client ID: **PBW** Batch ID: **R145443** TestNo: **SM4500-NO3** Analysis Date: **6/29/2020** SeqNo: **3834190**

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

Sample ID **LCS-R145443** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145443**
Client ID: **LCSW** Batch ID: **R145443** TestNo: **SM4500-NO3** Analysis Date: **6/29/2020** SeqNo: **3834191**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.477	0.050	0.5000	0	95.3	85	115				

Sample ID **N041109-004CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145443**
Client ID: **ZZZZZZ** Batch ID: **R145443** TestNo: **SM4500-NO3** Analysis Date: **6/29/2020** SeqNo: **3834193**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.458	0.050	0.5000	0.9244	107	75	125				

Sample ID **N041109-004CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145443**
Client ID: **ZZZZZZ** Batch ID: **R145443** TestNo: **SM4500-NO3** Analysis Date: **6/29/2020** SeqNo: **3834194**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.544	0.050	0.5000	0.9244	124	75	125	1.458	5.69	20	

Sample ID **N041109-011CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145443**
Client ID: **ZZZZZZ** Batch ID: **R145443** TestNo: **SM4500-NO3** Analysis Date: **6/29/2020** SeqNo: **3834196**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.840	0.050						1.846	0.358	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID **MB-R145503** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145503**
Client ID: **PBW** Batch ID: **R145503** TestNo: **SM4500-NO3** Analysis Date: **7/1/2020** SeqNo: **3836303**

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

Sample ID **LCS-R145503** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145503**
Client ID: **LCSW** Batch ID: **R145503** TestNo: **SM4500-NO3** Analysis Date: **7/1/2020** SeqNo: **3836304**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.482	0.050	0.5000	0	96.5	85	115				

Sample ID **N041109-007CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145503**
Client ID: **ZZZZZZ** Batch ID: **R145503** TestNo: **SM4500-NO3** Analysis Date: **7/1/2020** SeqNo: **3836306**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.599	0.050	0.5000	0.1433	91.2	75	125				

Sample ID **N041109-007CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145503**
Client ID: **ZZZZZZ** Batch ID: **R145503** TestNo: **SM4500-NO3** Analysis Date: **7/1/2020** SeqNo: **3836307**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.645	0.050	0.5000	0.1433	100	75	125	0.5993	7.30	20	

Sample ID **N041109-009CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145503**
Client ID: **ZZZZZZ** Batch ID: **R145503** TestNo: **SM4500-NO3** Analysis Date: **7/1/2020** SeqNo: **3836309**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.210	0.050						0.2329	10.3	20	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66BR-270-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 8:30:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**				PrepDate	**6/25/2020**	Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/25/2020 05:55 PM
Manganese	6700	13	25		µg/L	50	6/26/2020 08:33 AM
Molybdenum	1.1	0.21	0.50		µg/L	1	6/25/2020 05:55 PM
Selenium	ND	0.36	0.50		µg/L	1	6/25/2020 05:55 PM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-25-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 9:48:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**				PrepDate	**6/25/2020**	Analyst: **CEI**
Arsenic	0.96	0.081	0.10		µg/L	1	6/25/2020 06:45 PM
Manganese	2.7	0.26	0.50		µg/L	1	6/25/2020 06:45 PM
Molybdenum	4.3	0.21	0.50		µg/L	1	6/25/2020 06:45 PM
Selenium	7.5	0.36	0.50		µg/L	1	6/25/2020 06:45 PM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-906-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 9:58:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**				PrepDate	**6/25/2020**	Analyst: **CEI**
Arsenic	0.93	0.081	0.10		µg/L	1	6/25/2020 06:55 PM
Manganese	3.2	0.26	0.50		µg/L	1	6/25/2020 06:55 PM
Molybdenum	4.4	0.21	0.50		µg/L	1	6/25/2020 06:55 PM
Selenium	7.4	0.36	0.50		µg/L	1	6/25/2020 06:55 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-37D-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 10:38:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**			PrepDate	**6/25/2020**		Analyst: **CEI**
Molybdenum	63	0.21	0.50		µg/L	1	6/25/2020 07:04 PM
Selenium	0.66	0.36	0.50		µg/L	1	6/25/2020 07:04 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-14-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 11:28:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**				PrepDate	**6/25/2020**	Analyst: **CEI**
Arsenic	0.12	0.081	0.10		µg/L	1	6/25/2020 07:13 PM
Manganese	0.79	0.26	0.50		µg/L	1	6/25/2020 07:13 PM
Molybdenum	10	0.21	0.50		µg/L	1	6/25/2020 07:13 PM
Selenium	1.8	0.36	0.50		µg/L	1	6/25/2020 07:13 PM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-905-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 11:38:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**			PrepDate	**6/25/2020**		Analyst: **CEI**
Arsenic	0.18	0.081	0.10		µg/L	1	6/25/2020 09:33 PM
Manganese	0.72	0.26	0.50		µg/L	1	6/25/2020 07:22 PM
Molybdenum	10	0.21	0.50		µg/L	1	6/25/2020 07:22 PM
Selenium	2.0	0.36	0.50		µg/L	1	6/25/2020 07:22 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N041109
Project: PG&E Topock - GMP, RC000753.801D
Lab ID: N041109-007

Client Sample ID: MW-41D-Q220
Collection Date: 6/24/2020 12:31:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**				PrepDate	**6/25/2020**	Analyst: **CEI**
Arsenic	2.4	0.081	0.10		µg/L	1	6/25/2020 07:50 PM
Manganese	120	0.26	0.50		µg/L	1	6/25/2020 07:50 PM
Molybdenum	80	0.21	0.50		µg/L	1	6/25/2020 07:50 PM
Selenium	ND	0.36	0.50		µg/L	1	6/25/2020 07:50 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-911-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 12:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**			PrepDate	**6/25/2020**		Analyst: **CEI**
Arsenic	2.4	0.081	0.10		µg/L	1	6/25/2020 07:59 PM
Manganese	120	0.26	0.50		µg/L	1	6/25/2020 07:59 PM
Molybdenum	82	0.21	0.50		µg/L	1	6/25/2020 07:59 PM
Selenium	ND	0.36	0.50		µg/L	1	6/25/2020 07:59 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-60BR-245-LF_S-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 1:57:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**				PrepDate	**6/25/2020**	Analyst: **CEI**
Arsenic	6.1	0.081	0.10		µg/L	1	6/25/2020 08:09 PM
Manganese	7.9	0.26	0.50		µg/L	1	6/25/2020 08:09 PM
Molybdenum	62	0.21	0.50		µg/L	1	6/25/2020 08:09 PM
Selenium	2.8	0.36	0.50		µg/L	1	6/25/2020 08:09 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-60-125-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 2:37:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**			PrepDate	**6/25/2020**		Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/25/2020 08:18 PM
Manganese	4.7	0.26	0.50		µg/L	1	6/25/2020 08:18 PM
Molybdenum	17	0.21	0.50		µg/L	1	6/25/2020 08:18 PM
Selenium	5.2	0.36	0.50		µg/L	1	6/25/2020 08:18 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-63-065-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 12:39:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**			PrepDate		**6/25/2020**	Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/25/2020 08:27 PM
Manganese	10	0.26	0.50		µg/L	1	6/25/2020 08:27 PM
Molybdenum	15	0.21	0.50		µg/L	1	6/25/2020 08:27 PM
Selenium	0.89	0.36	0.50		µg/L	1	6/25/2020 08:27 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 3:29:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**			PrepDate		**6/25/2020**	Analyst: **CEI**
Arsenic	0.36	0.081	0.10		µg/L	1	6/25/2020 09:04 PM
Manganese	ND	0.26	0.50		µg/L	1	6/25/2020 09:04 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N041109-001D-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/25/2020** RunNo: **145423**
Client ID: **ZZZZZZ** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/26/2020** SeqNo: **3832725**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	6905.072	25	100.0	6659	246	75	125				S

Sample ID **N041109-001D-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/25/2020** RunNo: **145423**
Client ID: **ZZZZZZ** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/26/2020** SeqNo: **3832726**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	7009.496	25	100.0	6659	351	75	125	6905	1.50	20	S

Sample ID **MB-79835** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/25/2020** RunNo: **145420**
Client ID: **PBW** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3833472**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-79835** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/25/2020** RunNo: **145420**
Client ID: **LCSW** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3833473**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.423	0.10	10.00	0	104	85	115				
Manganese	97.484	0.50	100.0	0	97.5	85	115				
Molybdenum	9.637	0.50	10.00	0	96.4	85	115				
Selenium	10.009	0.50	10.00	0	100	85	115				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N041109-001D-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/25/2020** RunNo: **145420**
Client ID: **ZZZZZZ** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3833479**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.636	0.10	10.00	0.08966	105	75	125				
Molybdenum	12.479	0.50	10.00	1.066	114	75	125				
Selenium	9.414	0.50	10.00	0	94.1	75	125				

Sample ID **N041109-001D-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/25/2020** RunNo: **145420**
Client ID: **ZZZZZZ** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3833481**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.562	0.10	10.00	0.08966	105	75	125	10.64	0.698	20	
Molybdenum	12.396	0.50	10.00	1.066	113	75	125	12.48	0.669	20	
Selenium	9.354	0.50	10.00	0	93.5	75	125	9.414	0.639	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N041109-001D-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **145423**
Client ID: **ZZZZZZ** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/26/2020** SeqNo: **3832724**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	6967.864	25	100.0	6659	309	80	120				S

Sample ID **N041109-001D-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **145420**
Client ID: **ZZZZZZ** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3833477**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.459	0.10	10.00	0.08966	104	80	120				
Molybdenum	12.396	0.50	10.00	1.066	113	80	120				
Selenium	9.513	0.50	10.00	0	95.1	80	120				

Qualifiers:

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

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis
Address: 1410 Rocky Ridge Dr # 330
Address: Roseville, CA 95661
Phone: 916-786-3302 Fax:
Submitted By: Riggie Tep
Title: Field Tech
Signature: Date: 6/24/20
I hereby authorize ASSET Labs to perform the tests indicated below.
Project Name: PG&E Topock - GMP
Project Number: RC000753.801D

Report to: Dan Bush
Company: Arcadis
Email: dan.bush@arcadis.com
daniel.moore@critigen.com
Address: 1410 Rocky Ridge Dr # 330
Roseville, CA 95661
Phone: 916-786-3302 Fax:
Sampled By: Riggie Tep
I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.
Signature: Date: 6/24/20

Bill to: Marty Bloes
Address:
Address:
Email to: mbloes@pivox.com
P.O.# SWA-ASSET-C9817-057
Phone: 949-727-1400, ext 200
Fax:

EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:

QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:

Sample Receipt Condition

	Y	N
1. Chilled	X	
2. Headspace	X	
3. Container Intact	X	
4. Seal Present		
5. IR number		

6. Method of Cooling: ICE
Sample Temp: 2.1, 3.4
Courier: ASSET
Tracking No.:

Matrix: Ground x; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Oxygen and Deuterium Isotopes (CFIRM), Ice 250 mL poly	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 2x250 mL poly	Alkalinity, Total as CaCO3 (SM2320B) 1 liter poly	Bromide, Sulfate, Chloride (EPA 300.0) 1 liter poly	Fluoride (EPA 300.0) 1 liter poly	Specific Conductance (EPA 120.1) 1 liter poly	Total Dissolved Solids (SM92540) 1 liter poly	Nitrate/Nitrite (SM4500NO3) Nitrate; H2SO4 125 mL poly	Total Organic Carbon (SM5310C); H2SO4 3x40 mL poly	Dissolved metals (SW 6020), HNO3 As, Cr, Mn 500 mL poly	Dissolved Metals (SW 6010B); HNO3 As, Cr, Mn, Mo, Se 500 mL poly	Dissolved metals (SW 6020), HNO3 Cr, Mo, Se 500 mL poly	Dissolved Metals (SW 6010B); HNO3 Chromium 500 mL poly	Metals Dissolved (EPA7470A FF) Hg; HNO3 500 mL poly	Dissolved Metals (SW 6010B); HNO3 Potassium 500 mL poly	Total metals, Chromium (trap-filter) (EPA 200.8), HNO3 500 mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N041109-01	MW-66BR-270-Q220	6/24/2020	8:30		X						X		X			X						E	4	P	BNS	
2	-02	MW-25-Q220	6/24/2020	9:48		X						X		X			X						E	4	P	BNS	
3	-03	MW-906-Q220	6/24/2020	9:58		X						X		X			X						E	4	P	BNS	
4	-04	MW-37D-Q220	6/24/2020	10:38		X						X		X				X					E	4	P	BNS	
5	-05	MW-14-Q220	6/24/2020	11:28		X						X		X			X						E	4	P	BNS	
6	-06	MW-905-Q220	6/24/2020	11:38		X						X		X			X						E	4	P	BNS	
7	-07	MW-41D-Q220	6/24/2020	12:31		X						X		X			X						E	4	P	BNS	
8	-08	MW-911-Q220	6/24/2020	12:41		X						X		X			X						E	4	P	BNS	
9	-09	MW-60BR-245-LF_S-Q220	6/24/2020	13:57		X						X		X			X						E	4	P	BNS	
10	-10	MW-60-125-Q220	6/24/2020	14:37		X						X		X			X						E	4	P	BNS	
11	-11	MW-63-65-Q220	6/24/2020	12:39		X						X		X			X						E	4	P	BNS	
12	-12	MW-50-200-Q220	6/24/2020	14:10		X						X						X					E	4	P	BNS	3

Relinquished by (Signature and Printed Name): Riggie Tep Date/Time: 6/24/20 1615
Received by (Signature and Printed Name): MBCARTIN Date/Time: 6/24/20@1615
Relinquished by (Signature and Printed Name): MBCARTIN Date/Time: 6/24/20 @2300
Received by (Signature and Printed Name): Date/Time: 6/24/20@2300
Relinquished by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)
- A < 24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

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

Special Instruction:
Title 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

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

Preservatives:
H=HCL; N=$HNO_{3N=HNO3}$; S=$H_2SO_{4S=H2}SO_4$; C=4°CC=4°
Z=$Zn(AC)_{2Z=Zn(AC)2}$; O=NaOH; T=$Na_2S_2O_{3T=Na2}S_2$
Others/Specify: B (NH4)2SO4/NH4OH

Container Type:
T=Tube; V=VOA; P=Pint
J=Jar; B=Tedlar; G=Glass
M=Metal; M=Metal; C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis
Address: 1410 Rocky Ridge Dr # 330
Address: Roseville, CA 95661
Phone: 916-786-3302 Fax:
Submitted By: Spencer Doolittle
Title: Field Tech
Signature: Date: 6/24/20
I hereby authorize ASSET Labs to perform the tests indicated below.
Project Name: PG&E Topock - GMP
Project Number: RC000753.801D

Report to: Dan Bush
Company: Arcadis
Email: dan.bush@arcadis.com
daniel.moore@critigen.com
Address: 1410 Rocky Ridge Dr # 330
Roseville, CA 95661
Phone: 916-786-3302 Fax:
Sampled By: Riggie Tep
I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.
Signature: Date: 6/24/20

Bill to: Marty Bloes
Address:
Address:
Email to: mbloes@pivox.com
P.O.# SWA-ASSET-C9817-057
Phone: 949-727-1400, ext 200
Fax:

EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:

QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:

Sample Receipt Condition: 1. Chilled X; 2. Headspace; 3. Container Intact X; 4. Seal Present; 5. IR number; 6. Method of Cooling: Ice
Sample Temp: 2.1, 3.7
Courier: ASSET
Tracking No.:

Matrix: Ground x; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Oxygen and Deuterium Isotopes (CFIRM), Ice (250 mL poly)	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (2x250 mL poly)	Alkalinity, Total as CaCO3 (SM2320B) (1 liter poly)	Bromide, Sulfate, Chloride (EPA 300.0) (1 liter poly)	Fluoride (EPA 300.0) (1 liter poly)	Specific Conductance (EPA 120.1) (1 liter poly)	Total Dissolved Solids (SM92540) (1 liter poly)	Nitrate/Nitrite (SM4500NO3) Nitrate; H2SO4 (125 mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL poly)	Dissolved metals (SW 6020), HNO3 As, Cr, Mn (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 As, Cr, Mn, Mo, Se (500 mL poly)	Dissolved metals (SW 6020), HNO3 Cr, Mo, Se (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 Chromium (500 mL poly)	Metals Dissolved (EPA7470A FF) Hg; HNO3 (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 Potassium (500 mL poly)	Total metals, Chromium (non-filter) (EPA 200.8), HNO3 (500 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N041109-13	MW-50-095-Q220	6/24/2020	14:51		X						X							X				E	3	P	BNS
2	-14	MW-31-060-Q220	6/24/2020	15:29		X						X				X							E	3	P	BNS
3	-15	EB-712-Q220	6/24/2020	15:30		X																	E	1	P	BNS
4	-16	EB-713-Q220	6/24/2020	15:40		X																	E	1	P	BNS
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Reliquished by (Signature and Printed Name): Riggie Tep Date/Time: 6/24/20 1615
Received by (Signature and Printed Name): MBCANTON Date/Time: 6/24/20 @ 1615
Reliquished by (Signature and Printed Name): Date/Time: 6/24/20 @ 2300
Received by (Signature and Printed Name): Date/Time: 6/24/20 @ 2300
Reliquished by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)
- A < 24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

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

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

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

Preservatives:
H=HCL; N=HNO_3 5%=HNO_3; S=H_2SO_4 4S=H2; C=4°CC=4°; Z=Zn$(AC)_2$ 2Z=2Zn(AC)2; O=NaOH; T=$Na_2S_2O_3$ 5T=Na2; Others/Specify: B (NH4)2SO4/NH4OH

Container Type:
T=Tube; V=VOA; P=Pint; J=Jar; B=Tedlar; G=Glass; M=Metal; M=Metal; C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

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

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

Cooler Received/Opened On:	6/24/2020	Workorder:	N041109
Rep sample Temp (Deg C):	2.1/3.4	IR Gun ID:	1
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

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

Comments: See client's correspondence.

For:

Checklist Completed By: MBC YRJ 6/26/2020

Reviewed By: EAR 6/27/2020

Mary Ann Balilu (maryann.balilu@assetlaboratoriesph.com)

From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Thursday, June 25, 2020 4:01 PM
To: Tina Rice
Cc: Madsen, Laura; maryann.balilu@assetlaboratoriesph.com
Subject: Re: Topock - Sample ID Update

Hi Tina,

I was about to mail you about this discrepancy. Login will be revised.

Thanks!

On 6/25/2020 3:55 PM, Tina Rice wrote:

> Hi Yoandra,
>
> Please update the sample ID per below:

WorkOrder	ClientSampID	CorrectedClientSampID
N041109	MW-63-65-Q220	MW-63-065-Q220

> Thank you!
>
> Tina

Tina Rice

Database Analyst

CRITIGEN

Tina.Rice@critigen.com

1 360 600 3562 Direct

1 360 600 3562 Mobile

critigen.com

This email has been checked for viruses by Avast antivirus software.
www.avast.com

ASSET Laboratories

WORK ORDER Summary

26-Jun-20

WorkOrder: N041109

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/24/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041109-001A	MW-66BR-270-Q220	6/24/2020 8:30:00 AM	7/9/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-001B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041109-001C			7/9/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041109-001D			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-002A	MW-25-Q220	6/24/2020 9:48:00 AM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-002B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041109-002C			7/9/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041109-002D			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-003A	MW-906-Q220	6/24/2020 9:58:00 AM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-003B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041109-003C			7/9/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041109-003D			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-004A	MW-37D-Q220	6/24/2020 10:38:00 AM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-004B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041109-004C			7/9/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

26-Jun-20

WorkOrder: N041109

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/24/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041109-004D	MW-37D-Q220	6/24/2020 10:38:00 AM	7/9/2020	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-005A	MW-14-Q220	6/24/2020 11:28:00 AM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-005B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041109-005C			7/9/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041109-005D			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-006A	MW-905-Q220	6/24/2020 11:38:00 AM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-006B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041109-006C			7/9/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041109-006D			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-007A	MW-41D-Q220	6/24/2020 12:31:00 PM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-007B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041109-007C			7/9/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041109-007D			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

26-Jun-20

WorkOrder: N041109

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/24/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041109-008A	MW-911-Q220	6/24/2020 12:41:00 PM	7/9/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-008B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041109-008C			7/9/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041109-008D			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-009A	MW-60BR-245-LF_S-Q220	6/24/2020 1:57:00 PM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-009B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041109-009C			7/9/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041109-009D			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-010A	MW-60-125-Q220	6/24/2020 2:37:00 PM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-010B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041109-010C			7/9/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041109-010D			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-011A	MW-63-065-Q220	6/24/2020 12:39:00 PM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-011B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041109-011C			7/9/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

26-Jun-20

WorkOrder: N041109

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/24/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041109-011D	MW-63-065-Q220	6/24/2020 12:39:00 PM	7/9/2020	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-012A	MW-50-200-Q220	6/24/2020 2:10:00 PM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-012B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041109-012C			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-013A	MW-50-095-Q220	6/24/2020 2:51:00 PM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-013B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041109-013C			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-014A	MW-31-060-Q220	6/24/2020 3:29:00 PM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-014B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041109-014C			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-015A	EB-712-Q220	6/24/2020 3:30:00 PM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-016A	EB-713-Q220	6/24/2020 3:40:00 PM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-017A	FOLDER	7/9/2020	7/9/2020		EDD	RWQCB	☐	☐	☐	LAB
			7/9/2020		Folder	Folder	☐	☐	☐	LAB
			7/9/2020		Folder	Level IV Report	☐	☐	☐	LAB
			7/9/2020		Folder	Folder	☐	☐	☐	LAB

July 22, 2020

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

TEL: (916) 786-3302
FAX:

Workorder No.: N041109

RE: PG&E Topock - GMP, RC000753.801D

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 24, 2020 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an amended report. Please disregard all previous documentation that corresponds to the page(s) enclosed.

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

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

Sincerely,

Nancy Sibucao
Laboratory Director

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

ASSET Laboratories **Date:** *22-Jul-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041109

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Because the results for total dissolved chromium (6.5 ug/L) and hexavalent chromium (5.0 ug/L) for sample N041109-004 (MW-37D-Q220) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (2.6 ug/L) and hexavalent chromium (1.3 ug/L) for sample N041109-011 (MW-63-065-Q220) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

The report was amended as the ID for samples N041109-015 and -016 were updated. Please see attached correspondence.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Manganese in QC samples N041109-001D-MS and N041109-001D-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Sample N041109-006 was run for several times (9times) at 1x dilution as the RSD of Arsenic is above

the 15% criteria. The result of Arsenic in all runs was comparable. Thus, sample that has the lowest RSD which is at 15.4% was reported for this analyte.

Because the results for total dissolved chromium (6.5 ug/L) and hexavalent chromium (5.0 ug/L) for sample N041109-004 (MW-37D-Q220) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 7.6 and 6.0 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (2.6 ug/L) and hexavalent chromium (1.3 ug/L) for sample N041109-011 (MW-63-065-Q220) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 2.9 and 1.7 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

ASSET Laboratories

Date: *22-Jul-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041109
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N041109-001A	MW-66BR-270-Q220	Groundwater	6/24/2020 8:30:00 AM	6/24/2020	7/9/2020
N041109-001B	MW-66BR-270-Q220	Groundwater	6/24/2020 8:30:00 AM	6/24/2020	7/9/2020
N041109-001C	MW-66BR-270-Q220	Groundwater	6/24/2020 8:30:00 AM	6/24/2020	7/9/2020
N041109-001D	MW-66BR-270-Q220	Groundwater	6/24/2020 8:30:00 AM	6/24/2020	7/9/2020
N041109-002A	MW-25-Q220	Groundwater	6/24/2020 9:48:00 AM	6/24/2020	7/9/2020
N041109-002B	MW-25-Q220	Groundwater	6/24/2020 9:48:00 AM	6/24/2020	7/9/2020
N041109-002C	MW-25-Q220	Groundwater	6/24/2020 9:48:00 AM	6/24/2020	7/9/2020
N041109-002D	MW-25-Q220	Groundwater	6/24/2020 9:48:00 AM	6/24/2020	7/9/2020
N041109-003A	MW-906-Q220	Groundwater	6/24/2020 9:58:00 AM	6/24/2020	7/9/2020
N041109-003B	MW-906-Q220	Groundwater	6/24/2020 9:58:00 AM	6/24/2020	7/9/2020
N041109-003C	MW-906-Q220	Groundwater	6/24/2020 9:58:00 AM	6/24/2020	7/9/2020
N041109-003D	MW-906-Q220	Groundwater	6/24/2020 9:58:00 AM	6/24/2020	7/9/2020
N041109-004A	MW-37D-Q220	Groundwater	6/24/2020 10:38:00 AM	6/24/2020	7/9/2020
N041109-004B	MW-37D-Q220	Groundwater	6/24/2020 10:38:00 AM	6/24/2020	7/9/2020
N041109-004C	MW-37D-Q220	Groundwater	6/24/2020 10:38:00 AM	6/24/2020	7/9/2020
N041109-004D	MW-37D-Q220	Groundwater	6/24/2020 10:38:00 AM	6/24/2020	7/9/2020
N041109-005A	MW-14-Q220	Groundwater	6/24/2020 11:28:00 AM	6/24/2020	7/9/2020
N041109-005B	MW-14-Q220	Groundwater	6/24/2020 11:28:00 AM	6/24/2020	7/9/2020
N041109-005C	MW-14-Q220	Groundwater	6/24/2020 11:28:00 AM	6/24/2020	7/9/2020
N041109-005D	MW-14-Q220	Groundwater	6/24/2020 11:28:00 AM	6/24/2020	7/9/2020
N041109-006A	MW-905-Q220	Groundwater	6/24/2020 11:38:00 AM	6/24/2020	7/9/2020
N041109-006B	MW-905-Q220	Groundwater	6/24/2020 11:38:00 AM	6/24/2020	7/9/2020
N041109-006C	MW-905-Q220	Groundwater	6/24/2020 11:38:00 AM	6/24/2020	7/9/2020
N041109-006D	MW-905-Q220	Groundwater	6/24/2020 11:38:00 AM	6/24/2020	7/9/2020
N041109-007A	MW-41D-Q220	Groundwater	6/24/2020 12:31:00 PM	6/24/2020	7/9/2020
N041109-007B	MW-41D-Q220	Groundwater	6/24/2020 12:31:00 PM	6/24/2020	7/9/2020
N041109-007C	MW-41D-Q220	Groundwater	6/24/2020 12:31:00 PM	6/24/2020	7/9/2020
N041109-007D	MW-41D-Q220	Groundwater	6/24/2020 12:31:00 PM	6/24/2020	7/9/2020
N041109-008A	MW-911-Q220	Groundwater	6/24/2020 12:41:00 PM	6/24/2020	7/9/2020

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041109
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N041109-008B	MW-911-Q220	Groundwater	6/24/2020 12:41:00 PM	6/24/2020	7/9/2020
N041109-008C	MW-911-Q220	Groundwater	6/24/2020 12:41:00 PM	6/24/2020	7/9/2020
N041109-008D	MW-911-Q220	Groundwater	6/24/2020 12:41:00 PM	6/24/2020	7/9/2020
N041109-009A	MW-60BR-245-LF_S-Q220	Groundwater	6/24/2020 1:57:00 PM	6/24/2020	7/9/2020
N041109-009B	MW-60BR-245-LF_S-Q220	Groundwater	6/24/2020 1:57:00 PM	6/24/2020	7/9/2020
N041109-009C	MW-60BR-245-LF_S-Q220	Groundwater	6/24/2020 1:57:00 PM	6/24/2020	7/9/2020
N041109-009D	MW-60BR-245-LF_S-Q220	Groundwater	6/24/2020 1:57:00 PM	6/24/2020	7/9/2020
N041109-010A	MW-60-125-Q220	Groundwater	6/24/2020 2:37:00 PM	6/24/2020	7/9/2020
N041109-010B	MW-60-125-Q220	Groundwater	6/24/2020 2:37:00 PM	6/24/2020	7/9/2020
N041109-010C	MW-60-125-Q220	Groundwater	6/24/2020 2:37:00 PM	6/24/2020	7/9/2020
N041109-010D	MW-60-125-Q220	Groundwater	6/24/2020 2:37:00 PM	6/24/2020	7/9/2020
N041109-011A	MW-63-065-Q220	Groundwater	6/24/2020 12:39:00 PM	6/24/2020	7/9/2020
N041109-011B	MW-63-065-Q220	Groundwater	6/24/2020 12:39:00 PM	6/24/2020	7/9/2020
N041109-011C	MW-63-065-Q220	Groundwater	6/24/2020 12:39:00 PM	6/24/2020	7/9/2020
N041109-011D	MW-63-065-Q220	Groundwater	6/24/2020 12:39:00 PM	6/24/2020	7/9/2020
N041109-012A	MW-50-200-Q220	Groundwater	6/24/2020 2:10:00 PM	6/24/2020	7/9/2020
N041109-012B	MW-50-200-Q220	Groundwater	6/24/2020 2:10:00 PM	6/24/2020	7/9/2020
N041109-012C	MW-50-200-Q220	Groundwater	6/24/2020 2:10:00 PM	6/24/2020	7/9/2020
N041109-013A	MW-50-095-Q220	Groundwater	6/24/2020 2:51:00 PM	6/24/2020	7/9/2020
N041109-013B	MW-50-095-Q220	Groundwater	6/24/2020 2:51:00 PM	6/24/2020	7/9/2020
N041109-013C	MW-50-095-Q220	Groundwater	6/24/2020 2:51:00 PM	6/24/2020	7/9/2020
N041109-014A	MW-31-060-Q220	Groundwater	6/24/2020 3:29:00 PM	6/24/2020	7/9/2020
N041109-014B	MW-31-060-Q220	Groundwater	6/24/2020 3:29:00 PM	6/24/2020	7/9/2020
N041109-014C	MW-31-060-Q220	Groundwater	6/24/2020 3:29:00 PM	6/24/2020	7/9/2020
N041109-015A	EB-712-0620	Groundwater	6/24/2020 3:30:00 PM	6/24/2020	7/9/2020
N041109-016A	EB-713-0620	Groundwater	6/24/2020 3:40:00 PM	6/24/2020	7/9/2020

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66BR-270-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 8:30:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	17000	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-25-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 9:48:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	2000	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-906-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 9:58:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	2100	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-37D-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 10:38:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	13000	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

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ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-14-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 11:28:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	3300	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-905-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 11:38:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	3300	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-41D-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 12:31:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	18000	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-911-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 12:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	18000	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-60BR-245-LF_S-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 1:57:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	17000	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-60-125-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 2:37:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	9100	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-63-065-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 12:39:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	7300	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-50-200-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 2:10:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	20000	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-50-095-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 2:51:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	5800	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

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ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 3:29:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200625A**	QC Batch: **R145328**			PrepDate			Analyst: **LR**
Specific Conductance	3600	0.10	0.10		umhos/cm	1	6/25/2020 10:10 AM

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N041109-001BDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **145328**
Client ID: **ZZZZZZ** Batch ID: **R145328** TestNo: **EPA 120.1** Analysis Date: **6/25/2020** SeqNo: **3828914**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	17290.000	0.10						17310	0.116	2	

Sample ID **N041109-011BDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **145328**
Client ID: **ZZZZZZ** Batch ID: **R145328** TestNo: **EPA 120.1** Analysis Date: **6/25/2020** SeqNo: **3828925**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	7320.000	0.10						7290	0.411	2	

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66BR-270-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 8:30:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_200625A** QC Batch: **R145377**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.17	1.0		µg/L	5	6/25/2020 05:08 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_200625B** QC Batch: **79835**				PrepDate		**6/25/2020**	Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	6/25/2020 05:55 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-25-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 9:48:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_200625A** QC Batch: **R145377**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	56	0.33	2.0		µg/L	10	6/25/2020 03:11 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200625B** QC Batch: **79835**				PrepDate		**6/25/2020**	Analyst: **CEI**
Chromium	55	0.13	1.0		µg/L	1	6/25/2020 06:45 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-906-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 9:58:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	57	0.33	2.0		µg/L	10	6/25/2020 03:58 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B** QC Batch: **79835**				PrepDate		**6/25/2020**	Analyst: **CEI**
Chromium	56	0.13	1.0		µg/L	1	6/25/2020 06:55 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-37D-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 10:38:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	5.0	0.17	1.0		µg/L	5	6/25/2020 05:27 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B** QC Batch: **79835**				PrepDate		**6/25/2020**	Analyst: **CEI**
Chromium	6.5	0.13	1.0		µg/L	1	6/25/2020 07:04 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-14-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 11:28:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377** PrepDate Analyst: **RAB**							
Hexavalent Chromium	12	0.066	0.40		µg/L	2	6/25/2020 07:58 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200625B** QC Batch: **79835** PrepDate **6/25/2020** Analyst: **CEI**							
Chromium	12	0.13	1.0		µg/L	1	6/25/2020 07:13 PM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-905-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 11:38:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377** PrepDate							Analyst: **RAB**
Hexavalent Chromium	12	0.066	0.40		µg/L	2	6/25/2020 08:17 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200625B** QC Batch: **79835** PrepDate **6/25/2020**							Analyst: **CEI**
Chromium	12	0.13	1.0		µg/L	1	6/25/2020 07:22 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-41D-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 12:31:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_200625A** QC Batch: **R145377**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.17	1.0		µg/L	5	6/25/2020 06:23 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_200625B** QC Batch: **79835**				PrepDate		**6/25/2020**	Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	6/25/2020 07:50 PM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-911-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 12:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.17	1.0		µg/L	5	6/25/2020 07:01 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B** QC Batch: **79835**				PrepDate		**6/25/2020**	Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	6/25/2020 07:59 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-60BR-245-LF_S-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 1:57:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	44	0.33	2.0		µg/L	10	6/25/2020 12:24 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B** QC Batch: **79835**				PrepDate		**6/25/2020**	Analyst: **CEI**
Chromium	42	0.13	1.0		µg/L	1	6/25/2020 08:09 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-60-125-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 2:37:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_200625A**	QC Batch: **R145377**			PrepDate			Analyst: **RAB**
Hexavalent Chromium	660	3.3	20		µg/L	100	6/25/2020 12:36 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**			PrepDate	**6/25/2020**		Analyst: **CEI**
Chromium	630	0.65	5.0		µg/L	5	6/25/2020 08:22 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-63-065-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 12:39:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	1.3	0.033	0.20		µg/L	1	6/25/2020 11:55 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B** QC Batch: **79835**				PrepDate		**6/25/2020**	Analyst: **CEI**
Chromium	2.6	0.13	1.0		µg/L	1	6/25/2020 08:27 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-50-200-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 2:10:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377** PrepDate							Analyst: **RAB**
Hexavalent Chromium	3600	17	100		µg/L	500	6/25/2020 12:45 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200626B** QC Batch: **79835** PrepDate **6/25/2020**							Analyst: **CEI**
Chromium	3500	3.2	25		µg/L	25	6/26/2020 09:05 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-50-095-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 2:51:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377** PrepDate Analyst: **RAB**							
Hexavalent Chromium	13	0.17	1.0		µg/L	5	6/25/2020 12:55 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200625B** QC Batch: **79835** PrepDate **6/25/2020** Analyst: **CEI**							
Chromium	14	0.13	1.0		µg/L	1	6/25/2020 08:55 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 3:29:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_200625A**	QC Batch: **R145377**			PrepDate			Analyst: **RAB**
Hexavalent Chromium	320	1.7	10		µg/L	50	6/25/2020 01:04 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**			PrepDate	**6/25/2020**		Analyst: **CEI**
Chromium	280	0.65	5.0		µg/L	5	6/25/2020 09:09 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *22-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-712-0620
Lab Order:	N041109	**Collection Date:**	6/24/2020 3:30:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/25/2020 10:58 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *22-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-713-0620
Lab Order:	N041109	**Collection Date:**	6/24/2020 3:40:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200625A** QC Batch: **R145377** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/25/2020 11:17 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R145377** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **PBW** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830632**

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

Sample ID **LCS-R145377** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **LCSW** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830633**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.858	0.20	5.000	0	97.2	90	110				

Sample ID **N041108-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830635**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.983	0.20	1.000	0	98.3	90	110				

Sample ID **N041108-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830637**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.993	0.20	1.000	0	99.3	90	110				

Sample ID **N041109-015AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830639**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.984	0.20	1.000	0	98.4	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041109-016AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830641**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.001	0.20	1.000	0	100	90	110				

Sample ID **N041109-011ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830652**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.376	0.20						1.340	2.64	20	

Sample ID **N041109-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830653**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.362	0.20	1.000	1.340	102	90	110				

Sample ID **N041109-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830655**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	106.969	2.0	50.00	56.10	102	90	110				

Sample ID **N041109-002AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830656**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	107.527	2.0	50.00	56.10	103	90	110	107.0	0.520	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041109-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830660**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	108.138	2.0	50.00	56.54	103	90	110				

Sample ID **N041109-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830661**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	95.043	2.0	50.00	43.94	102	90	110				

Sample ID **N041109-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830662**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1172.910	20	500.0	657.5	103	90	110				

Sample ID **N041109-012AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830663**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6106.550	100	2500	3554	102	90	110				

Sample ID **N041109-013AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830664**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	38.470	1.0	25.00	13.04	102	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041109-014AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830665**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	571.410	10	250.0	318.1	101	90	110				

Sample ID **N041109-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830667**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.939	1.0	5.000	0	98.8	90	110				

Sample ID **N041109-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830671**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.239	1.0	5.000	5.014	104	90	110				

Sample ID **N041109-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830673**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.149	1.0	5.000	0	103	90	110				

Sample ID **N041109-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145377**
Client ID: **ZZZZZZ** Batch ID: **R145377** TestNo: **EPA 218.6** Analysis Date: **6/25/2020** SeqNo: **3830675**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.844	1.0	5.000	0	96.9	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N041093-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	145377
Client ID:	ZZZZZZ	Batch ID:	R145377	TestNo:	EPA 218.6			Analysis Date:	6/25/2020	SeqNo:	3830679

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.434	1.0	5.000	5.288	103	90	110				

Sample ID	N041109-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	145377
Client ID:	ZZZZZZ	Batch ID:	R145377	TestNo:	EPA 218.6			Analysis Date:	6/25/2020	SeqNo:	3830681

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	22.540	0.40	10.00	12.47	101	90	110				

Sample ID	N041109-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	145377
Client ID:	ZZZZZZ	Batch ID:	R145377	TestNo:	EPA 218.6			Analysis Date:	6/25/2020	SeqNo:	3830683

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	22.493	0.40	10.00	12.44	101	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **MB-79835** SampType: **MBLK** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/25/2020** RunNo: **145420**
Client ID: **PBW** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3832479**

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

Sample ID **LCS-79835** SampType: **LCS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/25/2020** RunNo: **145420**
Client ID: **LCSW** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3832480**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.678	1.0	10.00	0	96.8	85	115				

Sample ID **N041109-001D-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/25/2020** RunNo: **145420**
Client ID: **ZZZZZZ** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3832486**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.966	1.0	10.00	0.4654	85.0	75	125				

Sample ID **N041109-001D-MSD** SampType: **MSD** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/25/2020** RunNo: **145420**
Client ID: **ZZZZZZ** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3832488**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.859	1.0	10.00	0.4654	83.9	75	125	8.966	1.20	20	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66BR-270-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 8:30:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200629D**	QC Batch: **R145443**			PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	0.47	0.032	0.050		mg/L	1	6/29/2020 04:00 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-25-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 9:48:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200629D** QC Batch: **R145443**				PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	13	0.32	0.50		mg/L	10	6/29/2020 04:10 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-906-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 9:58:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200629D** QC Batch: **R145443**				PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	12	0.32	0.50		mg/L	10	6/29/2020 04:00 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-37D-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 10:38:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200629D**	QC Batch: **R145443**			PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	0.92	0.032	0.050		mg/L	1	6/29/2020 03:55 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-14-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 11:28:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200629D**	QC Batch: **R145443**			PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	3.2	0.16	0.25		mg/L	5	6/29/2020 04:07 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-905-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 11:38:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200629D**	QC Batch: **R145443**			PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	2.8	0.16	0.25		mg/L	5	6/29/2020 04:05 PM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-41D-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 12:31:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200701E** QC Batch: **R145503** PrepDate Analyst: **JBB**							
Nitrate/Nitrite as N	0.14	0.032	0.050		mg/L	1	7/1/2020 04:19 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-911-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 12:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200629D** QC Batch: **R145443** PrepDate Analyst: **JBB**							
Nitrate/Nitrite as N	1.1	0.16	0.25		mg/L	5	6/29/2020 04:11 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-60BR-245-LF_S-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 1:57:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200701E** QC Batch: **R145503** PrepDate Analyst: **JBB**							
Nitrate/Nitrite as N	0.23	0.032	0.050		mg/L	1	7/1/2020 04:22 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-60-125-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 2:37:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200629D**	QC Batch: **R145443**			PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	3.8	0.16	0.25		mg/L	5	6/29/2020 04:08 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-63-065-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 12:39:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200629D**	QC Batch: **R145443**			PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	1.8	0.032	0.050		mg/L	1	6/29/2020 03:58 PM

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID **MB-R145443** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145443**
Client ID: **PBW** Batch ID: **R145443** TestNo: **SM4500-NO3** Analysis Date: **6/29/2020** SeqNo: **3834190**

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

Sample ID **LCS-R145443** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145443**
Client ID: **LCSW** Batch ID: **R145443** TestNo: **SM4500-NO3** Analysis Date: **6/29/2020** SeqNo: **3834191**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.477	0.050	0.5000	0	95.3	85	115				

Sample ID **N041109-004CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145443**
Client ID: **ZZZZZZ** Batch ID: **R145443** TestNo: **SM4500-NO3** Analysis Date: **6/29/2020** SeqNo: **3834193**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.458	0.050	0.5000	0.9244	107	75	125				

Sample ID **N041109-004CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145443**
Client ID: **ZZZZZZ** Batch ID: **R145443** TestNo: **SM4500-NO3** Analysis Date: **6/29/2020** SeqNo: **3834194**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.544	0.050	0.5000	0.9244	124	75	125	1.458	5.69	20	

Sample ID **N041109-011CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145443**
Client ID: **ZZZZZZ** Batch ID: **R145443** TestNo: **SM4500-NO3** Analysis Date: **6/29/2020** SeqNo: **3834196**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.840	0.050						1.846	0.358	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID **MB-R145503** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145503**
Client ID: **PBW** Batch ID: **R145503** TestNo: **SM4500-NO3** Analysis Date: **7/1/2020** SeqNo: **3836303**

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

Sample ID **LCS-R145503** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145503**
Client ID: **LCSW** Batch ID: **R145503** TestNo: **SM4500-NO3** Analysis Date: **7/1/2020** SeqNo: **3836304**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.482	0.050	0.5000	0	96.5	85	115				

Sample ID **N041109-007CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145503**
Client ID: **ZZZZZZ** Batch ID: **R145503** TestNo: **SM4500-NO3** Analysis Date: **7/1/2020** SeqNo: **3836306**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.599	0.050	0.5000	0.1433	91.2	75	125				

Sample ID **N041109-007CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145503**
Client ID: **ZZZZZZ** Batch ID: **R145503** TestNo: **SM4500-NO3** Analysis Date: **7/1/2020** SeqNo: **3836307**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.645	0.050	0.5000	0.1433	100	75	125	0.5993	7.30	20	

Sample ID **N041109-009CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145503**
Client ID: **ZZZZZZ** Batch ID: **R145503** TestNo: **SM4500-NO3** Analysis Date: **7/1/2020** SeqNo: **3836309**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.210	0.050						0.2329	10.3	20	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66BR-270-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 8:30:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**				PrepDate	**6/25/2020**	Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/25/2020 05:55 PM
Manganese	6700	13	25		µg/L	50	6/26/2020 08:33 AM
Molybdenum	1.1	0.21	0.50		µg/L	1	6/25/2020 05:55 PM
Selenium	ND	0.36	0.50		µg/L	1	6/25/2020 05:55 PM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-25-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 9:48:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**				PrepDate	**6/25/2020**	Analyst: **CEI**
Arsenic	0.96	0.081	0.10		µg/L	1	6/25/2020 06:45 PM
Manganese	2.7	0.26	0.50		µg/L	1	6/25/2020 06:45 PM
Molybdenum	4.3	0.21	0.50		µg/L	1	6/25/2020 06:45 PM
Selenium	7.5	0.36	0.50		µg/L	1	6/25/2020 06:45 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-906-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 9:58:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**				PrepDate	**6/25/2020**	Analyst: **CEI**
Arsenic	0.93	0.081	0.10		µg/L	1	6/25/2020 06:55 PM
Manganese	3.2	0.26	0.50		µg/L	1	6/25/2020 06:55 PM
Molybdenum	4.4	0.21	0.50		µg/L	1	6/25/2020 06:55 PM
Selenium	7.4	0.36	0.50		µg/L	1	6/25/2020 06:55 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-37D-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 10:38:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**			PrepDate	**6/25/2020**		Analyst: **CEI**
Molybdenum	63	0.21	0.50		µg/L	1	6/25/2020 07:04 PM
Selenium	0.66	0.36	0.50		µg/L	1	6/25/2020 07:04 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-14-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 11:28:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**				PrepDate	**6/25/2020**	Analyst: **CEI**
Arsenic	0.12	0.081	0.10		µg/L	1	6/25/2020 07:13 PM
Manganese	0.79	0.26	0.50		µg/L	1	6/25/2020 07:13 PM
Molybdenum	10	0.21	0.50		µg/L	1	6/25/2020 07:13 PM
Selenium	1.8	0.36	0.50		µg/L	1	6/25/2020 07:13 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-905-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 11:38:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**			PrepDate	**6/25/2020**		Analyst: **CEI**
Arsenic	0.18	0.081	0.10		µg/L	1	6/25/2020 09:33 PM
Manganese	0.72	0.26	0.50		µg/L	1	6/25/2020 07:22 PM
Molybdenum	10	0.21	0.50		µg/L	1	6/25/2020 07:22 PM
Selenium	2.0	0.36	0.50		µg/L	1	6/25/2020 07:22 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N041109
Project: PG&E Topock - GMP, RC000753.801D
Lab ID: N041109-007

Client Sample ID: MW-41D-Q220
Collection Date: 6/24/2020 12:31:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**				PrepDate	**6/25/2020**	Analyst: **CEI**
Arsenic	2.4	0.081	0.10		µg/L	1	6/25/2020 07:50 PM
Manganese	120	0.26	0.50		µg/L	1	6/25/2020 07:50 PM
Molybdenum	80	0.21	0.50		µg/L	1	6/25/2020 07:50 PM
Selenium	ND	0.36	0.50		µg/L	1	6/25/2020 07:50 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-911-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 12:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**			PrepDate	**6/25/2020**		Analyst: **CEI**
Arsenic	2.4	0.081	0.10		µg/L	1	6/25/2020 07:59 PM
Manganese	120	0.26	0.50		µg/L	1	6/25/2020 07:59 PM
Molybdenum	82	0.21	0.50		µg/L	1	6/25/2020 07:59 PM
Selenium	ND	0.36	0.50		µg/L	1	6/25/2020 07:59 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-60BR-245-LF_S-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 1:57:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**				PrepDate	**6/25/2020**	Analyst: **CEI**
Arsenic	6.1	0.081	0.10		µg/L	1	6/25/2020 08:09 PM
Manganese	7.9	0.26	0.50		µg/L	1	6/25/2020 08:09 PM
Molybdenum	62	0.21	0.50		µg/L	1	6/25/2020 08:09 PM
Selenium	2.8	0.36	0.50		µg/L	1	6/25/2020 08:09 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-60-125-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 2:37:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**			PrepDate	**6/25/2020**		Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/25/2020 08:18 PM
Manganese	4.7	0.26	0.50		µg/L	1	6/25/2020 08:18 PM
Molybdenum	17	0.21	0.50		µg/L	1	6/25/2020 08:18 PM
Selenium	5.2	0.36	0.50		µg/L	1	6/25/2020 08:18 PM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-63-065-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 12:39:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**			PrepDate		**6/25/2020**	Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/25/2020 08:27 PM
Manganese	10	0.26	0.50		µg/L	1	6/25/2020 08:27 PM
Molybdenum	15	0.21	0.50		µg/L	1	6/25/2020 08:27 PM
Selenium	0.89	0.36	0.50		µg/L	1	6/25/2020 08:27 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-Q220
Lab Order:	N041109	**Collection Date:**	6/24/2020 3:29:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041109-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200625B**	QC Batch: **79835**			PrepDate		**6/25/2020**	Analyst: **CEI**
Arsenic	0.36	0.081	0.10		µg/L	1	6/25/2020 09:04 PM
Manganese	ND	0.26	0.50		µg/L	1	6/25/2020 09:04 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N041109-001D-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/25/2020** RunNo: **145423**
Client ID: **ZZZZZZ** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/26/2020** SeqNo: **3832725**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	6905.072	25	100.0	6659	246	75	125				S

Sample ID **N041109-001D-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/25/2020** RunNo: **145423**
Client ID: **ZZZZZZ** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/26/2020** SeqNo: **3832726**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	7009.496	25	100.0	6659	351	75	125	6905	1.50	20	S

Sample ID **MB-79835** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/25/2020** RunNo: **145420**
Client ID: **PBW** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3833472**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-79835** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/25/2020** RunNo: **145420**
Client ID: **LCSW** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3833473**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.423	0.10	10.00	0	104	85	115				
Manganese	97.484	0.50	100.0	0	97.5	85	115				
Molybdenum	9.637	0.50	10.00	0	96.4	85	115				
Selenium	10.009	0.50	10.00	0	100	85	115				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N041109-001D-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/25/2020** RunNo: **145420**
Client ID: **ZZZZZZ** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3833479**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.636	0.10	10.00	0.08966	105	75	125				
Molybdenum	12.479	0.50	10.00	1.066	114	75	125				
Selenium	9.414	0.50	10.00	0	94.1	75	125				

Sample ID **N041109-001D-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/25/2020** RunNo: **145420**
Client ID: **ZZZZZZ** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3833481**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.562	0.10	10.00	0.08966	105	75	125	10.64	0.698	20	
Molybdenum	12.396	0.50	10.00	1.066	113	75	125	12.48	0.669	20	
Selenium	9.354	0.50	10.00	0	93.5	75	125	9.414	0.639	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041109
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N041109-001D-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **145423**
Client ID: **ZZZZZZ** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/26/2020** SeqNo: **3832724**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	6967.864	25	100.0	6659	309	80	120				S

Sample ID **N041109-001D-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **145420**
Client ID: **ZZZZZZ** Batch ID: **79835** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/25/2020** SeqNo: **3833477**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.459	0.10	10.00	0.08966	104	80	120				
Molybdenum	12.396	0.50	10.00	1.066	113	80	120				
Selenium	9.513	0.50	10.00	0	95.1	80	120				

Qualifiers:

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

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis
Address: 1410 Rocky Ridge Dr # 330
Address: Roseville, CA 95661
Phone: 916-786-3302 Fax:
Submitted By: Riggie Tep
Title: Field Tech
Signature: Date: 6/24/20
I hereby authorize ASSET Labs to perform the tests indicated below.
Project Name: PG&E Topock - GMP
Project Number: RC000753.801D

Report to: Dan Bush
Company: Arcadis
Email: dan.bush@arcadis.com
daniel.moore@critigen.com
Address: 1410 Rocky Ridge Dr # 330
Roseville, CA 95661
Phone: 916-786-3302 Fax:
Sampled By: Riggie Tep
I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.
Signature: Date: 6/24/20

Bill to: Marty Bloes
Address:
Address:
Email to: mbloes@pivox.com
P.O.# SWA-ASSET-C9817-057
Phone: 949-727-1400, ext 200
Fax:

EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:

QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:

Sample Receipt Condition

	Y	N
1. Chilled	X	
2. Headspace	X	
3. Container Intact	X	
4. Seal Present		
5. IR number		

6. Method of Cooling: ICE
Sample Temp: 2.1, 3.4
Courier: ASSET
Tracking No.:

Matrix: Ground x; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Oxygen and Deuterium Isotopes (CFIRM), Ice 250 mL poly	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 2x250 mL poly	Alkalinity, Total as CaCO3 (SM2320B) 1 liter poly	Bromide, Sulfate, Chloride (EPA 300.0) 1 liter poly	Fluoride (EPA 300.0) 1 liter poly	Specific Conductance (EPA 120.1) 1 liter poly	Total Dissolved Solids (SM92540) 1 liter poly	Nitrate/Nitrite (SM4500NO3) Nitrate; H2SO4 125 mL poly	Total Organic Carbon (SM5310C); H2SO4 3x40 mL poly	Dissolved metals (SW 6020), HNO3 As, Cr, Mn 500 mL poly	Dissolved Metals (SW 6010B); HNO3 As, Cr, Mn, Mo, Se 500 mL poly	Dissolved metals (SW 6020), HNO3 Cr, Mo, Se 500 mL poly	Dissolved Metals (SW 6010B); HNO3 Chromium 500 mL poly	Metals Dissolved (EPA7470A FF) Hg; HNO3 500 mL poly	Dissolved Metals (SW 6010B); HNO3 Potassium 500 mL poly	Total metals, Chromium (trap-filter) (EPA 200.8), HNO3 500 mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N041109-01	MW-66BR-270-Q220	6/24/2020	8:30		X						X		X			X						E	4	P	BNS	
2	-02	MW-25-Q220	6/24/2020	9:48		X						X		X			X						E	4	P	BNS	
3	-03	MW-906-Q220	6/24/2020	9:58		X						X		X			X						E	4	P	BNS	
4	-04	MW-37D-Q220	6/24/2020	10:38		X						X		X				X					E	4	P	BNS	
5	-05	MW-14-Q220	6/24/2020	11:28		X						X		X			X						E	4	P	BNS	
6	-06	MW-905-Q220	6/24/2020	11:38		X						X		X			X						E	4	P	BNS	
7	-07	MW-41D-Q220	6/24/2020	12:31		X						X		X			X						E	4	P	BNS	
8	-08	MW-911-Q220	6/24/2020	12:41		X						X		X			X						E	4	P	BNS	
9	-09	MW-60BR-245-LF_S-Q220	6/24/2020	13:57		X						X		X			X						E	4	P	BNS	
10	-10	MW-60-125-Q220	6/24/2020	14:37		X						X		X			X						E	4	P	BNS	
11	-11	MW-63-65-Q220	6/24/2020	12:39		X						X		X			X						E	4	P	BNS	
12	-12	MW-50-200-Q220	6/24/2020	14:10		X						X						X					E	4	P	BNS	3

Relinquished by (Signature and Printed Name): Riggie Tep Date/Time: 6/24/20 1615
Received by (Signature and Printed Name): MBCARTIN Date/Time: 6/24/20@1615
Relinquished by (Signature and Printed Name): MBCARTIN Date/Time: 6/24/20 @2300
Received by (Signature and Printed Name): Date/Time: 6/24/20@2300
Relinquished by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)
- A < 24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

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

Special Instruction:
Title 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

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

Preservatives:
H=HCL; N=$HNO_{3N=HNO3}$; S=$H_2SO_{4S=H2}SO_4$; C=4°CC=4°
Z=$Zn(AC)_{2Z=Zn(AC)2}$; O=NaOH; T=$Na_2S_2O_{3T=Na2}S_2$
Others/Specify: B (NH4)2SO4/NH4OH

Container Type:
T=Tube; V=VOA; P=Pint
J=Jar; B=Tedlar; G=Glass
M=Metal; M=Metal; C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis
Address: 1410 Rocky Ridge Dr # 330
Address: Roseville, CA 95661
Phone: 916-786-3302 Fax:
Submitted By: Spencer Doolittle
Title: Field Tech
Signature: Date: 6/24/20
I hereby authorize ASSET Labs to perform the tests indicated below.
Project Name: PG&E Topock - GMP
Project Number: RC000753.801D

Report to: Dan Bush
Company: Arcadis
Email: dan.bush@arcadis.com
daniel.moore@critigen.com
Address: 1410 Rocky Ridge Dr # 330
Roseville, CA 95661
Phone: 916-786-3302 Fax:
Sampled By: Riggie Tep
I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.
Signature: Date: 6/24/20

Bill to: Marty Bloes
Address:
Address:
Email to: mbloes@pivox.com
P.O.# SWA-ASSET-C9817-057
Phone: 949-727-1400, ext 200
Fax:

EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:

QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:

Sample Receipt Condition: 1. Chilled X; 2. Headspace; 3. Container Intact X; 4. Seal Present; 5. IR number; 6. Method of Cooling: Ice
Sample Temp: 2.1, 3.7
Courier: ASSET
Tracking No.:

Matrix: Ground x; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Oxygen and Deuterium Isotopes (CFIRM), Ice (250 mL poly)	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (2x250 mL poly)	Alkalinity, Total as CaCO3 (SM2320B) (1 liter poly)	Bromide, Sulfate, Chloride (EPA 300.0) (1 liter poly)	Fluoride (EPA 300.0) (1 liter poly)	Specific Conductance (EPA 120.1) (1 liter poly)	Total Dissolved Solids (SM92540) (1 liter poly)	Nitrate/Nitrite (SM4500NO3) Nitrate; H2SO4 (125 mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL poly)	Dissolved metals (SW 6020), HNO3 As, Cr, Mn (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 As, Cr, Mn, Mo, Se (500 mL poly)	Dissolved metals (SW 6020), HNO3 Cr, Mo, Se (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 Chromium (500 mL poly)	Metals Dissolved (EPA7470A FF) Hg; HNO3 (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 Potassium (500 mL poly)	Total metals, Chromium (non-filter) (EPA 200.8), HNO3 (500 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N041109-13	MW-50-095-Q220	6/24/2020	14:51		X						X							X				E	3	P	BNS
2	-14	MW-31-060-Q220	6/24/2020	15:29		X						X				X							E	3	P	BNS
3	-15	EB-712-Q220	6/24/2020	15:30		X																	E	1	P	BNS
4	-16	EB-713-Q220	6/24/2020	15:40		X																	E	1	P	BNS
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Reliquished by (Signature and Printed Name): Riggie Tep Date/Time: 6/24/20 1615
Received by (Signature and Printed Name): MBCANTON Date/Time: 6/24/20 @ 1615
Reliquished by (Signature and Printed Name): Date/Time: 6/24/20 @ 2300
Received by (Signature and Printed Name): Date/Time: 6/24/20 @ 2300
Reliquished by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)
- A < 24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

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

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

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

Preservatives:
H=HCL; N=HNO_3 5%=HNO_3; S=H_2SO_4 4S=H2; C=4°CC=4°; Z=Zn$(AC)_2$ 2Z=2Zn(AC)2; O=NaOH; T=$Na_2S_2O_3$ 5T=Na2; Others/Specify: B (NH4)2SO4/NH4OH

Container Type:
T=Tube; V=VOA; P=Pint; J=Jar; B=Tedlar; G=Glass; M=Metal; M=Metal; C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

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

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

Cooler Received/Opened On:	6/24/2020	Workorder:	N041109
Rep sample Temp (Deg C):	2.1/3.4	IR Gun ID:	1
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

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

Comments: See client's correspondence.

For:

Checklist Completed By: MBC YRJ 6/26/2020

Reviewed By: EAR 6/27/2020

Mary Ann Balilu (maryann.balilu@assetlaboratoriesph.com)

From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Thursday, June 25, 2020 4:01 PM
To: Tina Rice
Cc: Madsen, Laura; maryann.balilu@assetlaboratoriesph.com
Subject: Re: Topock - Sample ID Update

Hi Tina,

I was about to mail you about this discrepancy. Login will be revised.

Thanks!

On 6/25/2020 3:55 PM, Tina Rice wrote:

> Hi Yoandra,
>
> Please update the sample ID per below:

WorkOrder	ClientSampID	CorrectedClientSampID
N041109	MW-63-65-Q220	MW-63-065-Q220

> Thank you!
>
> Tina

Tina Rice

Database Analyst

CRITIGEN

Tina.Rice@critigen.com

Mary Ann Balilu (maryann.balilu@assetlaboratoriesph.com)

From: Nancy Sibucao <nancy@assetlaboratories.com>
Sent: Wednesday, July 22, 2020 3:16 PM
To: Tina Rice; Dan Moore; Marlon Cartin; Yoandra Rodriguez; maryann.balilu@assetlaboratoriesph.com
Subject: URGENT EDD Issues

Noted Tina. We will update the report except for N041020 as that one has been corrected.

Yoandra/Maryann, please update the IDs for the other work orders asap.

Thanks,
Nancy

From: Tina Rice [mailto:Tina.Rice@critigen.com]

Sent: Wednesday, July 22, 2020, 1:28 PM

To: Nancy Sibucao; Dan Moore; Marlon Cartin

Subject: EDD Issues

Please note that there were duplicate samples taken (I believe I emailed the corrected ID's as they were caught in the login process) and that is causing the EDDs listed below to fail when loading. I have fixed the EDDs and reloaded but the lab reports will need to be updated for the samples in the SDGs, below. Note that they currently end in -Q220 in the EDD/lab reports but since the sample IDs were already used this quarter, they need to be updated to -0620 per below:

sys_loc_code	ClientSampID	WorkOrder
EB-706	EB-706-0620	N041020
EB-707	EB-707-0620	N041043
EB-708	EB-708-0620	N041043
EB-709	EB-709-0620	N041072
EB-710	EB-710-0620	N041093
EB-711	EB-711-0620	N041093
EB-712	EB-712-0620	N041109
EB-713	EB-713-0620	N041109
EB-714	EB-714-0620	N041126
EB-715	EB-715-0620	N041126

From: Nancy Sibucao <nancy@assetlaboratories.com>
Sent: Wednesday, July 22, 2020 12:28 PM
To: Dan Moore <Daniel.Moore@critigen.com>; Marlon Cartin <marlon@assetlaboratories.com>; Tina Rice <Tina.Rice@critigen.com>
Subject: Re: EDD Issues

ASSET Laboratories

WORK ORDER Summary

22-Jul-20

WorkOrder: N041109

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/24/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041109-001A	MW-66BR-270-Q220	6/24/2020 8:30:00 AM	7/9/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-001B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041109-001C			7/9/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041109-001D			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-002A	MW-25-Q220	6/24/2020 9:48:00 AM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-002B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041109-002C			7/9/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041109-002D			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-003A	MW-906-Q220	6/24/2020 9:58:00 AM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-003B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041109-003C			7/9/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041109-003D			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-004A	MW-37D-Q220	6/24/2020 10:38:00 AM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-004B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041109-004C			7/9/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

22-Jul-20

WorkOrder: N041109

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/24/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041109-004D	MW-37D-Q220	6/24/2020 10:38:00 AM	7/9/2020	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-005A	MW-14-Q220	6/24/2020 11:28:00 AM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-005B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041109-005C			7/9/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041109-005D			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-006A	MW-905-Q220	6/24/2020 11:38:00 AM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-006B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041109-006C			7/9/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041109-006D			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-007A	MW-41D-Q220	6/24/2020 12:31:00 PM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-007B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041109-007C			7/9/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041109-007D			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

22-Jul-20

WorkOrder: N041109

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/24/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041109-008A	MW-911-Q220	6/24/2020 12:41:00 PM	7/9/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-008B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041109-008C			7/9/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041109-008D			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-009A	MW-60BR-245-LF_S-Q220	6/24/2020 1:57:00 PM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-009B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041109-009C			7/9/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041109-009D			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-010A	MW-60-125-Q220	6/24/2020 2:37:00 PM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-010B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041109-010C			7/9/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041109-010D			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-011A	MW-63-065-Q220	6/24/2020 12:39:00 PM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-011B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041109-011C			7/9/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

22-Jul-20

WorkOrder: N041109

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/24/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041109-011D	MW-63-065-Q220	6/24/2020 12:39:00 PM	7/9/2020	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-012A	MW-50-200-Q220	6/24/2020 2:10:00 PM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-012B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041109-012C			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-013A	MW-50-095-Q220	6/24/2020 2:51:00 PM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-013B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041109-013C			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-014A	MW-31-060-Q220	6/24/2020 3:29:00 PM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-014B			7/9/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041109-014C			7/9/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/9/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041109-015A	EB-712-0620	6/24/2020 3:30:00 PM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-016A	EB-713-0620	6/24/2020 3:40:00 PM	7/9/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041109-017A	FOLDER	7/9/2020	7/9/2020		EDD	RWQCB	☐	☐	☐	LAB
			7/9/2020		Folder	Folder	☐	☐	☐	LAB
			7/9/2020		Folder	Level IV Report	☐	☐	☐	LAB
			7/9/2020		Folder	Folder	☐	☐	☐	LAB

July 09, 2020

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

TEL: (916) 786-3302
FAX:

Workorder No.: N041126

RE: PG&E Topock - GMP, RC000753.801D

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 25, 2020 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

Nancy Libucao for

Puri Romualdo
Laboratory Director

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CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041126

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

ASSET Laboratories

Date: *09-Jul-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041126
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N041126-001A	MW-47-055-Q220	Groundwater	6/25/2020 9:25:00 AM	6/25/2020	7/9/2020
N041126-001B	MW-47-055-Q220	Groundwater	6/25/2020 9:25:00 AM	6/25/2020	7/9/2020
N041126-001C	MW-47-055-Q220	Groundwater	6/25/2020 9:25:00 AM	6/25/2020	7/9/2020
N041126-002A	MW-47-115-Q220	Groundwater	6/25/2020 8:53:00 AM	6/25/2020	7/9/2020
N041126-002B	MW-47-115-Q220	Groundwater	6/25/2020 8:53:00 AM	6/25/2020	7/9/2020
N041126-002C	MW-47-115-Q220	Groundwater	6/25/2020 8:53:00 AM	6/25/2020	7/9/2020
N041126-003A	TW-04-Q220	Groundwater	6/25/2020 10:03:00 AM	6/25/2020	7/9/2020
N041126-003B	TW-04-Q220	Groundwater	6/25/2020 10:03:00 AM	6/25/2020	7/9/2020
N041126-003C	TW-04-Q220	Groundwater	6/25/2020 10:03:00 AM	6/25/2020	7/9/2020
N041126-004A	EB-715-Q220	Groundwater	6/25/2020 10:20:00 AM	6/25/2020	7/9/2020
N041126-005A	EB-714-Q220	Groundwater	6/25/2020 10:55:00 AM	6/25/2020	7/9/2020
N041126-006A	TW-05-Q220	Groundwater	6/25/2020 10:36:00 AM	6/25/2020	7/9/2020
N041126-006B	TW-05-Q220	Groundwater	6/25/2020 10:36:00 AM	6/25/2020	7/9/2020
N041126-006C	TW-05-Q220	Groundwater	6/25/2020 10:36:00 AM	6/25/2020	7/9/2020

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-47-055-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 9:25:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200626A**	QC Batch: **R145364**			PrepDate			Analyst: **LR**
Specific Conductance	4700	0.10	0.10		umhos/cm	1	6/26/2020 09:15 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-47-115-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 8:53:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200626A**	QC Batch: **R145364**			PrepDate			Analyst: **LR**
Specific Conductance	13000	0.10	0.10		umhos/cm	1	6/26/2020 09:15 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-04-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 10:03:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200626A**	QC Batch: **R145364**			PrepDate			Analyst: **LR**
Specific Conductance	20000	0.10	0.10		umhos/cm	1	6/26/2020 09:15 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-05-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 10:36:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200626A**	QC Batch: **R145364**			PrepDate			Analyst: **LR**
Specific Conductance	12000	0.10	0.10		umhos/cm	1	6/26/2020 09:15 AM

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041126
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N041126-006BDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **145364**
Client ID: **ZZZZZZ** Batch ID: **R145364** TestNo: **EPA 120.1** Analysis Date: **6/26/2020** SeqNo: **3829978**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	12040.000	0.10						12070	0.249	2	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-47-055-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 9:25:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200626A** QC Batch: **R145380**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	16	0.17	1.0		µg/L	5	6/26/2020 11:36 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200627D** QC Batch: **79884**				PrepDate		**6/27/2020**	Analyst: **CEI**
Chromium	16	0.13	1.0		µg/L	1	6/27/2020 02:43 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-47-115-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 8:53:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200626A** QC Batch: **R145380**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	24	0.17	1.0		µg/L	5	6/26/2020 11:45 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200627D** QC Batch: **79884**				PrepDate		**6/27/2020**	Analyst: **CEI**
Chromium	24	0.13	1.0		µg/L	1	6/27/2020 03:06 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-04-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 10:03:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200626A** QC Batch: **R145380** PrepDate Analyst: **RAB**							
Hexavalent Chromium	3.7	0.17	1.0		µg/L	5	6/26/2020 12:33 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200627D** QC Batch: **79884** PrepDate **6/27/2020** Analyst: **CEI**							
Chromium	4.1	0.13	1.0		µg/L	1	6/27/2020 03:20 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-715-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 10:20:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200626A** QC Batch: **R145380** PrepDate Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/26/2020 01:10 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-714-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 10:55:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200626A** QC Batch: **R145380** PrepDate Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/26/2020 01:29 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-05-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 10:36:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200626A** QC Batch: **R145380**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	12	0.17	1.0		µg/L	5	6/26/2020 11:55 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200627D** QC Batch: **79884**				PrepDate		**6/27/2020**	Analyst: **CEI**
Chromium	12	0.13	1.0		µg/L	1	6/27/2020 03:34 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041126
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R145380** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **PBW** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830726**

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

Sample ID **LCS-R145380** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **LCSW** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830727**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.848	0.20	5.000	0	97.0	90	110				

Sample ID **N041123-001BDUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **ZZZZZZ** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830733**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	161.210	10						158.2	1.89	20	

Sample ID **N041126-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **ZZZZZZ** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830737**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.532	1.0	5.000	3.682	97.0	90	110				

Sample ID **N041123-001BMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **ZZZZZZ** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830738**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	406.615	10	250.0	158.2	99.4	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041126
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041124-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **ZZZZZZ** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830739**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.607	0.20	1.000	0.6292	97.8	90	110				

Sample ID **N041126-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **ZZZZZZ** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830741**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.012	0.20	1.000	0	101	90	110				

Sample ID **N041126-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **ZZZZZZ** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830743**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.001	0.20	1.000	0	100	90	110				

Sample ID **N041126-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **ZZZZZZ** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830744**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	49.181	1.0	25.00	24.03	101	90	110				

Sample ID **N041126-002AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **ZZZZZZ** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830745**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	49.667	1.0	25.00	24.03	103	90	110	49.18	0.983	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041126
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041126-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **ZZZZZZ** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830748**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	41.147	1.0	25.00	15.84	101	90	110				

Sample ID **N041126-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **ZZZZZZ** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830749**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	36.789	1.0	25.00	11.91	99.5	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041126
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-79884	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/27/2020	RunNo:	145428
Client ID:	PBW	Batch ID:	79884	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/27/2020	SeqNo:	3833214

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

Sample ID	LCS-79884	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/27/2020	RunNo:	145428
Client ID:	LCSW	Batch ID:	79884	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/27/2020	SeqNo:	3833215

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.440	1.0	10.00	0	94.4	85	115				

Sample ID	N041125-001D-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/27/2020	RunNo:	145428
Client ID:	ZZZZZZ	Batch ID:	79884	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/27/2020	SeqNo:	3833223

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	23.859	1.0	10.00	16.25	76.1	75	125				

Sample ID	N041125-001D-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/27/2020	RunNo:	145428
Client ID:	ZZZZZZ	Batch ID:	79884	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/27/2020	SeqNo:	3833225

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	23.789	1.0	10.00	16.25	75.4	75	125	23.86	0.293	20	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-47-055-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 9:25:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200628B**	QC Batch: **79884**				PrepDate	**6/27/2020**	Analyst: **CEI**
Arsenic	0.17	0.081	0.10		µg/L	1	6/28/2020 11:46 AM
Manganese	ND	0.26	0.50		µg/L	1	6/27/2020 02:43 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-04-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 10:03:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200627D**	QC Batch: **79884**			PrepDate	**6/27/2020**		Analyst: **CEI**
Manganese	70	0.26	0.50		µg/L	1	6/27/2020 03:20 PM
Molybdenum	41	0.21	0.50		µg/L	1	6/27/2020 03:20 PM
Selenium	0.58	0.36	0.50		µg/L	1	6/27/2020 03:20 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-05-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 10:36:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200627D**	QC Batch: **79884**				PrepDate	**6/27/2020**	Analyst: **CEI**
Manganese	4.6	0.26	0.50		µg/L	1	6/27/2020 03:34 PM
Molybdenum	32	0.21	0.50		µg/L	1	6/27/2020 03:34 PM
Selenium	0.58	0.36	0.50		µg/L	1	6/27/2020 03:34 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041126
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-79884** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/27/2020** RunNo: **145428**
Client ID: **PBW** Batch ID: **79884** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/27/2020** SeqNo: **3833311**

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

Sample ID **LCS-79884** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/27/2020** RunNo: **145428**
Client ID: **LCSW** Batch ID: **79884** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/27/2020** SeqNo: **3833312**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	98.017	0.50	100.0	0	98.0	85	115				
Molybdenum	10.261	0.50	10.00	0	103	85	115				
Selenium	9.581	0.50	10.00	0	95.8	85	115				

Sample ID **N041125-001D-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/27/2020** RunNo: **145428**
Client ID: **ZZZZZZ** Batch ID: **79884** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/27/2020** SeqNo: **3833320**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	25.107	0.50	10.00	14.06	110	75	125				
Selenium	15.052	0.50	10.00	5.426	96.3	75	125				

Sample ID **N041125-001D-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/27/2020** RunNo: **145428**
Client ID: **ZZZZZZ** Batch ID: **79884** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/27/2020** SeqNo: **3833322**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	25.249	0.50	10.00	14.06	112	75	125	25.11	0.563	20	
Selenium	14.605	0.50	10.00	5.426	91.8	75	125	15.05	3.01	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041126
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N041125-001D-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/27/2020** RunNo: **145428**
Client ID: **ZZZZZZ** Batch ID: **79884** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/27/2020** SeqNo: **3833328**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	1209.749	12	100.0	1117	92.4	75	125				

Sample ID **N041125-001D-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/27/2020** RunNo: **145428**
Client ID: **ZZZZZZ** Batch ID: **79884** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/27/2020** SeqNo: **3833329**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	1230.238	12	100.0	1117	113	75	125	1210	1.68	20	

Sample ID **MB-79884** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/27/2020** RunNo: **145517**
Client ID: **PBW** Batch ID: **79884** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/28/2020** SeqNo: **3836212**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									

Sample ID **LCS-79884** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/27/2020** RunNo: **145517**
Client ID: **LCSW** Batch ID: **79884** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/28/2020** SeqNo: **3836213**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.302	0.10	10.00	0	103	85	115				

Sample ID **N041125-001D-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/27/2020** RunNo: **145517**
Client ID: **ZZZZZZ** Batch ID: **79884** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/28/2020** SeqNo: **3836219**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.645	0.10	10.00	0	106	75	125				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041126
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	**N041125-001D-MSD**	SampType:	**MSD**	TestCode:	**6020_DIS_TP**	Units:	**µg/L**	Prep Date:	**6/27/2020**	RunNo:	**145517**		
Client ID:	**ZZZZZZ**	Batch ID:	**79884**	TestNo:	**EPA 6020**	**EPA 3010A**		Analysis Date:	**6/28/2020**	SeqNo:	**3836220**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.877	0.10	10.00	0	109	75	125	10.65	2.15	20	

Qualifiers:

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

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com, daniel.moore@critigen.com	Address:	Geotracker
Phone: 916-786-3302 / Fax:	Address: 1410 Rocky Ridge Dr # 330, Roseville, CA 95661	Email to: mbloes@pivox.com	Labspec
Submitted By: Spencer Doolittle		P.O.# SWA-ASSET-C9817-057	Others ✓
Title: Field Tech	Phone: 916-786-3302 / Fax:	Phone: 949-727-1400, ext 200 / Fax:	Specify: RWQCB
Signature: Date: 6/25/20	Sampled By: Riggie Tapp		Global ID:
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.		
Project Name: PG&E Topock - GMP	Signature: / Date: 6/25/20		
Project Number: RC000753.801D			

QA/QC	
RTNE	
RWQCB	✓
CalTrans	
LEVEL III	
LEVEL IV	
Regulatory	
Specify State:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		—
5. IR number	2	
6. Method of Cooling: Ice		
Sample Temp: 4.6		

Courier:

Tracking No.:

Matrix			
Ground	x	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Oxygen and Deuterium Isotopes (CFIRM), Ice (250 mL poly)	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (2x250 mL poly)	Alkalinity, Total as CaCO3 (SM2320B) (1 liter poly)	Bromide, Sulfate, Chloride (EPA 300.0) (1 liter poly)	Fluoride (EPA 300.0) (1 liter poly)	Specific Conductance (EPA 120.1) (1 liter poly)	Total Dissolved Solids (SM92540) (1 liter poly)	Nitrate/Nitrite (SM4500N03) Nitrate; H2SO4 (125 mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL poly)	Dissolved metals (SW 6020), HNO3 As, Cr, Mn (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 Cr, Mn, Mo, Se (500 mL poly)	Dissolved metals (SW 6020), HNO3 Cr, Mo, Se (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 Chromium (500 mL poly)	Metals Dissolved (EPA7470A FF) Hg; HNO3 (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 Potassium (500 mL poly)	Total metals, Chromium (non-filter) (EPA 200.8), HNO3 (500 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N041126-01	MW-47-055-Q220	6/25/2020	9:25		X						X				X								E	3	P	BNS
2	-02	MW-47-115-Q220	6/25/2020	8:53		X						X							X					E	3	P	BNS
3	-03	TW-04-Q220	6/25/2020	10:03				X				X					X							E	4	P	BNS
4	-04	EB-715-Q220	6/25/2020	10:20		X																		E	1	P	BNS
5	-05	EB-714-Q220	6/25/2020	10:55		X																		E	1	P	BNS
6	-06	TW-05-Q220	6/25/2020	10:36				X				X					X							E	4	P	BNS
7																											
8																											
9																											
10																											
11																											
12																											

Reliquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Riggie Tapp	6/25/20 1350	Ice	6/25/20 1350
Ice	6/25/20 1653	Belkys Hernandez Bldg	6/25/20 1653

Turn Around Time (TAT)

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

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

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

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

Preservatives:

H=HCL	N=HNO_3 3N=HNO3	S=H_2SO_4 4S=H2	C=4*CC=4*	
Z=$Zn(AC)_2$ 2Z=Zn(AC)2	O=NaOH	T=$Na_2S_2O_3$ 3T=Na2	S_2	
Others/Specify:	B	(NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy Yellow=Customer's Copy

ASSET Laboratories

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

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

Cooler Received/Opened On:	6/25/2020	Workorder:	N041126
Rep sample Temp (Deg C):	4.6	IR Gun ID:	4.6
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

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

Comments:

Checklist Completed By: YR YRJ 6/26/2020

Reviewed By: MBC MBC 6/27/2020

ASSET Laboratories

WORK ORDER Summary

26-Jun-20

WorkOrder: N041126

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/25/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041126-001A	MW-47-055-Q220	6/25/2020 9:25:00 AM	7/10/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041126-001B			7/10/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041126-001C			7/10/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/10/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/10/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041126-002A	MW-47-115-Q220	6/25/2020 8:53:00 AM	7/10/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041126-002B			7/10/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041126-002C			7/10/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/10/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041126-003A	TW-04-Q220	6/25/2020 10:03:00 AM	7/10/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041126-003B			7/10/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041126-003C			7/10/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/10/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/10/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041126-004A	EB-715-Q220	6/25/2020 10:20:00 AM	7/10/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041126-005A	EB-714-Q220	6/25/2020 10:55:00 AM	7/10/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041126-006A	TW-05-Q220	6/25/2020 10:36:00 AM	7/10/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041126-006B			7/10/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041126-006C			7/10/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/10/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/10/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041126-007A	FOLDER	7/10/2020	7/10/2020		EDD	RWQCB	☐	☐	☐	LAB

ASSET Laboratories

WORK ORDER Summary

26-Jun-20

WorkOrder: N041126

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/25/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041126-007A	FOLDER	7/10/2020	7/10/2020		Folder	Folder	☐	☐	☐	LAB
			7/10/2020		Folder	Level IV Report	☐	☐	☐	LAB
			7/10/2020		Folder	Folder	☐	☐	☐	LAB

July 22, 2020

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

TEL: (916) 786-3302
FAX:

Workorder No.: N041126

RE: PG&E Topock - GMP, RC000753.801D

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 25, 2020 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an amended report. Please disregard all previous documentation that corresponds to the page(s) enclosed.

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

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

Sincerely,

Nancy Sibucao
Laboratory Director

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

ASSET Laboratories **Date:** *22-Jul-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041126

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

The report was amended as the ID for samples N41126-004 and -005 were updated. Please see attached correspondence.

ASSET Laboratories

Date: *22-Jul-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041126
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N041126-001A	MW-47-055-Q220	Groundwater	6/25/2020 9:25:00 AM	6/25/2020	7/9/2020
N041126-001B	MW-47-055-Q220	Groundwater	6/25/2020 9:25:00 AM	6/25/2020	7/9/2020
N041126-001C	MW-47-055-Q220	Groundwater	6/25/2020 9:25:00 AM	6/25/2020	7/9/2020
N041126-002A	MW-47-115-Q220	Groundwater	6/25/2020 8:53:00 AM	6/25/2020	7/9/2020
N041126-002B	MW-47-115-Q220	Groundwater	6/25/2020 8:53:00 AM	6/25/2020	7/9/2020
N041126-002C	MW-47-115-Q220	Groundwater	6/25/2020 8:53:00 AM	6/25/2020	7/9/2020
N041126-003A	TW-04-Q220	Groundwater	6/25/2020 10:03:00 AM	6/25/2020	7/9/2020
N041126-003B	TW-04-Q220	Groundwater	6/25/2020 10:03:00 AM	6/25/2020	7/9/2020
N041126-003C	TW-04-Q220	Groundwater	6/25/2020 10:03:00 AM	6/25/2020	7/9/2020
N041126-004A	EB-715-0620	Groundwater	6/25/2020 10:20:00 AM	6/25/2020	7/9/2020
N041126-005A	EB-714-0620	Groundwater	6/25/2020 10:55:00 AM	6/25/2020	7/9/2020
N041126-006A	TW-05-Q220	Groundwater	6/25/2020 10:36:00 AM	6/25/2020	7/9/2020
N041126-006B	TW-05-Q220	Groundwater	6/25/2020 10:36:00 AM	6/25/2020	7/9/2020
N041126-006C	TW-05-Q220	Groundwater	6/25/2020 10:36:00 AM	6/25/2020	7/9/2020

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-47-055-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 9:25:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200626A**	QC Batch: **R145364**			PrepDate			Analyst: **LR**
Specific Conductance	4700	0.10	0.10		umhos/cm	1	6/26/2020 09:15 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-47-115-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 8:53:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200626A**	QC Batch: **R145364**			PrepDate			Analyst: **LR**
Specific Conductance	13000	0.10	0.10		umhos/cm	1	6/26/2020 09:15 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-04-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 10:03:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200626A**	QC Batch: **R145364**			PrepDate			Analyst: **LR**
Specific Conductance	20000	0.10	0.10		umhos/cm	1	6/26/2020 09:15 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-05-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 10:36:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200626A**	QC Batch: **R145364**			PrepDate			Analyst: **LR**
Specific Conductance	12000	0.10	0.10		umhos/cm	1	6/26/2020 09:15 AM

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041126
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N041126-006BDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **145364**
Client ID: **ZZZZZZ** Batch ID: **R145364** TestNo: **EPA 120.1** Analysis Date: **6/26/2020** SeqNo: **3829978**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	12040.000	0.10						12070	0.249	2	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-47-055-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 9:25:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200626A** QC Batch: **R145380**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	16	0.17	1.0		µg/L	5	6/26/2020 11:36 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200627D** QC Batch: **79884**				PrepDate		**6/27/2020**	Analyst: **CEI**
Chromium	16	0.13	1.0		µg/L	1	6/27/2020 02:43 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-47-115-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 8:53:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200626A** QC Batch: **R145380**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	24	0.17	1.0		µg/L	5	6/26/2020 11:45 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200627D** QC Batch: **79884**				PrepDate		**6/27/2020**	Analyst: **CEI**
Chromium	24	0.13	1.0		µg/L	1	6/27/2020 03:06 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-04-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 10:03:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200626A** QC Batch: **R145380** PrepDate Analyst: **RAB**							
Hexavalent Chromium	3.7	0.17	1.0		µg/L	5	6/26/2020 12:33 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200627D** QC Batch: **79884** PrepDate **6/27/2020** Analyst: **CEI**							
Chromium	4.1	0.13	1.0		µg/L	1	6/27/2020 03:20 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *22-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-715-0620
Lab Order:	N041126	**Collection Date:**	6/25/2020 10:20:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200626A** QC Batch: **R145380** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/26/2020 01:10 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *22-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-714-0620
Lab Order:	N041126	**Collection Date:**	6/25/2020 10:55:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200626A** QC Batch: **R145380** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/26/2020 01:29 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-05-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 10:36:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200626A** QC Batch: **R145380**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	12	0.17	1.0		µg/L	5	6/26/2020 11:55 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200627D** QC Batch: **79884**				PrepDate		**6/27/2020**	Analyst: **CEI**
Chromium	12	0.13	1.0		µg/L	1	6/27/2020 03:34 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041126
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R145380** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **PBW** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830726**

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

Sample ID **LCS-R145380** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **LCSW** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830727**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.848	0.20	5.000	0	97.0	90	110				

Sample ID **N041123-001BDUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **ZZZZZZ** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830733**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	161.210	10						158.2	1.89	20	

Sample ID **N041126-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **ZZZZZZ** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830737**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.532	1.0	5.000	3.682	97.0	90	110				

Sample ID **N041123-001BMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **ZZZZZZ** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830738**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	406.615	10	250.0	158.2	99.4	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041126
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041124-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **ZZZZZZ** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830739**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.607	0.20	1.000	0.6292	97.8	90	110				

Sample ID **N041126-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **ZZZZZZ** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830741**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.012	0.20	1.000	0	101	90	110				

Sample ID **N041126-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **ZZZZZZ** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830743**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.001	0.20	1.000	0	100	90	110				

Sample ID **N041126-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **ZZZZZZ** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830744**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	49.181	1.0	25.00	24.03	101	90	110				

Sample ID **N041126-002AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **ZZZZZZ** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830745**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	49.667	1.0	25.00	24.03	103	90	110	49.18	0.983	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041126
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041126-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **ZZZZZZ** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830748**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	41.147	1.0	25.00	15.84	101	90	110				

Sample ID **N041126-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145380**
Client ID: **ZZZZZZ** Batch ID: **R145380** TestNo: **EPA 218.6** Analysis Date: **6/26/2020** SeqNo: **3830749**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	36.789	1.0	25.00	11.91	99.5	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041126
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-79884	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/27/2020	RunNo:	145428
Client ID:	PBW	Batch ID:	79884	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/27/2020	SeqNo:	3833214

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

Sample ID	LCS-79884	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/27/2020	RunNo:	145428
Client ID:	LCSW	Batch ID:	79884	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/27/2020	SeqNo:	3833215

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.440	1.0	10.00	0	94.4	85	115				

Sample ID	N041125-001D-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/27/2020	RunNo:	145428
Client ID:	ZZZZZZ	Batch ID:	79884	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/27/2020	SeqNo:	3833223

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	23.859	1.0	10.00	16.25	76.1	75	125				

Sample ID	N041125-001D-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/27/2020	RunNo:	145428
Client ID:	ZZZZZZ	Batch ID:	79884	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/27/2020	SeqNo:	3833225

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	23.789	1.0	10.00	16.25	75.4	75	125	23.86	0.293	20	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-47-055-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 9:25:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200628B**	QC Batch: **79884**				PrepDate	**6/27/2020**	Analyst: **CEI**
Arsenic	0.17	0.081	0.10		µg/L	1	6/28/2020 11:46 AM
Manganese	ND	0.26	0.50		µg/L	1	6/27/2020 02:43 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-04-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 10:03:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200627D**	QC Batch: **79884**			PrepDate	**6/27/2020**		Analyst: **CEI**
Manganese	70	0.26	0.50		µg/L	1	6/27/2020 03:20 PM
Molybdenum	41	0.21	0.50		µg/L	1	6/27/2020 03:20 PM
Selenium	0.58	0.36	0.50		µg/L	1	6/27/2020 03:20 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-05-Q220
Lab Order:	N041126	**Collection Date:**	6/25/2020 10:36:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041126-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200627D**	QC Batch: **79884**				PrepDate	**6/27/2020**	Analyst: **CEI**
Manganese	4.6	0.26	0.50		µg/L	1	6/27/2020 03:34 PM
Molybdenum	32	0.21	0.50		µg/L	1	6/27/2020 03:34 PM
Selenium	0.58	0.36	0.50		µg/L	1	6/27/2020 03:34 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041126
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-79884** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/27/2020** RunNo: **145428**
Client ID: **PBW** Batch ID: **79884** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/27/2020** SeqNo: **3833311**

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

Sample ID **LCS-79884** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/27/2020** RunNo: **145428**
Client ID: **LCSW** Batch ID: **79884** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/27/2020** SeqNo: **3833312**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	98.017	0.50	100.0	0	98.0	85	115				
Molybdenum	10.261	0.50	10.00	0	103	85	115				
Selenium	9.581	0.50	10.00	0	95.8	85	115				

Sample ID **N041125-001D-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/27/2020** RunNo: **145428**
Client ID: **ZZZZZZ** Batch ID: **79884** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/27/2020** SeqNo: **3833320**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	25.107	0.50	10.00	14.06	110	75	125				
Selenium	15.052	0.50	10.00	5.426	96.3	75	125				

Sample ID **N041125-001D-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/27/2020** RunNo: **145428**
Client ID: **ZZZZZZ** Batch ID: **79884** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/27/2020** SeqNo: **3833322**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	25.249	0.50	10.00	14.06	112	75	125	25.11	0.563	20	
Selenium	14.605	0.50	10.00	5.426	91.8	75	125	15.05	3.01	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041126
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N041125-001D-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/27/2020** RunNo: **145428**
Client ID: **ZZZZZZ** Batch ID: **79884** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/27/2020** SeqNo: **3833328**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	1209.749	12	100.0	1117	92.4	75	125				

Sample ID **N041125-001D-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/27/2020** RunNo: **145428**
Client ID: **ZZZZZZ** Batch ID: **79884** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/27/2020** SeqNo: **3833329**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	1230.238	12	100.0	1117	113	75	125	1210	1.68	20	

Sample ID **MB-79884** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/27/2020** RunNo: **145517**
Client ID: **PBW** Batch ID: **79884** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/28/2020** SeqNo: **3836212**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									

Sample ID **LCS-79884** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/27/2020** RunNo: **145517**
Client ID: **LCSW** Batch ID: **79884** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/28/2020** SeqNo: **3836213**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.302	0.10	10.00	0	103	85	115				

Sample ID **N041125-001D-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/27/2020** RunNo: **145517**
Client ID: **ZZZZZZ** Batch ID: **79884** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/28/2020** SeqNo: **3836219**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.645	0.10	10.00	0	106	75	125				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041126
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	**N041125-001D-MSD**	SampType:	**MSD**	TestCode:	**6020_DIS_TP**	Units:	**µg/L**	Prep Date:	**6/27/2020**	RunNo:	**145517**		
Client ID:	**ZZZZZZ**	Batch ID:	**79884**	TestNo:	**EPA 6020**	**EPA 3010A**		Analysis Date:	**6/28/2020**	SeqNo:	**3836220**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.877	0.10	10.00	0	109	75	125	10.65	2.15	20	

Qualifiers:

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

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com, daniel.moore@critigen.com	Address:	Geotracker
Phone: 916-786-3302 / Fax:	Address: 1410 Rocky Ridge Dr # 330, Roseville, CA 95661	Email to: mbloes@pivox.com	Labspec
Submitted By: Spencer Doolittle		P.O.# SWA-ASSET-C9817-057	Others ✓
Title: Field Tech	Phone: 916-786-3302 / Fax:	Phone: 949-727-1400, ext 200 / Fax:	Specify: RWQCB
Signature: Date: 6/25/20	Sampled By: Riggie Tapp		Global ID:
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.		
Project Name: PG&E Topock - GMP	Signature: / Date: 6/25/20		
Project Number: RC000753.801D			

QA/QC	
RTNE	
RWQCB	✓
CalTrans	
LEVEL III	
LEVEL IV	
Regulatory	
Specify State:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		—
5. IR number	2	
6. Method of Cooling: Ice		
Sample Temp: 4.6		

Courier:

Tracking No.:

Matrix			
Ground	x	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Oxygen and Deuterium Isotopes (CFIRM), Ice (250 mL poly)	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (2x250 mL poly)	Alkalinity, Total as CaCO3 (SM2320B) (1 liter poly)	Bromide, Sulfate, Chloride (EPA 300.0) (1 liter poly)	Fluoride (EPA 300.0) (1 liter poly)	Specific Conductance (EPA 120.1) (1 liter poly)	Total Dissolved Solids (SM92540) (1 liter poly)	Nitrate/Nitrite (SM4500N03) Nitrate; H2SO4 (125 mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL poly)	Dissolved metals (SW 6020), HNO3 As, Cr, Mn (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 Cr, Mn, Mo, Se (500 mL poly)	Dissolved metals (SW 6020), HNO3 Cr, Mo, Se (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 Chromium (500 mL poly)	Metals Dissolved (EPA7470A FF) Hg; HNO3 (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 Potassium (500 mL poly)	Total metals, Chromium (non-filter) (EPA 200.8), HNO3 (500 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N041126-01	MW-47-055-Q220	6/25/2020	9:25		X						X				X								E	3	P	BNS
2	-02	MW-47-115-Q220	6/25/2020	8:53		X						X							X					E	3	P	BNS
3	-03	TW-04-Q220	6/25/2020	10:03				X				X					X							E	4	P	BNS
4	-04	EB-715-Q220	6/25/2020	10:20		X																		E	1	P	BNS
5	-05	EB-714-Q220	6/25/2020	10:55		X																		E	1	P	BNS
6	-06	TW-05-Q220	6/25/2020	10:36				X				X					X							E	4	P	BNS
7																											
8																											
9																											
10																											
11																											
12																											

Reliquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Riggie Tapp	6/25/20 1350	Ice	6/25/20 1350
Ice	6/25/20 1653	Belkys Hernandez Bldg	6/25/20 1653

Turn Around Time (TAT)

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

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

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

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

Preservatives:

H=HCL	N=HNO_3 3N=HNO3	S=H_2SO_4 4S=H2	C=4*CC=4*	
Z=$Zn(AC)_2$ 2Z=Zn(AC)2	O=NaOH	T=$Na_2S_2O_3$ 3T=Na2	S_2	
Others/Specify:	B	(NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy Yellow=Customer's Copy

ASSET Laboratories

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

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

Cooler Received/Opened On:	6/25/2020	Workorder:	N041126
Rep sample Temp (Deg C):	4.6	IR Gun ID:	4.6
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

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

Comments:

Checklist Completed By: YR YRJ 6/26/2020

Reviewed By: MBC MBC 6/27/2020

Mary Ann Balilu (maryann.balilu@assetlaboratoriesph.com)

From: Nancy Sibucao <nancy@assetlaboratories.com>
Sent: Wednesday, July 22, 2020 3:16 PM
To: Tina Rice; Dan Moore; Marlon Cartin; Yoandra Rodriguez; maryann.balilu@assetlaboratoriesph.com
Subject: URGENT EDD Issues

Noted Tina. We will update the report except for N041020 as that one has been corrected.

Yoandra/Maryann, please update the IDs for the other work orders asap.

Thanks,
Nancy

From: Tina Rice [mailto:Tina.Rice@critigen.com]

Sent: Wednesday, July 22, 2020, 1:28 PM

To: Nancy Sibucao; Dan Moore; Marlon Cartin

Subject: EDD Issues

Please note that there were duplicate samples taken (I believe I emailed the corrected ID's as they were caught in the login process) and that is causing the EDDs listed below to fail when loading. I have fixed the EDDs and reloaded but the lab reports will need to be updated for the samples in the SDGs, below. Note that they currently end in -Q220 in the EDD/lab reports but since the sample IDs were already used this quarter, they need to be updated to -0620 per below:

sys_loc_code	ClientSampID	WorkOrder
EB-706	EB-706-0620	N041020
EB-707	EB-707-0620	N041043
EB-708	EB-708-0620	N041043
EB-709	EB-709-0620	N041072
EB-710	EB-710-0620	N041093
EB-711	EB-711-0620	N041093
EB-712	EB-712-0620	N041109
EB-713	EB-713-0620	N041109
EB-714	EB-714-0620	N041126
EB-715	EB-715-0620	N041126

From: Nancy Sibucao <nancy@assetlaboratories.com>
Sent: Wednesday, July 22, 2020 12:28 PM
To: Dan Moore <Daniel.Moore@critigen.com>; Marlon Cartin <marlon@assetlaboratories.com>; Tina Rice <Tina.Rice@critigen.com>
Subject: Re: EDD Issues

ASSET Laboratories

WORK ORDER Summary

22-Jul-20

WorkOrder: N041126

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/25/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041126-001A	MW-47-055-Q220	6/25/2020 9:25:00 AM	7/10/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041126-001B			7/10/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041126-001C			7/10/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/10/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/10/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041126-002A	MW-47-115-Q220	6/25/2020 8:53:00 AM	7/10/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041126-002B			7/10/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041126-002C			7/10/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/10/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041126-003A	TW-04-Q220	6/25/2020 10:03:00 AM	7/10/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041126-003B			7/10/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041126-003C			7/10/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/10/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/10/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041126-004A	EB-715-0620	6/25/2020 10:20:00 AM	7/10/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041126-005A	EB-714-0620	6/25/2020 10:55:00 AM	7/10/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041126-006A	TW-05-Q220	6/25/2020 10:36:00 AM	7/10/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041126-006B			7/10/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041126-006C			7/10/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/10/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/10/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041126-007A	FOLDER	7/10/2020	7/10/2020		EDD	RWQCB	☐	☐	☐	LAB

ASSET Laboratories

WORK ORDER Summary

22-Jul-20

WorkOrder: N041126

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/25/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041126-007A	FOLDER	7/10/2020	7/10/2020		Folder	Folder	☐	☐	☐	LAB
			7/10/2020		Folder	Level IV Report	☐	☐	☐	LAB
			7/10/2020		Folder	Folder	☐	☐	☐	LAB

EMAX LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889

Date: 07-16-2020
EMAX Batch No.: 20F176

Attn: Laura Madsen

ARCADIS
1410 Rocly Ridge Dr #330
Roseville CA 95661

Subject: Laboratory Report
Project: PG&E TOPOCK-GMP

Enclosed is the Laboratory report for samples received on 06/19/20.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
MW-54-195-EB-Q220	F176-01	06/19/20	WATER	CHROMIUM HEXAVALENT BY IC
MW-54-195-Q220	F176-02	06/19/20	WATER	CHROMIUM HEXAVALENT BY IC SPECIFIC CONDUCTANCE DISSOLVED METALS BY ICP-MS
MW-54-085-EB-Q220	F176-03	06/19/20	WATER	CHROMIUM HEXAVALENT BY IC
MW-54-085-Q220	F176-04	06/19/20	WATER	CHROMIUM HEXAVALENT BY IC SPECIFIC CONDUCTANCE DISSOLVED METALS BY ICP-MS
MW-54-140-EB-Q220	F176-05	06/19/20	WATER	CHROMIUM HEXAVALENT BY IC
MW-54-140-Q220	F176-06	06/19/20	WATER	CHROMIUM HEXAVALENT BY IC SPECIFIC CONDUCTANCE DISSOLVED METALS BY ICP-MS
MW-55-045-EB-Q220	F176-07	06/19/20	WATER	CHROMIUM HEXAVALENT BY IC
MW-55-045-Q220	F176-08	06/19/20	WATER	CHROMIUM HEXAVALENT BY IC SPECIFIC CONDUCTANCE DISSOLVED CHROMIUM
MW-55-120-Q220	F176-09	06/19/20	WATER	CHROMIUM HEXAVALENT BY IC SPECIFIC CONDUCTANCE DISSOLVED CHROMIUM
MW-903-Q220	F176-10	06/19/20	WATER	CHROMIUM HEXAVALENT BY IC SPECIFIC CONDUCTANCE DISSOLVED CHROMIUM
MW-54-195-Q220DUP	F176-02D	06/19/20	WATER	SPECIFIC CONDUCTANCE
MW-54-195-Q220MS	F176-02M	06/19/20	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED METALS BY ICP-MS
MW-54-195-Q220MSD	F176-02S	06/19/20	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED METALS BY ICP-MS
MW-56D-Q220	F176-11	06/19/20	WATER	CHROMIUM HEXAVALENT BY IC SPECIFIC CONDUCTANCE DISSOLVED CHROMIUM
MW-56M-Q220	F176-12	06/19/20	WATER	CHROMIUM HEXAVALENT BY IC SPECIFIC CONDUCTANCE DISSOLVED CHROMIUM
MW-56S-Q220	F176-13	06/19/20	WATER	CHROMIUM HEXAVALENT BY IC SPECIFIC CONDUCTANCE DISSOLVED CHROMIUM

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912018-15
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

CHAIN OF CUSTODY

EMAX Laboratories, Inc.

1835 W. 205th Street, Torrance, CA 90501
Tel # : 310-618-8889 FAX#: 310-618-0818
Email: info@emaxlabs.com

PO NUMBER: RC000753.801D

SAMPLE STORAGE

EMAX CONTROL NO. 20F176

PROJECT CODE:

CLIENT: ARCADIS

PROJECT PG&E Topock - AZ GMP

COORDINATOR

TEL 916-786-3302 FAX EMAIL dan.bush@arcadis.com

SEND REPORT TO DAN BUSH

COMPANY ARCADIS

ADDRESS: 1410 ROCKY RIDGE DR #330

ROSEVILLE, CA 95661

EMAX PM

MATRIX CODE	PRESERVATIVE CODE
DW=Drinking Water	IC = Ice
GW=Ground Water	HC = HCl
WW=Waste Water	HN=HNO3
SD=Solid Waste SL=Sludge	SH=NaO3
SS=Soil/ Sediment	ST=Na2S2O3
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H2SO4
O=	

TAT: ☐ Rush ☐ Rush ☐ Rush_72_hr ☑ 7 days ☐ 14 days ☐ 21 days

LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	DATE	TIME	CONTAINER NO.	SIZE	TYPE	MATRIX CODE	QC	Cr(VI) FF (E218.6)(NH4)2, SO4, NH4, OH 250mL	Cr(VI) FF (E218.6)(NH4)2, SO4, NH4, OH 2x250mL	Alkalinity, Total as CaCO3 (SM2320B)	Sulfate, Chloride (EPA 300.0)	Specific Conductance (EPA 120.1)	Total Dissolved Solids (SM 2540)	Arsenic, Dissolved (SW 6020)	Chromium, Dissolved (SW 6020)	Manganese, Dissolved (SW 6020)	COMMENTS
												IC	IC	IC	IC	HN	HN	HN	
* 1	MW-54-195-EB-Q220		6/19/20	0815	1	125mL	P	GW		X									
* 2	MW-54-195-Q220		6/19/20	0843	5/4		P	GW		X	X			X		X	X	X	MS/MSD
* 3	MW-54-085-EB-Q220		6/19/20	1000	1	125mL	P	GW		X									
* 4	MW-54-085-Q220		6/19/20	1027	5/4		P	GW		X	X			X		X	X	X	
* 5	MW-54-140-EB-Q220		6/19/20	0910	1	125mL	P	GW		X									
* 6	MW-54-140-Q220		6/19/20	0951	5/4		P	GW		X	X			X		X	X	X	
* 7	MW-55-045-EB-Q220		6/19/20	0827	1	125mL	P	GW		X									
* 8	MW-55-045-Q220		6/19/20	0850	5/4		P	GW		X	X			X			X		
* 9	MW-55-120-Q220		6/19/20	0812	4		P	GW			X			X			X		
10	MW-903-Q220		6/19/20	0822	4/8		P	GW			X			X			X		

Instructions

Cooler #	Temp. (°C)	Sample #s
1	4.7	
2	3.0	

SAMPLER

COURIER/AIRBILL

RELINQUISHED BY	Date	Time	RECEIVED BY
Regina Tee	6/19/20	1200	
Grant D. Bugel	6-19-20	1600	6/19/2020 16:00

NOTICE: Turn-around-time (TAT) for samples shall not begin untill all discrepancies have been resolved. For samples received and discrepacies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associted with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

CHAIN OF CUSTODY

EMAX Laboratories, Inc.

1835 W. 205th Street, Torrance, CA 90501
Tel # : 310-618-8889 FAX#: 310-618-0818
Email: info@emaxlabs.com

PO NUMBER: RC000753.801D

SAMPLE STORAGE

EMAX CONTROL NO. 20F176

PROJECT CODE:

CLIENT: ARCADIS
PROJECT PG&E Topock - AZ GMP
COORDINATOR
TEL 916-786-3302 FAX EMAIL dan.bush@arcadis.com
SEND REPORT TO DAN BUSH
COMPANY ARCADIS
ADDRESS: 1410 ROCKY RIDGE DR #330
ROSEVILLE, CA 95661
EMAX PM

MATRIX CODE	PRESERVATIVE CODE
DW=Drinking Water	IC = Ice
GW=Ground Water	HC = HCl
WW=Waste Water	HN=HNO3
SD=Solid Waste SL=Sludge	SH=NaO3
SS=Soil/ Sediment	ST=Na2S2O3
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H2SO4
O=	

TAT
- ☐ Rush
- ☐ Rush
- ☐ Rush_72_hr
- ☑ 7 days
- ☐ 14 days
- ☐ 21 days

SAMPLE ID LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	SAMPLING DATE	SAMPLING TIME	CONTAINER NO.	CONTAINER SIZE	CONTAINER TYPE	MATRIX CODE	QC	Cr(VI) FF (E218.6)(NH4)2, SO4, NH4, OH 250mL	Cr(VI) FF (E218.6)(NH4)2, SO4, NH4, OH 2x250mL	Alkalinity, Total as CaCO3 (SM2320B)	Sulfate, Chloride (EPA 300.0)	Specific Conductance (EPA 120.1)	Total Dissolved Solids (SM 2540)	Arsenic, Dissolved (SW 6020)	Chromium, Dissolved (SW 6020)	Manganese, Dissolved (SW 6020)	COMMENTS
										PRESERVATIVE CODE									
												IC	IC	IC	IC	HN	HN	HN	
*1	MW-56D-Q220		6/19/20	0956	3		P	GW		X				X			X		
*2	MW-56M-Q220		6/19/20	1026	3		P	GW		X				X			X		
*3	MW-56S-Q220		6/19/20	1055	3		P	GW		X				X			X		
* 4																			
* 5																			
* 6																			
* 7																			
* 8																			
* 9																			
10																			

Instructions

Cooler #	Temp. (°C)
1	4.7°
2	3.0°

Sample #s

SAMPLER

COURIER/AIRBILL

RELINQUISHED BY	Date	Time	RECEIVED BY
Ryan Fox	6/19/20	1200	
Jacob D. Bryant	6/19/20	1600	6/19/2020 16:00

NOTICE: Turn-around-time (TAT) for samples shall not begin untill all discrepancies have been resolved. For samples received and discrepacies resolved after 1500 hrs. TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associted with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

Type of Delivery	Airbill / Tracking Number	
☐ Fedex ☐ UPS ☐ GSO ☑ Others	~~All Around~~ 6/19/20	ECN 20F176
☐ EMAX Courier ☑ Client Delivery		Recipient Rosie Carrillo
		Date 6/19/2020 Time 16:00

COC INSPECTION

☑ Client Name	☑ Client PM/FC	☐ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☑ Matrix
☑ Address	☑ Tel # / Fax #	☑ Courier Signature	☑ Analysis Required	☑ Preservative (if any)	☑ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note: Corrections are not initialed, dated.

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☐ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☑ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	☑ Cooler 1 4.7 °C	☑ Cooler 2 3.0 °C	☐ Cooler 3 _____ °C	☐ Cooler 4 _____ °C	☐ Cooler 5 _____ °C
	☐ Cooler 6 _____ °C	☐ Cooler 7 _____ °C	☐ Cooler 8 _____ °C	☐ Cooler 9 _____ °C	☐ Cooler 10 _____ °C
Thermometer:	*A - S/N* 1923814 64	*B - S/N* _____	*C - S/N* 2002917 56	*D - S/N* _____	

Comments: ☐ **Temperature is out of range. PM was informed IMMEDIATELY.**

Note: _____

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
1-4		D12	Label reads: 250ML *	ok
2,4,6,10	2,8,14,29	D12	Label reads: 500 ML	ok
4,	9,10	D10		R1
5-13	13,14,19,20-23,25-27	D10		R1
	30,31,33,34,36,37,39,44			
7	19	D22	Not filtered, per label	R1

6/19/20

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS: *125ML HDPE Rec'd.
Metals containers read SW6020 only.
Sample #2 designated for MS/MSD, no extra volume received ~~for CrVI only. 3-125 HDPE~~ 6/19/20

LEGEND:

☐ **Continue to next page.**

Code	Description- Sample Management	Code	Description-Sample Management	Code	Description-Sample Management
D1	Analysis is not indicated in _____	D13	Out of Holding Time	R1	Proceed as indicated in ☑ COC ☐ Label
D2	Analysis mismatch COC vs label	D14	Bubble is >6mm	R2	Refer to attached instruction
D3	Sample ID mismatch COC vs label	D15	No trip blank in cooler	R3	Cancel the analysis
D4	Sample ID is not indicated in _____	D16	Preservation not indicated in _____	R4	Use vial with smallest bubble first
D5	Container -[improper] [leaking] [broken]	D17	Preservation mismatch COC vs label	R5	Log-in with latest sampling date and time+1 min
D6	Date/Time is not indicated in _____	D18	Insufficient chemical preservative	R6	Adjust pH as necessary
D7	Date/Time mismatch COC vs label	D19	Insufficient Sample	R7	Filter and preserved as necessary
D8	Sample listed in COC is not received	D20	No filtration info for dissolved analysis	R8	_____
D9	Sample received is not listed in COC	D21	No sample for moisture determination	R9	_____
D10	No initial/date on corrections in COC/label	D22	COC reads filtered	R10	_____
D11	Container count mismatch COC vs received	D23	_____	R11	_____
D12	Container size mismatch COC vs received	D24	_____	R12	_____

REVIEWS:

Sample Labeling [signature] **Date** 6/19/2020 / 6/19/20

SRF [signature] **Date** 6/19/20

PM [signature] **Date** 6/19/20

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

ARCADIS

PG&E TOPOCK-GMP

METALS

SDG#: 20F176

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 20F176

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

A total of six(6) water samples were received on 06/19/20 to be analyzed for Dissolved Metals by ICP-MS in accordance with Method SW6020A and project specific requirements.

Holding Time
Samples were digested and analyzed within the prescribed holding time.

Calibration
Initial Calibration was established as prescribed by the method and was verified using a secondary source(ICV). Interference checks were performed and results were within required limits. Continuing calibration verifications and continuing calibration blanks were carried out at the frequency specified by the project. All calibration requirements were satisfied. MRL was analyzed as required by the project.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. IMF032WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. IMF032WL/IMF032WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP

SDG NO. : 20F176
Instrument ID : H6

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	IMF032WB	1	NA	06/24/2010:36	06/23/2011:40	H6F19020	H6F19015	IMF032W	Method Blank
LCS1W	IMF032WL	1	NA	06/24/2010:39	06/23/2011:40	H6F19021	H6F19015	IMF032W	Lab Control Sample (LCS)
LCD1W	IMF032WC	1	NA	06/24/2010:41	06/23/2011:40	H6F19022	H6F19015	IMF032W	LCS Duplicate
MW-55-045-Q220	F176-08	1	NA	06/26/2015:43	06/23/2011:40	H6F22120	H6F22118	IMF032W	Field Sample
MW-55-120-Q220	F176-09	1	NA	06/26/2015:45	06/23/2011:40	H6F22121	H6F22118	IMF032W	Field Sample
MW-903-Q220	F176-10	1	NA	06/26/2015:48	06/23/2011:40	H6F22122	H6F22118	IMF032W	Field Sample
MW-56D-Q220	F176-11	1	NA	06/26/2015:51	06/23/2011:40	H6F22123	H6F22118	IMF032W	Field Sample
MW-56M-Q220	F176-12	1	NA	06/26/2015:53	06/23/2011:40	H6F22124	H6F22118	IMF032W	Field Sample
MW-56S-Q220	F176-13	1	NA	06/26/2015:56	06/23/2011:40	H6F22125	H6F22118	IMF032W	Field Sample

FN - Filename
% Moist - Percent Moisture

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/19/20 08:50
Project	: PG&E TOPOCK-GMP	Date Received:	06/19/20
SDG NO.	: 20F176	Date Extracted:	06/23/20 11:40
Sample ID:	MW-55-045-Q220	Date Analyzed:	06/26/20 15:43
Lab Samp ID:	F176-08	Dilution Factor:	1
Lab File ID:	H6F22120	Matrix:	WATER
Ext Btch ID:	IMF032W	% Moisture:	NA
Calib. Ref.:	H6F22118	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	1.00	0.200

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing/MCande	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/19/20 08:12
Project	: PG&E TOPOCK-GMP	Date Received:	06/19/20
SDG NO.	: 20F176	Date Extracted:	06/23/20 11:40
Sample ID:	MW-55-120-Q220	Date Analyzed:	06/26/20 15:45
Lab Samp ID:	F176-09	Dilution Factor:	1
Lab File ID:	H6F22121	Matrix:	WATER
Ext Btch ID:	IMF032W	% Moisture:	NA
Calib. Ref.:	H6F22118	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	9.20	1.00	0.200

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing/MCande	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/19/20 08:22
Project	: PG&E TOPOCK-GMP	Date Received:	06/19/20
SDG NO.	: 20F176	Date Extracted:	06/23/20 11:40
Sample ID:	MW-903-Q220	Date Analyzed:	06/26/20 15:48
Lab Samp ID:	F176-10	Dilution Factor:	1
Lab File ID:	H6F22122	Matrix:	WATER
Ext Btch ID:	IMF032W	% Moisture:	NA
Calib. Ref.:	H6F22118	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	9.23	1.00	0.200

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing/MCande	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/19/20 09:56
Project	: PG&E TOPOCK-GMP	Date Received:	06/19/20
SDG NO.	: 20F176	Date Extracted:	06/23/20 11:40
Sample ID:	MW-56D-Q220	Date Analyzed:	06/26/20 15:51
Lab Samp ID:	F176-11	Dilution Factor:	1
Lab File ID:	H6F22123	Matrix:	WATER
Ext Btch ID:	IMF032W	% Moisture:	NA
Calib. Ref.:	H6F22118	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	1.00	0.200

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing/MCande	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/19/20 10:26
Project	: PG&E TOPOCK-GMP	Date Received:	06/19/20
SDG NO.	: 20F176	Date Extracted:	06/23/20 11:40
Sample ID:	MW-56M-Q220	Date Analyzed:	06/26/20 15:53
Lab Samp ID:	F176-12	Dilution Factor:	1
Lab File ID:	H6F22124	Matrix:	WATER
Ext Btch ID:	IMF032W	% Moisture:	NA
Calib. Ref.:	H6F22118	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	1.00	0.200

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing/MCande	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/19/20 10:55
Project	: PG&E TOPOCK-GMP	Date Received:	06/19/20
SDG NO.	: 20F176	Date Extracted:	06/23/20 11:40
Sample ID:	MW-56S-Q220	Date Analyzed:	06/26/20 15:56
Lab Samp ID:	F176-13	Dilution Factor:	1
Lab File ID:	H6F22125	Matrix:	WATER
Ext Btch ID:	IMF032W	% Moisture:	NA
Calib. Ref.:	H6F22118	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	1.00	0.200

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing/MCande	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	NA
Project	: PG&E TOPOCK-GMP	Date Received:	NA
SDG NO.	: 20F176	Date Extracted:	06/23/20 11:40
Sample ID:	MBLK1W	Date Analyzed:	06/24/20 10:36
Lab Samp ID:	IMF032WB	Dilution Factor:	1
Lab File ID:	H6F19020	Matrix:	WATER
Ext Btch ID:	IMF032W	% Moisture:	NA
Calib. Ref.:	H6F19015	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	1.00	0.200

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing/MCande	Analyzed by:	LYaman

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 20F176
METHOD : SW6020A

MATRIX	WATER		% MOISTURE:NA
DILUTION FACTOR	1	1	1
SAMPLE ID	MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	IMF032WB	IMF032WL	IMF032WC
LAB FILE ID	H6F19020	H6F19021	H6F19022
DATE PREPARED	06/23/20 11:40	06/23/20 11:40	06/23/20 11:40
DATE ANALYZED	06/24/20 10:36	06/24/20 10:39	06/24/20 10:41
PREP BATCH	IMF032W	IMF032W	IMF032W
CALIBRATION REF	H6F19015	H6F19015	H6F19015

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpikeAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Chromium	ND	30	31.5	105	30	31.2	104	1	85-115	20

ICP-MS QC CHECK TABLE

QC	HIGH STD	ICV	CCV	ICSAB	ICSA
Limit%		90-110	90-110	80-120	80-120
Comp	ug/L	ug/L	ug/L	ug/L	ug/L
Al	50000	30000	25000	100000	100000
Sb	100	60	50	20	0
As	500	300	250	20	0
Ba	1000	300	500	20	0
Be	50	30	25	20	0
B	100	30	50	20	0
Cd	500	300	250	20	0
Ca	50000	30000	25000	100000	100000
Cr	500	300	250	20	0
Co	500	300	250	20	0
Cu	500	300	250	20	0
Fe	50000	30000	25000	100000	100000
Li	50	30	25	20	0
Pb	500	300	250	20	0
Mg	50000	30000	25000	100000	100000
Mn	3000	2000	1500	20	0
Mo	500	300	250	2000	2000
Ni	500	300	250	20	0
P	500	300	250	100000	100000
K	50000	30000	25000	100000	100000
Se	500	300	250	20	0
Si	5000	3000	2500	200	0
Ag	50	30	25	20	0
Na	50000	30000	25000	100000	100000
Sr	500	300	250	20	0
Tl	500	300	250	20	0
Sn	500	300	250	20	0
Ti	500	300	250	2000	2000
W	50	30	25	20	0
V	500	300	250	20	0
U	500	300	250	20	0
Zn	500	300	250	20	0
Zr	50	30	25	20	0

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ICP-MS

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 06/24/20 09:51

End Date: 06/24/20 14:54

Comments:

All soil/solid samples are diluted at 10x dilution prior to analysis.

Filter Lot #: NA

CCB 4 Na > 1/2 LOQ
Associated samples > 10X concentration level.

Book #: AH6-005

Instrument No.: H6

Analytical Batch: 1H6F19

Analytical Sequence: H6F19

Method File: E6020H63

Micropipette ID: ☐ 142781004

Micropipette ID: ☑ ICP-06

Micropipette ID: ☑ 339362028

Micropipette ID: ☑ GFAA-07

Micropipette ID: ☐ 339342032

Micropipette ID: ☑ 542780515

Micropipette ID: ☐ 542761827

Micropipette ID: ☐

SOP #	Rev. #
☐ EMAX-200.8	6
☑ EMAX-6020	13
☐ EMAX-6020CA	2
☐ EMAX-	
☐ EMAX-	

STANDARDS ID		STANDARDS ID	
S0	SM6B-19-67-02	MRL1 (1)	SM6B-19-40-02
S1	68-01	MRL2(04)	65-01
S2	68-02	MRL3(CAT)	65-02
S3	69-01	MRL4	NA
S4	69-02	MRL5	↓
S5	NA	MRL6	↓
S6	↓	Internal Standard	SM6B-19-11-02
S7	↓	Post-Spike 1	SM6A-007-06-25
ICV	SM6B-19-49-01	Post-Spike 2	↓ 06-26
CCV	70-01	Post-Spike 3	NA
ICSA	66-02	Post-Spike 4	↓
ICSAB	67-01		
6020 TUNE SOLN.	NA		
200.8 TUNE SOLN.	SM6B-19-11-01		

Analyzed By: LY

Date: 06/24/20

INITIAL CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 20F176
Method : METHOD SW6020A
Sequence : IH6F19
InstrumentID: H6

Lab Samp ID :	ICV	ICSA1	ICSAB1
QC Limit :	%R:90-110/RSD:<5	%R:80-120/<LOD	%R:80-120
Lab File ID :	H6F19008	H6F19012	H6F19013
DateAnalyed :	06/24/2010:05	06/24/2010:15	06/24/2010:18

Parameter		Result	ICV EV	RSD	%Recovery	Result	ICSA EV	%Rec/LOD	Result	ICSAB EV	%Recovery
Lithium		29.99	30	2.9	100	0.40389	0	>0	19.654	20	98
Beryllium		30.97	30	3.6	103	0.0017351	0	<0.1	20.105	20	101
Boron		27.67	30	2.6	92	0.35346	0	<5.0	14.231	20	71*
Sodium		29700	30000	1.0	99	97039	100000	97	99618	100000	100
Magnesium		28950	30000	2.5	96	94085	100000	94	95915	100000	96
Aluminum		29500	30000	3.3	98	94385	100000	94	96631	100000	97
Silicon		3280	3000	1.0	109	3.8820	0	<20	219.61	200	110
Phosphorus		278.5	300	1.6	93	93954	100000	94	95988	100000	96
Potassium		29380	30000	1.2	98	96049	100000	96	100090	100000	100
Calcium		30060	30000	0.8	100	98288	100000	98	100800	100000	101
Titanium		295.5	300	1.9	98	1964.6	2000	98	2036.7	2000	102
Vanadium		309.6	300	0.4	103	0.053942	0	<0.5	20.143	20	101
Chromium	T	310.6	300	1.6	104	0.28590	0	>0.2	20.570	20	103
Manganese		1960	2000	2.9	98	0.23118	0	>0.2	19.232	20	96
Iron		29870	30000	0.2	100	97814	100000	98	101550	100000	102
Cobalt		300.9	300	2.7	100	0.34770	0	>0.2	19.472	20	97
Nickel		319.1	300	2.0	106	0.33225	0	>0.2	20.517	20	103
Copper		312.9	300	1.3	104	0.40937	0	<0.5	20.457	20	102
Zinc		289.3	300	1.9	96	0.92961	0	<10	20.688	20	103
Arsenic		312.6	300	1.1	104	0.075152	0	<0.2	20.231	20	101
Selenium		311.6	300	0.8	104	0.14673	0	<0.3	20.523	20	103
Strontium		308.5	300	1.9	103	0.79756	0	<1.0	20.807	20	104
Zirconium		27.81	30	0.5	93	0.076672	0	<2.0	14.122	20	71*
Molybdenum		299.2	300	1.2	100	1935.0	2000	97	2035.3	2000	102
Silver		30.70	30	0.6	102	0.013678	0	<0.2	19.329	20	97
Cadmium		304.9	300	0.6	102	0.046782	0	<0.2	19.279	20	96
Tin		306.4	300	1.2	102	0.31881	0	>0.2	20.099	20	100
Antimony		58.33	60	0.4	97	0.15065	0	<0.5	19.733	20	99
Barium		307.3	300	1.5	102	0.21976	0	<0.5	20.445	20	102
Tungsten		32.47	30	0.4	108	0.15608	0	<1.0	19.707	20	99
Mercury		2.890	3	0.5	96	0.0044831	0	<0.1	1.9871	2	99
Thallium		311.9	300	1.0	104	0.00033154	0	<0.2	19.515	20	98
Lead		311.2	300	0.9	104	0.088499	0	<0.1	19.412	20	97
Uranium		306.3	300	0.7	102	0.000066767	0	<0.1	19.605	20	98

Unit: ug/L
T: Target analyte
EV: Expected Value
Comment: * Out of QC limit

CONTINUING CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 20F176
Method : METHOD SW6020A
Sequence : IH6F19
Instrument ID: H6

CCV SampleID		: CCV1			CCV2			
CCV DataFileID		: H6F19015			H6F19024			
CCV DateTime		: 06/24/20 10:23			06/24/20 10:46			
PARAMETER		CCV EV	RESULT	%REC	RSD	RESULT	%REC	RSD
Lithium		25	24.8	99	2.3	25.7	103	1.3
Beryllium		25	24.7	99	0.4	25.5	102	0.5
Boron		50	52.0	104	1.5	53.8	108	1.8
Sodium		25000	25100	101	0.9	25200	101	0.7
Magnesium		25000	24500	98	1.7	24800	99	2.6
Aluminum		25000	24600	98	1.5	24900	100	3.3
Silicon		2500	2550	102	0.8	2550	102	1.3
Phosphorus		250	243	97	0.4	249	99	1.8
Potassium		25000	25300	101	0.7	25700	103	1.2
Calcium		25000	25100	100	0.3	25000	100	0.9
Titanium		250	245	98	0.6	246	98	1.6
Vanadium		250	252	101	0.4	254	101	0.5
Chromium	T	250	255	102	0.6	255	102	0.4
Manganese		1500	1510	100	1.0	1510	101	2.0
Iron		25000	25100	101	0.5	25200	101	0.7
Cobalt		250	250	100	0.6	250	100	1.9
Nickel		250	258	103	0.6	259	104	1.3
Copper		250	257	103	0.4	256	102	1.2
Zinc		250	246	98	1.1	248	99	0.8
Arsenic		250	250	100	0.2	252	101	0.7
Selenium		250	248	99	1.4	250	100	0.5
Strontium		250	247	99	0.8	251	100	2.3
Zirconium		25	24.4	98	0.3	24.5	98	2.6
Molybdenum		250	244	98	1.6	247	99	1.2
Silver		25	24.7	99	2.4	24.7	99	1.5
Cadmium		250	243	97	1.7	245	98	1.1
Tin		250	246	99	1.5	248	99	0.6
Antimony		50	48.4	97	1.2	49.2	98	0.9
Barium		500	498	100	2.1	501	100	0.7
Tungsten		25	25.0	100	0.7	25.0	100	0.6
Mercury		2.5	2.49	100	1.2	2.49	100	0.7
Thallium		250	252	101	1.1	250	100	2.1
Lead		250	253	101	1.9	252	101	1.4
Uranium		250	252	101	1.2	245	98	0.5

Unit: ug/L
T: Target analyte
%Rec QC Limit: 90-110
RSD QC Limit: <5
CCV EV: CCV Expected Value ug/L
Comment:

CONTINUING CALIBRATION BLANK SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 20F176
Method : SW6020A
Sequence : IH6F19
Instrument ID: H6

CB SampleID		: ICB		CCB1		CCB2	
CB DataFileID		: H6F19009		H6F19016		H6F19025	
CB DateTime		: 06/24/2010:07		06/24/2010:26		06/24/2010:49	
PARAMETER	LOD	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >
Lithium	0	0.03	>0	0.08	>0	0.1	>0
Beryllium	0.1	0.02	<0.1	0.004	<0.1	0.01	<0.1
Boron	5.0	0.4	<5.0	0.1	<5.0	0.2	<5.0
Sodium	50	0.1	<50	7	<50	8	<50
Magnesium	10	2	<10	0.4	<10	6	<10
Aluminum	20	3	<20	0.5	<20	6	<20
Silicon	20	2	<20	0.6	<20	1	<20
Phosphorus	25	0.6	<25	2	<25	2	<25
Potassium	20	1	<20	8	<20	4	<20
Calcium	25	0.5	<25	0.6	<25	2	<25
Titanium	0.5	0.02	<0.5	0.2	<0.5	0.06	<0.5
Vanadium	0.5	0.09	<0.5	0.1	<0.5	0.2	<0.5
Chromium T	0.2	0.0002	<0.2	0.01	<0.2	0.003	<0.2
Manganese	0.2	0.2	<0.2	0.05	<0.2	0.4	>0.2
Iron	10	0.7	<10	1	<10	2	<10
Cobalt	0.2	0.03	<0.2	0.005	<0.2	0.06	<0.2
Nickel	0.2	0.009	<0.2	0.008	<0.2	0.02	<0.2
Copper	0.5	0.004	<0.5	0.06	<0.5	0.1	<0.5
Zinc	10	0.06	<10	0.04	<10	0.09	<10
Arsenic	0.2	0.01	<0.2	0.008	<0.2	0.0010	<0.2
Selenium	0.3	0.06	<0.3	0.03	<0.3	0.03	<0.3
Strontium	1.0	0.03	<1.0	0.003	<1.0	0.06	<1.0
Zirconium	2.0	0.0009	<2.0	0.003	<2.0	0.004	<2.0
Molybdenum	0.5	0.04	<0.5	0.03	<0.5	0.08	<0.5
Silver	0.2	0.004	<0.2	0.002	<0.2	0.006	<0.2
Cadmium	0.2	0.05	<0.2	0.02	<0.2	0.08	<0.2
Tin	0.2	0.1	<0.2	0.02	<0.2	0.07	<0.2
Antimony	0.5	0.010	<0.5	0.005	<0.5	0.02	<0.5
Barium	0.5	0.02	<0.5	0.0002	<0.5	0.1	<0.5
Tungsten	1.0	0.01	<1.0	0.009	<1.0	0.005	<1.0
Mercury	0.1	0.02	<0.1	0.009	<0.1	0.010	<0.1
Thallium	0.2	0.1	<0.2	0.05	<0.2	0.1	<0.2
Lead	0.1	0.09	<0.1	0.04	<0.1	0.09	<0.1
Uranium	0.1	0.03	<0.1	0.007	<0.1	0.06	<0.1

Unit: ug/L
CB: Calibration Blank
T: Target analyte
Acceptance Criteria: CCB Result <LOD
Comment:

Sample List

Acq/Data Batch D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b

Block List

Acquisition Order

Sequence Order	Block Name
1	Calibration Standards
2	Unknown Samples

Blocks

Calibration Standards

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Replicates	Level	Total Dil.
1		CalBlk	BLANK		1101	H6F19001.d		1	
2		CalBlk	BLANK		1101	H6F19002.d		1	
3		CalStd	S0		1102	H6F19003.d		1	
4		CalStd	S1		1104	H6F19004.d		2	
5		CalStd	S2		1105	H6F19005.d		3	
6		CalStd	S3		1106	H6F19006.d		4	
7		CalStd	S4		1107	H6F19007.d		5	
8		ICV	ICV		1204	H6F19008.d			1
9		ICB	ICB		1102	H6F19009.d			1
10		LLCCV	MRLF2401 ✓	1/100/10 ppb	1306	H6F19010.d			1
11		LLCCV2	MRLF2402	0.4/40/4 ppb	1307	H6F19011.d			1
12		ICS-A	ICSA1		1304	H6F19012.d			1
13		ICSB	ICSAB1		1305	H6F19013.d			1
14		Sample	MRLF2403	500 ppb CAT	1207	H6F19014.d			1
15		CCV	CCV1		1206	H6F19015.d			1
16		CCB	CCB1		1102	H6F19016.d			1

Unknown Samples

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Replicates	Level	Total Dil.
1		Blank	IMF031WB		2101	H6F19017.d			1
2		LCSW	IMF031WL		2102	H6F19018.d			1
3		LCSW	IMF031WC		2103	H6F19019.d			1
4		Blank	IMF032WB		2104	H6F19020.d			1
5		LCSW	IMF032WL		2105	H6F19021.d			1
6		LCSW	IMF032WC		2106	H6F19022.d			1
7		Sample	F142-10		2107	H6F19023.d			1
8		CCV	CCV2		1206	H6F19024.d			1
9		CCB	CCB2		1102	H6F19025.d			1
10		Sample	F142-01		2108	H6F19026.d			1
11		Sample	F142-02M ✓		2109	H6F19027.d			1
12		Sample	F142-02S		2110	H6F19028.d			1
13		Sample	F142-02A		2111	H6F19029.d			1
14		Sample	F142-02		2112	H6F19030.d			1
15		Sample	F142-02J		2201	H6F19031.d			5
16		Sample	F142-03		2202	H6F19032.d			1
17		CCV	CCV3		1206	H6F19033.d			1
18		CCB	CCB3		1102	H6F19034.d			1
19		Sample	F142-04		2203	H6F19035.d			1
20		Sample	F142-05		2204	H6F19036.d			1

Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Replicates	Level	Total Dil.
21		Sample	F142-06		2205	H6F19037.d			1
22		Sample	F142-07		2206	H6F19038.d			1
23		Sample	F142-08		2207	H6F19039.d			1
24		Sample	F142-09		2208	H6F19040.d			1
25		CCV	CCV4		1206	H6F19041.d			1
26		CCB	CCB4 Na 7 ½ LOQ		1102	H6F19042.d			1
27		Sample	F160-01M		2209	H6F19043.d			10
28		Sample	F160-01S		2210	H6F19044.d			10
29		Sample	F160-01A ✓		2211	H6F19045.d			10
30		Sample	F160-01I		2212	H6F19046.d			10
31		Sample	F160-01J		2301	H6F19047.d			50
32		Sample	F160-02I		2302	H6F19048.d			10
33		Sample	F160-04I		2303	H6F19049.d			10
34		CCV	CCV5		1206	H6F19050.d			1
35		CCB	CCB5		1102	H6F19051.d			1
36		Sample	F160-06I		2304	H6F19052.d			10
37		Sample	F160-07I		2305	H6F19053.d			10
38		Sample	F160-08I		2306	H6F19054.d			10
39		Sample	F160-09I		2307	H6F19055.d			10
40		Sample	F160-10I		2308	H6F19056.d			10
41		Sample	F160-11I		2309	H6F19057.d			10
42		CCV	CCV6		1206	H6F19058.d			1
43		CCB	CCB6		1102	H6F19059.d			1
44		Sample	F160-01M Na Ca↑		3101	H6F19060.d			1
45		Sample	F160-01S		3102	H6F19061.d			1
46		Sample	F160-01A ✓		3103	H6F19062.d			1
47		Sample	F160-01		3104	H6F19063.d			1
48		Sample	F160-01J		3105	H6F19064.d			5
49		Sample	F160-02 Na Ca↑		3106	H6F19065.d			1
50		Sample	F160-04 Ca↑		3107	H6F19066.d			1
51		CCV	CCV7		1206	H6F19067.d			1
52		CCB	CCB7		1102	H6F19068.d			1
53		Sample	F160-06		3108	H6F19069.d			1
54		Sample	F160-07		3109	H6F19070.d			1
55		Sample	F160-08 Ca↑		3110	H6F19071.d			1
56		Sample	F160-09 Ca↑		3111	H6F19072.d			1
57		Sample	F160-10 Na Ca↑		3112	H6F19073.d			1
58		Sample	F160-11 Na Ca↑		3201	H6F19074.d			1
59		CCV	CCV8		1206	H6F19075.d			1
60		CCB	CCB8		1102	H6F19076.d			1
61		Sample	F167-01I		2310	H6F19077.d			10
62		Sample	F167-03I		2311	H6F19078.d			10
63		Sample	F167-04M		2312	H6F19079.d			10
64		Sample	F167-04S		2401	H6F19080.d			10
65		Sample	F167-04A ✓		2402	H6F19081.d			10
66		Sample	F167-04I		2403	H6F19082.d			10
67		Sample	F167-04J V X		2404	H6F19083.d			50
68		CCV	CCV9		1206	H6F19084.d			1
69		CCB	CCB9		1102	H6F19085.d			1
70		Sample	F167-04J		2404	H6F19086.d			50
71		Sample	F167-05I		2405	H6F19087.d			10
72		Sample	F167-06I		2406	H6F19088.d			10

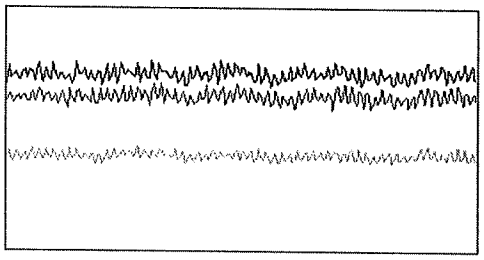
Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Replicates	Level	Total Dil.
73		Sample	F167-07I		2407	H6F19089.d			10
74		Sample	F167-08I		2408	H6F19090.d			10
75		Sample	F167-09I		2409	H6F19091.d			10
76		Sample	F167-10I		2410	H6F19092.d			10
77		Sample	F167-11I CM	colored	2411	H6F19093.d			10
78		Sample	F167-11K	colored	3204	H6F19094.d			100
79		CCV	CCV10		1206	H6F19095.d			1
80		CCB	CCB10		1102	H6F19096.d			1
81		Sample	F176-02M ✓		2412	H6F19097.d			10
82		Sample	F176-02S		2501	H6F19098.d			10
83		Sample	F176-02A		2502	H6F19099.d			10
84		Sample	F176-02I		2503	H6F19100.d			10
85		Sample	F176-02J		2504	H6F19101.d			50
86		Sample	F176-04I		2505	H6F19102.d			10
87		Sample	F176-06I		2506	H6F19103.d			10
88		CCV	CCV11		1206	H6F19104.d			1
89		CCB	CCB11		1102	H6F19105.d			1
90		Sample	F176-08I		2507	H6F19106.d			10
91		Sample	F176-09I		2508	H6F19107.d			10
92		Sample	F176-10I		2509	H6F19108.d			10
93		Sample	F176-11I		2510	H6F19109.d			10
94		Sample	F176-12I		2511	H6F19110.d			10
95		Sample	F176-13I		2512	H6F19111.d			10
96		ICS-A	ICSA2		1304	H6F19112.d			1
97		ICSB	ICSAB2		1305	H6F19113.d			1
98		CCV	CCV12		1206	H6F19114.d			1
99		CCB	CCB12		1102	H6F19115.d			1
100		Sample	F160-07	UNDIG	3203	H6F19116.d			1

Performance Report

Operator Name	LYaman
Acq. Date-Time	2020-06-24 08:50:38
Instrument Name	G8421A SG19253823
Sample Introduction	ISIS
Nebulizer Type	MicroMist
Ion Lens Model	x-Lens
Tune Parameters	Standard Tune

Sensitivity



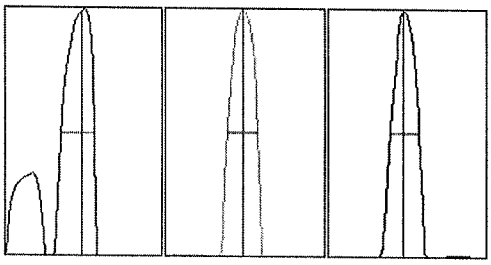
Mass	Range	Count	RSD%	Background
7	10000	6361	3.973	0.200
89	50000	19556	4.540	1.050
205	20000	14603	3.495	3.550

Sampling Period [sec]	0.311
Integration Time [sec]	0.1

Oxide/Doubly Charged Ratio

Oxide	156 / 140 1.182 %
Doubly Charged	70 / 140 1.437 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
7	6329.15	7.00	0.64	0.77
89	19555.48	89.00	0.58	0.72
205	14742.48	204.95	0.55	0.75

Integration Time [sec]	0.1
Acquisition Time [sec]	22.74

Tune Parameters

Plasma Parameters

RF Power	1550 W	Option Gas	---	Makeup Gas	0.00 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Auxiliary Gas	0.90 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C	Plasma Gas	15.0 L/min
Nebulizer Gas	1.07 L/min				

Lens Parameters

Extract 1	0.0 V	Omega Lens	8.6 V	Deflect	13.6 V
Extract 2	-185.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-90 V	Cell Exit	-50 V		

Performance Report

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

QP Bias	-3.0 V

Hardware Settings

Torch

Torch H	0.5 mm	Torch H (Hot)	---	Torch H (Cool)	---
Torch V	-0.2 mm	Torch V (Hot)	---	Torch V (Cool)	---

Plasma Correction

Nebulizer Gas Offset	0.02 L/min	Makeup Gas (Hot)	---	Makeup Gas (Cool)	---
		Sample Depth (Hot)	---		

Resolution/Axis

Mass Gain	123	Axis Gain	0.9994
Mass Offset	124	Axis Offset	-0.03

EM

Discriminator	4.2 mV	Analog HV	2384 V	Pulse HV	1534 V

Performance Report

Meter

Name	Value	Unit
Nebulizer Gas	1.07	L/min
MU./Dil. Gas	0.00	L/min
Plasma Gas	15.01	L/min
Aux Gas	0.90	L/min
Ar Gas Tank Press	7.17E+2	kPa
+5V (Press Gage)	5.0	V
Ar AMFC Temp	31.7	°C
Nebulizer Gas(DP)	6.11E+0	kPa
MU./Dil. Gas(DP)	-1.23E-1	kPa
Aux Gas(DP)	1.23E+1	kPa
Plasma Gas(DP)	1.11E+1	kPa
Nebulizer Gas(BP)	3.51E+2	kPa
MU./Dil. Gas(BP)	-2.78E+0	kPa
Aux Gas(BP)	5.93E+1	kPa
Plasma Gas(BP)	3.97E+1	kPa
S/C Temp (H)	16.4	°C
S/C Temp (L)	2.0	°C
Peltier Voltage	2.7	V
IF/BK Press	2.25E+2	Pa
Analyzer Press	6.65E-5	Pa
IG HV	178	V
IG Emission	4.97	µA
TMP Revolution	100.0	%
TMP Rev (RAW)	100.2	%
TMP Current	2.65	A
PWR AMP Drain I	0.2	A
PWR AMP Bias	4.16	V
OctP RF (Avg)	204.0	V
OctP RF Set	4.0	V
OctP FET Bias Set	3.97	V
OctP RF(+)	176.2	V
OctP RF(-)	231.5	V
OctP Bias	-8.0	V
Cell Temp.	65.0	°C
Cell Heater Volt.	4.0	V
+U Voltage	176.9	V

Name	Value	Unit
-U Voltage	-182.9	V
V Voltage	773.4	V
QPRF Fader	0.5	V
Pickup Temp	55.0	°C
PWR Amp Temp	0.1	V
+600V	609.5	V
-120V	-133.7	V
-720V	-738.5	V
Prefilter Bias	-5.05	V
Pickup Heater I	0.07	A
QP PS +48V	47.5	V
QP PS +48V I	0.00	A
Analog HV	-2388	V
Pulse HV	1544	V
EM Gate	-28.2	V
Pulse Gate	307.4	V
EM Entrance	0.2	V
EM HV Gain	-1033.2	V
Inner Pole	-300.2	V
Outer Pole	20.0	V
Analog -5V	-5.1	V
Analog +15V	14.5	V
Analog -15V	-14.4	V
Analog +5V	5.2	V
Shunt C Pos	1.2	V
Drain Volt.(max)	63.5	V
RF PS +48V	47.5	V
Forward Power	1548	W
Reflected Power	2	W
Plasma Freq.	26.75	MHz
Drain I 1	11.41	A
Drain I 2	10.97	A
Drain I 3	10.88	A
Drain I 4	10.23	A
Temp Sensor	2.8	V
Driver I	5.64	A

Name	Value	Unit
Igniter	0.1	V
Driver Voltage Set	6.5	V
Unbalance Current	0.44	A
PWM Threshold Set	0.2	V
Driver Voltage	5.1	V
PWM Threshold	0.2	V
Phase Detector	0.0	mV
H2 Gas	0.00	mL/min
He Gas	0.00	mL/min
H2 Gas Press	1.70E+2	kPa
He Gas Press	9.59E-1	kPa
ORS AMFC Temp	30.7	°C
Atmospheric Press	1.01E+2	kPa
Extract 1	-0.1	V
Extract 2	-185.4	V
Omega Bias	-90.0	V
Omega Lens	8.5	V
Cell Entrance	-29.9	V
Cell Exit	-50.2	V
Deflect	13.6	V
Plate Bias	-35.0	V
HV+530V	524	V
HV+240V	238	V
HV-360V	-357	V
Inlet Temp	30.6	°C
Internal Temp	36.6	°C
+24V	23.6	V
Water Temp	18.8	°C
Water RF/WC/IF	1.48	L/min
ISIS 3 Pump Speed	0.0	%
Valve Position		
Tune/ISTD Valve		

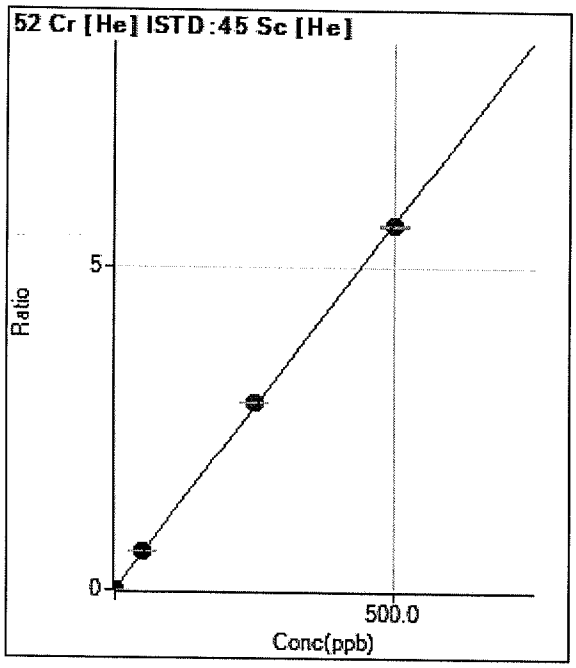
Performance Report History

Sensitivity

Calibration for H6F19116.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b\
Analysis File: IH6F19.batch.bin
DA Date-Time: 2020-06-24 14:55:56
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

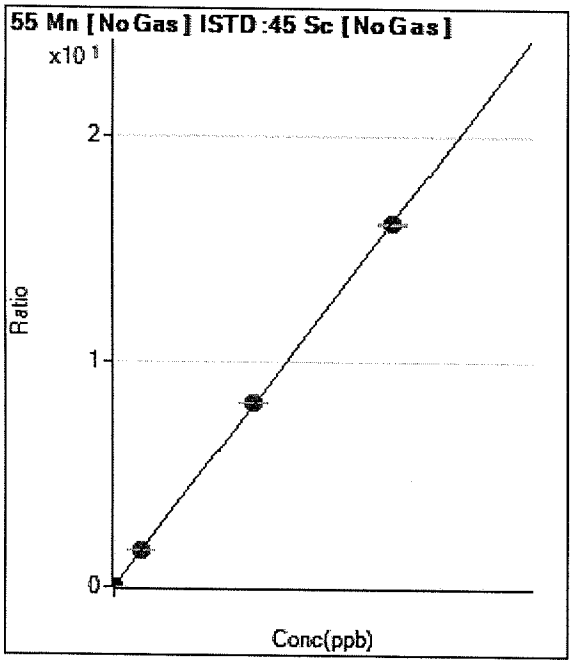
Level	Standard Data File	Sample Name	Acq. Date-Time
1	H6F19003.d	S0	2020-06-24 09:51:04
2	H6F19004.d	S1	2020-06-24 09:53:55
3	H6F19005.d	S2	2020-06-24 09:56:46
4	H6F19006.d	S3	2020-06-24 09:59:46
5	H6F19007.d	S4	2020-06-24 10:02:35



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1370.07	0.0020	P	3.6
2	☐	0.500	0.531	5557.13	0.0081	P	0.7
3	☐	50.000	52.163	405024.47	0.5962	P	1.5
4	☐	250.000	255.837	1978114.75	2.9162	A	0.6
5	☐	500.000	496.865	3829349.08	5.6618	A	0.7

y = 0.0114 * x + 0.0020
R = 0.9999
DL = 0.01947
BEC = 0.178

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11352.71	0.0019	P	0.8
2	☐	0.500	0.491	27064.72	0.0046	P	1.4
3	☐	300.000	306.169	9698126.33	1.6511	A	0.4
4	☐	1500.000	1522.033	48277376.00	8.2004	A	0.3
5	☐	3000.000	2988.367	93270858.67	16.0988	A	0.7

y = 0.0054 * x + 0.0019
R = 1.0000
DL = 0.009192
BEC = 0.3619

Weight: <None>
Min Conc: 0

US EPA Tune Check Report

Operator Name	LYaman
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq. Date-Time	2020-06-24 09:09:41
Report Comment	---
Instrument Name	G8421A SG19253823

[No Gas]

Sensitivity

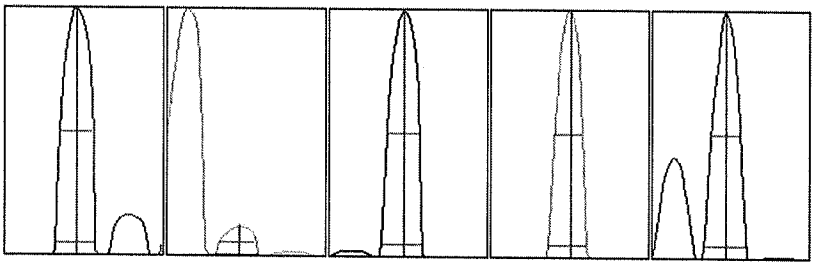
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	2579	25792.38			1.211	5.000
24	10.00	11916	119164.69			1.128	5.000
59	10.00	16630	166300.54			0.320	5.000
115	10.00	20610	206100.03			1.215	5.000
208	10.00	9535	95350.72			1.272	5.000

Mass	RSD% (Flag)
9	
24	
59	
115	
208	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
9	2602	2604	2585	2579	2527
24	11694	12023	12022	11918	11925
59	16643	16554	16605	16694	16655
115	20613	20668	20947	20576	20246
208	9338	9578	9661	9518	9580

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	4396.87	8.90	8.90 - 9.10	
24	19877.32	23.90	23.90 - 24.10	
59	28930.99	58.95	58.90 - 59.10	
115	40401.71	115.05	114.90 - 115.10	
208	17994.73	207.95	207.90 - 208.10	

US EPA Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.62	0.743	0.900	
24	0.66	0.789	0.900	
59	0.61	0.777	0.900	
115	0.54	0.726	0.900	
208	0.56	0.811	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	153.699999999999
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	HMI	Nebulizer Gas	0.61 L/min	Dilution Gas	0.36 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.8 V	Deflect	13.2 V
Extract 2	-200.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-85 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	123	Axis Gain	0.9994	QP Bias	-3.0 V
Mass Offset	124	Axis Offset	-0.03		

Hardware Settings

Torch

Torch H	0.5 mm	Torch V	-0.2 mm

EM

Discriminator	4.2 mV	Analog HV	2384 V	Pulse HV	1534 V

Calibration Standard Report

Sample Name	S0
File Name	H6F19003.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 09:51:04
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	145808.12	0.6
Be	9	6	No Gas	51.11	18.8
B	11	6	No Gas	29352.81	3.3
Na	23	45	H2	481780.38	0.4
Mg	24	45	No Gas	35988.97	0.7
Al	27	45	No Gas	17949.12	6.6
Si	28	45	H2	4627.44	4.0
P	31	45	No Gas	26569.37	0.3
K	39	45	He	138460.33	2.8
Ca	40	45	H2	222000.11	0.1
Tl	47	45	No Gas	353.34	4.2
V	51	45	He	7553.41	1.5
Cr	52	45	He	1370.07	3.6
Mn	55	45	No Gas	11352.71	1.1
Fe	56	45	H2	20490.00	2.0
Co	59	45	No Gas	260.67	10.4
Ni	60	45	He	90.67	14.2
Cu	63	45	He	2835.63	3.9
Zn	66	72	No Gas	3820.54	4.6
As	75	72	He	408.34	5.0
Se	78	72	H2	22.67	2.5
Sr	88	72	No Gas	743.35	5.6
Zr	90	72	No Gas	220.00	43.4
Mo	95	115	No Gas	64.45	6.0
Ag	107	115	No Gas	77.78	38.6
Cd	111	115	No Gas	29.76	20.1
Sn	118	115	No Gas	2064.61	2.3
Sb	123	115	No Gas	127.78	19.6
Ba	137	115	No Gas	555.57	17.8
W	182	159	No Gas	90.00	38.5
Hg	201	159	He	12.67	26.9
Tl	205	159	No Gas	541.13	2.0
Pb	208	159	No Gas	1271.14	2.9
U	238	159	No Gas	46.66	44.6

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2556036.88	1.3	2517133.22	101.55	60	120	
Sc	45	No Gas	5823367.17	0.3	5758793.33	101.12	60	120	
Sc	45	H2	3467203.25	0.8	3429066.25	101.11	60	120	
Sc	45	He	675563.92	0.6	686352.54	98.43	60	120	
Ge	72	No Gas	1346337.50	0.2	1340615.71	100.43	60	120	
Ge	72	H2	919898.02	0.9	932846.94	98.61	60	120	
Ge	72	He	392604.01	1.2	397358.27	98.8	60	120	
In	115	No Gas	7954136.65	0.3	8051737.11	98.79	60	120	
Tb	159	No Gas	10067954.05	0.4	10058344.88	100.1	60	120	
Tb	159	He	5790169.33	0.2	5802240.17	99.79	60	120	

Calibration Standard Report

Sample Name	S1
File Name	H6F19004.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 09:53:55
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**LYaman**

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	153370.13	1.7
Be	9	6	No Gas	2030.15	5.1
B	11	6	No Gas	8189.06	6.6
Na	23	45	H2	733443.17	1.7
Mg	24	45	No Gas	732975.13	0.9
Al	27	45	No Gas	899627.46	2.1
Si	28	45	H2	146760.23	1.1
P	31	45	No Gas	52360.43	1.1
K	39	45	He	185926.43	1.9
Ca	40	45	H2	732840.73	0.2
Ti	47	45	No Gas	1404.07	2.1
V	51	45	He	10782.90	2.0
Cr	52	45	He	5557.13	0.7
Mn	55	45	No Gas	27064.72	1.6
Fe	56	45	H2	781028.29	0.5
Co	59	45	No Gas	14327.53	1.4
Ni	60	45	He	1518.75	1.9
Cu	63	45	He	6298.12	4.2
Zn	66	72	No Gas	8252.51	0.5
As	75	72	He	1079.04	2.8
Se	78	72	H2	260.67	6.5
Sr	88	72	No Gas	18279.13	0.4
Zr	90	72	No Gas	94056.02	0.8
Mo	95	115	No Gas	3417.11	0.5
Ag	107	115	No Gas	8994.17	1.4
Cd	111	115	No Gas	1879.19	1.5
Sn	118	115	No Gas	5911.33	2.1
Sb	123	115	No Gas	6089.20	1.1
Ba	137	115	No Gas	2895.88	3.6
W	182	159	No Gas	2760.31	2.2
Hg	201	159	He	65.50	8.8
Tl	205	159	No Gas	13150.25	1.4
Pb	208	159	No Gas	18805.53	0.5
U	238	159	No Gas	15950.39	0.8

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2595159.94	1.2	2517133.22	103.1	60	120	
Sc	45	No Gas	5892435.00	0.2	5758793.33	102.32	60	120	
Sc	45	H2	3456576.25	0.9	3429066.25	100.8	60	120	
Sc	45	He	687954.69	0.6	686352.54	100.23	60	120	
Ge	72	No Gas	1367833.83	0.8	1340615.71	102.03	60	120	
Ge	72	H2	936534.58	1.5	932846.94	100.4	60	120	
Ge	72	He	403230.98	1.0	397358.27	101.48	60	120	
In	115	No Gas	8070505.38	0.3	8051737.11	100.23	60	120	
Tb	159	No Gas	10047220.71	0.7	10058344.88	99.89	60	120	
Tb	159	He	5843730.00	1.0	5802240.17	100.72	60	120	

Calibration Standard Report

Sample Name	S2
File Name	H6F19005.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 09:56:46
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	204847.10	0.4
Be	9	6	No Gas	19850.65	1.8
B	11	6	No Gas	37449.77	0.9
Na	23	45	H2	25558710.67	0.7
Mg	24	45	No Gas	67204429.33	0.6
Al	27	45	No Gas	84613232.07	0.6
Si	28	45	H2	737958.21	1.3
P	31	45	No Gas	79923.01	0.2
K	39	45	He	4860030.67	0.2
Ca	40	45	H2	51228741.33	0.4
Ti	47	45	No Gas	97678.05	0.6
V	51	45	He	357273.22	0.6
Cr	52	45	He	405024.47	0.7
Mn	55	45	No Gas	9698126.33	0.5
Fe	56	45	H2	72065850.67	1.0
Co	59	45	No Gas	1353622.21	0.2
Ni	60	45	He	138614.82	0.9
Cu	63	45	He	365551.93	0.4
Zn	66	72	No Gas	212785.55	0.4
As	75	72	He	70472.47	0.2
Se	78	72	H2	22322.11	1.4
Sr	88	72	No Gas	1731658.06	0.8
Zr	90	72	No Gas	211273.68	1.3
Mo	95	115	No Gas	323116.00	0.6
Ag	107	115	No Gas	85561.99	0.8
Cd	111	115	No Gas	172140.58	1.1
Sn	118	115	No Gas	487261.18	0.4
Sb	123	115	No Gas	115908.43	0.8
Ba	137	115	No Gas	488008.28	0.6
W	182	159	No Gas	55936.70	1.7
Hg	201	159	He	498.68	5.2
Tl	205	159	No Gas	1251865.75	0.8
Pb	208	159	No Gas	1682784.34	0.4
U	238	159	No Gas	1556225.67	0.5

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2551296.11	0.2	2517133.22	101.36	60	120	
Sc	45	No Gas	5873715.50	0.7	5758793.33	102	60	120	
Sc	45	H2	3464684.50	0.5	3429066.25	101.04	60	120	
Sc	45	He	679380.67	0.7	686352.54	98.98	60	120	
Ge	72	No Gas	1354056.88	0.6	1340615.71	101	60	120	
Ge	72	H2	940534.84	1.2	932846.94	100.82	60	120	
Ge	72	He	400277.01	1.0	397358.27	100.73	60	120	
In	115	No Gas	7931562.12	0.7	8051737.11	98.51	60	120	
Tb	159	No Gas	10077098.49	0.4	10058344.88	100.19	60	120	
Tb	159	He	5768012.33	0.3	5802240.17	99.41	60	120	

Calibration Standard Report

Sample Name	S3
File Name	H6F19006.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 09:59:46
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	432423.98	0.4
Be	9	6	No Gas	96874.91	1.2
B	11	6	No Gas	142406.27	0.3
Na	23	45	H2	127137122.67	1.5
Mg	24	45	No Gas	336790197.33	0.2
Al	27	45	No Gas	424666287.00	0.3
Si	28	45	H2	3613729.50	1.1
P	31	45	No Gas	292780.16	1.0
K	39	45	He	23659982.00	1.7
Ca	40	45	H2	257455466.67	0.1
Ti	47	45	No Gas	492496.67	1.1
V	51	45	He	1745571.00	1.2
Cr	52	45	He	1978114.75	0.8
Mn	55	45	No Gas	48277376.00	0.5
Fe	56	45	H2	359335530.67	0.7
Co	59	45	No Gas	6706597.33	0.2
Ni	60	45	He	674694.44	0.3
Cu	63	45	He	1749201.58	0.8
Zn	66	72	No Gas	1083518.46	0.5
As	75	72	He	350361.94	0.3
Se	78	72	H2	113120.96	1.1
Sr	88	72	No Gas	8607703.82	0.4
Zr	90	72	No Gas	530302.31	1.2
Mo	95	115	No Gas	1663943.41	0.6
Ag	107	115	No Gas	421786.11	0.6
Cd	111	115	No Gas	862264.40	0.5
Sn	118	115	No Gas	2498016.57	0.7
Sb	123	115	No Gas	589705.83	1.0
Ba	137	115	No Gas	2542968.02	0.9
W	182	159	No Gas	279112.90	1.0
Hg	201	159	He	2505.58	1.3
Tl	205	159	No Gas	6230362.39	1.6
Pb	208	159	No Gas	8499217.93	0.3
U	238	159	No Gas	7775664.97	0.7

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2499447.09	0.5	2517133.22	99.3	60	120	
Sc	45	No Gas	5887330.67	0.8	5758793.33	102.23	60	120	
Sc	45	H2	3491230.17	0.4	3429066.25	101.81	60	120	
Sc	45	He	678305.11	0.3	686352.54	98.83	60	120	
Ge	72	No Gas	1345003.37	0.5	1340615.71	100.33	60	120	
Ge	72	H2	935707.96	1.1	932846.94	100.31	60	120	
Ge	72	He	399348.07	1.1	397358.27	100.5	60	120	
In	115	No Gas	7834441.70	0.5	8051737.11	97.3	60	120	
Tb	159	No Gas	10165327.10	1.2	10058344.88	101.06	60	120	
Tb	159	He	5810747.83	1.0	5802240.17	100.15	60	120	

Calibration Standard Report

Sample Name	S4
File Name	H6F19007.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:02:35
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**LYaman**

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	685558.10	1.7
Be	9	6	No Gas	183301.12	0.5
B	11	6	No Gas	227588.65	1.0
Na	23	45	H2	245121365.33	1.3
Mg	24	45	No Gas	645303829.33	0.6
Al	27	45	No Gas	827568921.00	1.3
Si	28	45	H2	6967567.00	1.0
P	31	45	No Gas	538963.00	0.4
K	39	45	He	46272842.67	1.0
Ca	40	45	H2	502895541.33	0.6
Ti	47	45	No Gas	965067.11	1.1
V	51	45	He	3407761.00	0.7
Cr	52	45	He	3829349.08	0.7
Mn	55	45	No Gas	93270858.67	0.4
Fe	56	45	H2	708275413.33	0.9
Co	59	45	No Gas	12818908.00	0.6
Ni	60	45	He	1266720.46	0.5
Cu	63	45	He	3321505.42	0.2
Zn	66	72	No Gas	2069567.00	0.2
As	75	72	He	683340.77	0.6
Se	78	72	H2	220464.59	0.7
Sr	88	72	No Gas	16858904.89	1.0
Zr	90	72	No Gas	1081782.82	0.9
Mo	95	115	No Gas	3260146.54	0.4
Ag	107	115	No Gas	814789.22	0.3
Cd	111	115	No Gas	1705861.76	0.8
Sn	118	115	No Gas	4915566.06	0.8
Sb	123	115	No Gas	1169009.74	1.1
Ba	137	115	No Gas	4910825.50	0.5
W	182	159	No Gas	538463.44	1.4
Hg	201	159	He	4826.60	0.7
Tl	205	159	No Gas	11994725.35	0.4
Pb	208	159	No Gas	16410057.81	0.1
U	238	159	No Gas	15205157.73	0.9

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2436691.60	0.5	2517133.22	96.8	60	120	
Sc	45	No Gas	5793790.67	0.6	5758793.33	100.61	60	120	
Sc	45	H2	3454088.83	1.5	3429066.25	100.73	60	120	
Sc	45	He	676361.10	0.5	686352.54	98.54	60	120	
Ge	72	No Gas	1344690.08	1.2	1340615.71	100.3	60	120	
Ge	72	H2	930094.96	0.9	932846.94	99.7	60	120	
Ge	72	He	392152.76	0.6	397358.27	98.69	60	120	
In	115	No Gas	7759814.24	0.4	8051737.11	96.37	60	120	
Tb	159	No Gas	10070478.77	0.6	10058344.88	100.12	60	120	
Tb	159	He	5677515.17	0.3	5802240.17	97.85	60	120	

Initial Calibration Verification (ICV) Report

Sample Name	ICV
File Name	H6F19008.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:05:20
Sample Type	ICV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	29.986	ppb	2.9	471078.07	30	99.95	90	110	
Be	9	6	No Gas	30.966	ppb	3.6	114741.90	30	103.22	90	110	
B	11	6	No Gas	27.672	ppb	2.6	84505.30	30	92.24	90	110	
Na	23	45	H2	29694.793	ppb	1.0	146048085.33	30000	98.98	90	110	
Mg	24	45	No Gas	28945.659	ppb	2.5	373185674.67	30000	96.49	90	110	
Al	27	45	No Gas	29505.150	ppb	3.3	486101099.42	30000	98.35	90	110	
Si	28	45	H2	3280.440	ppb	1.0	4583925.67	3000	109.35	90	110	
P	31	45	No Gas	278.473	ppb	1.6	311041.70	300	92.82	90	110	
K	39	45	He	29377.458	ppb	1.2	27211103.33	30000	97.92	90	110	
Ca	40	45	H2	30063.912	ppb	0.8	302327904.00	30000	100.21	90	110	
Ti	47	45	No Gas	295.460	ppb	1.9	567042.27	300	98.49	90	110	
V	51	45	He	309.567	ppb	0.4	2111498.21	300	103.19	90	110	
Cr	52	45	He	310.577	ppb	1.6	2382899.33	300	103.53	90	110	
Mn	55	45	No Gas	1959.579	ppb	2.9	60758922.67	2000	97.98	90	110	
Fe	56	45	H2	29873.810	ppb	0.2	422279285.33	30000	99.58	90	110	
Co	59	45	No Gas	300.860	ppb	2.7	7709957.33	300	100.29	90	110	
Ni	60	45	He	319.084	ppb	2.0	815091.94	300	106.36	90	110	
Cu	63	45	He	312.931	ppb	1.3	2091844.00	300	104.31	90	110	
Zn	66	72	No Gas	289.310	ppb	1.9	1193067.96	300	96.44	90	110	
As	75	72	He	312.605	ppb	1.1	429745.87	300	104.2	90	110	
Se	78	72	H2	311.608	ppb	0.8	137314.15	300	103.87	90	110	
Sr	88	72	No Gas	308.449	ppb	1.9	10299654.87	300	102.82	90	110	
Zr	90	72	No Gas	27.809	ppb	0.5	589843.87	30	92.7	90	110	
Mo	95	115	No Gas	299.182	ppb	1.2	1952321.59	300	99.73	90	110	
Ag	107	115	No Gas	30.699	ppb	0.6	502305.28	30	102.33	90	110	
Cd	111	115	No Gas	304.895	ppb	0.6	1039168.88	300	101.63	90	110	
Sn	118	115	No Gas	306.390	ppb	1.2	3012499.12	300	102.13	90	110	
Sb	123	115	No Gas	58.334	ppb	0.4	680880.16	60	97.22	90	110	
Ba	137	115	No Gas	307.281	ppb	1.5	1515019.10	300	102.43	90	110	
W	182	159	No Gas	32.470	ppb	0.4	350808.89	30	108.23	90	110	
Hg	201	159	He	2.910	ppb	0.3	2895.84	3	97	90	110	
Tl	205	159	No Gas	311.943	ppb	1.0	7511715.53	300	103.98	90	110	
Pb	208	159	No Gas	311.164	ppb	0.9	10243377.41	300	103.72	90	110	
U	238	159	No Gas	306.320	ppb	0.7	9376782.13	300	102.11	90	110	

Initial Calibration Verification (ICV) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2447172.85	0.5	2517133.22	97.22	60	120	
Sc	45	No Gas	5755005.00	0.2	5758793.33	99.93	60	120	
Sc	45	H2	3443393.83	0.7	3429066.25	100.42	60	120	
Sc	45	He	673233.88	0.9	686352.54	98.09	60	120	
Ge	72	No Gas	1325866.96	0.8	1340615.71	98.9	60	120	
Ge	72	H2	925747.54	0.9	932846.94	99.24	60	120	
Ge	72	He	393810.16	0.7	397358.27	99.11	60	120	
In	115	No Gas	7750387.20	0.8	8051737.11	96.26	60	120	
Tb	159	No Gas	10045981.27	1.3	10058344.88	99.88	60	120	
Tb	159	He	5828855.83	0.8	5802240.17	100.46	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	ICB
File Name	H6F19009.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:07:57
Sample Type	ICB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**LYaman**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	144608.22	0.4	
Be	9	6	No Gas	0.016	ppb	12.9	111.11	0.08	
B	11	6	No Gas	0.404	ppb	67.8	30028.67	4	
Na	23	45	H2	<0.000	ppb	N/A	481622.77	40	
Mg	24	45	No Gas	2.440	ppb	99.3	67949.38	10	
Al	27	45	No Gas	2.657	ppb	90.9	62324.38	15	
Si	28	45	H2	2.284	ppb	3.6	7844.88	8	
P	31	45	No Gas	<0.000	ppb	N/A	26025.69	10	
K	39	45	He	1.088	ppb	469.3	139829.65	20	
Ca	40	45	H2	0.516	ppb	26.5	227398.51	25	
Ti	47	45	No Gas	0.017	ppb	86.0	387.34	0.5	
V	51	45	He	<0.000	ppb	N/A	6944.43	0.5	
Cr	52	45	He	0.000	ppb	4522.0	1375.40	0.2	
Mn	55	45	No Gas	0.197	ppb	83.2	17564.76	0.2	
Fe	56	45	H2	0.704	ppb	7.7	30537.43	10	
Co	59	45	No Gas	0.027	ppb	89.1	969.38	0.15	
Ni	60	45	He	0.009	ppb	72.1	115.33	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2813.63	0.4	
Zn	66	72	No Gas	0.059	ppb	95.3	4067.95	2	
As	75	72	He	<0.000	ppb	N/A	391.68	0.2	
Se	78	72	H2	0.065	ppb	31.2	51.67	0.2	
Sr	88	72	No Gas	0.025	ppb	86.7	1605.67	0.2	
Zr	90	72	No Gas	0.001	ppb	223.1	240.00	2	
Mo	95	115	No Gas	0.040	ppb	65.1	334.45	0.2	
Ag	107	115	No Gas	0.004	ppb	40.9	140.00	0.08	
Cd	111	115	No Gas	0.054	ppb	64.2	219.66	0.2	
Sn	118	115	No Gas	0.122	ppb	18.3	3333.76	0.2	
Sb	123	115	No Gas	0.010	ppb	19.7	248.89	0.4	
Ba	137	115	No Gas	0.016	ppb	104.2	642.24	0.2	
W	182	159	No Gas	0.012	ppb	54.5	216.67	0.3	
Hg	201	159	He	0.008	ppb	42.0	20.50	0.1	
Tl	205	159	No Gas	0.128	ppb	37.2	3638.36	0.1	~~>LOD~~
Pb	208	159	No Gas	0.089	ppb	33.7	4225.86	0.1	
U	238	159	No Gas	0.029	ppb	77.2	951.16	0.05	

LY 06/24/20

Continuing Calibration Blank (CCB) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2540384.85	2.0	2517133.22	100.92	60	120	
Sc	45	No Gas	5846895.50	1.0	5758793.33	101.53	60	120	
Sc	45	H2	3470025.58	1.5	3429066.25	101.19	60	120	
Sc	45	He	677307.06	0.3	686352.54	98.68	60	120	
Ge	72	No Gas	1346979.46	0.3	1340615.71	100.47	60	120	
Ge	72	H2	931103.71	1.8	932846.94	99.81	60	120	
Ge	72	He	393299.06	0.2	397358.27	98.98	60	120	
In	115	No Gas	8059230.23	0.8	8051737.11	100.09	60	120	
Tb	159	No Gas	10130789.04	1.1	10058344.88	100.72	60	120	
Tb	159	He	5865328.17	0.6	5802240.17	101.09	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Name	MRLF2401
File Name	H6F19010.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:10:32
Sample Type	LLCCV
Total Dilution	1.0000
Comment	1/100/10 ppb
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fail	Fail
ISTD QC Pass/Fail	Pass
Operator	**LYaman**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Li	7	6	No Gas	1.037	ppb	17.4	156165.51	1	103.7	80	120	
Be	9	6	No Gas	0.995	ppb	3.0	3860.53	1	99.5	80	120	
B	11	6	No Gas	1.548	ppb	36.3	32312.62	10	15.48	80	120	> +/- 20%
Na	23	45	H2	101.696	ppb	1.5	979993.29	100	101.7	80	120	
Mg	24	45	No Gas	102.830	ppb	2.9	1382149.21	100	102.83	80	120	
Al	27	45	No Gas	102.794	ppb	2.6	1737575.81	100	102.79	80	120	
Si	28	45	H2	102.427	ppb	1.0	148026.33	100	102.43	80	120	
P	31	45	No Gas	49.515	ppb	3.3	78080.14	50	99.03	80	120	
K	39	45	He	103.321	ppb	6.4	234552.41	100	103.32	80	120	
Ca	40	45	H2	100.022	ppb	0.6	1229317.00	100	100.02	80	120	
Ti	47	45	No Gas	1.009	ppb	6.1	2320.20	1	100.9	80	120	
V	51	45	He	0.949	ppb	2.7	14058.54	1	94.9	80	120	
Cr	52	45	He	1.092	ppb	2.5	9799.50	1	109.2	80	120	
Mn	55	45	No Gas	1.033	ppb	1.3	43912.29	1	103.3	80	120	
Fe	56	45	H2	107.959	ppb	0.6	1550988.88	100	107.96	80	120	
Co	59	45	No Gas	1.039	ppb	3.5	27292.65	1	103.9	80	120	
Ni	60	45	He	1.114	ppb	1.1	2954.32	1	111.4	80	120	
Cu	63	45	He	1.109	ppb	3.6	10288.56	1	110.9	80	120	
Zn	66	72	No Gas	9.948	ppb	1.9	45918.83	10	99.48	80	120	
As	75	72	He	0.992	ppb	4.2	1784.45	1	99.2	80	120	
Se	78	72	H2	1.012	ppb	5.6	475.34	1	101.2	80	120	
Sr	88	72	No Gas	2.055	ppb	2.1	71305.93	2	102.75	80	120	
Zr	90	72	No Gas	3.880	ppb	1.7	84811.50	5	77.6	80	120	> +/- 20%
Mo	95	115	No Gas	0.970	ppb	3.9	6581.63	1	97	80	120	
Ag	107	115	No Gas	1.076	ppb	4.5	18199.19	1	107.6	80	120	
Cd	111	115	No Gas	1.023	ppb	2.3	3619.08	1	102.3	80	120	
Sn	118	115	No Gas	0.924	ppb	0.9	11413.85	1	92.4	80	120	
Sb	123	115	No Gas	0.982	ppb	4.4	11920.98	1	98.2	80	120	
Ba	137	115	No Gas	0.957	ppb	4.2	5408.91	1	95.7	80	120	
W	182	159	No Gas	2.133	ppb	3.1	23264.81	2	106.65	80	120	
Hg	201	159	He	0.233	ppb	9.0	246.17	0.1	233	80	120	> +/- 20%
Tl	205	159	No Gas	1.087	ppb	4.5	26864.43	1	108.7	80	120	
Pb	208	159	No Gas	1.069	ppb	2.2	36676.58	1	106.9	80	120	
U	238	159	No Gas	1.025	ppb	3.3	31601.78	1	102.5	80	120	

Low Level Continuing Calibration Verification (LLCCV) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2529748.50	0.9	2517133.22	100.5	60	120	
Sc	45	No Gas	5843980.50	0.4	5758793.33	101.48	60	120	
Sc	45	H2	3453856.00	0.8	3429066.25	100.72	60	120	
Sc	45	He	677181.94	0.5	686352.54	98.66	60	120	
Ge	72	No Gas	1363341.79	1.1	1340615.71	101.7	60	120	
Ge	72	H2	938826.12	0.4	932846.94	100.64	60	120	
Ge	72	He	396488.22	0.5	397358.27	99.78	60	120	
In	115	No Gas	7977200.39	0.4	8051737.11	99.07	60	120	
Tb	159	No Gas	10106793.21	1.3	10058344.88	100.48	60	120	
Tb	159	He	5883812.33	0.6	5802240.17	101.41	60	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA1
File Name	H6F19012.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:15:44
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**LYaman**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.404	ppb	39.3	141511.02	2	-50	50	
Be	9	6	No Gas	0.002	ppb	250.9	54.45	0.4	-50	50	
B	11	6	No Gas	<0.000	ppb	N/A	26901.25	10	-50	50	
Na	23	45	H2	97038.746	ppb	1.2	477016544.00	100000	80	120	
Mg	24	45	No Gas	94085.086	ppb	1.0	1221026090.67	100000	80	120	
Al	27	45	No Gas	94385.156	ppb	2.8	1565403656.68	100000	80	120	
Si	28	45	H2	3.882	ppb	2.5	10032.95	50	-50	50	
P	31	45	No Gas	93953.652	ppb	1.5	96758482.67	100000	80	120	
K	39	45	He	96048.957	ppb	1.1	89320442.67	100000	80	120	
Ca	40	45	H2	98288.250	ppb	0.9	989645354.67	100000	80	120	
Ti	47	45	No Gas	1964.639	ppb	2.3	3794073.83	2000	80	120	
V	51	45	He	0.054	ppb	29.1	7952.98	1	-50	50	
Cr	52	45	He	0.286	ppb	7.3	3583.80	1	-50	50	
Mn	55	45	No Gas	0.231	ppb	1.5	18508.51	1	-50	50	
Fe	56	45	H2	97814.539	ppb	0.5	1385012352.00	100000	80	120	
Co	59	45	No Gas	0.348	ppb	1.0	9227.79	0.75	-50	50	
Ni	60	45	He	0.332	ppb	4.5	946.03	1	-50	50	
Cu	63	45	He	0.409	ppb	3.2	5601.15	2	-50	50	
Zn	66	72	No Gas	0.930	ppb	5.8	7534.76	20	-50	50	
As	75	72	He	0.075	ppb	13.9	509.01	1	-50	50	
Se	78	72	H2	0.147	ppb	6.0	86.00	1	-50	50	
Sr	88	72	No Gas	0.798	ppb	0.7	27181.99	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.077	ppb	5.2	1830.13	10	-50	50	
Mo	95	115	No Gas	1935.028	ppb	2.7	12513628.67	2000	80	120	
Ag	107	115	No Gas	0.014	ppb	13.3	296.67	0.4	-50	50	
Cd	111	115	No Gas	0.047	ppb	5.2	186.66	1	-50	50	
Sn	118	115	No Gas	0.319	ppb	4.1	5096.55	1	-50	50	
Ba	137	115	No Gas	0.220	ppb	7.5	1610.10	1	-50	50	
W	182	159	No Gas	0.156	ppb	8.3	1783.47	1	-50	50	
Hg	201	159	He	0.004	ppb	50.7	16.50	0.5	-50	50	
Tl	205	159	No Gas	0.000	ppb	379.7	550.01	0.5	-50	50	
Pb	208	159	No Gas	0.088	ppb	2.6	4198.05	0.5	-50	50	
U	238	159	No Gas	0.000	ppb	754.8	48.89	0.25	-50	50	

Interference Check Solution A (ICS-A) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2403616.51	0.2	2517133.22	95.49	60	120	
Sc	45	No Gas	5793333.33	1.4	5758793.33	100.6	60	120	
Sc	45	H2	3449489.17	1.1	3429066.25	100.6	60	120	
Sc	45	He	678295.25	0.9	686352.54	98.83	60	120	
Ge	72	No Gas	1317121.00	1.3	1340615.71	98.25	60	120	
Ge	72	H2	910422.25	0.4	932846.94	97.6	60	120	
Ge	72	He	390802.24	0.3	397358.27	98.35	60	120	
In	115	No Gas	7680230.37	1.1	8051737.11	95.39	60	120	
Tb	159	No Gas	10086542.66	0.8	10058344.88	100.28	60	120	
Tb	159	He	5859045.33	0.8	5802240.17	100.98	60	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB1
File Name	H6F19013.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:18:21
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	19.654	ppb	2.0	345723.52	20	80	120	
Be	9	6	No Gas	20.105	ppb	2.6	72188.15	20	80	120	
B	11	6	No Gas	14.231	ppb	5.4	55316.29	20	80	120	> +/- 20%
Na	23	45	H2	99618.218	ppb	1.4	494296693.33	100000	80	120	
Mg	24	45	No Gas	95915.289	ppb	2.7	1267097088.00	100000	80	120	
Al	27	45	No Gas	96631.371	ppb	1.6	1631248615.69	100000	80	120	
Si	28	45	H2	219.606	ppb	1.3	314641.93	200	80	120	
P	31	45	No Gas	95987.680	ppb	2.8	100620290.67	100000	80	120	
K	39	45	He	100085.541	ppb	1.2	92401869.33	100000	80	120	
Ca	40	45	H2	100798.885	ppb	1.9	1024384256.00	100000	80	120	
Ti	47	45	No Gas	2036.702	ppb	2.3	4003390.50	2000	80	120	
V	51	45	He	20.143	ppb	1.7	144457.85	20	80	120	
Cr	52	45	He	20.570	ppb	2.2	159143.06	20	80	120	
Mn	55	45	No Gas	19.232	ppb	1.4	622413.92	20	80	120	
Fe	56	45	H2	101550.110	ppb	2.0	1451316181.33	100000	80	120	
Co	59	45	No Gas	19.472	ppb	1.4	511550.93	20	80	120	
Ni	60	45	He	20.517	ppb	1.2	52511.50	20	80	120	
Cu	63	45	He	20.457	ppb	1.7	139426.47	20	80	120	
Zn	66	72	No Gas	20.688	ppb	0.2	88398.68	20	80	120	
As	75	72	He	20.231	ppb	0.6	27843.31	20	80	120	
Se	78	72	H2	20.523	ppb	0.6	9042.37	20	80	120	
Sr	88	72	No Gas	20.807	ppb	1.2	692344.82	20	80	120	
Zr	90	72	No Gas	14.122	ppb	1.1	298273.00	20	80	120	> +/- 20%
Mo	95	115	No Gas	2035.253	ppb	1.3	13151532.53	2000	80	120	
Ag	107	115	No Gas	19.329	ppb	1.1	313225.01	20	80	120	
Cd	111	115	No Gas	19.279	ppb	1.4	65094.85	20	80	120	
Sn	118	115	No Gas	20.099	ppb	1.0	197534.61	20	80	120	
Sb	123	115	No Gas	19.733	ppb	1.2	228151.99	20	80	120	
Ba	137	115	No Gas	20.445	ppb	0.2	100316.41	20	80	120	
W	182	159	No Gas	19.707	ppb	2.7	215770.39	20	80	120	
Hg	201	159	He	2.010	ppb	1.9	2001.50	2	80	120	
Tl	205	159	No Gas	19.515	ppb	1.0	476631.27	20	80	120	
Pb	208	159	No Gas	19.412	ppb	0.7	648724.26	20	80	120	
U	238	159	No Gas	19.605	ppb	1.5	608110.18	20	80	120	

Interference Check Solution AB (ICS-AB) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2370598.14	1.3	2517133.22	94.18	60	120	
Sc	45	No Gas	5896829.00	0.7	5758793.33	102.4	60	120	
Sc	45	H2	3482360.42	1.9	3429066.25	101.55	60	120	
Sc	45	He	673439.50	0.9	686352.54	98.12	60	120	
Ge	72	No Gas	1319852.75	1.1	1340615.71	98.45	60	120	
Ge	72	H2	923401.06	1.6	932846.94	98.99	60	120	
Ge	72	He	388878.72	0.7	397358.27	97.87	60	120	
In	115	No Gas	7675100.81	1.4	8051737.11	95.32	60	120	
Tb	159	No Gas	10179630.15	0.4	10058344.88	101.21	60	120	
Tb	159	He	5821853.00	0.8	5802240.17	100.34	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV1
File Name	H6F19015.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:23:34
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**LYaman**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.762	ppb	2.3	411882.38	25	99.05	90	110	
Be	9	6	No Gas	24.707	ppb	0.4	91242.46	25	98.83	90	110	
B	11	6	No Gas	52.038	ppb	1.5	133694.93	50	104.08	90	110	
Na	23	45	H2	25131.127	ppb	0.9	125556744.00	25000	100.52	90	110	
Mg	24	45	No Gas	24547.135	ppb	1.7	322537088.00	25000	98.19	90	110	
Al	27	45	No Gas	24576.701	ppb	1.5	412633713.85	25000	98.31	90	110	
Si	28	45	H2	2550.971	ppb	0.8	3619880.67	2500	102.04	90	110	
P	31	45	No Gas	243.027	ppb	0.4	280020.85	250	97.21	90	110	
K	39	45	He	25264.154	ppb	0.7	23612552.00	25000	101.06	90	110	
Ca	40	45	H2	25117.580	ppb	0.3	256464629.33	25000	100.47	90	110	
Ti	47	45	No Gas	245.364	ppb	0.6	479924.21	250	98.15	90	110	
V	51	45	He	251.724	ppb	0.4	1732288.25	250	100.69	90	110	
Cr	52	45	He	254.586	ppb	0.6	1969585.71	250	101.83	90	110	
Mn	55	45	No Gas	1505.176	ppb	1.0	47561869.33	1500	100.35	90	110	
Fe	56	45	H2	25140.369	ppb	0.5	360767808.00	25000	100.56	90	110	
Co	59	45	No Gas	250.138	ppb	0.6	6532171.83	250	100.06	90	110	
Ni	60	45	He	258.356	ppb	0.6	665409.44	250	103.34	90	110	
Cu	63	45	He	257.126	ppb	0.4	1733418.16	250	102.85	90	110	
Zn	66	72	No Gas	245.708	ppb	1.1	1046635.38	250	98.28	90	110	
As	75	72	He	249.765	ppb	0.2	348086.48	250	99.91	90	110	
Se	78	72	H2	248.028	ppb	1.4	111947.55	250	99.21	90	110	
Sr	88	72	No Gas	247.310	ppb	0.8	8525592.44	250	98.92	90	110	
Zr	90	72	No Gas	24.390	ppb	0.3	534119.29	25	97.56	90	110	
Mo	95	115	No Gas	244.350	ppb	1.6	1647004.13	250	97.74	90	110	
Ag	107	115	No Gas	24.681	ppb	2.4	417166.82	25	98.72	90	110	
Cd	111	115	No Gas	243.269	ppb	1.7	856437.18	250	97.31	90	110	
Sn	118	115	No Gas	246.411	ppb	1.5	2502875.04	250	98.56	90	110	
Sb	123	115	No Gas	48.438	ppb	1.2	584054.56	50	96.88	90	110	
Ba	137	115	No Gas	497.741	ppb	2.1	2534426.01	500	99.55	90	110	
W	182	159	No Gas	25.032	ppb	0.7	276999.74	25	100.13	90	110	
Hg	201	159	He	2.502	ppb	0.4	2520.76	2.5	100.08	90	110	
Tl	205	159	No Gas	252.327	ppb	1.1	6223401.69	250	100.93	90	110	
Pb	208	159	No Gas	252.682	ppb	1.9	8518420.44	250	101.07	90	110	
U	238	159	No Gas	251.643	ppb	1.2	7889199.96	250	100.66	90	110	

Continuing Calibration Verification (CCV) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2438746.08	1.7	2517133.22	96.89	60	120	
Sc	45	No Gas	5864453.67	1.3	5758793.33	101.83	60	120	
Sc	45	H2	3495639.75	0.1	3429066.25	101.94	60	120	
Sc	45	He	678700.15	0.4	686352.54	98.89	60	120	
Ge	72	No Gas	1368803.42	0.5	1340615.71	102.1	60	120	
Ge	72	H2	948287.52	1.5	932846.94	101.66	60	120	
Ge	72	He	399121.26	0.9	397358.27	100.44	60	120	
In	115	No Gas	8006066.73	0.3	8051737.11	99.43	60	120	
Tb	159	No Gas	10289232.37	1.9	10058344.88	102.3	60	120	
Tb	159	He	5896664.50	0.3	5802240.17	101.63	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB1
File Name	H6F19016.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:26:11
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	138159.86	0.4	
Be	9	6	No Gas	0.004	ppb	162.9	62.22	0.08	
B	11	6	No Gas	<0.000	ppb	N/A	27789.63	4	
Na	23	45	H2	7.494	ppb	26.6	511944.23	40	
Mg	24	45	No Gas	0.425	ppb	96.0	40670.44	10	
Al	27	45	No Gas	0.488	ppb	92.4	25489.46	15	
Si	28	45	H2	0.570	ppb	31.1	5355.03	8	
P	31	45	No Gas	<0.000	ppb	N/A	24380.05	10	
K	39	45	He	7.646	ppb	38.4	142407.43	20	
Ca	40	45	H2	0.616	ppb	63.4	225224.44	25	
Ti	47	45	No Gas	0.169	ppb	136.7	672.09	0.5	
V	51	45	He	0.102	ppb	23.8	8071.05	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1229.39	0.2	
Mn	55	45	No Gas	0.048	ppb	54.0	12595.82	0.2	
Fe	56	45	H2	1.376	ppb	6.9	39527.72	10	
Co	59	45	No Gas	0.005	ppb	53.7	390.67	0.15	
Ni	60	45	He	0.008	ppb	66.0	110.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2413.55	0.4	
Zn	66	72	No Gas	0.037	ppb	105.8	3907.23	2	
As	75	72	He	0.008	ppb	214.2	411.68	0.2	
Se	78	72	H2	0.035	ppb	103.5	38.00	0.2	
Sr	88	72	No Gas	0.003	ppb	81.9	823.36	0.2	
Zr	90	72	No Gas	0.003	ppb	134.2	276.67	2	
Mo	95	115	No Gas	0.028	ppb	21.3	253.34	0.2	
Ag	107	115	No Gas	0.002	ppb	57.6	113.33	0.08	
Cd	111	115	No Gas	0.018	ppb	36.2	93.54	0.2	
Sn	118	115	No Gas	0.016	ppb	24.3	2241.30	0.2	
Sb	123	115	No Gas	0.005	ppb	48.1	188.89	0.4	
Ba	137	115	No Gas	0.000	ppb	3658.3	561.12	0.2	
W	182	159	No Gas	0.009	ppb	55.9	183.33	0.3	
Hg	201	159	He	0.006	ppb	17.9	18.17	0.1	
Tl	205	159	No Gas	0.055	ppb	31.5	1843.48	0.1	
Pb	208	159	No Gas	0.039	ppb	21.4	2541.22	0.1	
U	238	159	No Gas	0.007	ppb	12.8	260.00	0.05	

Continuing Calibration Blank (CCB) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2437649.87	0.6	2517133.22	96.84	60	120	
Sc	45	No Gas	5711913.50	1.8	5758793.33	99.19	60	120	
Sc	45	H2	3422316.92	2.3	3429066.25	99.8	60	120	
Sc	45	He	660962.48	1.3	686352.54	96.3	60	120	
Ge	72	No Gas	1322929.71	0.3	1340615.71	98.68	60	120	
Ge	72	H2	923355.63	0.7	932846.94	98.98	60	120	
Ge	72	He	386037.81	0.5	397358.27	97.15	60	120	
In	115	No Gas	8018607.43	0.3	8051737.11	99.59	60	120	
Tb	159	No Gas	10005465.16	1.0	10058344.88	99.47	60	120	
Tb	159	He	5774434.67	1.2	5802240.17	99.52	60	120	

Blank Report

Sample Name	IMF032WB
File Name	H6F19020.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:36:31
Sample Type	Blank
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**LYaman**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.049	ppb	272.0	145254.76	0.4	
Be	9	6	No Gas	0.028	ppb	44.3	156.67	0.08	
B	11	6	No Gas	2.917	ppb	6.7	35296.40	4	
Na	23	45	H2	8.620	ppb	6.4	523241.42	40	
Mg	24	45	No Gas	2.072	ppb	48.1	63421.26	10	
Al	27	45	No Gas	2.350	ppb	42.0	57486.93	15	
Si	28	45	H2	0.185	ppb	48.5	4877.52	8	
P	31	45	No Gas	<0.000	ppb	N/A	25009.15	10	
K	39	45	He	0.624	ppb	854.1	139644.83	20	
Ca	40	45	H2	6.722	ppb	3.4	289408.39	25	
Ti	47	45	No Gas	0.025	ppb	118.5	404.67	0.5	
V	51	45	He	<0.000	ppb	N/A	7101.84	0.5	
Cr	52	45	He	0.031	ppb	13.7	1612.76	0.2	
Mn	55	45	No Gas	0.043	ppb	26.9	12787.97	0.2	
Fe	56	45	H2	1.113	ppb	4.4	36248.65	10	
Co	59	45	No Gas	0.013	ppb	65.9	611.35	0.15	
Ni	60	45	He	0.032	ppb	5.5	174.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2026.15	0.4	
Zn	66	72	No Gas	0.707	ppb	2.0	6845.06	2	
As	75	72	He	<0.000	ppb	N/A	323.33	0.2	
Se	78	72	H2	0.004	ppb	299.7	24.67	0.2	
Sr	88	72	No Gas	0.038	ppb	30.5	2036.83	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	163.33	2	
Mo	95	115	No Gas	0.017	ppb	60.0	184.45	0.2	
Ag	107	115	No Gas	0.077	ppb	11.1	1403.41	0.08	
Cd	111	115	No Gas	0.002	ppb	474.4	37.04	0.2	
Sn	118	115	No Gas	<0.000	ppb	N/A	984.48	0.2	
Sb	123	115	No Gas	0.019	ppb	28.0	368.90	0.4	
Ba	137	115	No Gas	<0.000	ppb	N/A	368.89	0.2	
W	182	159	No Gas	0.002	ppb	81.5	116.67	0.3	
Hg	201	159	He	0.003	ppb	141.5	15.67	0.1	
Tl	205	159	No Gas	0.009	ppb	116.0	753.36	0.1	
Pb	208	159	No Gas	0.023	ppb	37.1	2061.18	0.1	
U	238	159	No Gas	0.012	ppb	67.6	423.34	0.05	

Blank Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2536448.33	1.1	2517133.22	100.77	60	120	
Sc	45	No Gas	5859573.33	0.3	5758793.33	101.75	60	120	
Sc	45	H2	3459896.00	0.8	3429066.25	100.9	60	120	
Sc	45	He	678601.23	0.7	686352.54	98.87	60	120	
Ge	72	No Gas	1361163.17	0.7	1340615.71	101.53	60	120	
Ge	72	H2	932139.08	0.9	932846.94	99.92	60	120	
Ge	72	He	397253.38	0.5	397358.27	99.97	60	120	
In	115	No Gas	8189343.92	1.1	8051737.11	101.71	60	120	
Tb	159	No Gas	10164061.26	0.2	10058344.88	101.05	60	120	
Tb	159	He	5844038.17	0.7	5802240.17	100.72	60	120	

Laboratory Control Sample (LCS) Report

Sample Name	IMF032WL
File Name	H6F19021.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:39:06
Sample Type	LCSW
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	29.757	ppb	3.3	472464.89	30	99.19	85	115	
Be	9	6	No Gas	29.746	ppb	2.6	111139.91	30	99.15	83	121	
B	11	6	No Gas	34.873	ppb	4.6	100010.44	30	116.24	85	115	FAIL
Na	23	45	H2	3103.866	ppb	0.5	15698807.67	3000	103.46	85	117	
Mg	24	45	No Gas	3000.312	ppb	4.4	39322134.67	3000	100.01	83	118	
Al	27	45	No Gas	2991.203	ppb	4.3	50070394.25	3000	99.71	84	117	
Si	28	45	H2	0.623	ppb	1.8	5467.08	3000	0.02	85	115	FAIL
P	31	45	No Gas	<0.000	ppb	N/A	25558.21	300	-0.36	85	115	FAIL
K	39	45	He	3092.280	ppb	0.5	3038033.33	3000	103.08	87	115	
Ca	40	45	H2	3064.900	ppb	0.9	31027005.33	3000	102.16	87	118	
Ti	47	45	No Gas	29.497	ppb	1.9	57822.88	30	98.32	85	115	
V	51	45	He	30.848	ppb	1.8	220823.24	30	102.83	86	115	
Cr	52	45	He	31.533	ppb	0.6	247267.84	30	105.11	85	116	
Mn	55	45	No Gas	30.481	ppb	3.3	971207.00	30	101.6	87	115	
Fe	56	45	H2	3108.107	ppb	1.2	43962693.33	3000	103.6	87	118	
Co	59	45	No Gas	30.510	ppb	3.3	794392.67	30	101.7	86	115	
Ni	60	45	He	31.938	ppb	0.6	83045.16	30	106.46	85	117	
Cu	63	45	He	32.239	ppb	1.2	221715.93	30	107.46	85	118	
Zn	66	72	No Gas	60.685	ppb	2.3	258161.50	60	101.14	83	119	
As	75	72	He	30.578	ppb	0.0	42956.10	30	101.93	84	116	
Se	78	72	H2	31.239	ppb	0.7	13912.51	30	104.13	80	120	
Sr	88	72	No Gas	30.203	ppb	2.2	1028900.83	30	100.68	85	115	
Zr	90	72	No Gas	0.022	ppb	30.3	693.35	30	0.07	85	115	FAIL
Mo	95	115	No Gas	27.946	ppb	2.1	191679.58	30	93.15	85	115	
Ag	107	115	No Gas	30.077	ppb	2.5	517129.29	30	100.26	85	117	
Cd	111	115	No Gas	28.572	ppb	1.9	102352.34	30	95.24	87	115	
Sn	118	115	No Gas	28.324	ppb	1.8	294533.33	30	94.41	85	115	
Sb	123	115	No Gas	28.147	ppb	2.1	345303.40	30	93.82	85	117	
Ba	137	115	No Gas	28.079	ppb	1.6	145982.60	30	93.6	86	114	
W	182	159	No Gas	0.003	ppb	58.2	120.00	30	0.01	85	115	FAIL
Hg	201	159	He	<0.000	ppb	N/A	11.50	2.5	-0.04	82	119	FAIL
Tl	205	159	No Gas	30.565	ppb	2.1	741156.46	30	101.88	82	116	
Pb	208	159	No Gas	30.577	ppb	1.8	1014151.02	30	101.92	88	115	
U	238	159	No Gas	29.730	ppb	1.7	915905.55	30	99.1	85	115	

Laboratory Control Sample (LCS) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2467373.36	0.4	2517133.22	98.02	60	120	
Sc	45	No Gas	5846139.83	0.3	5758793.33	101.52	60	120	
Sc	45	H2	3444226.83	0.5	3429066.25	100.44	60	120	
Sc	45	He	684537.79	0.2	686352.54	99.74	60	120	
Ge	72	No Gas	1351640.12	1.1	1340615.71	100.82	60	120	
Ge	72	H2	934209.37	1.4	932846.94	100.15	60	120	
Ge	72	He	398901.09	0.6	397358.27	100.39	60	120	
In	115	No Gas	8144098.81	0.4	8051737.11	101.15	60	120	
Tb	159	No Gas	10110333.21	0.5	10058344.88	100.52	60	120	
Tb	159	He	5854178.50	0.7	5802240.17	100.9	60	120	

Laboratory Control Sample (LCS) Report

Sample Name	IMF032WC
File Name	H6F19022.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:41:41
Sample Type	LCSW
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	29.586	ppb	2.1	472933.99	30	98.62	85	115	
Be	9	6	No Gas	29.404	ppb	3.2	110423.36	30	98.01	83	121	
B	11	6	No Gas	34.114	ppb	3.0	98949.47	30	113.71	85	115	
Na	23	45	H2	3032.104	ppb	3.2	15466756.67	3000	101.07	85	117	
Mg	24	45	No Gas	2964.460	ppb	3.2	39058224.00	3000	98.82	83	118	
Al	27	45	No Gas	2941.770	ppb	2.8	49502275.93	3000	98.06	84	117	
Si	28	45	H2	0.312	ppb	37.5	5074.93	3000	0.01	85	115	FAIL
P	31	45	No Gas	<0.000	ppb	N/A	25188.82	300	-0.52	85	115	FAIL
K	39	45	He	3033.824	ppb	0.7	2976646.17	3000	101.13	87	115	
Ca	40	45	H2	2994.159	ppb	0.7	30559932.67	3000	99.81	87	118	
Ti	47	45	No Gas	29.193	ppb	2.1	57528.27	30	97.31	85	115	
V	51	45	He	30.538	ppb	0.7	218198.85	30	101.79	86	115	
Cr	52	45	He	31.157	ppb	0.2	243789.52	30	103.86	85	116	
Mn	55	45	No Gas	30.149	ppb	1.5	965697.67	30	100.5	87	115	
Fe	56	45	H2	3060.670	ppb	1.8	43637140.00	3000	102.02	87	118	
Co	59	45	No Gas	30.552	ppb	1.5	799625.92	30	101.84	86	115	
Ni	60	45	He	31.889	ppb	1.1	82729.96	30	106.3	85	117	
Cu	63	45	He	32.107	ppb	0.5	220330.32	30	107.02	85	118	
Zn	66	72	No Gas	60.618	ppb	1.7	257749.45	60	101.03	83	119	
As	75	72	He	30.500	ppb	1.8	42838.74	30	101.67	84	116	
Se	78	72	H2	30.436	ppb	1.3	13716.30	30	101.45	80	120	
Sr	88	72	No Gas	30.282	ppb	2.2	1031045.06	30	100.94	85	115	
Zr	90	72	No Gas	0.008	ppb	18.0	403.34	30	0.03	85	115	FAIL
Mo	95	115	No Gas	28.556	ppb	1.6	194364.34	30	95.19	85	115	
Ag	107	115	No Gas	30.262	ppb	2.0	516325.09	30	100.87	85	117	
Cd	111	115	No Gas	28.625	ppb	2.2	101759.44	30	95.42	87	115	
Sn	118	115	No Gas	28.557	ppb	2.4	294678.17	30	95.19	85	115	
Sb	123	115	No Gas	28.446	ppb	1.2	346288.60	30	94.82	85	117	
Ba	137	115	No Gas	28.344	ppb	1.3	146218.34	30	94.48	86	114	
W	182	159	No Gas	0.006	ppb	96.7	153.33	30	0.02	85	115	FAIL
Hg	201	159	He	0.000	ppb	2753.8	12.83	2.5	0	82	119	FAIL
Tl	205	159	No Gas	30.602	ppb	1.9	749263.55	30	102.01	82	116	
Pb	208	159	No Gas	29.823	ppb	2.1	998784.84	30	99.41	88	115	
U	238	159	No Gas	29.233	ppb	2.0	909335.97	30	97.44	85	115	

Laboratory Control Sample (LCS) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2479880.65	0.7	2517133.22	98.52	60	120	
Sc	45	No Gas	5875766.83	0.7	5758793.33	102.03	60	120	
Sc	45	H2	3472111.75	1.4	3429066.25	101.26	60	120	
Sc	45	He	683014.06	0.5	686352.54	99.51	60	120	
Ge	72	No Gas	1351046.96	0.4	1340615.71	100.78	60	120	
Ge	72	H2	945413.56	1.6	932846.94	101.35	60	120	
Ge	72	He	398861.15	1.5	397358.27	100.38	60	120	
In	115	No Gas	8081334.00	0.8	8051737.11	100.37	60	120	
Tb	159	No Gas	10208684.31	0.2	10058344.88	101.49	60	120	
Tb	159	He	5836920.17	0.8	5802240.17	100.6	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV2
File Name	H6F19024.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:46:51
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Flal	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	25.711	ppb	1.3	409789.18	25	102.84	90	110	
Be	9	6	No Gas	25.461	ppb	0.5	91230.37	25	101.84	90	110	
B	11	6	No Gas	53.805	ppb	1.8	133233.75	50	107.61	90	110	
Na	23	45	H2	25234.397	ppb	0.7	124793752.00	25000	100.94	90	110	
Mg	24	45	No Gas	24824.405	ppb	2.6	319522592.00	25000	99.3	90	110	
Al	27	45	No Gas	24918.087	ppb	3.3	409844527.23	25000	99.67	90	110	
Si	28	45	H2	2551.858	ppb	1.3	3584418.42	2500	102.07	90	110	
P	31	45	No Gas	248.632	ppb	1.8	280053.68	250	99.45	90	110	
K	39	45	He	25656.137	ppb	1.2	23830777.33	25000	102.62	90	110	
Ca	40	45	H2	24966.790	ppb	0.9	252345008.00	25000	99.87	90	110	
Ti	47	45	No Gas	245.566	ppb	1.6	470558.23	250	98.23	90	110	
V	51	45	He	253.513	ppb	0.5	1734161.50	250	101.41	90	110	
Cr	52	45	He	254.963	ppb	0.4	1960676.21	250	101.99	90	110	
Mn	55	45	No Gas	1510.891	ppb	2.0	46770501.33	1500	100.73	90	110	
Fe	56	45	H2	25204.042	ppb	0.7	358020981.33	25000	100.82	90	110	
Co	59	45	No Gas	249.740	ppb	1.9	6389196.50	250	99.9	90	110	
Ni	60	45	He	258.923	ppb	1.3	662818.23	250	103.57	90	110	
Cu	63	45	He	255.960	ppb	1.2	1715089.46	250	102.38	90	110	
Zn	66	72	No Gas	247.822	ppb	0.8	1028308.73	250	99.13	90	110	
As	75	72	He	252.146	ppb	0.7	347711.01	250	100.86	90	110	
Se	78	72	H2	250.122	ppb	0.5	111179.57	250	100.05	90	110	
Sr	88	72	No Gas	251.077	ppb	2.3	8431501.33	250	100.43	90	110	
Zr	90	72	No Gas	24.476	ppb	2.6	522132.50	25	97.9	90	110	
Mo	95	115	No Gas	246.704	ppb	1.2	1623762.61	250	98.68	90	110	
Ag	107	115	No Gas	24.663	ppb	1.5	406953.97	25	98.65	90	110	
Cd	111	115	No Gas	245.402	ppb	1.1	843455.52	250	98.16	90	110	
Sn	118	115	No Gas	248.476	ppb	0.6	2464239.21	250	99.39	90	110	
Sb	123	115	No Gas	49.152	ppb	0.9	578587.72	50	98.3	90	110	
Ba	137	115	No Gas	500.548	ppb	0.7	2488634.20	500	100.11	90	110	
W	182	159	No Gas	25.021	ppb	0.6	270320.90	25	100.08	90	110	
Hg	201	159	He	2.508	ppb	1.5	2487.91	2.5	100.32	90	110	
Tl	205	159	No Gas	250.214	ppb	2.1	6024819.76	250	100.09	90	110	
Pb	208	159	No Gas	251.784	ppb	1.4	8288375.00	250	100.71	90	110	
U	238	159	No Gas	245.427	ppb	0.5	7512015.81	250	98.17	90	110	

Continuing Calibration Verification (CCV) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2366247.24	2.2	2517133.22	94.01	60	120	
Sc	45	No Gas	5745312.17	0.3	5758793.33	99.77	60	120	
Sc	45	H2	3460241.42	0.2	3429066.25	100.91	60	120	
Sc	45	He	674651.62	1.3	686352.54	98.3	60	120	
Ge	72	No Gas	1333461.75	0.3	1340615.71	99.47	60	120	
Ge	72	H2	933787.59	0.8	932846.94	100.1	60	120	
Ge	72	He	394920.36	0.4	397358.27	99.39	60	120	
In	115	No Gas	7816605.75	1.5	8051737.11	97.08	60	120	
Tb	159	No Gas	10045077.38	0.9	10058344.88	99.87	60	120	
Tb	159	He	5806638.00	0.7	5802240.17	100.08	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB2
File Name	H6F19025.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:49:28
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag	
Li	7	6	No Gas	<0.000	ppb	N/A	139714.22	0.4		
Be	9	6	No Gas	0.012	ppb	61.9	95.56	0.08		
B	11	6	No Gas	0.152	ppb	92.2	28733.75	4		
Na	23	45	H2	7.886	ppb	25.7	517607.05	40		
Mg	24	45	No Gas	5.988	ppb	53.8	112711.96	10		
Al	27	45	No Gas	5.954	ppb	52.4	115728.31	15		
Si	28	45	H2	1.401	ppb	10.0	6559.55	8		
P	31	45	No Gas	<0.000	ppb	N/A	24649.84	10		
K	39	45	He	4.027	ppb	130.6	142804.40	20		
Ca	40	45	H2	1.877	ppb	14.8	239579.48	25		
Ti	47	45	No Gas	0.061	ppb	19.6	466.01	0.5		
V	51	45	He	0.168	ppb	11.6	8734.11	0.5		
Cr	52	45	He	<0.000	ppb	N/A	1354.07	0.2		
Mn	55	45	No Gas	0.373	ppb	50.7	22774.53	0.2	~~>LOD~~	LY 06/24/20
Fe	56	45	H2	2.256	ppb	9.7	52290.06	10		
Co	59	45	No Gas	0.059	ppb	51.7	1764.80	0.15		
Ni	60	45	He	0.018	ppb	41.9	136.67	0.2		
Cu	63	45	He	<0.000	ppb	N/A	2038.15	0.4		
Zn	66	72	No Gas	0.085	ppb	52.9	4155.30	2		
As	75	72	He	0.001	ppb	1329.7	410.68	0.2		
Se	78	72	H2	0.034	ppb	61.5	37.67	0.2		
Sr	88	72	No Gas	0.057	ppb	54.4	2660.30	0.2		
Zr	90	72	No Gas	0.004	ppb	65.9	313.34	2		
Mo	95	115	No Gas	0.079	ppb	37.9	598.91	0.2		
Ag	107	115	No Gas	0.006	ppb	65.0	173.34	0.08		
Cd	111	115	No Gas	0.080	ppb	39.2	311.69	0.2		
Sn	118	115	No Gas	0.073	ppb	41.9	2823.64	0.2		
Sb	123	115	No Gas	0.017	ppb	40.8	328.90	0.4		
Ba	137	115	No Gas	0.106	ppb	69.5	1096.72	0.2		
W	182	159	No Gas	0.005	ppb	38.6	140.00	0.3		
Hg	201	159	He	0.005	ppb	28.6	17.83	0.1		
Tl	205	159	No Gas	0.119	ppb	41.2	3390.51	0.1	~~>LOD~~	LY 06/24/20
Pb	208	159	No Gas	0.089	ppb	42.6	4183.62	0.1		
U	238	159	No Gas	0.063	ppb	49.1	1952.40	0.05	>LOD	

Agilent Technologies

Continuing Calibration Blank (CCB) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2474308.36	0.7	2517133.22	98.3	60	120	
Sc	45	No Gas	5766066.00	1.2	5758793.33	100.13	60	120	
Sc	45	H2	3447221.17	2.0	3429066.25	100.53	60	120	
Sc	45	He	678527.73	0.3	686352.54	98.86	60	120	
Ge	72	No Gas	1339665.75	0.9	1340615.71	99.93	60	120	
Ge	72	H2	923743.85	1.5	932846.94	99.02	60	120	
Ge	72	He	393440.00	0.6	397358.27	99.01	60	120	
In	115	No Gas	8008918.95	0.3	8051737.11	99.47	60	120	
Tb	159	No Gas	10029532.65	1.5	10058344.88	99.71	60	120	
Tb	159	He	5833471.33	0.4	5802240.17	100.54	60	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA2
File Name	H6F19112.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 14:43:46
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.633	ppb	15.3	147377.04	2	-50	50	
Be	9	6	No Gas	<0.000	ppb	N/A	17.78	0.4	-50	50	
B	11	6	No Gas	3.421	ppb	29.6	35262.02	10	-50	50	
Na	23	45	H2	96615.748	ppb	0.6	458034410.67	100000	80	120	
Mg	24	45	No Gas	95467.585	ppb	2.8	1183187413.33	100000	80	120	
Al	27	45	No Gas	96592.426	ppb	3.4	1529820563.87	100000	80	120	
Si	28	45	H2	2.893	ppb	7.5	8341.84	50	-50	50	
P	31	45	No Gas	93480.565	ppb	2.2	91934552.00	100000	80	120	
K	39	45	He	96037.476	ppb	1.0	84974984.00	100000	80	120	
Ca	40	45	H2	97654.769	ppb	0.6	948237866.67	100000	80	120	
Ti	47	45	No Gas	1965.001	ppb	2.0	3623653.33	2000	80	120	
V	51	45	He	0.238	ppb	18.5	8763.48	1	-50	50	
Cr	52	45	He	0.255	ppb	5.4	3181.04	1	-50	50	
Mn	55	45	No Gas	0.247	ppb	2.7	18160.72	1	-50	50	
Fe	56	45	H2	97331.496	ppb	0.7	1329016490.67	100000	80	120	
Co	59	45	No Gas	0.345	ppb	0.8	8738.80	0.75	-50	50	
Ni	60	45	He	0.315	ppb	4.6	856.70	1	-50	50	
Cu	63	45	He	0.196	ppb	10.0	3959.91	2	-50	50	
Zn	66	72	No Gas	0.963	ppb	7.5	7426.04	20	-50	50	
As	75	72	He	0.125	ppb	9.4	540.68	1	-50	50	
Se	78	72	H2	0.118	ppb	24.8	70.00	1	-50	50	
Sr	88	72	No Gas	0.816	ppb	3.8	26886.97	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.045	ppb	11.7	1130.05	10	-50	50	
Mo	95	115	No Gas	1945.243	ppb	2.5	12158851.46	2000	80	120	
Ag	107	115	No Gas	0.016	ppb	4.5	321.12	0.4	-50	50	
Cd	111	115	No Gas	0.089	ppb	24.6	318.88	1	-50	50	
Sn	118	115	No Gas	0.226	ppb	3.6	4055.07	1	-50	50	
Ba	137	115	No Gas	0.238	ppb	3.1	1643.44	1	-50	50	
W	182	159	No Gas	0.171	ppb	3.2	1890.15	1	-50	50	
Hg	201	159	He	0.001	ppb	1111.2	13.00	0.5	-50	50	
Tl	205	159	No Gas	<0.000	ppb	N/A	298.89	0.5	-50	50	
Pb	208	159	No Gas	0.051	ppb	2.4	2863.47	0.5	-50	50	
U	238	159	No Gas	0.000	ppb	165.2	55.56	0.25	-50	50	

Interference Check Solution A (ICS-A) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2459969.54	0.9	2517133.22	97.73	60	120	
Sc	45	No Gas	5533034.33	1.3	5758793.33	96.08	60	120	
Sc	45	H2	3326447.33	0.7	3429066.25	97.01	60	120	
Sc	45	He	645356.50	1.5	686352.54	94.03	60	120	
Ge	72	No Gas	1275006.67	1.1	1340615.71	95.11	60	120	
Ge	72	H2	865043.50	0.9	932846.94	92.73	60	120	
Ge	72	He	365881.76	0.7	397358.27	92.08	60	120	
In	115	No Gas	7424786.77	1.4	8051737.11	92.21	60	120	
Tb	159	No Gas	9798991.83	0.9	10058344.88	97.42	60	120	
Tb	159	He	5708755.67	0.9	5802240.17	98.39	60	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB2
File Name	H6F19113.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 14:46:23
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	20.183	ppb	2.9	349948.81	20	80	120	
Be	9	6	No Gas	19.660	ppb	2.4	70298.81	20	80	120	
B	11	6	No Gas	15.916	ppb	1.1	58406.49	20	80	120	> +/- 20%
Na	23	45	H2	99977.950	ppb	0.2	472630368.00	100000	80	120	
Mg	24	45	No Gas	97176.007	ppb	2.2	1212779562.67	100000	80	120	
Al	27	45	No Gas	97592.246	ppb	2.0	1556438430.14	100000	80	120	
Si	28	45	H2	220.818	ppb	0.6	301392.02	200	80	120	
P	31	45	No Gas	94898.145	ppb	2.2	93977578.67	100000	80	120	
K	39	45	He	99839.186	ppb	0.9	87773696.00	100000	80	120	
Ca	40	45	H2	101296.174	ppb	0.1	980855082.67	100000	80	120	
Ti	47	45	No Gas	2040.736	ppb	1.9	3789568.33	2000	80	120	
V	51	45	He	20.324	ppb	1.5	138728.51	20	80	120	
Cr	52	45	He	20.527	ppb	1.4	151228.75	20	80	120	
Mn	55	45	No Gas	19.789	ppb	1.2	604700.15	20	80	120	
Fe	56	45	H2	100892.542	ppb	1.1	1373843498.67	100000	80	120	
Co	59	45	No Gas	19.787	ppb	1.1	491063.91	20	80	120	
Ni	60	45	He	20.583	ppb	1.0	50164.66	20	80	120	
Cu	63	45	He	20.052	ppb	1.4	130193.60	20	80	120	
Zn	66	72	No Gas	20.800	ppb	1.5	85005.87	20	80	120	
As	75	72	He	19.865	ppb	3.1	26272.49	20	80	120	
Se	78	72	H2	20.471	ppb	2.3	8463.99	20	80	120	
Sr	88	72	No Gas	20.977	ppb	1.0	667606.48	20	80	120	
Zr	90	72	No Gas	13.679	ppb	0.4	276368.45	20	80	120	> +/- 20%
Mo	95	115	No Gas	2040.918	ppb	0.3	12771707.83	2000	80	120	
Ag	107	115	No Gas	19.335	ppb	1.1	303468.54	20	80	120	
Cd	111	115	No Gas	19.492	ppb	0.2	63739.73	20	80	120	
Sn	118	115	No Gas	20.393	ppb	0.2	194083.79	20	80	120	
Sb	123	115	No Gas	19.734	ppb	0.5	220991.41	20	80	120	
Ba	137	115	No Gas	20.784	ppb	0.7	98758.96	20	80	120	
W	182	159	No Gas	19.960	ppb	1.3	212396.09	20	80	120	
Hg	201	159	He	1.985	ppb	1.8	1951.65	2	80	120	
Tl	205	159	No Gas	19.753	ppb	1.4	468880.57	20	80	120	
Pb	208	159	No Gas	19.729	ppb	0.1	640715.02	20	80	120	
U	238	159	No Gas	19.907	ppb	0.9	600115.48	20	80	120	

Interference Check Solution AB (ICS-AB) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2360707.12	0.9	2517133.22	93.79	60	120	
Sc	45	No Gas	5570556.00	1.3	5758793.33	96.73	60	120	
Sc	45	H2	3317219.25	0.2	3429066.25	96.74	60	120	
Sc	45	He	641312.37	1.7	686352.54	93.44	60	120	
Ge	72	No Gas	1262411.54	1.7	1340615.71	94.17	60	120	
Ge	72	H2	866753.56	1.4	932846.94	92.91	60	120	
Ge	72	He	373788.14	2.5	397358.27	94.07	60	120	
In	115	No Gas	7432959.37	1.2	8051737.11	92.31	60	120	
Tb	159	No Gas	9892516.83	0.9	10058344.88	98.35	60	120	
Tb	159	He	5746144.17	0.2	5802240.17	99.03	60	120	

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ICP-MS

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 06/26/20 10:13

End Date: 06/26/20 16:06

Comments:

All soil/solid samples are diluted at 10x dilution prior to analysis.

Filter Lot #: NA

see analytical sequence

Book #:	AH6-005
Instrument No.:	H6
Analytical Batch:	1H6F22
Analytical Sequence:	H6F22
Method File:	E6020H63
Micropipette ID:	☐ 142781004
Micropipette ID:	☑ ICP-06
Micropipette ID:	☑ 339362028
Micropipette ID:	☑ GFAA-07
Micropipette ID:	☐ 339342032
Micropipette ID:	☑ 542780515
Micropipette ID:	☐ 542761827
Micropipette ID:	☐

SOP #	Rev. #
☐ EMAX-200.8	6
☑ EMAX-6020	13
☐ EMAX-6020CA	2
☐ EMAX-	
☐ EMAX-	

STANDARDS ID		STANDARDS ID	
S0	SM6B-19-67-02	MRL1 (1)	SM6B-19-40-02
S1	68-01	MRL2 (0.4)	65-01
S2	68-02	MRL3 (CAL)	65-02
S3	69-01	MRL4	NA
S4	69-02	MRL5	
S5	NA	MRL6	
S6		Internal Standard	SM6B-19-11-02
S7		Post-Spike 1	SM6A-007-06-25
ICV	SM6B-19-49-01	Post-Spike 2	06-26
CCV	70-01	Post-Spike 3	NA
ICSA	66-02	Post-Spike 4	
ICSAB	67-01		
6020 TUNE SOLN.	NA		
200.8 TUNE SOLN.	SM6B-19-11-01		

Analyzed By: LY

Date: 06/26/20

INITIAL CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 20F176
Method : METHOD SW6020A
Sequence : IH6F22
InstrumentID: H6

Lab Samp ID :	ICV	ICSA1	ICSAB1
QC Limit :	%R:90-110/RSD:<5	%R:80-120/<LOD	%R:80-120
Lab File ID :	H6F22008	H6F22012	H6F22013
DateAnalyed :	06/26/2010:28	06/26/2010:40	06/26/2010:43

Parameter		Result	ICV EV	RSD	%Recovery	Result	ICSA EV	%Rec/LOD	Result	ICSAB EV	%Recovery
Lithium		29.74	30	0.9	99	0.22934	0	>0	19.581	20	98
Beryllium		30.32	30	1.4	101						
						0.000039463	0	<0.1	19.924	20	100
Boron		34.35	30	1.4	115*	9.7536	0	>5.0	22.314	20	112
Sodium		28820	30000	0.6	96	94995	100000	95	100250	100000	100
Magnesium		29080	30000	0.8	97	93164	100000	93	96322	100000	96
Aluminum		29540	30000	1.5	98	93877	100000	94	97151	100000	97
Silicon		3225	3000	0.4	108	4.2173	0	<20	222.69	200	111
Phosphorus		276.9	300	1.7	92	93807	100000	94	97156	100000	97
Potassium		29480	30000	0.3	98	98193	100000	98	102000	100000	102
Calcium		29360	30000	1.0	98	97918	100000	98	103860	100000	104
Titanium		293.4	300	1.1	98	2002.7	2000	100	2103.3	2000	105
Vanadium		313.3	300	0.7	104	0.11769	0	<0.5	20.156	20	101
Chromium	T	313.3	300	0.7	104	0.27424	0	>0.2	20.739	20	104
Manganese		1955	2000	1.0	98	0.24806	0	>0.2	19.625	20	98
Iron		29580	30000	1.4	99	98569	100000	99	103750	100000	104
Cobalt		301.3	300	1.5	100	0.35623	0	>0.2	19.546	20	98
Nickel		317.5	300	0.1	106	0.31803	0	>0.2	20.557	20	103
Copper		309.9	300	1.0	103	0.27185	0	<0.5	20.450	20	102
Zinc		289.1	300	2.1	96	1.6019	0	<10	21.132	20	106
Arsenic		313.9	300	0.6	105	0.073077	0	<0.2	20.030	20	100
Selenium		315.4	300	0.9	105	0.21767	0	<0.3	21.602	20	108
Strontium		307.6	300	1.2	103	0.77987	0	<1.0	20.142	20	101
Zirconium		27.59	30	1.1	92	0.11514	0	<2.0	8.5487	20	43*
Molybdenum		304.2	300	1.5	101	1967.9	2000	98	2039.5	2000	102
Silver		31.01	30	0.6	103	0.010431	0	<0.2	18.948	20	95
Cadmium		311.3	300	1.4	104	0.074785	0	<0.2	19.233	20	96
Tin		307.6	300	0.5	103	0.35856	0	>0.2	19.785	20	99
Antimony		58.92	60	0.8	98	0.14623	0	<0.5	19.476	20	97
Barium		310.2	300	0.7	103	0.40752	0	<0.5	20.078	20	100
Tungsten		32.14	30	1.0	107	0.18560	0	<1.0	19.295	20	96
Mercury		2.922	3	1.1	97	0.0041308	0	<0.1	1.9416	2	97
Thallium		304.1	300	2.2	101	0.0077403	0	<0.2	18.766	20	94
Lead		307.0	300	1.2	102	0.080727	0	<0.1	19.123	20	96
Uranium		305.7	300	1.3	102						
						0.0000052443	0	<0.1	19.160	20	96

| Unit: ug/L
| T: Target analyte
| EV: Expected Value
| Comment: * Out of QC limit

CONTINUING CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 20F176
Method : METHOD SW6020A
Sequence : IH6F22
Instrument ID: H6

CCV SampleID		: CCV11			CCV12		
CCV DataFileID		: H6F22118			H6F22128		
CCV DateTime		: 06/26/20 15:37			06/26/20 16:04		
PARAMETER		CCV EV	RESULT	%REC	RSD	RESULT	%REC	RSD
Lithium		25	26.5	106	1.3	25.2	101	2.9
Beryllium		25	24.2	97	2.6	22.8	91	3.1
Boron		50	78.1	156*	1.2	61.4	123*	3.2
Sodium		25000	29200	117*	1.1	26700	107	1.1
Magnesium		25000	27400	109	2.1	26000	104	0.5
Aluminum		25000	27000	108	2.8	25600	102	1.9
Silicon		2500	2650	106	1.4	2590	104	0.7
Phosphorus		250	265	106	2.0	292	117*	7.9
Potassium		25000	27000	108	1.0	25900	104	0.5
Calcium		25000	25800	103	1.2	25200	101	0.7
Titanium		250	247	99	1.8	241	96	2.3
Vanadium		250	249	99	0.7	245	98	1.5
Chromium	T	250	245	98	0.6	240	96	0.1
Manganese		1500	1470	98	1.9	1460	97	1.6
Iron		25000	24900	100	0.9	24800	99	1.0
Cobalt		250	245	98	1.9	240	96	1.6
Nickel		250	236	95	1.2	234	94	0.3
Copper		250	236	94	0.6	235	94	0.7
Zinc		250	251	100	2.9	231	93	2.5
Arsenic		250	247	99	0.9	244	98	0.6
Selenium		250	243	97	0.2	242	97	0.7
Strontium		250	245	98	2.6	240	96	1.9
Zirconium		25	23.8	95	2.1	23.3	93	1.4
Molybdenum		250	258	103	2.3	248	99	2.6
Silver		25	25.0	100	1.2	23.8	95	2.6
Cadmium		250	241	96	1.0	232	93	1.6
Tin		250	247	99	1.4	244	98	1.2
Antimony		50	47.8	96	0.5	46.3	93	2.1
Barium		500	491	98	1.9	492	98	2.0
Tungsten		25	24.0	96	1.6	23.8	95	3.2
Mercury		2.5	2.34	93	2.4	2.34	94	2.0
Thallium		250	241	97	3.7	246	98	4.0
Lead		250	239	96	3.9	245	98	2.2
Uranium		250	226	90	3.3	234	93	2.3

Unit: ug/L
T: Target analyte
%Rec QC Limit: 90-110
RSD QC Limit: <5
CCV EV: CCV Expected Value ug/L
Comment: * Out of QC limit

CONTINUING CALIBRATION BLANK SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 20F176
Method : SW6020A
Sequence : IH6F22
Instrument ID: H6

CB SampleID	: ICB	CCB11	CCB12
CB DataFileID	: H6F22009	H6F22119	H6F22129
CB DateTime	: 06/26/2010:33	06/26/2015:40	06/26/2016:06

PARAMETER		LOD	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >
Lithium		0	0.09	>0	0.6	>0	1	>0
Beryllium		0.1	0.003	<0.1	0.001	<0.1	0.01	<0.1
Boron		5.0	0.3	<5.0	10	>5.0	8	>5.0
Sodium		50	0.7	<50	2000	>50	800	>50
Magnesium		10	0.3	<10	9	<10	20	>10
Aluminum		20	0.7	<20	8	<20	20	<20
Silicon		20	0.8	<20	2	<20	2	<20
Phosphorus		25	0.5	<25	4	<25	4	<25
Potassium		20	0.7	<20	40	>20	20	<20
Calcium		25	0.4	<25	6	<25	8	<25
Titanium		0.5	0.01	<0.5	0.2	<0.5	0.3	<0.5
Vanadium		0.5	0.10	<0.5	0.2	<0.5	0.2	<0.5
Chromium	T	0.2	0.01	<0.2	0.04	<0.2	0.04	<0.2
Manganese		0.2	0.06	<0.2	0.4	>0.2	0.7	>0.2
Iron		10	0.6	<10	3	<10	7	<10
Cobalt		0.2	0.007	<0.2	0.07	<0.2	0.1	<0.2
Nickel		0.2	0.007	<0.2	0.02	<0.2	0.02	<0.2
Copper		0.5	0.02	<0.5	0.1	<0.5	0.1	<0.5
Zinc		10	0.008	<10	0.08	<10	0.1	<10
Arsenic		0.2	0.007	<0.2	0.005	<0.2	0.01	<0.2
Selenium		0.3	0.05	<0.3	0.05	<0.3	0.06	<0.3
Strontium		1.0	0.02	<1.0	0.2	<1.0	0.2	<1.0
Zirconium		2.0	0.002	<2.0	0.005	<2.0	0.01	<2.0
Molybdenum		0.5	0.01	<0.5	0.09	<0.5	0.2	<0.5
Silver		0.2	0.0005	<0.2	0.008	<0.2	0.01	<0.2
Cadmium		0.2	0.02	<0.2	0.06	<0.2	0.10	<0.2
Tin		0.2	0.07	<0.2	0.1	<0.2	0.1	<0.2
Antimony		0.5	0.0010	<0.5	0.03	<0.5	0.02	<0.5
Barium		0.5	0.01	<0.5	0.1	<0.5	0.2	<0.5
Tungsten		1.0	0.007	<1.0	0.005	<1.0	0.03	<1.0
Mercury		0.1	0.004	<0.1	0.01	<0.1	0.009	<0.1
Thallium		0.2	0.03	<0.2	0.10	<0.2	0.2	<0.2
Lead		0.1	0.03	<0.1	0.04	<0.1	0.10	<0.1
Uranium		0.1	0.007	<0.1	0.06	<0.1	0.1	>0.1

| Unit: ug/L
| CB: Calibration Blank
| T: Target analyte
| Acceptance Criteria: CCB Result <LOD
| Comment:

Sample List

Acq/Data Batch D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b

Block List

Acquisition Order

Sequence Order	Block Name
1	Calibration Standards
2	Unknown Samples

Blocks

Calibration Standards

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Replicates	Level	Total Dil.
1		CalBlk	BLANK		1101	H6F22001.d		1	
2		CalBlk	BLANK		1101	H6F22002.d		1	
3		CalStd	S0		1102	H6F22003.d		1	
4		CalStd	S1		1104	H6F22004.d		2	
5		CalStd	S2		1105	H6F22005.d		3	
6		CalStd	S3		1106	H6F22006.d		4	
7		CalStd	S4		1107	H6F22007.d		5	
8		ICV	ICV		1204	H6F22008.d			1
9		ICB	ICB		1102	H6F22009.d			1
10		LLCCV	MRLF2601 ✓	1/100/10 ppb	1306	H6F22010.d			1
11		LLCCV2	MRLF2602	0.4/40/4 ppb	1307	H6F22011.d			1
12		ICS-A	ICSA1		1304	H6F22012.d			1
13		ICSB	ICSAB1		1305	H6F22013.d			1
14		Sample	MRLF2603	500 ppb CAT	1207	H6F22014.d			1
15		CCV	CCV1		1206	H6F22015.d			1
16		CCB	CCB1		1102	H6F22016.d			1

Unknown Samples

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Replicates	Level	Total Dil.
1		Blank	IMF035WB		2101	H6F22017.d			1
2		LCSW	IMF035WL		2102	H6F22018.d			1
3		LCSW	IMF035WC		2103	H6F22019.d			1
4		Sample	F170-04		2104	H6F22020.d			1
5		Sample	F170-06		2105	H6F22021.d			1
6		Sample	F170-02 Ca↑		2106	H6F22022.d			1
7		Sample	F170-03 Ca↑		2107	H6F22023.d			1
8		Sample	F170-05 Na Ca↑		2108	H6F22024.d			1
9		Sample	F164-01		2109	H6F22025.d			1
10		CCV	CCV2		1206	H6F22026.d			1
11		CCB	CCB2		1102	H6F22027.d			1
12		Sample	F170-06 ✓	UNDIG	3101	H6F22028.d			1
13		Sample	F170-02I		2110	H6F22029.d			10
14		Sample	F170-03I		2111	H6F22030.d			10
15		Sample	F170-05I		2112	H6F22031.d			10
16		Sample	F155-01 Na Mg Ca↑		2201	H6F22032.d			1
17		Sample	F155-02 Na Mg Ca↑		2202	H6F22033.d			1
18		Sample	F155-01I		2203	H6F22034.d			10
19		Sample	F155-02I		2204	H6F22035.d			10
20		LLCCV	MRLF2604	1/100/10 ppb Na V↑	1306	H6F22036.d			1

Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Replicates	Level	Total Dil.
21		LLCCV2	MRLF2605	0.4/40/4 ppb Na V ↑	1307	H6F22037.d			1
22		CCV	CCV3		1206	H6F22038.d			1
23		CCB	CCB3		1102	H6F22039.d			1
24		Blank	IMF029WB		2205	H6F22040.d			1
25		LCSW	IMF029WL		2206	H6F22041.d			1
26		LCSW	IMF029WC		2207	H6F22042.d			1
27		Sample	F154-06 Ca ↑		2208	H6F22043.d			1
28		Sample	F154-01 Na Ca ↑		2209	H6F22044.d			1
29		Sample	F154-02M Na Mg Ca ↑		2210	H6F22045.d			1
30		Sample	F154-02S		2211	H6F22046.d			1
31		Sample	F154-02A		2212	H6F22047.d			1
32		Sample	F154-02		2301	H6F22048.d			1
33		Sample	F154-02J		2302	H6F22049.d			5
34		CCV	CCV4		1206	H6F22050.d			1
35		CCB	CCB4		1102	H6F22051.d			1
36		Sample	F154-05 Na Ca ↑		2303	H6F22052.d			1
37		Sample	F162-01 Na Mg Ca ↑		2304	H6F22053.d			1
38		Sample	F162-02 Na Mg Ca ↑		2305	H6F22054.d			1
39		Sample	F162-04 Ca ↑		2306	H6F22055.d			1
40		Sample	F162-05 Na Mg Ca ↑		2307	H6F22056.d			1
41		Sample	F162-07 Na Mg Ca ↑		2308	H6F22057.d			1
42		Sample	F162-08 Mg Ca ↑		2309	H6F22058.d			1
43		Sample	F162-10 Ca ↑		2310	H6F22059.d			1
44		Sample	F162-11 Na Ca ↑		2311	H6F22060.d			1
45		CCV	CCV5		1206	H6F22061.d			1
46		CCB	CCB5		1102	H6F22062.d			1
47		Sample	F154-01I		2312	H6F22063.d			10
48		Sample	F154-02M		2401	H6F22064.d			10
49		Sample	F154-02S		2402	H6F22065.d			10
50		Sample	F154-02A		2403	H6F22066.d			10
51		Sample	F154-02I		2404	H6F22067.d			10
52		Sample	F154-02J		2405	H6F22068.d			50
53		Sample	F154-05I		2406	H6F22069.d			10
54		Sample	F154-06I		3101	H6F22070.d			10
55		CCV	CCV6		1206	H6F22071.d			1
56		CCB	CCB6		1102	H6F22072.d			1
57		Sample	F162-01I		2407	H6F22073.d			10
58		Sample	F162-02I		2408	H6F22074.d			10
59		Sample	F162-04I		2409	H6F22075.d			10
60		Sample	F162-05I		2410	H6F22076.d			10
61		Sample	F162-07I		2411	H6F22077.d			10
62		Sample	F162-08I		2412	H6F22078.d			10
63		Sample	F162-10I		2501	H6F22079.d			10
64		Sample	F162-11I		2502	H6F22080.d			10
65		CCV	CCV7		1206	H6F22081.d			1
66		CCB	CCB7		1102	H6F22082.d			1
67		LLCCV	MRLF2606 ✓	1/100/10 ppb	1306	H6F22083.d			1
68		LLCCV2	MRLF2607	0.4/40/4 ppb	1307	H6F22084.d			1
69		Blank	IMF013SB		3201	H6F22085.d			1
70		LCSS	IMF013SL		3202	H6F22086.d			1
71		LCSS	IMF013SC		3203	H6F22087.d			1
72		Sample	F106-24		3204	H6F22088.d			1

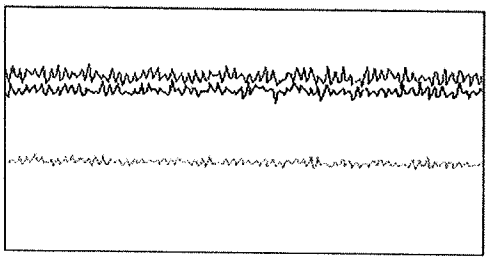
Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Replicates	Level	Total Dil.
73		Sample	F107-10		3205	H6F22089.d			1
74		CCV	CCV8		1206	H6F22090.d			1
75		CCB	CCB8		1102	H6F22091.d			1
76		Sample	F176-02M		2503	H6F22092.d			5
77		Sample	F176-02S		2504	H6F22093.d			5
78		Sample	F176-02A		2505	H6F22094.d			5
79		Sample	F176-02G		2506	H6F22095.d			5
80		Sample	F176-02J		2507	H6F22096.d			25
81		Sample	F176-04G		2508	H6F22097.d			5
82		Sample	F176-06G		2509	H6F22098.d			5
83		CCV	CCV9		1206	H6F22099.d			1
84		CCB	CCB9		1102	H6F22100.d			1
85		Sample	F176-08G		2510	H6F22101.d			5
86		Sample	F176-09G		2511	H6F22102.d			5
87		Sample	F176-10G		2512	H6F22103.d			5
88		Sample	F176-11G		3101	H6F22104.d			5
89		Sample	F176-12G		3102	H6F22105.d			5
90		Sample	F176-13G		3103	H6F22106.d			5
91		ICS-A	ICSA2		1304	H6F22107.d			1
92		ICSB	ICSAB2		1305	H6F22108.d			1
93		CCV	CCV10		1206	H6F22109.d			1
94		CCB	CCB10		1102	H6F22110.d			1
95		Sample	F176-02M		3104	H6F22111.d			1
96		Sample	F176-02S		3105	H6F22112.d			1
97		Sample	F176-02A		3106	H6F22113.d			1
98		Sample	F176-02		3107	H6F22114.d			1
99		Sample	F176-02J		3108	H6F22115.d			5
100		Sample	F176-04		3109	H6F22116.d			1
101		Sample	F176-06		3110	H6F22117.d			1
102		CCV	CCV11		1206	H6F22118.d			1
103		CCB	CCB11		1102	H6F22119.d			1
104		Sample	F176-08		3111	H6F22120.d			1
105		Sample	F176-09		3112	H6F22121.d			1
106		Sample	F176-10		3201	H6F22122.d			1
107		Sample	F176-11		3202	H6F22123.d			1
108		Sample	F176-12		3203	H6F22124.d			1
109		Sample	F176-13		3204	H6F22125.d			1
110		ICS-A	ICSA3		1304	H6F22126.d			1
111		ICSB	ICSAB3		1305	H6F22127.d			1
112		CCV	CCV12		1206	H6F22128.d			1
113		CCB	CCB12		1102	H6F22129.d			1

Performance Report

Operator Name	LYaman
Acq. Date-Time	2020-06-26 09:06:44
Instrument Name	G8421A SG19253823
Sample Introduction	ISIS
Nebulizer Type	MicroMist
Ion Lens Model	x-Lens
Tune Parameters	Standard Tune

Sensitivity



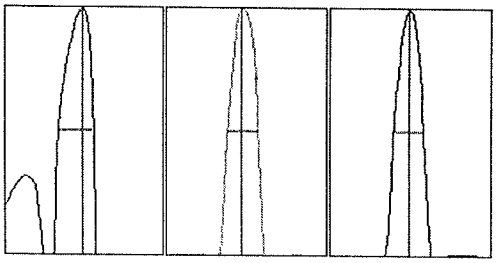
Mass	Range	Count	RSD%	Background
7	10000	7247	2.967	0.150
89	50000	18479	3.240	0.900
205	20000	13284	2.557	3.050

Sampling Period [sec]	0.311
Integration Time [sec]	0.1

Oxide/Doubly Charged Ratio

Oxide	156 / 140 1.319 %
Doubly Charged	70 / 140 1.454 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
7	7126.74	7.00	0.65	0.77
89	18082.03	88.95	0.57	0.75
205	12905.61	205.00	0.56	0.75

Integration Time [sec]	0.1
Acquisition Time [sec]	22.74

Tune Parameters

Plasma Parameters

RF Power	1550 W	Option Gas	---	Makeup Gas	0.00 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Auxiliary Gas	0.90 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C	Plasma Gas	15.0 L/min
Nebulizer Gas	1.08 L/min				

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.2 V	Deflect	13.0 V
Extract 2	-175.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-90 V	Cell Exit	-50 V		

Performance Report

Cell Parameters					
Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		
QP Parameters					
QP Bias	-3.0 V				
Hardware Settings					
Torch					
Torch H	0.5 mm	Torch H (Hot)	---	Torch H (Cool)	---
Torch V	-0.3 mm	Torch V (Hot)	---	Torch V (Cool)	---
Plasma Correction					
Nebulizer Gas Offset	0.03 L/min	Makeup Gas (Hot)	---	Makeup Gas (Cool)	---
		Sample Depth (Hot)	---		
Resolution/Axis					
Mass Gain	123	Axis Gain	0.9997		
Mass Offset	124	Axis Offset	-0.07		
EM					
Discriminator	4.1 mV	Analog HV	2401 V	Pulse HV	1546 V

Performance Report

Meter

Name	Value	Unit
Nebulizer Gas	1.08	L/min
MU./Dil. Gas	0.00	L/min
Plasma Gas	15.01	L/min
Aux Gas	0.90	L/min
Ar Gas Tank Press	7.16E+2	kPa
+5V (Press Gage)	5.0	V
Ar AMFC Temp	31.6	°C
Nebulizer Gas(DP)	6.16E+0	kPa
MU./Dil. Gas(DP)	-1.54E-1	kPa
Aux Gas(DP)	1.23E+1	kPa
Plasma Gas(DP)	1.11E+1	kPa
Nebulizer Gas(BP)	3.59E+2	kPa
MU./Dil. Gas(BP)	-2.16E+0	kPa
Aux Gas(BP)	5.93E+1	kPa
Plasma Gas(BP)	3.99E+1	kPa
S/C Temp (H)	16.3	°C
S/C Temp (L)	2.0	°C
Peltier Voltage	2.7	V
IF/BK Press	2.21E+2	Pa
Analyzer Press	6.52E-5	Pa
IG HV	178	V
IG Emission	4.98	µA
TMP Revolution	100.0	%
TMP Rev (RAW)	100.1	%
TMP Current	2.78	A
PWR AMP Drain I	0.2	A
PWR AMP Bias	4.12	V
OctP RF (Avg)	193.7	V
OctP RF Set	3.8	V
OctP FET Bias Set	3.75	V
OctP RF(+)	168.0	V
OctP RF(-)	219.4	V
OctP Bias	-8.0	V
Cell Temp.	65.0	°C
Cell Heater Volt.	3.8	V
+U Voltage	8.8	V

Name	Value	Unit
-U Voltage	-14.5	V
V Voltage	42.1	V
QPRF Fader	0.0	V
Pickup Temp	55.0	°C
PWR Amp Temp	0.1	V
+600V	609.8	V
-120V	-133.8	V
-720V	-738.2	V
Prefilter Bias	-5.01	V
Pickup Heater I	0.08	A
QP PS +48V	47.5	V
QP PS +48V I	0.00	A
Analog HV	-2405	V
Pulse HV	1557	V
EM Gate	-36.2	V
Pulse Gate	341.8	V
EM Entrance	0.2	V
EM HV Gain	-1051.3	V
Inner Pole	-300.3	V
Outer Pole	20.1	V
Analog -5V	-5.1	V
Analog +15V	14.5	V
Analog -15V	-14.4	V
Analog +5V	5.2	V
Shunt C Pos	1.2	V
Drain Volt.(max)	62.8	V
RF PS +48V	47.6	V
Forward Power	1549	W
Reflected Power	2	W
Plasma Freq.	26.75	MHz
Drain I 1	11.43	A
Drain I 2	10.96	A
Drain I 3	10.92	A
Drain I 4	10.21	A
Temp Sensor	2.8	V
Driver I	5.60	A

Name	Value	Unit
Igniter	0.1	V
Driver Voltage Set	6.5	V
Unbalance Current	0.43	A
PWM Threshold Set	0.2	V
Driver Voltage	5.1	V
PWM Threshold	0.2	V
Phase Detector	0.0	mV
H2 Gas	0.00	mL/min
He Gas	0.00	mL/min
H2 Gas Press	1.70E+2	kPa
He Gas Press	9.61E-1	kPa
ORS AMFC Temp	31.4	°C
Atmospheric Press	1.01E+2	kPa
Extract 1	-0.1	V
Extract 2	-175.3	V
Omega Bias	-90.1	V
Omega Lens	7.1	V
Cell Entrance	-29.9	V
Cell Exit	-50.2	V
Deflect	13.0	V
Plate Bias	-35.0	V
HV+530V	524	V
HV+240V	238	V
HV-360V	-357	V
Inlet Temp	30.6	°C
Internal Temp	36.2	°C
+24V	23.6	V
Water Temp	18.8	°C
Water RF/WC/IF	1.47	L/min
ISIS 3 Pump Speed	0.0	%
Valve Position		
Tune/ISTD Valve		

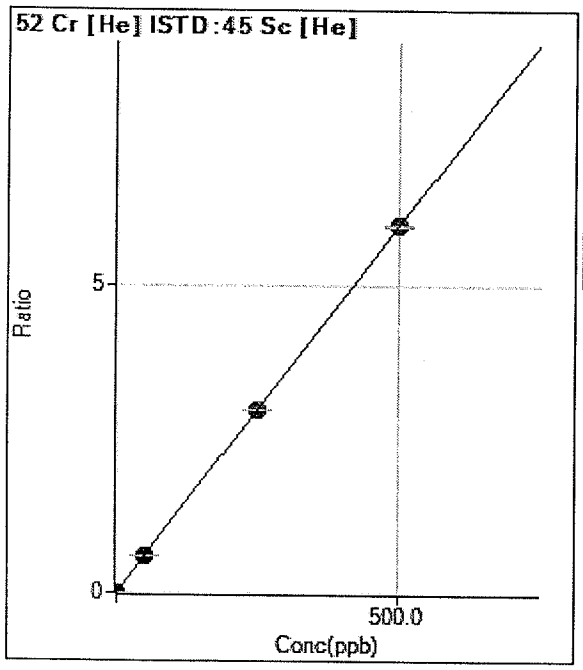
Performance Report History

Sensitivity

Calibration for H6F22129.d

Batch Folder:	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b\
Analysis File:	IH6F22.batch.bin
DA Date-Time:	2020-06-26 16:08:30
Calibration Title:	
Calibration Method:	External Calibration
VIS Interpolation Fit:	

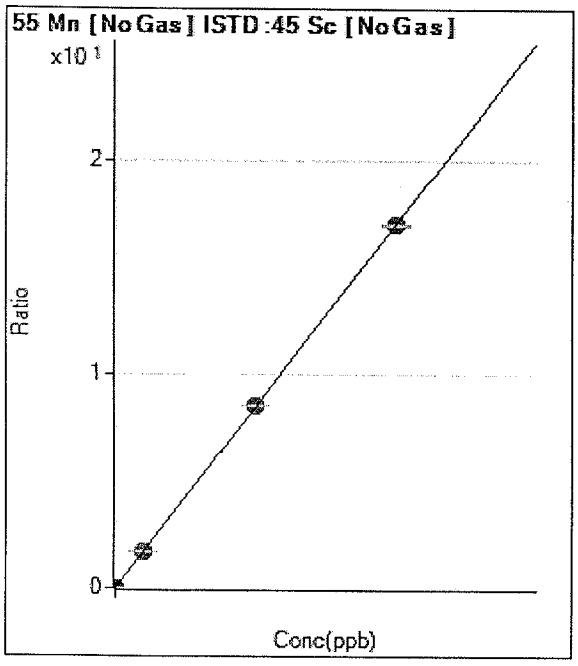
Level	Standard Data File	Sample Name	Acq. Date-Time
1	H6F22003.d	S0	2020-06-26 10:13:52
2	H6F22004.d	S1	2020-06-26 10:16:43
3	H6F22005.d	S2	2020-06-26 10:19:33
4	H6F22006.d	S3	2020-06-26 10:22:33
5	H6F22007.d	S4	2020-06-26 10:25:23



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1209.39	0.0021	P	3.1
2	☐	0.500	0.512	4964.90	0.0082	P	2.1
3	☐	50.000	51.387	367079.05	0.6146	P	0.6
4	☐	250.000	248.852	1780108.04	2.9685	A	0.7
5	☐	500.000	500.435	3511378.67	5.9675	A	0.8

y = 0.0119 * x + 0.0021
R = 1.0000
DL = 0.01616
BEC = 0.1737

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9121.04	0.0017	P	2.3
2	☐	0.500	0.503	24661.53	0.0046	P	1.3
3	☐	300.000	304.827	9268185.67	1.7314	A	0.9
4	☐	1500.000	1507.791	45231848.00	8.5571	A	0.4
5	☐	3000.000	2995.622	89917986.67	16.9992	A	0.3

y = 0.0057 * x + 0.0017
R = 1.0000
DL = 0.02085
BEC = 0.3049

Weight: <None>
Min Conc: 0

US EPA Tune Check Report

Operator Name	LYaman
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq. Date-Time	2020-06-26 09:31:22
Report Comment	---
Instrument Name	G8421A SG19253823

[No Gas]

Sensitivity

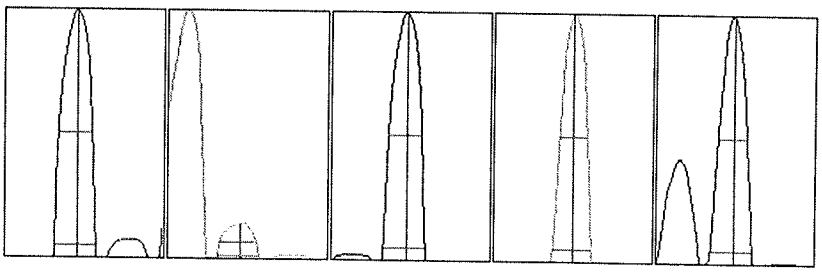
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	1946	19463.90			0.768	5.000
24	10.00	10070	100699.33			0.573	5.000
59	10.00	15522	155224.77			0.426	5.000
115	10.00	21455	214546.44			0.691	5.000
208	10.00	11182	111819.27			1.348	5.000

Mass	RSD% (Flag)
9	
24	
59	
115	
208	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
9	1948	1929	1944	1970	1940
24	10086	10019	10155	10077	10013
59	15527	15533	15434	15618	15501
115	21335	21322	21419	21517	21681
208	11242	11020	11083	11159	11407

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	3457.29	8.90	8.90 - 9.10	
24	16963.16	23.90	23.90 - 24.10	
59	26915.68	58.95	58.90 - 59.10	
115	41984.17	115.00	114.90 - 115.10	
208	21188.05	208.00	207.90 - 208.10	

US EPA Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.61	0.779	0.900	
24	0.65	0.786	0.900	
59	0.61	0.782	0.900	
115	0.53	0.729	0.900	
208	0.55	0.780	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	153.699999999999
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	HMI	Nebulizer Gas	0.62 L/min	Dilution Gas	0.36 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	9.0 V	Deflect	13.2 V
Extract 2	-200.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-80 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	123	Axis Gain	0.9997	QP Bias	-3.0 V
Mass Offset	124	Axis Offset	-0.07		

Hardware Settings

Torch

Torch H	0.5 mm	Torch V	-0.3 mm

EM

Discriminator	4.1 mV	Analog HV	2401 V	Pulse HV	1546 V

Calibration Standard Report

Sample Name	S0
File Name	H6F22003.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:13:52
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	107277.57	1.3
Be	9	6	No Gas	37.78	13.5
B	11	6	No Gas	3679.37	2.7
Na	23	45	H2	400057.54	0.4
Mg	24	45	No Gas	27330.74	2.7
Al	27	45	No Gas	9022.96	7.4
Si	28	45	H2	3723.83	2.2
P	31	45	No Gas	21333.03	1.5
K	39	45	He	101182.78	2.8
Ca	40	45	H2	134898.41	1.0
Ti	47	45	No Gas	476.68	4.8
V	51	45	He	6548.90	1.7
Cr	52	45	He	1209.39	4.0
Mn	55	45	No Gas	9121.04	2.2
Fe	56	45	H2	9666.09	2.9
Co	59	45	No Gas	253.33	12.1
Ni	60	45	He	127.33	12.8
Cu	63	45	He	2564.91	0.3
Zn	66	72	No Gas	2090.83	2.3
As	75	72	He	315.00	7.3
Se	78	72	H2	19.00	18.2
Sr	88	72	No Gas	716.69	14.8
Zr	90	72	No Gas	176.67	11.6
Mo	95	115	No Gas	54.44	23.2
Ag	107	115	No Gas	103.33	26.1
Cd	111	115	No Gas	40.92	21.1
Sn	118	115	No Gas	1496.75	4.7
Sb	123	115	No Gas	125.56	28.4
Ba	137	115	No Gas	113.33	11.8
W	182	159	No Gas	130.00	20.4
Hg	201	159	He	9.17	3.1
Tl	205	159	No Gas	788.91	18.9
Pb	208	159	No Gas	1622.27	1.3
U	238	159	No Gas	80.00	14.4

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1833807.01	0.7	1866774.34	98.23	60	120	
Sc	45	No Gas	5272647.17	0.7	5256704	100.3	60	120	
Sc	45	H2	3207538.17	1.3	3216050	99.74	60	120	
Sc	45	He	583892.71	1.0	590136.5	98.94	60	120	
Ge	72	No Gas	1328832.25	0.8	1347600.04	98.61	60	120	
Go	72	H2	905288.73	0.3	912330.27	99.23	60	120	
Ge	72	He	368649.84	0.7	378247.59	97.46	60	120	
In	115	No Gas	8749257.65	0.8	8692051.13	100.66	60	120	
Tb	159	No Gas	11771515.92	0.9	11827603.42	99.53	60	120	
Tb	159	He	6553564.17	1.0	6692094.83	97.93	60	120	

Calibration Standard Report

Sample Name	S1
File Name	H6F22004.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:16:43
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fail	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	113456.89	0.7
Be	9	6	No Gas	1466.74	2.1
B	11	6	No Gas	5391.04	3.7
Na	23	45	H2	639662.90	0.8
Mg	24	45	No Gas	596830.38	0.2
Al	27	45	No Gas	744479.13	0.4
Si	28	45	H2	130494.54	0.9
P	31	45	No Gas	41848.23	1.7
K	39	45	He	143690.33	1.9
Ca	40	45	H2	714788.73	0.6
Ti	47	45	No Gas	1288.06	5.8
V	51	45	He	8816.16	1.8
Cr	52	45	He	4964.90	1.9
Mn	55	45	No Gas	24661.53	1.3
Fe	56	45	H2	762463.85	0.8
Co	59	45	No Gas	13263.78	2.1
Ni	60	45	He	1509.42	6.3
Cu	63	45	He	5698.53	2.0
Zn	66	72	No Gas	8820.86	0.5
As	75	72	He	928.70	5.9
Se	78	72	H2	246.33	4.8
Sr	88	72	No Gas	18646.33	2.6
Zr	90	72	No Gas	95227.52	0.9
Mo	95	115	No Gas	3717.19	2.2
Ag	107	115	No Gas	9551.23	2.3
Cd	111	115	No Gas	2047.91	1.7
Sn	118	115	No Gas	6409.35	5.0
Sb	123	115	No Gas	6439.37	3.0
Ba	137	115	No Gas	3291.53	3.3
W	182	159	No Gas	3507.16	5.4
Hg	201	159	He	70.17	9.1
Tl	205	159	No Gas	16396.33	2.2
Pb	208	159	No Gas	23213.01	0.7
U	238	159	No Gas	21090.35	1.2

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1865481.64	1.4	1866774.34	99.93	60	120	
Sc	45	No Gas	5380215.17	1.4	5256704	102.35	60	120	
Sc	45	H2	3245345.92	1.0	3216050	100.91	60	120	
Sc	45	He	607201.23	0.6	590136.5	102.89	60	120	
Ge	72	No Gas	1390492.63	0.9	1347600.04	103.18	60	120	
Ge	72	H2	933932.67	0.7	912330.27	102.37	60	120	
Ge	72	He	384894.49	0.2	378247.59	101.76	60	120	
In	115	No Gas	8770387.94	1.3	8692051.13	100.9	60	120	
Tb	159	No Gas	11764732.31	1.6	11827603.42	99.47	60	120	
Tb	159	He	6637449.67	0.4	6692094.83	99.18	60	120	

Calibration Standard Report

Sample Name	S2
File Name	H6F22005.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:19:33
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	152974.61	0.4
Be	9	6	No Gas	14749.95	1.3
B	11	6	No Gas	28001.18	1.9
Na	23	45	H2	22472592.67	0.6
Mg	24	45	No Gas	54577372.00	1.0
Al	27	45	No Gas	70249423.96	0.4
Si	28	45	H2	656946.84	0.8
P	31	45	No Gas	64868.35	1.6
K	39	45	He	3981751.50	0.2
Ca	40	45	H2	47787988.00	0.4
Ti	47	45	No Gas	89269.93	1.5
V	51	45	He	320829.67	2.0
Cr	52	45	He	367079.05	0.8
Mn	55	45	No Gas	9268185.67	0.4
Fe	56	45	H2	70898853.33	0.4
Co	59	45	No Gas	1271541.08	0.5
Ni	60	45	He	128073.24	0.5
Cu	63	45	He	344308.34	0.2
Zn	66	72	No Gas	209650.23	0.5
As	75	72	He	65680.76	0.8
Se	78	72	H2	22145.49	0.9
Sr	88	72	No Gas	1778229.51	0.9
Zr	90	72	No Gas	200401.90	1.5
Mo	95	115	No Gas	340781.02	1.5
Ag	107	115	No Gas	91123.22	0.7
Cd	111	115	No Gas	184086.19	0.4
Sn	118	115	No Gas	539529.87	0.2
Sb	123	115	No Gas	126759.06	0.2
Ba	137	115	No Gas	551137.46	0.1
W	182	159	No Gas	69426.84	0.9
Hg	201	159	He	620.02	3.4
Tl	205	159	No Gas	1586570.70	0.7
Pb	208	159	No Gas	2131938.06	0.6
U	238	159	No Gas	2072481.44	0.5

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1860769.06	0.8	1866774.34	99.68	60	120	
Sc	45	No Gas	5353536.00	1.2	5256704	101.84	60	120	
Sc	45	H2	3221569.92	1.2	3216050	100.17	60	120	
Sc	45	He	597225.71	0.2	590136.5	101.2	60	120	
Ge	72	No Gas	1379402.33	0.0	1347600.04	102.36	60	120	
Ge	72	H2	930292.75	1.4	912330.27	101.97	60	120	
Ge	72	He	382113.18	0.5	378247.59	101.02	60	120	
In	115	No Gas	8748453.84	0.6	8692051.13	100.65	60	120	
Tb	159	No Gas	11746766.20	0.3	11827603.42	99.32	60	120	
Tb	159	He	6518821.83	0.4	6692094.83	97.41	60	120	

Calibration Standard Report

Sample Name	S3
File Name	H6F22006.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:22:33
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	316906.47	1.5
Be	9	6	No Gas	71627.01	0.9
B	11	6	No Gas	106612.07	1.1
Na	23	45	H2	108905344.00	0.7
Mg	24	45	No Gas	266286757.33	1.2
Al	27	45	No Gas	343325328.22	1.5
Si	28	45	H2	3166854.83	0.2
P	31	45	No Gas	234646.94	1.7
K	39	45	He	19119142.67	1.6
Ca	40	45	H2	235123573.33	0.5
Ti	47	45	No Gas	443433.34	0.0
V	51	45	He	1546369.29	0.4
Cr	52	45	He	1780108.04	0.2
Mn	55	45	No Gas	45231848.00	0.2
Fe	56	45	H2	346349685.33	0.5
Co	59	45	No Gas	6193089.50	0.7
Ni	60	45	He	621163.21	0.9
Cu	63	45	He	1621313.09	0.5
Zn	66	72	No Gas	1025697.56	0.6
As	75	72	He	321727.92	0.4
Se	78	72	H2	108207.87	0.8
Sr	88	72	No Gas	8733576.87	0.6
Zr	90	72	No Gas	541877.09	2.2
Mo	95	115	No Gas	1699527.09	1.1
Ag	107	115	No Gas	441431.89	0.7
Cd	111	115	No Gas	905752.50	0.9
Sn	118	115	No Gas	2701878.64	0.1
Sb	123	115	No Gas	626080.69	0.7
Ba	137	115	No Gas	2784517.04	0.2
W	182	159	No Gas	331320.30	1.4
Hg	201	159	He	3026.20	1.4
Tl	205	159	No Gas	7717109.42	0.7
Pb	208	159	No Gas	10460288.95	0.5
U	238	159	No Gas	10162585.43	0.7

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1807021.82	0.2	1866774.34	96.8	60	120	
Sc	45	No Gas	5285953.83	0.6	5256704	100.56	60	120	
Sc	45	H2	3248700.92	0.9	3216050	101.02	60	120	
Sc	45	He	599675.08	0.5	590136.5	101.62	60	120	
Ge	72	No Gas	1347186.84	0.4	1347600.04	99.97	60	120	
Ge	72	H2	919451.56	0.1	912330.27	100.78	60	120	
Ge	72	He	377152.10	0.7	378247.59	99.71	60	120	
In	115	No Gas	8431557.94	0.6	8692051.13	97	60	120	
Tb	159	No Gas	11647431.76	0.1	11827603.42	98.48	60	120	
Tb	159	He	6524567.00	1.1	6692094.83	97.5	60	120	

Calibration Standard Report

Sample Name	S4
File Name	H6F22007.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:25:23
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	522113.21	1.3
Be	9	6	No Gas	141322.42	1.8
B	11	6	No Gas	174690.98	1.1
Na	23	45	H2	215298154.67	0.8
Mg	24	45	No Gas	525115914.67	0.6
Al	27	45	No Gas	686882496.43	0.9
Si	28	45	H2	6220790.00	1.3
P	31	45	No Gas	441749.50	1.3
K	39	45	He	37651220.00	1.1
Ca	40	45	H2	468210709.33	0.8
Ti	47	45	No Gas	882799.27	0.8
V	51	45	He	3043591.42	0.4
Cr	52	45	He	3511378.67	0.8
Mn	55	45	No Gas	89917986.67	0.3
Fe	56	45	H2	688876117.33	0.9
Co	59	45	No Gas	12246239.67	0.5
Ni	60	45	He	1200083.54	0.6
Cu	63	45	He	3172209.42	0.4
Zn	66	72	No Gas	2034346.00	0.5
As	75	72	He	634083.98	1.4
Se	78	72	H2	213494.19	1.0
Sr	88	72	No Gas	17507492.08	0.8
Zr	90	72	No Gas	1122528.42	0.9
Mo	95	115	No Gas	3403505.07	0.6
Ag	107	115	No Gas	862475.51	0.6
Cd	111	115	No Gas	1809577.17	1.0
Sn	118	115	No Gas	5409921.03	0.9
Sb	123	115	No Gas	1257398.32	0.1
Ba	137	115	No Gas	5517116.03	0.5
W	182	159	No Gas	650361.67	0.3
Hg	201	159	He	5931.24	0.7
Tl	205	159	No Gas	15259868.28	1.4
Pb	208	159	No Gas	20692463.98	1.2
U	238	159	No Gas	20299674.75	0.2

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1804921.77	1.6	1866774.34	96.69	60	120	
Sc	45	No Gas	5289565.00	0.4	5256704	100.63	60	120	
Sc	45	H2	3197800.33	0.7	3216050	99.43	60	120	
Sc	45	He	588421.23	0.6	590136.5	99.71	60	120	
Ge	72	No Gas	1338488.71	0.3	1347600.04	99.32	60	120	
Ge	72	H2	919890.04	0.9	912330.27	100.83	60	120	
Ge	72	He	372561.70	1.2	378247.59	98.5	60	120	
In	115	No Gas	8357718.43	1.2	8692051.13	96.15	60	120	
Tb	159	No Gas	11629119.26	1.3	11827603.42	98.32	60	120	
Tb	159	He	6590832.17	0.6	6692094.83	98.49	60	120	

Initial Calibration Verification (ICV) Report

Sample Name	ICV
File Name	H6F22008.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:28:08
Sample Type	ICV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fail	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	29.736	ppb	0.9	358762.89	30	99.12	90	110	
Be	9	6	No Gas	30.318	ppb	1.4	87088.92	30	101.06	90	110	
B	11	6	No Gas	34.353	ppb	1.4	65793.73	30	114.51	90	110	> +/- 10%
Na	23	45	H2	28820.585	ppb	0.6	125437029.33	30000	96.07	90	110	
Mg	24	45	No Gas	29084.919	ppb	0.8	304505877.33	30000	96.95	90	110	
Al	27	45	No Gas	29539.820	ppb	1.5	403294793.99	30000	98.47	90	110	
Si	28	45	H2	3225.330	ppb	0.4	4058938.17	3000	107.51	90	110	
P	31	45	No Gas	276.945	ppb	1.7	253303.21	300	92.32	90	110	
K	39	45	He	29477.359	ppb	0.3	22081847.33	30000	98.26	90	110	
Ca	40	45	H2	29356.214	ppb	1.0	277205365.33	30000	97.85	90	110	
Ti	47	45	No Gas	293.408	ppb	1.1	515484.43	300	97.8	90	110	
V	51	45	He	313.309	ppb	0.7	1896610.54	300	104.44	90	110	
Cr	52	45	He	313.274	ppb	0.7	2185556.58	300	104.42	90	110	
Mn	55	45	No Gas	1954.829	ppb	1.0	58316386.67	2000	97.74	90	110	
Fe	56	45	H2	29575.971	ppb	1.4	410980554.67	30000	98.59	90	110	
Co	59	45	No Gas	301.291	ppb	1.5	7352505.67	300	100.43	90	110	
Ni	60	45	He	317.535	ppb	0.1	760300.81	300	105.85	90	110	
Cu	63	45	He	309.944	ppb	1.0	1957464.25	300	103.31	90	110	
Zn	66	72	No Gas	289.061	ppb	2.1	1176040.92	300	96.35	90	110	
As	75	72	He	313.887	ppb	0.6	394956.29	300	104.63	90	110	
Se	78	72	H2	315.425	ppb	0.9	132973.74	300	105.14	90	110	
Sr	88	72	No Gas	307.647	ppb	1.2	10742358.74	300	102.55	90	110	
Zr	90	72	No Gas	27.589	ppb	1.1	610565.53	30	91.96	90	110	
Mo	95	115	No Gas	304.183	ppb	1.5	2059956.23	300	101.39	90	110	
Ag	107	115	No Gas	31.012	ppb	0.6	535050.69	30	103.37	90	110	
Cd	111	115	No Gas	311.300	ppb	1.4	1121536.20	300	103.77	90	110	
Sn	118	115	No Gas	307.583	ppb	0.5	3310964.80	300	102.53	90	110	
Sb	123	115	No Gas	58.921	ppb	0.8	736684.00	60	98.2	90	110	
Ba	137	115	No Gas	310.186	ppb	0.7	1706160.34	300	103.4	90	110	
W	182	159	No Gas	32.137	ppb	1.0	421841.17	30	107.12	90	110	
Hg	201	159	He	2.999	ppb	0.5	3558.67	3	99.97	90	110	
Tl	205	159	No Gas	304.059	ppb	2.2	9349810.46	300	101.35	90	110	
Pb	208	159	No Gas	307.021	ppb	1.2	12798195.58	300	102.34	90	110	
U	238	159	No Gas	305.688	ppb	1.3	12553883.39	300	101.9	90	110	

Initial Calibration Verification (ICV) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1828949.17	1.6	1866774.34	97.97	60	120	
Sc	45	No Gas	5256178.33	2.0	5256704	99.99	60	120	
Sc	45	H2	3231272.67	0.9	3216050	100.47	60	120	
Sc	45	He	584914.69	0.6	590136.5	99.12	60	120	
Ge	72	No Gas	1337087.17	1.4	1347600.04	99.22	60	120	
Ge	72	H2	905466.06	1.3	912330.27	99.25	60	120	
Ge	72	He	369396.60	0.5	378247.59	97.66	60	120	
In	115	No Gas	8333193.12	1.2	8692051.13	95.87	60	120	
Tb	159	No Gas	11689694.26	1.0	11827603.42	98.83	60	120	
Tb	159	He	6544758.33	0.7	6692094.83	97.8	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	ICB
File Name	H6F22009.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:33:07
Sample Type	ICB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**LYaman**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	104858.54	0.4	
Be	9	6	No Gas	0.003	ppb	100.0	44.45	0.08	
B	11	6	No Gas	0.344	ppb	75.3	4232.87	4	
Na	23	45	H2	0.711	ppb	196.6	395594.45	40	
Mg	24	45	No Gas	0.323	ppb	72.1	30278.99	10	
Al	27	45	No Gas	0.654	ppb	37.1	17705.07	15	
Si	28	45	H2	0.771	ppb	17.2	4596.76	8	
P	31	45	No Gas	<0.000	ppb	N/A	20648.66	10	
K	39	45	He	0.703	ppb	272.1	101012.94	20	
Ca	40	45	H2	0.424	ppb	60.5	136289.07	25	
Ti	47	45	No Gas	0.014	ppb	843.2	495.35	0.5	
V	51	45	He	<0.000	ppb	N/A	5914.61	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1117.38	0.2	
Mn	55	45	No Gas	0.063	ppb	33.3	10860.32	0.2	
Fe	56	45	H2	0.637	ppb	8.2	18096.65	10	
Co	59	45	No Gas	0.007	ppb	46.4	410.01	0.15	
Ni	60	45	He	<0.000	ppb	N/A	108.67	0.2	
Cu	63	45	He	0.020	ppb	9.7	2670.26	0.4	
Zn	66	72	No Gas	0.008	ppb	124.4	2100.16	2	
As	75	72	He	<0.000	ppb	N/A	307.00	0.2	
Se	78	72	H2	0.050	ppb	13.1	39.67	0.2	
Sr	88	72	No Gas	0.018	ppb	146.3	1323.67	0.2	
Zr	90	72	No Gas	0.002	ppb	46.1	226.67	2	
Mo	95	115	No Gas	0.012	ppb	24.9	140.00	0.2	
Ag	107	115	No Gas	0.001	ppb	130.8	112.22	0.08	
Cd	111	115	No Gas	0.022	ppb	13.8	122.26	0.2	
Sn	118	115	No Gas	0.074	ppb	3.9	2317.99	0.2	
Sb	123	115	No Gas	0.001	ppb	127.7	137.78	0.4	
Ba	137	115	No Gas	0.013	ppb	4.4	185.56	0.2	
W	182	159	No Gas	0.007	ppb	54.2	226.67	0.3	
Hg	201	159	He	0.004	ppb	51.3	14.33	0.1	
Tl	205	159	No Gas	0.033	ppb	16.2	1821.25	0.1	
Pb	208	159	No Gas	0.031	ppb	11.4	2914.58	0.1	
U	238	159	No Gas	0.007	ppb	13.9	383.34	0.05	

Continuing Calibration Blank (CCB) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1805900.20	1.4	1866774.34	96.74	60	120	
Sc	45	No Gas	5200317.33	1.6	5256704	98.93	60	120	
Sc	45	H2	3148112.17	2.3	3216050	97.89	60	120	
Sc	45	He	579918.98	1.0	590136.5	98.27	60	120	
Ge	72	No Gas	1315078.71	1.4	1347600.04	97.59	60	120	
Ge	72	H2	892639.04	1.3	912330.27	97.84	60	120	
Ge	72	He	369136.27	0.8	378247.59	97.59	60	120	
In	115	No Gas	8709759.51	1.0	8692051.13	100.2	60	120	
Tb	159	No Gas	11780840.64	1.4	11827603.42	99.6	60	120	
Tb	159	He	6721993.83	0.4	6692094.83	100.45	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Name	MRLF2601
File Name	H6F22010.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:35:43
Sample Type	LLCCV
Total Dilution	1.0000
Comment	1/100/10 ppb
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Li	7	6	No Gas	0.882	ppb	21.5	112120.55	1	88.2	80	120	
Be	9	6	No Gas	0.984	ppb	4.8	2803.62	1	98.4	80	120	
B	11	6	No Gas	9.131	ppb	1.8	19769.45	10	91.31	80	120	
Na	23	45	H2	101.451	ppb	0.3	828278.92	100	101.45	80	120	
Mg	24	45	No Gas	99.949	ppb	1.4	1065124.68	100	99.95	80	120	
Al	27	45	No Gas	100.561	ppb	2.2	1371232.95	100	100.56	80	120	
Si	28	45	H2	100.043	ppb	0.6	127247.18	100	100.04	80	120	
P	31	45	No Gas	47.671	ppb	1.3	60727.72	50	95.34	80	120	
K	39	45	He	103.056	ppb	4.3	178444.80	100	103.06	80	120	
Ca	40	45	H2	103.977	ppb	0.5	1097548.50	100	103.98	80	120	
Ti	47	45	No Gas	0.993	ppb	4.6	2200.18	1	99.3	80	120	
V	51	45	He	0.895	ppb	2.4	11977.89	1	89.5	80	120	
Cr	52	45	He	1.068	ppb	0.9	8672.08	1	106.8	80	120	
Mn	55	45	No Gas	1.040	ppb	1.5	39790.41	1	104	80	120	
Fe	56	45	H2	104.624	ppb	1.3	1437664.25	100	104.62	80	120	
Co	59	45	No Gas	1.022	ppb	0.9	25003.59	1	102.2	80	120	
Ni	60	45	He	1.094	ppb	0.4	2750.94	1	109.4	80	120	
Cu	63	45	He	1.069	ppb	4.3	9327.20	1	106.9	80	120	
Zn	66	72	No Gas	10.040	ppb	1.1	43835.94	10	100.4	80	120	
As	75	72	He	0.964	ppb	2.4	1571.76	1	96.4	80	120	
Se	78	72	H2	1.061	ppb	3.9	476.68	1	106.1	80	120	
Sr	88	72	No Gas	1.991	ppb	0.5	71805.28	2	99.55	80	120	
Zr	90	72	No Gas	3.808	ppb	2.7	86334.70	5	76.16	80	120	> +/- 20%
Mo	95	115	No Gas	0.919	ppb	2.6	6520.49	1	91.9	80	120	
Ag	107	115	No Gas	1.039	ppb	2.7	18724.34	1	103.9	80	120	
Cd	111	115	No Gas	1.002	ppb	1.8	3789.94	1	100.2	80	120	
Sn	118	115	No Gas	0.944	ppb	0.4	12031.07	1	94.4	80	120	
Sb	123	115	No Gas	0.953	ppb	1.0	12493.75	1	95.3	80	120	
Ba	137	115	No Gas	1.049	ppb	1.8	6102.55	1	104.9	80	120	
W	182	159	No Gas	2.077	ppb	0.1	27393.00	2	103.85	80	120	
Hg	201	159	He	0.085	ppb	7.1	112.00	0.1	85	80	120	
Tl	205	159	No Gas	1.029	ppb	2.8	32407.56	1	102.9	80	120	
Pb	208	159	No Gas	1.036	ppb	0.5	44783.81	1	103.6	80	120	
U	238	159	No Gas	0.989	ppb	1.2	40679.65	1	98.9	80	120	

Low Level Continuing Calibration Verification (LLCCV) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1791533.69	1.2	1866774.34	95.97	60	120	
Sc	45	No Gas	5214731.17	0.9	5256704	99.2	60	120	
Sc	45	H2	3174085.25	0.7	3216050	98.7	60	120	
Sc	45	He	585793.98	0.9	590136.5	99.26	60	120	
Ge	72	No Gas	1367003.67	1.1	1347600.04	101.44	60	120	
Ge	72	H2	925155.17	1.4	912330.27	101.41	60	120	
Ge	72	He	380000.60	0.1	378247.59	100.46	60	120	
In	115	No Gas	8655547.44	0.9	8692051.13	99.58	60	120	
Tb	159	No Gas	11690698.15	0.4	11827603.42	98.84	60	120	
Tb	159	He	6672892.67	0.4	6692094.83	99.71	60	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA1
File Name	H6F22012.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:40:53
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.229	ppb	102.2	98983.75	2	-50	50	
Be	9	6	No Gas	0.000	ppb	5956.4	34.45	0.4	-50	50	
B	11	6	No Gas	9.754	ppb	4.9	19356.65	10	-50	50	> +/- 20%
Na	23	45	H2	94995.036	ppb	0.7	403774208.00	100000	80	120	
Mg	24	45	No Gas	93163.519	ppb	1.1	949078165.33	100000	80	120	
Al	27	45	No Gas	93877.409	ppb	1.4	1247176674.75	100000	80	120	
Si	28	45	H2	4.217	ppb	1.7	8861.50	50	-50	50	
P	31	45	No Gas	93807.222	ppb	0.8	76510472.00	100000	80	120	
K	39	45	He	98193.331	ppb	0.3	70832144.00	100000	80	120	
Ca	40	45	H2	97917.561	ppb	1.0	904676864.00	100000	80	120	
Ti	47	45	No Gas	2002.695	ppb	1.5	3421023.67	2000	80	120	
V	51	45	He	<0.000	ppb	N/A	5651.17	1	-50	50	
Cr	52	45	He	0.274	ppb	3.6	3017.00	1	-50	50	
Mn	55	45	No Gas	0.248	ppb	3.5	16042.73	1	-50	50	
Fe	56	45	H2	98568.621	ppb	2.1	1340498432.00	100000	80	120	
Co	59	45	No Gas	0.356	ppb	2.2	8701.44	0.75	-50	50	
Ni	60	45	He	0.318	ppb	1.2	858.70	1	-50	50	
Cu	63	45	He	0.272	ppb	5.3	4138.63	2	-50	50	
Zn	66	72	No Gas	1.602	ppb	2.3	8395.26	20	-50	50	
As	75	72	He	0.073	ppb	12.8	396.68	1	-50	50	
Se	78	72	H2	0.218	ppb	15.8	107.67	1	-50	50	
Sr	88	72	No Gas	0.780	ppb	0.7	27251.05	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.115	ppb	10.0	2653.61	10	-50	50	
Mo	95	115	No Gas	1967.866	ppb	1.4	13021799.48	2000	80	120	
Ag	107	115	No Gas	0.010	ppb	22.9	272.23	0.4	-50	50	
Cd	111	115	No Gas	0.075	ppb	38.3	301.73	1	-50	50	
Sn	118	115	No Gas	0.359	ppb	4.9	5159.91	1	-50	50	
Ba	137	115	No Gas	0.408	ppb	4.4	2294.65	1	-50	50	
W	182	159	No Gas	0.186	ppb	0.6	2543.59	1	-50	50	
Hg	201	159	He	0.002	ppb	121.4	11.83	0.5	-50	50	
Tl	205	159	No Gas	<0.000	ppb	N/A	538.90	0.5	-50	50	
Pb	208	159	No Gas	0.081	ppb	1.8	4933.71	0.5	-50	50	
U	238	159	No Gas	0.000	ppb	11184.7	78.89	0.25	-50	50	

Interference Check Solution A (ICS-A) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1662265.44	2.6	1866774.34	89.04	60	120	
Sc	45	No Gas	5114177.17	1.8	5256704	97.29	60	120	
Sc	45	H2	3162619.00	0.9	3216050	98.34	60	120	
Sc	45	He	565041.46	1.1	590136.5	95.75	60	120	
Ge	72	No Gas	1303712.33	2.0	1347600.04	96.74	60	120	
Ge	72	H2	880464.38	0.4	912330.27	96.51	60	120	
Ge	72	He	359651.50	0.6	378247.59	95.08	60	120	
In	115	No Gas	8142481.56	2.0	8692051.13	93.68	60	120	
Tb	159	No Gas	11592594.26	2.3	11827603.42	98.01	60	120	
Tb	159	He	6539212.50	0.5	6692094.83	97.72	60	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB1
File Name	H6F22013.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:43:30
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	19.581	ppb	1.3	245283.72	20	80	120	
Be	9	6	No Gas	19.924	ppb	2.9	51476.32	20	80	120	
B	11	6	No Gas	22.314	ppb	1.3	39590.13	20	80	120	
Na	23	45	H2	100251.981	ppb	0.3	426762048.00	100000	80	120	
Mg	24	45	No Gas	96321.885	ppb	2.1	990204416.00	100000	80	120	
Al	27	45	No Gas	97150.885	ppb	1.5	1302457607.26	100000	80	120	
Si	28	45	H2	222.687	ppb	1.1	278133.39	200	80	120	
P	31	45	No Gas	97155.920	ppb	2.1	79968762.67	100000	80	120	
K	39	45	He	102000.772	ppb	1.7	75100917.33	100000	80	120	
Ca	40	45	H2	103855.990	ppb	0.9	961069333.33	100000	80	120	
Ti	47	45	No Gas	2103.311	ppb	2.4	3625589.42	2000	80	120	
V	51	45	He	20.156	ppb	2.2	126368.57	20	80	120	
Cr	52	45	He	20.739	ppb	1.9	143783.99	20	80	120	
Mn	55	45	No Gas	19.625	ppb	1.7	583678.00	20	80	120	
Fe	56	45	H2	103753.587	ppb	1.1	1413312554.67	100000	80	120	
Co	59	45	No Gas	19.546	ppb	1.2	468578.96	20	80	120	
Ni	60	45	He	20.557	ppb	1.9	48652.57	20	80	120	
Cu	63	45	He	20.450	ppb	1.1	129732.00	20	80	120	
Zn	66	72	No Gas	21.132	ppb	1.1	87143.45	20	80	120	
As	75	72	He	20.030	ppb	1.7	25217.83	20	80	120	
Se	78	72	H2	21.602	ppb	1.3	8791.86	20	80	120	
Sr	88	72	No Gas	20.142	ppb	1.2	697726.22	20	80	120	
Zr	90	72	No Gas	8.549	ppb	2.2	187656.19	20	80	120	> +/- 20%
Mo	95	115	No Gas	2039.545	ppb	1.2	13696100.84	2000	80	120	
Ag	107	115	No Gas	18.948	ppb	0.8	324184.99	20	80	120	
Cd	111	115	No Gas	19.233	ppb	0.4	68740.38	20	80	120	
Sn	118	115	No Gas	19.785	ppb	0.4	212620.20	20	80	120	
Sb	123	115	No Gas	19.476	ppb	0.4	241566.22	20	80	120	
Ba	137	115	No Gas	20.078	ppb	0.7	109609.91	20	80	120	
W	182	159	No Gas	19.295	ppb	0.5	255168.37	20	80	120	
Hg	201	159	He	2.020	ppb	1.8	2431.07	2	80	120	
Tl	205	159	No Gas	18.766	ppb	2.6	581951.14	20	80	120	
Pb	208	159	No Gas	19.123	ppb	1.2	804395.74	20	80	120	
U	238	159	No Gas	19.160	ppb	1.1	792644.43	20	80	120	

Interference Check Solution AB (ICS-AB) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1644718.44	1.9	1866774.34	88.1	60	120	
Sc	45	No Gas	5160537.00	1.4	5256704	98.17	60	120	
Sc	45	H2	3167616.00	1.1	3216050	98.49	60	120	
Sc	45	He	576853.04	1.4	590136.5	97.75	60	120	
Ge	72	No Gas	1325201.50	1.6	1347600.04	98.34	60	120	
Ge	72	H2	872513.64	1.6	912330.27	95.64	60	120	
Ge	72	He	365384.33	1.9	378247.59	96.6	60	120	
In	115	No Gas	8263891.15	2.8	8692051.13	95.07	60	120	
Tb	159	No Gas	11774390.08	2.1	11827603.42	99.55	60	120	
Tb	159	He	6630706.33	0.9	6692094.83	99.08	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV1
File Name	H6F22015.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:48:43
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.333	ppb	1.4	296499.35	25	97.33	90	110	
Be	9	6	No Gas	24.763	ppb	1.6	67385.47	25	99.05	90	110	
B	11	6	No Gas	55.565	ppb	4.0	98684.24	50	111.13	90	110	> +/- 10%
Na	23	45	H2	24680.379	ppb	1.8	108926117.33	25000	98.72	90	110	
Mg	24	45	No Gas	24488.547	ppb	2.6	261271850.67	25000	97.95	90	110	
Al	27	45	No Gas	24272.939	ppb	2.6	337729468.30	25000	97.09	90	110	
Si	28	45	H2	2495.484	ppb	1.6	3183676.17	2500	99.82	90	110	
P	31	45	No Gas	240.427	ppb	2.4	226984.23	250	96.17	90	110	
K	39	45	He	25468.794	ppb	1.2	19559913.33	25000	101.88	90	110	
Ca	40	45	H2	24945.958	ppb	1.9	238762965.33	25000	99.78	90	110	
Ti	47	45	No Gas	242.650	ppb	1.5	434475.16	250	97.06	90	110	
V	51	45	He	253.745	ppb	0.8	1574934.92	250	101.5	90	110	
Cr	52	45	He	253.445	ppb	0.4	1811615.08	250	101.38	90	110	
Mn	55	45	No Gas	1508.127	ppb	1.7	45845438.67	1500	100.54	90	110	
Fe	56	45	H2	25353.954	ppb	0.7	357126848.00	25000	101.42	90	110	
Co	59	45	No Gas	251.343	ppb	1.6	6250206.67	250	100.54	90	110	
Ni	60	45	He	255.972	ppb	0.4	627923.52	250	102.39	90	110	
Cu	63	45	He	257.534	ppb	0.7	1666764.38	250	103.01	90	110	
Zn	66	72	No Gas	242.351	ppb	2.6	1018859.21	250	96.94	90	110	
As	75	72	He	251.901	ppb	0.9	324704.22	250	100.76	90	110	
Se	78	72	H2	253.763	ppb	1.9	110362.02	250	101.51	90	110	
Sr	88	72	No Gas	248.102	ppb	1.2	8947380.20	250	99.24	90	110	
Zr	90	72	No Gas	24.057	ppb	1.7	549936.45	25	96.23	90	110	
Mo	95	115	No Gas	246.965	ppb	1.3	1756909.24	250	98.79	90	110	
Ag	107	115	No Gas	24.017	ppb	1.5	435357.54	25	96.07	90	110	
Cd	111	115	No Gas	238.406	ppb	1.1	902260.13	250	95.36	90	110	
Sn	118	115	No Gas	244.628	ppb	1.2	2766612.18	250	97.85	90	110	
Sb	123	115	No Gas	47.239	ppb	1.0	620484.49	50	94.48	90	110	
Ba	137	115	No Gas	490.822	ppb	0.3	2835847.11	500	98.16	90	110	
W	182	159	No Gas	24.552	ppb	2.6	329941.78	25	98.21	90	110	
Hg	201	159	He	2.493	ppb	0.6	3023.37	2.5	99.72	90	110	
Tl	205	159	No Gas	250.219	ppb	2.6	7874936.07	250	100.09	90	110	
Pb	208	159	No Gas	254.057	ppb	0.9	10840452.45	250	101.62	90	110	
U	238	159	No Gas	246.796	ppb	1.3	10374103.75	250	98.72	90	110	

Continuing Calibration Verification (CCV) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1732389.92	1.2	1866774.34	92.8	60	120	
Sc	45	No Gas	5356287.17	0.3	5256704	101.89	60	120	
Sc	45	H2	3275347.75	1.6	3216050	101.84	60	120	
Sc	45	He	599227.98	0.2	590136.5	101.54	60	120	
Ge	72	No Gas	1381000.29	1.5	1347600.04	102.48	60	120	
Ge	72	H2	934265.44	2.2	912330.27	102.4	60	120	
Ge	72	He	378353.57	0.8	378247.59	100.03	60	120	
In	115	No Gas	8753711.63	1.3	8692051.13	100.71	60	120	
Tb	159	No Gas	11964646.75	0.4	11827603.42	101.16	60	120	
Tb	159	He	6685128.00	0.2	6692094.83	99.9	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB1
File Name	H6F22016.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:53:45
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	98865.27	0.4	
Be	9	6	No Gas	0.004	ppb	213.7	46.67	0.08	
B	11	6	No Gas	0.151	ppb	142.2	3679.38	4	
Na	23	45	H2	8.037	ppb	1.1	432110.11	40	
Mg	24	45	No Gas	1.105	ppb	28.2	38064.79	10	
Al	27	45	No Gas	1.078	ppb	32.4	23240.09	15	
Si	28	45	H2	<0.000	ppb	N/A	3578.46	8	
P	31	45	No Gas	<0.000	ppb	N/A	19215.96	10	
K	39	45	He	0.916	ppb	192.6	101172.94	20	
Ca	40	45	H2	0.438	ppb	41.7	138180.55	25	
Ti	47	45	No Gas	<0.000	ppb	N/A	372.67	0.5	
V	51	45	He	0.069	ppb	64.8	6912.41	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1075.38	0.2	
Mn	55	45	No Gas	0.062	ppb	26.9	10720.20	0.2	
Fe	56	45	H2	1.209	ppb	5.5	26189.74	10	
Co	59	45	No Gas	0.007	ppb	36.0	420.01	0.15	
Ni	60	45	He	<0.000	ppb	N/A	116.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	1938.80	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	2021.48	2	
As	75	72	He	0.011	ppb	198.7	328.33	0.2	
Se	78	72	H2	0.022	ppb	66.4	28.33	0.2	
Sr	88	72	No Gas	0.005	ppb	71.8	895.59	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	120.00	2	
Mo	95	115	No Gas	0.019	ppb	4.8	187.78	0.2	
Ag	107	115	No Gas	0.001	ppb	184.6	125.56	0.08	
Cd	111	115	No Gas	0.015	ppb	38.2	97.83	0.2	
Sn	118	115	No Gas	0.032	ppb	20.3	1866.60	0.2	
Sb	123	115	No Gas	0.003	ppb	34.5	170.00	0.4	
Ba	137	115	No Gas	0.021	ppb	36.4	235.56	0.2	
W	182	159	No Gas	0.009	ppb	38.6	250.00	0.3	
Hg	201	159	He	0.002	ppb	144.9	11.83	0.1	
Tl	205	159	No Gas	0.022	ppb	22.1	1478.97	0.1	
Pb	208	159	No Gas	0.019	ppb	38.8	2462.32	0.1	
U	238	159	No Gas	0.008	ppb	7.8	428.90	0.05	

Continuing Calibration Blank (CCB) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1709238.89	1.9	1866774.34	91.56	60	120	
Sc	45	No Gas	5156921.00	1.0	5256704	98.1	60	120	
Sc	45	H2	3188394.83	0.3	3216050	99.14	60	120	
Sc	45	He	579926.92	2.5	590136.5	98.27	60	120	
Ge	72	No Gas	1323948.75	2.7	1347600.04	98.24	60	120	
Ge	72	H2	903765.81	0.8	912330.27	99.06	60	120	
Ge	72	He	368350.32	0.8	378247.59	97.38	60	120	
In	115	No Gas	8764699.40	1.9	8692051.13	100.84	60	120	
Tb	159	No Gas	11933850.36	1.7	11827603.42	100.9	60	120	
Tb	159	He	6692787.00	0.4	6692094.83	100.01	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV11
File Name	H6F22118.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 15:37:59
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**LYaman**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	26.522	ppb	1.3	404108.94	25	106.09	90	110	
Be	9	6	No Gas	24.244	ppb	2.6	84885.16	25	96.98	90	110	
B	11	6	No Gas	78.113	ppb	1.2	176670.53	50	156.23	90	110	> +/- 10%
Na	23	45	H2	29176.384	ppb	1.1	135030405.33	25000	116.71	90	110	> +/- 10%
Mg	24	45	No Gas	27364.156	ppb	2.1	318704181.33	25000	109.46	90	110	
Al	27	45	No Gas	27006.135	ppb	2.8	410182287.22	25000	108.02	90	110	
Si	28	45	H2	2652.567	ppb	1.4	3550379.50	2500	106.1	90	110	
P	31	45	No Gas	265.261	ppb	2.0	270938.52	250	106.1	90	110	
K	39	45	He	27011.964	ppb	1.0	22616114.67	25000	108.05	90	110	
Ca	40	45	H2	25794.894	ppb	1.2	259041610.67	25000	103.18	90	110	
Ti	47	45	No Gas	246.555	ppb	1.8	481921.41	250	98.62	90	110	
V	51	45	He	248.514	ppb	0.7	1682207.04	250	99.41	90	110	
Cr	52	45	He	244.932	ppb	0.6	1909252.88	250	97.97	90	110	
Mn	55	45	No Gas	1469.143	ppb	1.9	48753696.00	1500	97.94	90	110	
Fe	56	45	H2	24929.075	ppb	0.9	368408042.67	25000	99.72	90	110	
Co	59	45	No Gas	245.185	ppb	1.9	6655917.67	250	98.07	90	110	
Ni	60	45	He	236.428	ppb	1.2	632460.96	250	94.57	90	110	
Cu	63	45	He	236.022	ppb	0.6	1666008.29	250	94.41	90	110	
Zn	66	72	No Gas	250.664	ppb	2.9	1067712.39	250	100.27	90	110	
As	75	72	He	246.565	ppb	0.9	329416.54	250	98.63	90	110	
Se	78	72	H2	243.153	ppb	0.2	107736.17	250	97.26	90	110	
Sr	88	72	No Gas	244.864	ppb	2.6	8949861.59	250	97.95	90	110	
Zr	90	72	No Gas	23.782	ppb	2.1	550953.26	25	95.13	90	110	
Mo	95	115	No Gas	258.052	ppb	2.3	1707890.77	250	103.22	90	110	
Ag	107	115	No Gas	24.987	ppb	1.2	421396.69	25	99.95	90	110	
Cd	111	115	No Gas	240.985	ppb	1.0	848535.09	250	96.39	90	110	
Sn	118	115	No Gas	247.159	ppb	1.4	2600648.58	250	98.86	90	110	
Sb	123	115	No Gas	47.806	ppb	0.5	584288.92	50	95.61	90	110	
Ba	137	115	No Gas	490.693	ppb	1.9	2637866.63	500	98.14	90	110	
W	182	159	No Gas	23.987	ppb	1.6	286627.47	25	95.95	90	110	
Hg	201	159	He	2.352	ppb	1.4	2590.27	2.5	94.08	90	110	
Tl	205	159	No Gas	241.495	ppb	3.7	6755971.81	250	96.6	90	110	
Pb	208	159	No Gas	239.324	ppb	3.9	9077438.36	250	95.73	90	110	
U	238	159	No Gas	225.835	ppb	3.3	8439007.44	250	90.33	90	110	

Continuing Calibration Verification (CCV) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2229327.11	0.5	1866774.34	119.42	60	120	
Sc	45	No Gas	5847547.83	0.3	5256704	111.24	60	120	
Sc	45	H2	3436184.75	0.7	3216050	106.84	60	120	
Sc	45	He	653474.17	0.8	590136.5	110.73	60	120	
Ge	72	No Gas	1399946.33	1.2	1347600.04	103.88	60	120	
Ge	72	H2	951601.10	1.3	912330.27	104.3	60	120	
Ge	72	He	392142.27	0.6	378247.59	103.67	60	120	
In	115	No Gas	8145565.13	0.9	8692051.13	93.71	60	120	
Tb	159	No Gas	10641078.47	2.0	11827603.42	89.97	60	120	
Tb	159	He	6070747.17	0.3	6692094.83	90.72	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB11
File Name	H6F22119.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 15:40:36
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Fail
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.598	ppb	24.3	139437.37	0.4	>LOD
Be	9	6	No Gas	0.001	ppb	157.1	51.11	0.08	
B	11	6	No Gas	13.128	ppb	6.5	34100.20	4	>LOD
Na	23	45	H2	1784.370	ppb	1.2	8346289.00	40	>LOD
Mg	24	45	No Gas	9.394	ppb	49.5	133974.12	10	
Al	27	45	No Gas	7.680	ppb	53.5	121453.52	15	
Si	28	45	H2	2.419	ppb	4.2	6961.08	8	
P	31	45	No Gas	4.104	ppb	7.6	26357.64	10	
K	39	45	He	42.674	ppb	11.6	146697.29	20	>LOD
Ca	40	45	H2	5.989	ppb	4.2	197197.38	25	
Ti	47	45	No Gas	0.162	ppb	38.5	810.69	0.5	
V	51	45	He	<0.000	ppb	N/A	5777.22	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1046.71	0.2	
Mn	55	45	No Gas	0.417	ppb	53.7	22971.34	0.2	~~>LOD~~
Fe	56	45	H2	2.793	ppb	7.7	49749.16	10	
Co	59	45	No Gas	0.067	ppb	58.3	2010.84	0.15	
Ni	60	45	He	<0.000	ppb	N/A	85.33	0.2	
Cu	63	45	He	<0.000	ppb	N/A	1908.13	0.4	
Zn	66	72	No Gas	0.080	ppb	39.5	2428.88	2	
As	75	72	He	0.005	ppb	488.8	328.67	0.2	
Se	78	72	H2	0.049	ppb	17.4	39.00	0.2	
Sr	88	72	No Gas	0.192	ppb	34.2	7441.13	0.2	
Zr	90	72	No Gas	0.005	ppb	45.9	283.34	2	
Mo	95	115	No Gas	0.086	ppb	45.2	626.68	0.2	
Ag	107	115	No Gas	0.008	ppb	38.0	227.78	0.08	
Cd	111	115	No Gas	0.056	ppb	48.7	237.98	0.2	
Sn	118	115	No Gas	0.122	ppb	26.2	2706.95	0.2	
Sb	123	115	No Gas	0.025	ppb	28.4	431.12	0.4	
Ba	137	115	No Gas	0.118	ppb	53.9	747.80	0.2	
W	182	159	No Gas	0.005	ppb	84.3	173.33	0.3	
Hg	201	159	He	0.010	ppb	49.6	20.00	0.1	
Tl	205	159	No Gas	0.096	ppb	50.7	3343.85	0.1	
Pb	208	159	No Gas	0.044	ppb	70.5	3084.63	0.1	
U	238	159	No Gas	0.059	ppb	53.3	2258.03	0.05	>LOD

LY 06/26/20

Continuing Calibration Blank (CCB) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2275772.68	0.7	1866774.34	121.91	60	120	ISTD Failed
Sc	45	No Gas	5607906.17	0.7	5256704	106.68	60	120	
Sc	45	H2	3311417.92	0.4	3216050	102.97	60	120	
Sc	45	He	644341.10	0.1	590136.5	109.19	60	120	
Ge	72	No Gas	1336373.75	0.4	1347600.04	99.17	60	120	
Ge	72	H2	893184.15	0.3	912330.27	97.9	60	120	
Ge	72	He	377324.02	0.1	378247.59	99.76	60	120	
In	115	No Gas	8226738.30	1.0	8692051.13	94.65	60	120	
Tb	159	No Gas	10440877.64	1.3	11827603.42	88.28	60	120	
Tb	159	He	6071524.00	0.5	6692094.83	90.73	60	120	

Sample Report

Sample Name	F176-08
File Name	H6F22120.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 15:43:11
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**LYaman**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	61.689	61.689	ppb	3.2	744224.42	50	>LDR
Be	9	6	No Gas	0.003	0.003	ppb	40.7	54.45	50	
B	11	6	No Gas	482.105	482.105	ppb	3.3	1035498.91	100	>LDR
Na	23	45	H2	231692.024	231692.024	ppb	1.8	1036621162.67	50000	>LDR
Mg	24	45	No Gas	8810.898	8810.898	ppb	2.6	97332981.33	50000	
Al	27	45	No Gas	23.330	23.330	ppb	4.8	345441.96	50000	
Si	28	45	H2	15528.027	15528.027	ppb	0.7	20131732.00	5000	>LDR
P	31	45	No Gas	8.484	8.484	ppb	6.8	29936.20	500	
K	39	45	He	4524.362	4524.362	ppb	0.5	3699367.17	50000	
Ca	40	45	H2	32920.978	32920.978	ppb	0.7	320486080.00	50000	
Ti	47	45	No Gas	1.326	1.326	ppb	12.9	2957.00	500	
V	51	45	He	2.241	2.241	ppb	1.5	21373.31	500	
Cr	52	45	He	0.220	0.220	ppb	1.4	2920.32	500	
Mn	55	45	No Gas	967.480	967.480	ppb	3.0	30448264.00	3000	
Fe	56	45	H2	89.806	89.806	ppb	2.1	1296547.71	50000	
Co	59	45	No Gas	0.871	0.871	ppb	2.2	22680.16	500	
Ni	60	45	He	0.362	0.362	ppb	3.0	1057.37	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	2708.94	500	
Zn	66	72	No Gas	1.735	1.735	ppb	2.7	9170.43	500	
As	75	72	He	6.623	6.623	ppb	0.4	8702.14	500	
Se	78	72	H2	0.070	0.070	ppb	4.8	49.00	500	
Sr	88	72	No Gas	658.958	658.958	ppb	1.6	23059317.97	500	>LDR
Zr	90	72	No Gas	0.026	0.026	ppb	8.4	750.03	50	
Mo	95	115	No Gas	42.507	42.507	ppb	1.8	274666.90	500	
Ag	107	115	No Gas	0.065	0.065	ppb	6.6	1157.83	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	-6.07	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	1170.06	500	
Sb	123	115	No Gas	0.165	0.165	ppb	6.0	2084.61	100	
Ba	137	115	No Gas	573.221	573.221	ppb	1.4	3008016.96	1000	
W	182	159	No Gas	16.179	16.179	ppb	2.0	188828.86	50	
Hg	201	159	He	0.012	0.012	ppb	9.2	21.50	5	
Tl	205	159	No Gas	0.704	0.704	ppb	2.1	19925.90	500	
Pb	208	159	No Gas	0.012	0.012	ppb	37.9	1872.28	500	
U	238	159	No Gas	2.665	2.665	ppb	2.4	97316.75	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2163293.49	0.8	1866774.34	115.88	60	120	
Sc	45	No Gas	5545591.67	1.3	5256704	105.5	60	120	
Sc	45	H2	3331405.25	1.1	3216050	103.59	60	120	
Sc	45	He	622651.48	0.8	590136.5	105.51	60	120	
Ge	72	No Gas	1340275.58	0.8	1347600.04	99.46	60	120	
Ge	72	H2	912159.85	0.9	912330.27	99.98	60	120	
Ge	72	He	371968.19	1.1	378247.59	98.34	60	120	
In	115	No Gas	7950826.52	0.4	8692051.13	91.47	60	120	
Tb	159	No Gas	10389906.53	1.4	11827603.42	87.84	60	120	
Tb	159	He	5963093.17	1.4	6692094.83	89.11	60	120	

Sample Report

Sample Name	F176-09
File Name	H6F22121.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\H6F22.b
Acq Time	2020-06-26 15:45:48
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	438.544	438.544	ppb	2.8	3768874.16	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	30.00	50	
B	11	6	No Gas	1417.863	1417.863	ppb	3.1	2533581.99	100	>LDR
Na	23	45	H2	OR	OR	ppb	OR	OR	50000	
Mg	24	45	No Gas	1507.878	1507.878	ppb	1.9	15610148.00	50000	
Al	27	45	No Gas	9.427	9.427	ppb	2.9	135946.37	50000	
Si	28	45	H2	11806.907	11806.907	ppb	1.3	14022430.67	5000	>LDR
P	31	45	No Gas	6.338	6.338	ppb	3.0	26238.08	500	
K	39	45	He	18943.540	18943.540	ppb	0.8	14228508.33	50000	
Ca	40	45	H2	64785.607	64785.607	ppb	0.9	577600213.33	50000	>LDR
Ti	47	45	No Gas	0.738	0.738	ppb	7.6	1748.11	500	
V	51	45	He	3.492	3.492	ppb	0.9	27631.79	500	
Cr	52	45	He	9.203	9.203	ppb	0.6	65385.42	500	
Mn	55	45	No Gas	4.417	4.417	ppb	1.7	139042.72	3000	
Fe	56	45	H2	10.609	10.609	ppb	2.6	148440.64	50000	
Co	59	45	No Gas	4.365	4.365	ppb	2.8	105408.59	500	
Ni	60	45	He	1.540	1.540	ppb	2.6	3815.87	500	
Cu	63	45	He	0.133	0.133	ppb	7.2	3410.43	500	
Zn	66	72	No Gas	2.668	2.668	ppb	3.6	11924.57	500	
As	75	72	He	7.117	7.117	ppb	1.0	8622.75	500	
Se	78	72	H2	0.571	0.571	ppb	5.0	233.00	500	
Sr	88	72	No Gas	1601.394	1601.394	ppb	2.6	51532115.73	500	>LDR
Zr	90	72	No Gas	0.025	0.025	ppb	16.1	683.35	50	
Mo	95	115	No Gas	44.367	44.367	ppb	2.1	261505.67	500	
Ag	107	115	No Gas	0.080	0.080	ppb	8.8	1288.95	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	-4.09	500	
Sn	118	115	No Gas	0.056	0.056	ppb	16.2	1761.23	500	
Sb	123	115	No Gas	0.066	0.066	ppb	2.6	817.81	100	
Ba	137	115	No Gas	41.156	41.156	ppb	1.6	197079.38	1000	
W	182	159	No Gas	2.721	2.721	ppb	1.2	29240.53	50	
Hg	201	159	He	0.008	0.008	ppb	42.0	15.50	5	
Tl	205	159	No Gas	0.047	0.047	ppb	12.1	1823.47	500	
Pb	208	159	No Gas	0.000	0.000	ppb	2156.1	1321.13	500	
U	238	159	No Gas	2.390	2.390	ppb	0.9	80143.17	497	

Sample Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1804617.53	0.4	1866774.34	96.67	60	120	
Sc	45	No Gas	5189036.50	0.5	5256704	98.71	60	120	
Sc	45	H2	3051653.92	0.9	3216050	94.89	60	120	
Sc	45	He	584974.87	0.2	590136.5	99.13	60	120	
Ge	72	No Gas	1232556.88	0.7	1347600.04	91.46	60	120	
Ge	72	H2	812534.75	1.3	912330.27	89.06	60	120	
Ge	72	He	343834.57	0.9	378247.59	90.9	60	120	
In	115	No Gas	7252494.31	0.9	8692051.13	83.44	60	120	
Tb	159	No Gas	9538246.01	0.5	11827603.42	80.64	60	120	
Tb	159	He	5373775.33	0.6	6692094.83	80.3	60	120	

Sample Report

Sample Name	F176-10
File Name	H6F22122.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 15:48:26
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	446.512	446.512	ppb	3.9	3837361.79	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	30.00	50	
B	11	6	No Gas	1458.394	1458.394	ppb	4.8	2606972.26	100	>LDR
Na	23	45	H2	OR	OR	ppb	OR	OR	50000	
Mg	24	45	No Gas	1546.019	1546.019	ppb	3.7	15970332.00	50000	
Al	27	45	No Gas	9.880	9.880	ppb	4.2	141784.67	50000	
Si	28	45	H2	12320.793	12320.793	ppb	0.6	14717860.00	5000	>LDR
P	31	45	No Gas	5.914	5.914	ppb	11.6	25835.32	500	
K	39	45	He	19189.439	19189.439	ppb	1.1	14892096.67	50000	
Ca	40	45	H2	66564.531	66564.531	ppb	0.9	596892032.00	50000	>LDR
Ti	47	45	No Gas	0.790	0.790	ppb	11.2	1836.13	500	
V	51	45	He	3.434	3.434	ppb	1.8	28187.58	500	
Cr	52	45	He	9.234	9.234	ppb	0.9	67791.71	500	
Mn	55	45	No Gas	3.541	3.541	ppb	2.5	113015.26	3000	
Fe	56	45	H2	12.357	12.357	ppb	0.8	172362.83	50000	
Co	59	45	No Gas	4.427	4.427	ppb	2.6	106673.12	500	
Ni	60	45	He	1.429	1.429	ppb	2.1	3667.16	500	
Cu	63	45	He	0.152	0.152	ppb	1.8	3643.15	500	
Zn	66	72	No Gas	2.469	2.469	ppb	3.7	11180.61	500	
As	75	72	He	7.275	7.275	ppb	1.2	8995.99	500	
Se	78	72	H2	0.586	0.586	ppb	15.8	241.67	500	
Sr	88	72	No Gas	1626.114	1626.114	ppb	1.7	52327761.25	500	>LDR
Zr	90	72	No Gas	0.013	0.013	ppb	22.2	436.68	50	
Mo	95	115	No Gas	45.765	45.765	ppb	1.4	267825.92	500	
Ag	107	115	No Gas	0.070	0.070	ppb	3.9	1127.83	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	18.49	500	
Sn	118	115	No Gas	0.048	0.048	ppb	23.0	1674.55	500	
Sb	123	115	No Gas	0.071	0.071	ppb	6.3	868.92	100	
Ba	137	115	No Gas	42.056	42.056	ppb	1.8	199956.11	1000	
W	182	159	No Gas	2.765	2.765	ppb	0.9	29871.95	50	
Hg	201	159	He	0.005	0.005	ppb	23.1	12.83	5	
Tl	205	159	No Gas	0.047	0.047	ppb	5.3	1816.80	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1157.80	500	
U	238	159	No Gas	2.421	2.421	ppb	0.9	81617.32	497	

Sample Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1806614.69	2.9	1866774.34	96.78	60	120	
Sc	45	No Gas	5179790.17	1.5	5256704	98.54	60	120	
Sc	45	H2	3069305.67	0.8	3216050	95.44	60	120	
Sc	45	He	604479.84	0.6	590136.5	102.43	60	120	
Ge	72	No Gas	1232559.42	1.2	1347600.04	91.46	60	120	
Ge	72	H2	821989.27	0.1	912330.27	90.1	60	120	
Ge	72	He	351193.41	0.6	378247.59	92.85	60	120	
In	115	No Gas	7201294.87	0.9	8692051.13	82.85	60	120	
Tb	159	No Gas	9589173.78	1.0	11827603.42	81.07	60	120	
Tb	159	He	5470051.67	0.5	6692094.83	81.74	60	120	

Sample Report

Sample Name	F176-11
File Name	H6F22123.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 15:51:04
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	1018.391	1018.391	ppb	2.5	6640867.65	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	18.89	50	
B	11	6	No Gas	2479.876	2479.876	ppb	4.1	3414289.45	100	>LDR
Na	23	45	H2	OR	OR	ppb	OR	OR	50000	
Mg	24	45	No Gas	84394.453	84394.453	ppb	0.6	797042517.33	50000	>LDR
Al	27	45	No Gas	3.632	3.632	ppb	3.0	52824.07	50000	
Si	28	45	H2	13566.792	13566.792	ppb	1.8	15377797.33	5000	>LDR
P	31	45	No Gas	20.394	20.394	ppb	4.9	34590.32	500	
K	39	45	He	39055.913	39055.913	ppb	0.6	29473920.67	50000	
Ca	40	45	H2	422497.588	422497.588	ppb	0.6	3593893205.33	50000	>LDR
Ti	47	45	No Gas	1.019	1.019	ppb	5.1	2043.49	500	
V	51	45	He	0.750	0.750	ppb	7.7	11178.56	500	
Cr	52	45	He	0.548	0.548	ppb	5.2	5074.94	500	
Mn	55	45	No Gas	725.737	725.737	ppb	1.0	19534536.67	3000	
Fe	56	45	H2	725.827	725.827	ppb	0.5	9098684.67	50000	
Co	59	45	No Gas	0.365	0.365	ppb	0.9	8253.83	500	
Ni	60	45	He	0.740	0.740	ppb	2.9	1914.80	500	
Cu	63	45	He	0.065	0.065	ppb	16.5	3007.00	500	
Zn	66	72	No Gas	4.643	4.643	ppb	0.7	17695.55	500	
As	75	72	He	2.793	2.793	ppb	1.3	3434.10	500	
Se	78	72	H2	0.176	0.176	ppb	7.8	77.67	500	
Sr	88	72	No Gas	10255.598	10255.598	ppb	0.5	302280094.66	500	>LDR
Zr	90	72	No Gas	0.068	0.068	ppb	8.9	1410.08	50	
Mo	95	115	No Gas	41.484	41.484	ppb	2.0	218123.47	500	
Ag	107	115	No Gas	0.067	0.067	ppb	3.7	980.04	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	24.09	500	
Sn	118	115	No Gas	0.422	0.422	ppb	4.6	4630.82	500	
Sb	123	115	No Gas	0.130	0.130	ppb	2.7	1358.96	100	
Ba	137	115	No Gas	39.403	39.403	ppb	0.6	168322.54	1000	
W	182	159	No Gas	0.801	0.801	ppb	0.7	7832.44	50	
Hg	201	159	He	0.009	0.009	ppb	33.8	15.17	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	141.11	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	995.57	500	
U	238	159	No Gas	1.142	1.142	ppb	1.8	34557.50	497	

Sample Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1391853.01	1.8	1866774.34	74.56	60	120	
Sc	45	No Gas	4741348.00	2.3	5256704	90.2	60	120	
Sc	45	H2	2911862.00	2.1	3216050	90.54	60	120	
Sc	45	He	589909.48	1.5	590136.5	99.96	60	120	
Ge	72	No Gas	1128773.92	2.1	1347600.04	83.76	60	120	
Ge	72	H2	755840.64	0.1	912330.27	82.85	60	120	
Ge	72	He	331376.46	1.6	378247.59	87.61	60	120	
In	115	No Gas	6469204.96	1.1	8692051.13	74.43	60	120	
Tb	159	No Gas	8600115.21	1.7	11827603.42	72.71	60	120	
Tb	159	He	4949316.50	1.1	6692094.83	73.96	60	120	

Sample Report

Sample Name	F176-12
File Name	H6F22124.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 15:53:42
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**LYaman**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	553.452	553.452	ppb	1.7	4456417.88	50	>LDR
Be	9	6	No Gas	0.001	0.001	ppb	612.1	36.67	50	
B	11	6	No Gas	1575.430	1575.430	ppb	0.9	2652461.28	100	>LDR
Na	23	45	H2	OR	OR	ppb	OR	OR	50000	
Mg	24	45	No Gas	88906.608	88906.608	ppb	2.4	954785173.33	50000	>LDR
Al	27	45	No Gas	2.395	2.395	ppb	2.4	42779.34	50000	
Si	28	45	H2	14267.496	14267.496	ppb	2.3	17826506.67	5000	>LDR
P	31	45	No Gas	12.194	12.194	ppb	3.5	32301.50	500	
K	39	45	He	18271.694	18271.694	ppb	0.5	14335511.67	50000	
Ca	40	45	H2	319421.564	319421.564	ppb	1.6	2995769685.33	50000	>LDR
Ti	47	45	No Gas	0.821	0.821	ppb	5.2	1965.48	500	
V	51	45	He	0.983	0.983	ppb	2.5	13044.87	500	
Cr	52	45	He	0.165	0.165	ppb	3.1	2470.23	500	
Mn	55	45	No Gas	504.761	504.761	ppb	3.2	15451666.33	3000	
Fe	56	45	H2	1292.494	1292.494	ppb	0.3	17858014.67	50000	
Co	59	45	No Gas	0.312	0.312	ppb	2.6	8066.39	500	
Ni	60	45	He	0.750	0.750	ppb	3.8	2007.48	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1656.10	500	
Zn	66	72	No Gas	3.326	3.326	ppb	2.0	14743.34	500	
As	75	72	He	0.629	0.629	ppb	7.3	1034.04	500	
Se	78	72	H2	0.140	0.140	ppb	30.3	70.67	500	
Sr	88	72	No Gas	6844.236	6844.236	ppb	1.7	225710373.25	500	>LDR
Zr	90	72	No Gas	0.064	0.064	ppb	17.4	1513.43	50	
Mo	95	115	No Gas	13.831	13.831	ppb	2.0	82277.29	500	
Ag	107	115	No Gas	0.060	0.060	ppb	2.8	997.81	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	-23.75	500	
Sn	118	115	No Gas	0.122	0.122	ppb	16.1	2401.33	500	
Sb	123	115	No Gas	0.080	0.080	ppb	3.7	980.04	100	
Ba	137	115	No Gas	46.720	46.720	ppb	1.4	225711.13	1000	
W	182	159	No Gas	0.136	0.136	ppb	9.7	1570.10	50	
Hg	201	159	He	0.003	0.003	ppb	27.8	10.50	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	80.00	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	810.01	500	
U	238	159	No Gas	2.237	2.237	ppb	1.4	75510.61	497	

Sample Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1700510.85	1.4	1866774.34	91.09	60	120	
Sc	45	No Gas	5392815.50	1.0	5256704	102.59	60	120	
Sc	45	H2	3211035.42	1.4	3216050	99.84	60	120	
Sc	45	He	610885.34	0.3	590136.5	103.52	60	120	
Ge	72	No Gas	1262988.50	0.3	1347600.04	93.72	60	120	
Ge	72	H2	819888.52	1.5	912330.27	89.87	60	120	
Ge	72	He	345316.63	0.7	378247.59	91.29	60	120	
In	115	No Gas	7317149.90	0.4	8692051.13	84.18	60	120	
Tb	159	No Gas	9599645.18	0.8	11827603.42	81.16	60	120	
Tb	159	He	5339905.00	0.4	6692094.83	79.79	60	120	

Sample Report

Sample Name	F176-13
File Name	H6F22125.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 15:56:20
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	356.842	356.842	ppb	3.3	3213848.06	50	>LDR
Be	9	6	No Gas	0.023	0.023	ppb	12.5	106.67	50	
B	11	6	No Gas	1876.822	1876.822	ppb	3.6	3490791.46	100	>LDR
Na	23	45	H2	OR	OR	ppb	OR	OR	50000	
Mg	24	45	No Gas	53445.640	53445.640	ppb	1.1	597377770.67	50000	>LDR
Al	27	45	No Gas	3.039	3.039	ppb	15.7	53894.16	50000	
Si	28	45	H2	13868.810	13868.810	ppb	1.5	17918094.67	5000	>LDR
P	31	45	No Gas	58.011	58.011	ppb	1.4	74605.62	500	
K	39	45	He	10643.584	10643.584	ppb	1.0	8768039.00	50000	
Ca	40	45	H2	130554.006	130554.006	ppb	0.8	1266116906.67	50000	>LDR
Ti	47	45	No Gas	0.890	0.890	ppb	1.8	2174.17	500	
V	51	45	He	1.011	1.011	ppb	1.9	13806.95	500	
Cr	52	45	He	0.218	0.218	ppb	4.0	2976.32	500	
Mn	55	45	No Gas	655.761	655.761	ppb	1.3	20890659.33	3000	
Fe	56	45	H2	3604.778	3604.778	ppb	0.7	51474762.67	50000	
Co	59	45	No Gas	0.290	0.290	ppb	0.7	7832.25	500	
Ni	60	45	He	0.866	0.866	ppb	4.4	2399.55	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1914.14	500	
Zn	66	72	No Gas	2.444	2.444	ppb	3.9	11806.47	500	
As	75	72	He	4.286	4.286	ppb	2.5	5704.54	500	
Se	78	72	H2	0.263	0.263	ppb	5.9	124.67	500	
Sr	88	72	No Gas	2147.731	2147.731	ppb	2.5	73592534.85	500	>LDR
Zr	90	72	No Gas	0.324	0.324	ppb	5.7	7218.63	50	
Mo	95	115	No Gas	33.752	33.752	ppb	2.0	211221.57	500	
Ag	107	115	No Gas	0.061	0.061	ppb	6.7	1055.60	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	-44.29	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	1101.16	500	
Sb	123	115	No Gas	0.088	0.088	ppb	2.7	1125.61	100	
Ba	137	115	No Gas	62.384	62.384	ppb	0.9	317106.05	1000	
W	182	159	No Gas	0.117	0.117	ppb	6.2	1453.42	50	
Hg	201	159	He	0.004	0.004	ppb	56.9	12.50	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	63.33	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	922.24	500	
U	238	159	No Gas	16.488	16.488	ppb	1.5	593134.30	497	

Sample Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1879549.90	1.4	1866774.34	100.68	60	120	
Sc	45	No Gas	5611966.17	0.5	5256704	106.76	60	120	
Sc	45	H2	3319766.00	0.5	3216050	103.22	60	120	
Sc	45	He	638041.98	0.6	590136.5	108.12	60	120	
Ge	72	No Gas	1312431.08	0.6	1347600.04	97.39	60	120	
Ge	72	H2	869664.52	0.8	912330.27	95.32	60	120	
Ge	72	He	369433.91	0.5	378247.59	97.67	60	120	
In	115	No Gas	7699464.58	0.7	8692051.13	88.58	60	120	
Tb	159	No Gas	10238360.98	0.6	11827603.42	86.56	60	120	
Tb	159	He	5761022.67	1.1	6692094.83	86.09	60	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA3
File Name	H6F22126.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\H6F22.b
Acq Time	2020-06-26 15:58:56
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	1.678	ppb	16.7	135643.34	2	-50	50	> +/- 20%
Be	9	6	No Gas	<0.000	ppb	N/A	21.11	0.4	-50	50	
B	11	6	No Gas	37.377	ppb	17.3	79729.53	10	-50	50	> +/- 20%
Na	23	45	H2	98645.980	ppb	2.7	455626421.33	100000	80	120	
Mg	24	45	No Gas	100714.586	ppb	1.4	1132641749.33	100000	80	120	
Al	27	45	No Gas	100400.903	ppb	2.3	1472651604.72	100000	80	120	
Si	28	45	H2	7.250	ppb	9.6	13672.72	50	-50	50	
P	31	45	No Gas	97831.679	ppb	1.6	88089621.33	100000	80	120	
K	39	45	He	102537.301	ppb	0.5	82430746.67	100000	80	120	
Ca	40	45	H2	97021.731	ppb	2.3	974265514.67	100000	80	120	
Ti	47	45	No Gas	1992.924	ppb	1.6	3757905.08	2000	80	120	
V	51	45	He	0.109	ppb	19.8	7773.54	1	-50	50	
Cr	52	45	He	0.228	ppb	1.3	3012.33	1	-50	50	
Mn	55	45	No Gas	0.568	ppb	30.7	27949.36	1	-50	50	> +/- 20%
Fe	56	45	H2	92623.544	ppb	3.2	1368871253.33	100000	80	120	
Co	59	45	No Gas	0.335	ppb	0.7	9053.68	0.75	-50	50	
Ni	60	45	He	0.270	ppb	2.4	832.03	1	-50	50	
Cu	63	45	He	0.111	ppb	3.2	3518.46	2	-50	50	
Zn	66	72	No Gas	1.796	ppb	2.5	9615.41	20	-50	50	
As	75	72	He	0.107	ppb	3.3	459.01	1	-50	50	
Se	78	72	H2	0.149	ppb	20.9	82.33	1	-50	50	
Sr	88	72	No Gas	1.915	ppb	29.3	69135.94	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.041	ppb	8.8	1116.72	10	-50	50	
Mo	95	115	No Gas	1972.687	ppb	1.9	12905718.65	2000	80	120	
Ag	107	115	No Gas	0.010	ppb	29.7	270.00	0.4	-50	50	
Cd	111	115	No Gas	0.069	ppb	62.4	278.32	1	-50	50	
Sn	118	115	No Gas	0.327	ppb	4.7	4771.98	1	-50	50	
Ba	137	115	No Gas	0.419	ppb	1.9	2329.10	1	-50	50	
W	182	159	No Gas	0.198	ppb	1.3	2540.27	1	-50	50	
Hg	201	159	He	0.001	ppb	157.0	10.50	0.5	-50	50	
Tl	205	159	No Gas	<0.000	ppb	N/A	172.22	0.5	-50	50	
Pb	208	159	No Gas	0.053	ppb	5.0	3561.32	0.5	-50	50	
U	238	159	No Gas	0.006	ppb	72.3	300.01	0.25	-50	50	

LY 06/26/20

Interference Check Solution A (ICS-A) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2046892.26	1.3	1866774.34	109.65	60	120	
Sc	45	No Gas	5645998.67	1.0	5256704	107.41	60	120	
Sc	45	H2	3438849.33	3.3	3216050	106.93	60	120	
Sc	45	He	629756.00	0.7	590136.5	106.71	60	120	
Ge	72	No Gas	1368049.08	0.4	1347600.04	101.52	60	120	
Ge	72	H2	909665.62	1.0	912330.27	99.71	60	120	
Ge	72	He	376815.52	0.5	378247.59	99.62	60	120	
In	115	No Gas	8050528.61	1.0	8692051.13	92.62	60	120	
Tb	159	No Gas	10906336.23	2.0	11827603.42	92.21	60	120	
Tb	159	He	6293155.00	1.3	6692094.83	94.04	60	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB3
File Name	H6F22127.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 16:01:33
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**LYaman**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	20.178	ppb	3.3	308359.81	20	80	120	
Be	9	6	No Gas	18.548	ppb	3.0	59149.76	20	80	120	
B	11	6	No Gas	34.353	ppb	2.4	73015.64	20	80	120	> +/- 20%
Na	23	45	H2	105067.141	ppb	0.4	454872778.67	100000	80	120	
Mg	24	45	No Gas	101779.869	ppb	2.6	1124027050.67	100000	80	120	
Al	27	45	No Gas	100973.708	ppb	2.5	1454332245.00	100000	80	120	
Si	28	45	H2	232.090	ppb	0.5	294675.68	200	80	120	
P	31	45	No Gas	99539.922	ppb	2.4	88015688.00	100000	80	120	
K	39	45	He	104652.061	ppb	0.9	80736869.33	100000	80	120	
Ca	40	45	H2	103491.849	ppb	0.5	974046122.67	100000	80	120	
Ti	47	45	No Gas	2070.185	ppb	3.1	3833399.58	2000	80	120	
V	51	45	He	19.815	ppb	1.1	130290.08	20	80	120	
Cr	52	45	He	19.401	ppb	1.7	141018.97	20	80	120	
Mn	55	45	No Gas	18.588	ppb	2.8	594419.33	20	80	120	
Fe	56	45	H2	99136.633	ppb	0.9	1373493120.00	100000	80	120	
Co	59	45	No Gas	18.522	ppb	2.5	477043.39	20	80	120	
Ni	60	45	He	18.811	ppb	0.2	46660.93	20	80	120	
Cu	63	45	He	18.495	ppb	0.8	123188.32	20	80	120	
Zn	66	72	No Gas	20.676	ppb	1.4	86593.15	20	80	120	
As	75	72	He	19.756	ppb	0.9	24737.61	20	80	120	
Se	78	72	H2	20.473	ppb	0.9	8203.16	20	80	120	
Sr	88	72	No Gas	19.688	ppb	1.4	692324.77	20	80	120	
Zr	90	72	No Gas	7.994	ppb	1.7	178121.54	20	80	120	> +/- 20%
Mo	95	115	No Gas	2055.453	ppb	2.3	13394855.02	2000	80	120	
Ag	107	115	No Gas	18.704	ppb	1.9	310612.63	20	80	120	
Cd	111	115	No Gas	18.619	ppb	1.3	64587.84	20	80	120	
Sn	118	115	No Gas	19.347	ppb	0.9	201723.61	20	80	120	
Sb	123	115	No Gas	18.982	ppb	0.9	228491.40	20	80	120	
Ba	137	115	No Gas	19.712	ppb	1.7	104449.97	20	80	120	
W	182	159	No Gas	18.391	ppb	2.4	227037.70	20	80	120	
Hg	201	159	He	1.860	ppb	1.9	2105.85	2	80	120	
Tl	205	159	No Gas	18.035	ppb	3.6	522028.92	20	80	120	
Pb	208	159	No Gas	18.185	ppb	2.6	714177.38	20	80	120	
U	238	159	No Gas	17.737	ppb	2.5	684925.18	20	80	120	

Interference Check Solution AB (ICS-AB) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2029795.54	0.7	1866774.34	108.73	60	120	
Sc	45	No Gas	5545283.83	0.4	5256704	105.49	60	120	
Sc	45	H2	3221584.67	0.5	3216050	100.17	60	120	
Sc	45	He	604358.90	0.5	590136.5	102.41	60	120	
Ge	72	No Gas	1345298.00	0.4	1347600.04	99.83	60	120	
Ge	72	H2	858770.17	1.7	912330.27	94.13	60	120	
Ge	72	He	363273.66	0.4	378247.59	96.04	60	120	
In	115	No Gas	8020573.77	1.1	8692051.13	92.27	60	120	
Tb	159	No Gas	10991670.40	0.5	11827603.42	92.93	60	120	
Tb	159	He	6236064.00	0.5	6692094.83	93.19	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV12
File Name	H6F22128.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 16:04:10
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**LYaman**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	25.197	ppb	2.9	364768.12	25	100.79	90	110	
Be	9	6	No Gas	22.794	ppb	3.1	74565.10	25	91.18	90	110	
B	11	6	No Gas	61.422	ppb	3.2	130671.03	50	122.84	90	110	> +/- 10%
Na	23	45	H2	26746.288	ppb	1.1	116501888.00	25000	106.99	90	110	
Mg	24	45	No Gas	26035.543	ppb	0.5	282860906.67	25000	104.14	90	110	
Al	27	45	No Gas	25588.072	ppb	1.9	362530927.93	25000	102.35	90	110	
Si	28	45	H2	2592.668	ppb	0.7	3265268.92	2500	103.71	90	110	
P	31	45	No Gas	291.637	ppb	7.9	275496.49	250	116.65	90	110	> +/- 10%
K	39	45	He	25908.311	ppb	0.5	20641252.00	25000	103.63	90	110	
Ca	40	45	H2	25223.467	ppb	0.7	238338618.67	25000	100.89	90	110	
Ti	47	45	No Gas	240.661	ppb	2.3	438867.26	250	96.26	90	110	
V	51	45	He	245.265	ppb	1.5	1579547.29	250	98.11	90	110	
Cr	52	45	He	239.554	ppb	0.1	1776564.29	250	95.82	90	110	
Mn	55	45	No Gas	1456.191	ppb	1.6	45079172.00	1500	97.08	90	110	
Fe	56	45	H2	24778.771	ppb	1.0	344518186.67	25000	99.12	90	110	
Co	59	45	No Gas	240.167	ppb	1.6	6082168.00	250	96.07	90	110	
Ni	60	45	He	233.911	ppb	0.3	595313.19	250	93.56	90	110	
Cu	63	45	He	234.746	ppb	0.7	1576427.58	250	93.9	90	110	
Zn	66	72	No Gas	231.473	ppb	2.5	956111.85	250	92.59	90	110	
As	75	72	He	244.454	ppb	0.6	314837.37	250	97.78	90	110	
Se	78	72	H2	241.831	ppb	0.7	102423.02	250	96.73	90	110	
Sr	88	72	No Gas	240.024	ppb	1.9	8505282.44	250	96.01	90	110	
Zr	90	72	No Gas	23.339	ppb	1.4	524187.01	25	93.36	90	110	
Mo	95	115	No Gas	248.011	ppb	2.6	1663973.16	250	99.2	90	110	
Ag	107	115	No Gas	23.751	ppb	2.6	406082.34	25	95	90	110	
Cd	111	115	No Gas	232.220	ppb	1.6	828889.51	250	92.89	90	110	
Sn	118	115	No Gas	244.194	ppb	1.2	2604623.16	250	97.68	90	110	
Sb	123	115	No Gas	46.313	ppb	2.1	573743.74	50	92.63	90	110	
Ba	137	115	No Gas	492.046	ppb	2.0	2681313.44	500	98.41	90	110	
W	182	159	No Gas	23.819	ppb	3.2	294924.65	25	95.28	90	110	
Hg	201	159	He	2.368	ppb	2.1	2726.80	2.5	94.72	90	110	
Tl	205	159	No Gas	245.666	ppb	4.0	7124695.55	250	98.27	90	110	
Pb	208	159	No Gas	245.455	ppb	2.2	9651985.29	250	98.18	90	110	
U	238	159	No Gas	233.701	ppb	2.3	9053156.03	250	93.48	90	110	

Continuing Calibration Verification (CCV) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2082785.45	0.3	1866774.34	111.57	60	120	
Sc	45	No Gas	5454301.33	1.2	5256704	103.76	60	120	
Sc	45	H2	3232932.83	0.4	3216050	100.52	60	120	
Sc	45	He	621681.94	0.3	590136.5	105.35	60	120	
Ge	72	No Gas	1356875.08	0.8	1347600.04	100.69	60	120	
Ge	72	H2	909585.35	0.4	912330.27	99.7	60	120	
Ge	72	He	378010.22	0.4	378247.59	99.94	60	120	
In	115	No Gas	8257024.03	1.0	8692051.13	95	60	120	
Tb	159	No Gas	11027994.84	1.5	11827603.42	93.24	60	120	
Tb	159	He	6348428.50	0.5	6692094.83	94.86	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB12
File Name	H6F22129.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\H6F22.b
Acq Time	2020-06-26 16:06:47
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	1.115	ppb	8.4	136856.41	0.4	>LOD
Be	9	6	No Gas	0.014	ppb	44.0	90.00	0.08	
B	11	6	No Gas	8.430	ppb	6.3	22220.87	4	>LOD
Na	23	45	H2	834.340	ppb	1.4	3936828.67	40	>LOD
Mg	24	45	No Gas	16.515	ppb	49.5	200568.35	10	>LOD
Al	27	45	No Gas	15.258	ppb	48.7	217670.06	15	>LOD
Si	28	45	H2	1.580	ppb	2.2	5615.80	8	
P	31	45	No Gas	3.656	ppb	34.2	24506.27	10	
K	39	45	He	19.517	ppb	25.1	121141.09	20	
Ca	40	45	H2	7.542	ppb	4.2	202681.63	25	
Ti	47	45	No Gas	0.267	ppb	34.8	948.70	0.5	
V	51	45	He	<0.000	ppb	N/A	5570.46	0.5	
Cr	52	45	He	<0.000	ppb	N/A	939.37	0.2	
Mn	55	45	No Gas	0.654	ppb	61.0	28662.40	0.2	>LOD
Fe	56	45	H2	6.759	ppb	9.1	101479.70	10	
Co	59	45	No Gas	0.117	ppb	57.9	3103.76	0.15	
Ni	60	45	He	<0.000	ppb	N/A	80.67	0.2	
Cu	63	45	He	<0.000	ppb	N/A	1984.15	0.4	
Zn	66	72	No Gas	0.114	ppb	60.9	2530.24	2	
As	75	72	He	<0.000	ppb	N/A	304.00	0.2	
Se	78	72	H2	0.059	ppb	29.7	43.00	0.2	
Sr	88	72	No Gas	0.171	ppb	41.3	6571.80	0.2	
Zr	90	72	No Gas	0.010	ppb	81.5	393.34	2	
Mo	95	115	No Gas	0.204	ppb	35.1	1428.97	0.2	>LOD
Ag	107	115	No Gas	0.011	ppb	98.6	278.89	0.08	
Cd	111	115	No Gas	0.099	ppb	57.3	396.25	0.2	
Sn	118	115	No Gas	0.103	ppb	54.5	2534.70	0.2	
Sb	123	115	No Gas	0.023	ppb	66.3	408.90	0.4	
Ba	137	115	No Gas	0.210	ppb	55.8	1257.86	0.2	>LOD
W	182	159	No Gas	0.028	ppb	34.8	463.35	0.3	
Hg	201	159	He	0.003	ppb	63.2	12.83	0.1	
Tl	205	159	No Gas	0.186	ppb	47.5	6106.14	0.1	>LOD
Pb	208	159	No Gas	0.096	ppb	67.7	5244.95	0.1	
U	238	159	No Gas	0.101	ppb	50.8	3965.22	0.05	>LOD

Continuing Calibration Blank (CCB) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2149768.21	1.9	1866774.34	115.16	60	120	
Sc	45	No Gas	5297290.17	2.1	5256704	100.77	60	120	
Sc	45	H2	3162310.00	0.5	3216050	98.33	60	120	
Sc	45	He	611341.60	0.6	590136.5	103.59	60	120	
Ge	72	No Gas	1318161.95	1.2	1347600.04	97.82	60	120	
Ge	72	H2	888391.02	1.6	912330.27	97.38	60	120	
Ge	72	He	371125.14	0.9	378247.59	98.12	60	120	
In	115	No Gas	8325260.22	0.5	8692051.13	95.78	60	120	
Tb	159	No Gas	11008517.06	1.4	11827603.42	93.07	60	120	
Tb	159	He	6419237.00	0.6	6692094.83	95.92	60	120	

EMAX LABORATORIES, INC.

DIGESTION LOG
for
ICP-MS METALS

Note: For samples, relevant QCs/Standards digested, refer to attached digestion sequence.

Comments:

Digestion Vessel Lot # SM5A-04-04-10

ALL SAMPLES PH<2

Book #: EIM-081
Batch: IMF032W
Matrix: WATER
Digestor ID: E

SOP #	Rev. #
☐ EMAX-200.8	6
☑ EMAX-6020	13
☐ EMAX-6020CA	2
☐ EMAX-	

Start	Temp	End	Temp
	91.3 °C		93.4 °C

Standards	ID	Amount Added (ml/g)
LCS-1	SM6A-007-06-25	0.15
LCS-2	-06-26	0.15
MS	SAME SPIKES ON AND VOL AS LCS 1,2	
Blank Soil (Bead)	N/A	N/A
Reagent	**Lot# / ID**	**Amount Added (ml)**
HNO_3	SW1A-009-02-08	0.5+1.0
HCl	-02-09	0.25+0.25
H_2O_2	N/A	N/A
HNO_3(1:1)		
Au	SM5A-04-03-09	0.1
pH Strip (0-14)	HC998032	

Digestate Location	
Extract Location	
☑ Reagent Water ID:	SW1A-08-25-05
☑ Thermometer ID:	192272442/E13
☑ Pipette ID:	742766331
☐ Pipette ID:	
☐ Pipette ID:	
☐ HNO_3 dispenser checked @ 5.0 ml with Class A volumetric flask	
☐ HCl dispenser checked @ 5.0 ml with Class A volumetric flask	

Prepared By: CK/MC

Standard Added By: CK Witnessed By: MC

Extract Rcvd By: W Checked By: MC

EMAX LABORATORIES INC

DIGESTION LOG FOR METALS

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Vd(ml)	ExpAmt	ExpVd(ml)	PrepFctr	Comments
20IMF032W01	IMF032WB	50	ml	6/23/20 9:46	50	50	50	1	
20IMF032W02	IMF032WL	50	ml	6/23/20 9:46	50	50	50	1	
20IMF032W03	IMF032WC	50	ml	6/23/20 9:46	50	50	50	1	
20IMF032W04	F167-01	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W05	F167-03	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W06	F167-04	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W07	F167-04M	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W08	F167-04S	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W09	F167-05	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W10	F167-06	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W11	F167-07	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W12	F167-08	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W13	F167-09	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W14	F167-10	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W15	F167-11	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W16	F176-02	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W17	F176-02M	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W18	F176-02S	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W19	F176-04	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W20	F176-06	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W21	F176-08	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W22	F176-09	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W23	F176-10	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W24	F176-11	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W25	F176-12	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W26	F176-13	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED

CK

6/23/20

Vd=digestate volume PrepFctr=(ExpAmt/Aliquot)*(Vd/ExpVd)

☑ Digestion Started @ 6/23/20 11:40 Prepared By: CKaing/MCande

☑ Digestion Ended @ 6/23/20 14:18 Checked By: CK / MC

Comments: Date 6/23/20

SOP EMAX-6020 Rev. 13

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 20F176

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

A total of three(3) water samples were received on 06/19/20 to be analyzed for Dissolved Metals by ICP-MS in accordance with Method SW6020A and project specific requirements.

Holding Time
Samples were digested and analyzed within the prescribed holding time.

Calibration
Initial Calibration was established as prescribed by the method and was verified using a secondary source(ICV). Interference checks were performed and results were within required limits. Continuing calibration verifications and continuing calibration blanks were carried out at the frequency specified by the project. All calibration requirements were satisfied. MRL was analyzed as required by the project.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. IMF032WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. IMF032WL/IMF032WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. F176-02M/F176-02S - all analytes were within MS QC limits. Refer to Matrix QC summary form for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP

SDG NO. : 20F176
Instrument ID : H6

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	IMF032WB	1	NA	06/24/2010:36	06/23/2011:40	H6F19020	H6F19015	IMF032W	Method Blank
LCS1W	IMF032WL	1	NA	06/24/2010:39	06/23/2011:40	H6F19021	H6F19015	IMF032W	Lab Control Sample (LCS)
LCD1W	IMF032WC	1	NA	06/24/2010:41	06/23/2011:40	H6F19022	H6F19015	IMF032W	LCS Duplicate
MW-54-195-Q220MS	F176-02M	1	NA	06/26/2015:19	06/23/2011:40	H6F22111	H6F22109	IMF032W	Matrix Spike Sample (MS)
MW-54-195-Q220MSD	F176-02S	1	NA	06/26/2015:22	06/23/2011:40	H6F22112	H6F22109	IMF032W	MS Duplicate (MSD)
MW-54-195-Q220	F176-02	1	NA	06/26/2015:27	06/23/2011:40	H6F22114	H6F22109	IMF032W	Field Sample
MW-54-085-Q220	F176-04	1	NA	06/26/2015:32	06/23/2011:40	H6F22116	H6F22109	IMF032W	Field Sample
MW-54-140-Q220	F176-06	1	NA	06/26/2015:35	06/23/2011:40	H6F22117	H6F22109	IMF032W	Field Sample

FN - Filename
% Moist - Percent Moisture

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/19/20 08:43
Project	: PG&E TOPOCK-GMP	Date Received:	06/19/20
SDG NO.	: 20F176	Date Extracted:	06/23/20 11:40
Sample ID:	MW-54-195-Q220	Date Analyzed:	06/26/20 15:27
Lab Samp ID:	F176-02	Dilution Factor:	1
Lab File ID:	H6F22114	Matrix:	WATER
Ext Btch ID:	IMF032W	% Moisture:	NA
Calib. Ref.:	H6F22109	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	ND	1.00	0.200
Chromium	ND	1.00	0.200
Manganese	350	10.0	0.200

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing/MCande	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/19/20 10:27
Project	: PG&E TOPOCK-GMP	Date Received:	06/19/20
SDG NO.	: 20F176	Date Extracted:	06/23/20 11:40
Sample ID:	MW-54-085-Q220	Date Analyzed:	06/26/20 15:32
Lab Samp ID:	F176-04	Dilution Factor:	1
Lab File ID:	H6F22116	Matrix:	WATER
Ext Btch ID:	IMF032W	% Moisture:	NA
Calib. Ref.:	H6F22109	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	5.19	1.00	0.200
Chromium	ND	1.00	0.200
Manganese	472	10.0	0.200

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing/MCande	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/19/20 09:51
Project	: PG&E TOPOCK-GMP	Date Received:	06/19/20
SDG NO.	: 20F176	Date Extracted:	06/23/20 11:40
Sample ID:	MW-54-140-Q220	Date Analyzed:	06/26/20 15:35
Lab Samp ID:	F176-06	Dilution Factor:	1
Lab File ID:	H6F22117	Matrix:	WATER
Ext Btch ID:	IMF032W	% Moisture:	NA
Calib. Ref.:	H6F22109	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	2.66	1.00	0.200
Chromium	ND	1.00	0.200
Manganese	106	10.0	0.200

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing/MCande	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	NA
Project	: PG&E TOPOCK-GMP	Date Received:	NA
SDG NO.	: 20F176	Date Extracted:	06/23/20 11:40
Sample ID:	MBLK1W	Date Analyzed:	06/24/20 10:36
Lab Samp ID:	IMF032WB	Dilution Factor:	1
Lab File ID:	H6F19020	Matrix:	WATER
Ext Btch ID:	IMF032W	% Moisture:	NA
Calib. Ref.:	H6F19015	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	ND	1.00	0.200
Chromium	ND	1.00	0.200
Manganese	ND	10.0	0.200

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing/MCande	Analyzed by:	LYaman

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 20F176
METHOD : SW6020A

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: IMF032WB	IMF032WL	IMF032WC
LAB FILE ID	: H6F19020	H6F19021	H6F19022
DATE PREPARED	: 06/23/20 11:40	06/23/20 11:40	06/23/20 11:40
DATE ANALYZED	: 06/24/20 10:36	06/24/20 10:39	06/24/20 10:41
PREP BATCH	: IMF032W	IMF032W	IMF032W
CALIBRATION REF	: H6F19015	H6F19015	H6F19015

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpikeAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Arsenic	ND	30	30.6	102	30	30.5	102	0	85-115	20
Chromium	ND	30	31.5	105	30	31.2	104	1	85-115	20
Manganese	ND	30	30.5	102	30	30.1	100	1	85-115	20

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 20F176
METHOD : SW6020A

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MW-54-195-Q220	MW-54-195-Q220MS	MW-54-195-Q220MSD
LAB SAMPLE ID	: F176-02	F176-02M	F176-02S
LAB FILE ID	: H6F22114	H6F22111	H6F22112
DATE PREPARED	: 06/23/20 11:40	06/23/20 11:40	06/23/20 11:40
DATE ANALYZED	: 06/26/20 15:27	06/26/20 15:19	06/26/20 15:22
PREP BATCH	: IMF032W	IMF032W	IMF032W
CALIBRATION REF	: H6F22109	H6F22109	H6F22109

ACCESSION:

PARAMETERS	PSResult (ug/L)	SpikeAmt (ug/L)	MSResult (ug/L)	MSRec (%)	SpikeAmt (ug/L)	MSDResult (ug/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Arsenic	ND	30	31.9	106	30	31.7	106	1	75-125	20
Chromium	ND	30	28.4	95	30	28.0	93	1	75-125	20
Manganese	350	30	381	103	30	385	117	1	75-125	20

PSResult - Parent Sample Result

ICP-MS QC CHECK TABLE

QC	HIGH STD	ICV	CCV	ICSAB	ICSA
Limit%		90-110	90-110	80-120	80-120
Comp	ug/L	ug/L	ug/L	ug/L	ug/L
Al	50000	30000	25000	100000	100000
Sb	100	60	50	20	0
As	500	300	250	20	0
Ba	1000	300	500	20	0
Be	50	30	25	20	0
B	100	30	50	20	0
Cd	500	300	250	20	0
Ca	50000	30000	25000	100000	100000
Cr	500	300	250	20	0
Co	500	300	250	20	0
Cu	500	300	250	20	0
Fe	50000	30000	25000	100000	100000
Li	50	30	25	20	0
Pb	500	300	250	20	0
Mg	50000	30000	25000	100000	100000
Mn	3000	2000	1500	20	0
Mo	500	300	250	2000	2000
Ni	500	300	250	20	0
P	500	300	250	100000	100000
K	50000	30000	25000	100000	100000
Se	500	300	250	20	0
Si	5000	3000	2500	200	0
Ag	50	30	25	20	0
Na	50000	30000	25000	100000	100000
Sr	500	300	250	20	0
Tl	500	300	250	20	0
Sn	500	300	250	20	0
Ti	500	300	250	2000	2000
W	50	30	25	20	0
V	500	300	250	20	0
U	500	300	250	20	0
Zn	500	300	250	20	0
Zr	50	30	25	20	0

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ICP-MS

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 06/24/20 09:51

End Date: 06/24/20 14:54

Comments:

All soil/solid samples are diluted at 10x dilution prior to analysis.

Filter Lot #: NA

CCB 4 Na > 1/2 LOQ
Associated samples > 10X concentration level.

Book #:	AH6-005
Instrument No.:	H6
Analytical Batch:	1H6F19
Analytical Sequence:	H6F19
Method File:	E6020H63
Micropipette ID:	☐ 142781004
Micropipette ID:	☑ ICP-06
Micropipette ID:	☑ 339362028
Micropipette ID:	☑ GFAA-07
Micropipette ID:	☐ 339342032
Micropipette ID:	☑ 542780515
Micropipette ID:	☐ 542761827
Micropipette ID:	☐

SOP #	Rev. #
☐ EMAX-200.8	6
☑ EMAX-6020	13
☐ EMAX-6020CA	2
☐ EMAX-	
☐ EMAX-	

STANDARDS ID		STANDARDS ID	
S0	SM6B-19-67-02	MRL1 (1)	SM6B-19-40-02
S1	68-01	MRL2(0.4)	65-01
S2	68-02	MRL3(CAT)	65-02
S3	69-01	MRL4	NA
S4	69-02	MRL5	↓
S5	NA	MRL6	↓
S6	↓	Internal Standard	SM6B-19-11-02
S7	↓	Post-Spike 1	SM6A-007-06-25
ICV	SM6B-19-49-01	Post-Spike 2	↓ 06-26
CCV	70-01	Post-Spike 3	NA
ICSA	66-02	Post-Spike 4	↓
ICSAB	67-01		
6020 TUNE SOLN.	NA		
200.8 TUNE SOLN.	SM6B-19-11-01		

Analyzed By: LY

Date: 06/24/20

INITIAL CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 20F176
Method : METHOD SW6020A
Sequence : IH6F19
InstrumentID: H6

Lab Samp ID :		ICV				ICSA1			ICSAB1	
QC Limit :		%R:90-110/RSD:<5				%R:80-120/<LOD			%R:80-120	
Lab File ID :		H6F19008				H6F19012			H6F19013	
DateAnalyed :		06/24/2010:05				06/24/2010:15			06/24/2010:18	
Parameter		Result	ICV EV	RSD	%Recovery	Result	ICSA EV	%Rec/LOD	Result	ICSAB EV	%Recovery
Lithium		29.99	30	2.9	100	0.40389	0	>0	19.654	20	98
Beryllium		30.97	30	3.6	103	0.0017351	0	<0.1	20.105	20	101
Boron		27.67	30	2.6	92	0.35346	0	<5.0	14.231	20	71*
Sodium		29700	30000	1.0	99	97039	100000	97	99618	100000	100
Magnesium		28950	30000	2.5	96	94085	100000	94	95915	100000	96
Aluminum		29500	30000	3.3	98	94385	100000	94	96631	100000	97
Silicon		3280	3000	1.0	109	3.8820	0	<20	219.61	200	110
Phosphorus		278.5	300	1.6	93	93954	100000	94	95988	100000	96
Potassium		29380	30000	1.2	98	96049	100000	96	100090	100000	100
Calcium		30060	30000	0.8	100	98288	100000	98	100800	100000	101
Titanium		295.5	300	1.9	98	1964.6	2000	98	2036.7	2000	102
Vanadium		309.6	300	0.4	103	0.053942	0	<0.5	20.143	20	101
Chromium	T	310.6	300	1.6	104	0.28590	0	>0.2	20.570	20	103
Manganese	T	1960	2000	2.9	98	0.23118	0	>0.2	19.232	20	96
Iron		29870	30000	0.2	100	97814	100000	98	101550	100000	102
Cobalt		300.9	300	2.7	100	0.34770	0	>0.2	19.472	20	97
Nickel		319.1	300	2.0	106	0.33225	0	>0.2	20.517	20	103
Copper		312.9	300	1.3	104	0.40937	0	<0.5	20.457	20	102
Zinc		289.3	300	1.9	96	0.92961	0	<10	20.688	20	103
Arsenic	T	312.6	300	1.1	104	0.075152	0	<0.2	20.231	20	101
Selenium		311.6	300	0.8	104	0.14673	0	<0.3	20.523	20	103
Strontium		308.5	300	1.9	103	0.79756	0	<1.0	20.807	20	104
Zirconium		27.81	30	0.5	93	0.076672	0	<2.0	14.122	20	71*
Molybdenum		299.2	300	1.2	100	1935.0	2000	97	2035.3	2000	102
Silver		30.70	30	0.6	102	0.013678	0	<0.2	19.329	20	97
Cadmium		304.9	300	0.6	102	0.046782	0	<0.2	19.279	20	96
Tin		306.4	300	1.2	102	0.31881	0	>0.2	20.099	20	100
Antimony		58.33	60	0.4	97	0.15065	0	<0.5	19.733	20	99
Barium		307.3	300	1.5	102	0.21976	0	<0.5	20.445	20	102
Tungsten		32.47	30	0.4	108	0.15608	0	<1.0	19.707	20	99
Mercury		2.890	3	0.5	96	0.0044831	0	<0.1	1.9871	2	99
Thallium		311.9	300	1.0	104	0.00033154	0	<0.2	19.515	20	98
Lead		311.2	300	0.9	104	0.088499	0	<0.1	19.412	20	97
Uranium		306.3	300	0.7	102	0.000066767	0	<0.1	19.605	20	98

Unit: ug/L
T: Target analyte
EV: Expected Value
Comment: * Out of QC limit

CONTINUING CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 20F176
Method : METHOD SW6020A
Sequence : IH6F19
Instrument ID: H6

CCV SampleID		: CCV1			CCV2		
CCV DataFileID		: H6F19015			H6F19024		
CCV DateTime		: 06/24/20 10:23			06/24/20 10:46		
PARAMETER		CCV EV	RESULT	%REC	RSD	RESULT	%REC	RSD
Lithium		25	24.8	99	2.3	25.7	103	1.3
Beryllium		25	24.7	99	0.4	25.5	102	0.5
Boron		50	52.0	104	1.5	53.8	108	1.8
Sodium		25000	25100	101	0.9	25200	101	0.7
Magnesium		25000	24500	98	1.7	24800	99	2.6
Aluminum		25000	24600	98	1.5	24900	100	3.3
Silicon		2500	2550	102	0.8	2550	102	1.3
Phosphorus		250	243	97	0.4	249	99	1.8
Potassium		25000	25300	101	0.7	25700	103	1.2
Calcium		25000	25100	100	0.3	25000	100	0.9
Titanium		250	245	98	0.6	246	98	1.6
Vanadium		250	252	101	0.4	254	101	0.5
Chromium	T	250	255	102	0.6	255	102	0.4
Manganese	T	1500	1510	100	1.0	1510	101	2.0
Iron		25000	25100	101	0.5	25200	101	0.7
Cobalt		250	250	100	0.6	250	100	1.9
Nickel		250	258	103	0.6	259	104	1.3
Copper		250	257	103	0.4	256	102	1.2
Zinc		250	246	98	1.1	248	99	0.8
Arsenic	T	250	250	100	0.2	252	101	0.7
Selenium		250	248	99	1.4	250	100	0.5
Strontium		250	247	99	0.8	251	100	2.3
Zirconium		25	24.4	98	0.3	24.5	98	2.6
Molybdenum		250	244	98	1.6	247	99	1.2
Silver		25	24.7	99	2.4	24.7	99	1.5
Cadmium		250	243	97	1.7	245	98	1.1
Tin		250	246	99	1.5	248	99	0.6
Antimony		50	48.4	97	1.2	49.2	98	0.9
Barium		500	498	100	2.1	501	100	0.7
Tungsten		25	25.0	100	0.7	25.0	100	0.6
Mercury		2.5	2.49	100	1.2	2.49	100	0.7
Thallium		250	252	101	1.1	250	100	2.1
Lead		250	253	101	1.9	252	101	1.4
Uranium		250	252	101	1.2	245	98	0.5

Unit: ug/L
T: Target analyte
%Rec QC Limit: 90-110
RSD QC Limit: <5
CCV EV: CCV Expected Value ug/L
Comment:

CONTINUING CALIBRATION BLANK SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 20F176
Method : SW6020A
Sequence : IH6F19
Instrument ID: H6

CB SampleID		: ICB		CCB1		CCB2	
CB DataFileID		: H6F19009		H6F19016		H6F19025	
CB DateTime		: 06/24/2010:07		06/24/2010:26		06/24/2010:49	
PARAMETER	LOD	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >
Lithium	0	0.03	>0	0.08	>0	0.1	>0
Beryllium	0.1	0.02	<0.1	0.004	<0.1	0.01	<0.1
Boron	5.0	0.4	<5.0	0.1	<5.0	0.2	<5.0
Sodium	50	0.1	<50	7	<50	8	<50
Magnesium	10	2	<10	0.4	<10	6	<10
Aluminum	20	3	<20	0.5	<20	6	<20
Silicon	20	2	<20	0.6	<20	1	<20
Phosphorus	25	0.6	<25	2	<25	2	<25
Potassium	20	1	<20	8	<20	4	<20
Calcium	25	0.5	<25	0.6	<25	2	<25
Titanium	0.5	0.02	<0.5	0.2	<0.5	0.06	<0.5
Vanadium	0.5	0.09	<0.5	0.1	<0.5	0.2	<0.5
Chromium T	0.2	0.0002	<0.2	0.01	<0.2	0.003	<0.2
Manganese T	0.2	0.2	<0.2	0.05	<0.2	0.4	>0.2
Iron	10	0.7	<10	1	<10	2	<10
Cobalt	0.2	0.03	<0.2	0.005	<0.2	0.06	<0.2
Nickel	0.2	0.009	<0.2	0.008	<0.2	0.02	<0.2
Copper	0.5	0.004	<0.5	0.06	<0.5	0.1	<0.5
Zinc	10	0.06	<10	0.04	<10	0.09	<10
Arsenic T	0.2	0.01	<0.2	0.008	<0.2	0.0010	<0.2
Selenium	0.3	0.06	<0.3	0.03	<0.3	0.03	<0.3
Strontium	1.0	0.03	<1.0	0.003	<1.0	0.06	<1.0
Zirconium	2.0	0.0009	<2.0	0.003	<2.0	0.004	<2.0
Molybdenum	0.5	0.04	<0.5	0.03	<0.5	0.08	<0.5
Silver	0.2	0.004	<0.2	0.002	<0.2	0.006	<0.2
Cadmium	0.2	0.05	<0.2	0.02	<0.2	0.08	<0.2
Tin	0.2	0.1	<0.2	0.02	<0.2	0.07	<0.2
Antimony	0.5	0.010	<0.5	0.005	<0.5	0.02	<0.5
Barium	0.5	0.02	<0.5	0.0002	<0.5	0.1	<0.5
Tungsten	1.0	0.01	<1.0	0.009	<1.0	0.005	<1.0
Mercury	0.1	0.02	<0.1	0.009	<0.1	0.010	<0.1
Thallium	0.2	0.1	<0.2	0.05	<0.2	0.1	<0.2
Lead	0.1	0.09	<0.1	0.04	<0.1	0.09	<0.1
Uranium	0.1	0.03	<0.1	0.007	<0.1	0.06	<0.1

Unit: ug/L
CB: Calibration Blank
T: Target analyte
Acceptance Criteria: CCB Result <LOD
Comment:

Sample List

Acq/Data Batch D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b

Block List

Acquisition Order

Sequence Order	Block Name
1	Calibration Standards
2	Unknown Samples

Blocks

Calibration Standards

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Replicates	Level	Total Dil.
1		CalBlk	BLANK		1101	H6F19001.d		1	
2		CalBlk	BLANK		1101	H6F19002.d		1	
3		CalStd	S0		1102	H6F19003.d		1	
4		CalStd	S1		1104	H6F19004.d		2	
5		CalStd	S2		1105	H6F19005.d		3	
6		CalStd	S3		1106	H6F19006.d		4	
7		CalStd	S4		1107	H6F19007.d		5	
8		ICV	ICV		1204	H6F19008.d			1
9		ICB	ICB		1102	H6F19009.d			1
10		LLCCV	MRLF2401 ✓	1/100/10 ppb	1306	H6F19010.d			1
11		LLCCV2	MRLF2402	0.4/40/4 ppb	1307	H6F19011.d			1
12		ICS-A	ICSA1		1304	H6F19012.d			1
13		ICSB	ICSAB1		1305	H6F19013.d			1
14		Sample	MRLF2403	500 ppb CAT	1207	H6F19014.d			1
15		CCV	CCV1		1206	H6F19015.d			1
16		CCB	CCB1		1102	H6F19016.d			1

Unknown Samples

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Replicates	Level	Total Dil.
1		Blank	IMF031WB		2101	H6F19017.d			1
2		LCSW	IMF031WL		2102	H6F19018.d			1
3		LCSW	IMF031WC		2103	H6F19019.d			1
4		Blank	IMF032WB		2104	H6F19020.d			1
5		LCSW	IMF032WL		2105	H6F19021.d			1
6		LCSW	IMF032WC		2106	H6F19022.d			1
7		Sample	F142-10		2107	H6F19023.d			1
8		CCV	CCV2		1206	H6F19024.d			1
9		CCB	CCB2		1102	H6F19025.d			1
10		Sample	F142-01		2108	H6F19026.d			1
11		Sample	F142-02M ✓		2109	H6F19027.d			1
12		Sample	F142-02S		2110	H6F19028.d			1
13		Sample	F142-02A		2111	H6F19029.d			1
14		Sample	F142-02		2112	H6F19030.d			1
15		Sample	F142-02J		2201	H6F19031.d			5
16		Sample	F142-03		2202	H6F19032.d			1
17		CCV	CCV3		1206	H6F19033.d			1
18		CCB	CCB3		1102	H6F19034.d			1
19		Sample	F142-04		2203	H6F19035.d			1
20		Sample	F142-05		2204	H6F19036.d			1

Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Replicates	Level	Total Dil.
21		Sample	F142-06		2205	H6F19037.d			1
22		Sample	F142-07		2206	H6F19038.d			1
23		Sample	F142-08		2207	H6F19039.d			1
24		Sample	F142-09		2208	H6F19040.d			1
25		CCV	CCV4		1206	H6F19041.d			1
26		CCB	CCB4 Na7 ½ LOQ		1102	H6F19042.d			1
27		Sample	F160-01M		2209	H6F19043.d			10
28		Sample	F160-01S		2210	H6F19044.d			10
29		Sample	F160-01A ✓		2211	H6F19045.d			10
30		Sample	F160-01I		2212	H6F19046.d			10
31		Sample	F160-01J		2301	H6F19047.d			50
32		Sample	F160-02I		2302	H6F19048.d			10
33		Sample	F160-04I		2303	H6F19049.d			10
34		CCV	CCV5		1206	H6F19050.d			1
35		CCB	CCB5		1102	H6F19051.d			1
36		Sample	F160-06I		2304	H6F19052.d			10
37		Sample	F160-07I		2305	H6F19053.d			10
38		Sample	F160-08I		2306	H6F19054.d			10
39		Sample	F160-09I		2307	H6F19055.d			10
40		Sample	F160-10I		2308	H6F19056.d			10
41		Sample	F160-11I		2309	H6F19057.d			10
42		CCV	CCV6		1206	H6F19058.d			1
43		CCB	CCB6		1102	H6F19059.d			1
44		Sample	F160-01M Na Ca↑		3101	H6F19060.d			1
45		Sample	F160-01S		3102	H6F19061.d			1
46		Sample	F160-01A ✓		3103	H6F19062.d			1
47		Sample	F160-01		3104	H6F19063.d			1
48		Sample	F160-01J		3105	H6F19064.d			5
49		Sample	F160-02 Na Ca↑		3106	H6F19065.d			1
50		Sample	F160-04 Ca↑		3107	H6F19066.d			1
51		CCV	CCV7		1206	H6F19067.d			1
52		CCB	CCB7		1102	H6F19068.d			1
53		Sample	F160-06		3108	H6F19069.d			1
54		Sample	F160-07		3109	H6F19070.d			1
55		Sample	F160-08 Ca↑		3110	H6F19071.d			1
56		Sample	F160-09 Ca↑		3111	H6F19072.d			1
57		Sample	F160-10 Na Ca↑		3112	H6F19073.d			1
58		Sample	F160-11 Na Ca↑		3201	H6F19074.d			1
59		CCV	CCV8		1206	H6F19075.d			1
60		CCB	CCB8		1102	H6F19076.d			1
61		Sample	F167-01I		2310	H6F19077.d			10
62		Sample	F167-03I		2311	H6F19078.d			10
63		Sample	F167-04M		2312	H6F19079.d			10
64		Sample	F167-04S		2401	H6F19080.d			10
65		Sample	F167-04A ✓		2402	H6F19081.d			10
66		Sample	F167-04I		2403	H6F19082.d			10
67		Sample	F167-04J V X		2404	H6F19083.d			50
68		CCV	CCV9		1206	H6F19084.d			1
69		CCB	CCB9		1102	H6F19085.d			1
70		Sample	F167-04J		2404	H6F19086.d			50
71		Sample	F167-05I		2405	H6F19087.d			10
72		Sample	F167-06I		2406	H6F19088.d			10

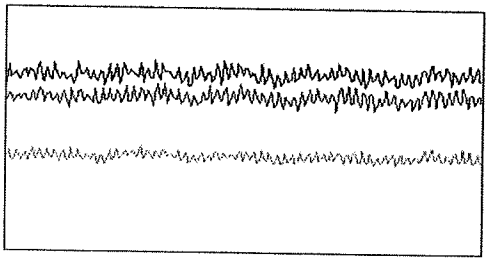
Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Replicates	Level	Total Dil.
73		Sample	F167-07I		2407	H6F19089.d			10
74		Sample	F167-08I		2408	H6F19090.d			10
75		Sample	F167-09I		2409	H6F19091.d			10
76		Sample	F167-10I		2410	H6F19092.d			10
77		Sample	F167-11I CR	colored	2411	H6F19093.d			10
78		Sample	F167-11K	colored	3204	H6F19094.d			100
79		CCV	CCV10		1206	H6F19095.d			1
80		CCB	CCB10		1102	H6F19096.d			1
81		Sample	F176-02M ✓		2412	H6F19097.d			10
82		Sample	F176-02S		2501	H6F19098.d			10
83		Sample	F176-02A		2502	H6F19099.d			10
84		Sample	F176-02I		2503	H6F19100.d			10
85		Sample	F176-02J		2504	H6F19101.d			50
86		Sample	F176-04I		2505	H6F19102.d			10
87		Sample	F176-06I		2506	H6F19103.d			10
88		CCV	CCV11		1206	H6F19104.d			1
89		CCB	CCB11		1102	H6F19105.d			1
90		Sample	F176-08I		2507	H6F19106.d			10
91		Sample	F176-09I		2508	H6F19107.d			10
92		Sample	F176-10I		2509	H6F19108.d			10
93		Sample	F176-11I		2510	H6F19109.d			10
94		Sample	F176-12I		2511	H6F19110.d			10
95		Sample	F176-13I		2512	H6F19111.d			10
96		ICS-A	ICSA2		1304	H6F19112.d			1
97		ICSB	ICSAB2		1305	H6F19113.d			1
98		CCV	CCV12		1206	H6F19114.d			1
99		CCB	CCB12		1102	H6F19115.d			1
100		Sample	F160-07	UNDIG	3203	H6F19116.d			1

Performance Report

Operator Name	LYaman
Acq. Date-Time	2020-06-24 08:50:38
Instrument Name	G8421A SG19253823
Sample Introduction	ISIS
Nebulizer Type	MicroMist
Ion Lens Model	x-Lens
Tune Parameters	Standard Tune

Sensitivity



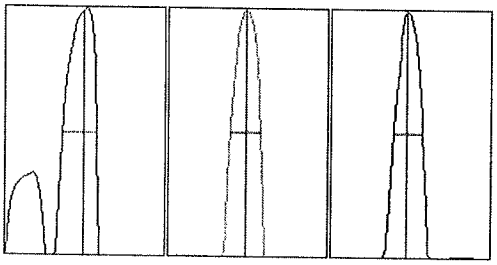
Mass	Range	Count	RSD%	Background
7	10000	6361	3.973	0.200
89	50000	19556	4.540	1.050
205	20000	14603	3.495	3.550

Sampling Period [sec]	0.311
Integration Time [sec]	0.1

Oxide/Doubly Charged Ratio

Oxide	156 / 140 1.182 %
Doubly Charged	70 / 140 1.437 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
7	6329.15	7.00	0.64	0.77
89	19555.48	89.00	0.58	0.72
205	14742.48	204.95	0.55	0.75

Integration Time [sec]	0.1
Acquisition Time [sec]	22.74

Tune Parameters

Plasma Parameters

RF Power	1550 W	Option Gas	---	Makeup Gas	0.00 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Auxiliary Gas	0.90 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C	Plasma Gas	15.0 L/min
Nebulizer Gas	1.07 L/min				

Lens Parameters

Extract 1	0.0 V	Omega Lens	8.6 V	Deflect	13.6 V
Extract 2	-185.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-90 V	Cell Exit	-50 V		

Performance Report

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

QP Bias	-3.0 V

Hardware Settings

Torch

Torch H	0.5 mm	Torch H (Hot)	---	Torch H (Cool)	---
Torch V	-0.2 mm	Torch V (Hot)	---	Torch V (Cool)	---

Plasma Correction

Nebulizer Gas Offset	0.02 L/min	Makeup Gas (Hot)	---	Makeup Gas (Cool)	---
		Sample Depth (Hot)	---		

Resolution/Axis

Mass Gain	123	Axis Gain	0.9994
Mass Offset	124	Axis Offset	-0.03

EM

Discriminator	4.2 mV	Analog HV	2384 V	Pulse HV	1534 V

Performance Report

Meter

Name	Value	Unit
Nebulizer Gas	1.07	L/min
MU./Dil. Gas	0.00	L/min
Plasma Gas	15.01	L/min
Aux Gas	0.90	L/min
Ar Gas Tank Press	7.17E+2	kPa
+5V (Press Gage)	5.0	V
Ar AMFC Temp	31.7	°C
Nebulizer Gas(DP)	6.11E+0	kPa
MU./Dil. Gas(DP)	-1.23E-1	kPa
Aux Gas(DP)	1.23E+1	kPa
Plasma Gas(DP)	1.11E+1	kPa
Nebulizer Gas(BP)	3.51E+2	kPa
MU./Dil. Gas(BP)	-2.78E+0	kPa
Aux Gas(BP)	5.93E+1	kPa
Plasma Gas(BP)	3.97E+1	kPa
S/C Temp (H)	16.4	°C
S/C Temp (L)	2.0	°C
Peltier Voltage	2.7	V
IF/BK Press	2.25E+2	Pa
Analyzer Press	6.65E-5	Pa
IG HV	178	V
IG Emission	4.97	µA
TMP Revolution	100.0	%
TMP Rev (RAW)	100.2	%
TMP Current	2.65	A
PWR AMP Drain I	0.2	A
PWR AMP Bias	4.16	V
OctP RF (Avg)	204.0	V
OctP RF Set	4.0	V
OctP FET Bias Set	3.97	V
OctP RF(+)	176.2	V
OctP RF(-)	231.5	V
OctP Bias	-8.0	V
Cell Temp.	65.0	°C
Cell Heater Volt.	4.0	V
+U Voltage	176.9	V

Name	Value	Unit
-U Voltage	-182.9	V
V Voltage	773.4	V
QPRF Fader	0.5	V
Pickup Temp	55.0	°C
PWR Amp Temp	0.1	V
+600V	609.5	V
-120V	-133.7	V
-720V	-738.5	V
Prefilter Bias	-5.05	V
Pickup Heater I	0.07	A
QP PS +48V	47.5	V
QP PS +48V I	0.00	A
Analog HV	-2388	V
Pulse HV	1544	V
EM Gate	-28.2	V
Pulse Gate	307.4	V
EM Entrance	0.2	V
EM HV Gain	-1033.2	V
Inner Pole	-300.2	V
Outer Pole	20.0	V
Analog -5V	-5.1	V
Analog +15V	14.5	V
Analog -15V	-14.4	V
Analog +5V	5.2	V
Shunt C Pos	1.2	V
Drain Volt.(max)	63.5	V
RF PS +48V	47.5	V
Forward Power	1548	W
Reflected Power	2	W
Plasma Freq.	26.75	MHz
Drain I 1	11.41	A
Drain I 2	10.97	A
Drain I 3	10.88	A
Drain I 4	10.23	A
Temp Sensor	2.8	V
Driver I	5.64	A

Name	Value	Unit
Igniter	0.1	V
Driver Voltage Set	6.5	V
Unbalance Current	0.44	A
PWM Threshold Set	0.2	V
Driver Voltage	5.1	V
PWM Threshold	0.2	V
Phase Detector	0.0	mV
H2 Gas	0.00	mL/min
He Gas	0.00	mL/min
H2 Gas Press	1.70E+2	kPa
He Gas Press	9.59E-1	kPa
ORS AMFC Temp	30.7	°C
Atmospheric Press	1.01E+2	kPa
Extract 1	-0.1	V
Extract 2	-185.4	V
Omega Bias	-90.0	V
Omega Lens	8.5	V
Cell Entrance	-29.9	V
Cell Exit	-50.2	V
Deflect	13.6	V
Plate Bias	-35.0	V
HV+530V	524	V
HV+240V	238	V
HV-360V	-357	V
Inlet Temp	30.6	°C
Internal Temp	36.6	°C
+24V	23.6	V
Water Temp	18.8	°C
Water RF/WC/IF	1.48	L/min
ISIS 3 Pump Speed	0.0	%
Valve Position		
Tune/ISTD Valve		

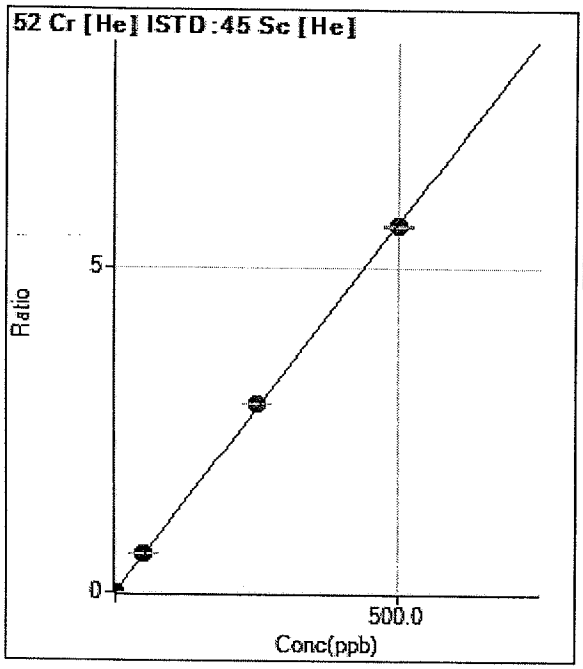
Performance Report History

Sensitivity

Calibration for H6F19116.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b\
Analysis File: IH6F19.batch.bin
DA Date-Time: 2020-06-24 14:55:56
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

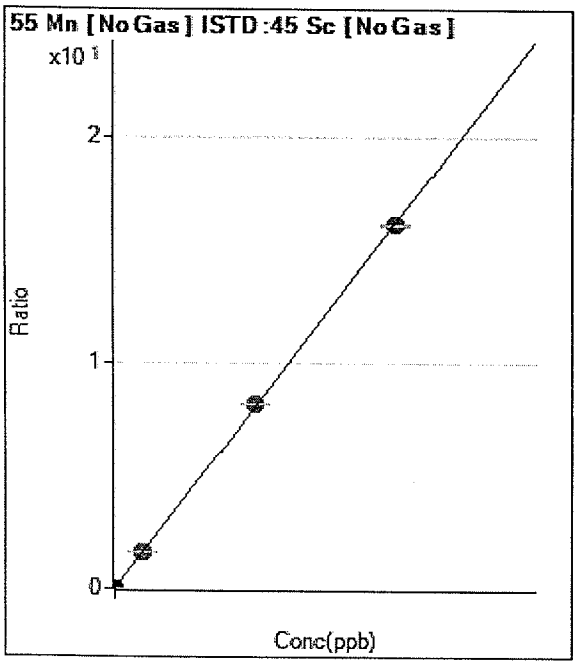
Level	Standard Data File	Sample Name	Acq. Date-Time
1	H6F19003.d	S0	2020-06-24 09:51:04
2	H6F19004.d	S1	2020-06-24 09:53:55
3	H6F19005.d	S2	2020-06-24 09:56:46
4	H6F19006.d	S3	2020-06-24 09:59:46
5	H6F19007.d	S4	2020-06-24 10:02:35



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1370.07	0.0020	P	3.6
2	☐	0.500	0.531	5557.13	0.0081	P	0.7
3	☐	50.000	52.163	405024.47	0.5962	P	1.5
4	☐	250.000	255.837	1978114.75	2.9162	A	0.6
5	☐	500.000	496.865	3829349.08	5.6618	A	0.7

y = 0.0114 * x + 0.0020
R = 0.9999
DL = 0.01947
BEC = 0.178

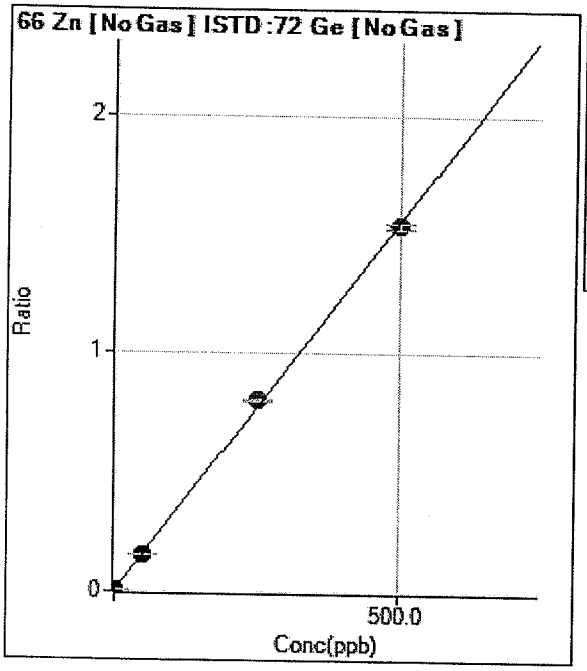
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11352.71	0.0019	P	0.8
2	☐	0.500	0.491	27064.72	0.0046	P	1.4
3	☐	300.000	306.169	9698126.33	1.6511	A	0.4
4	☐	1500.000	1522.033	48277376.00	8.2004	A	0.3
5	☐	3000.000	2988.367	93270858.67	16.0988	A	0.7

y = 0.0054 * x + 0.0019
R = 1.0000
DL = 0.009192
BEC = 0.3619

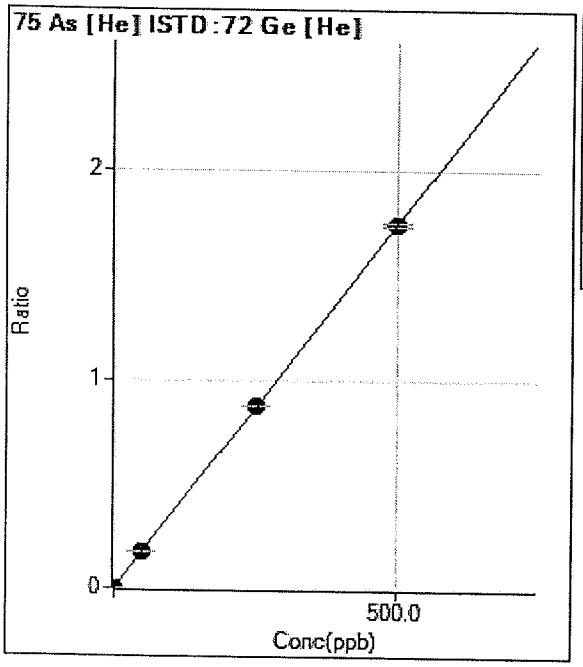
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3820.54	0.0028	P	4.6
2	☐	1.000	1.031	8252.51	0.0060	P	1.4
3	☐	50.000	49.773	212785.55	0.1571	P	0.5
4	☐	250.000	258.929	1083518.46	0.8056	A	0.7
5	☐	500.000	495.558	2069567.00	1.5392	A	1.3

y = 0.0031 * x + 0.0028
R = 0.9997
DL = 0.1273
BEC = 0.9153

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	408.34	0.0010	P	5.7
2	☐	0.500	0.469	1079.04	0.0027	P	3.1
3	☐	50.000	50.185	70472.47	0.1761	P	0.8
4	☐	250.000	251.268	350361.94	0.8774	P	0.7
5	☐	500.000	499.347	683340.77	1.7426	P	1.1

y = 0.0035 * x + 0.0010
R = 1.0000
DL = 0.05089
BEC = 0.2983

Weight: <None>
Min Conc: 0

US EPA Tune Check Report

Operator Name	LYaman
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq. Date-Time	2020-06-24 09:09:41
Report Comment	---
Instrument Name	G8421A SG19253823

[No Gas]

Sensitivity

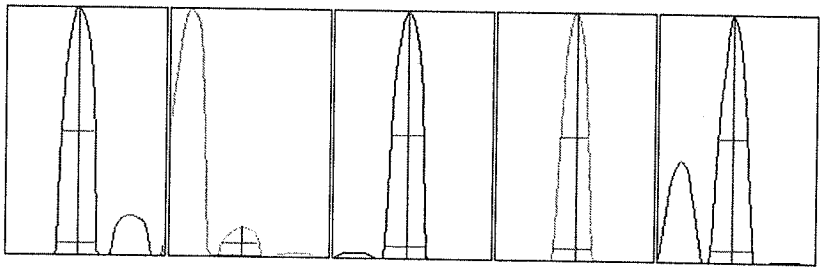
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	2579	25792.38			1.211	5.000
24	10.00	11916	119164.69			1.128	5.000
59	10.00	16630	166300.54			0.320	5.000
115	10.00	20610	206100.03			1.215	5.000
208	10.00	9535	95350.72			1.272	5.000

Mass	RSD% (Flag)
9	
24	
59	
115	
208	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
9	2602	2604	2585	2579	2527
24	11694	12023	12022	11918	11925
59	16643	16554	16605	16694	16655
115	20613	20668	20947	20576	20246
208	9338	9578	9661	9518	9580

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	4396.87	8.90	8.90 - 9.10	
24	19877.32	23.90	23.90 - 24.10	
59	28930.99	58.95	58.90 - 59.10	
115	40401.71	115.05	114.90 - 115.10	
208	17994.73	207.95	207.90 - 208.10	

US EPA Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.62	0.743	0.900	
24	0.66	0.789	0.900	
59	0.61	0.777	0.900	
115	0.54	0.726	0.900	
208	0.56	0.811	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	153.699999999999
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	HMI	Nebulizer Gas	0.61 L/min	Dilution Gas	0.36 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.8 V	Deflect	13.2 V
Extract 2	-200.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-85 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	123	Axis Gain	0.9994	QP Bias	-3.0 V
Mass Offset	124	Axis Offset	-0.03		

Hardware Settings

Torch

Torch H	0.5 mm	Torch V	-0.2 mm

EM

Discriminator	4.2 mV	Analog HV	2384 V	Pulse HV	1534 V

Calibration Standard Report

Sample Name	S0
File Name	H6F19003.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 09:51:04
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	145808.12	0.6
Be	9	6	No Gas	51.11	18.8
B	11	6	No Gas	29352.81	3.3
Na	23	45	H2	481780.38	0.4
Mg	24	45	No Gas	35988.97	0.7
Al	27	45	No Gas	17949.12	6.6
Si	28	45	H2	4627.44	4.0
P	31	45	No Gas	26569.37	0.3
K	39	45	He	138460.33	2.8
Ca	40	45	H2	222000.11	0.1
Ti	47	45	No Gas	353.34	4.2
V	51	45	He	7553.41	1.5
Cr	52	45	He	1370.07	3.6
Mn	55	45	No Gas	11352.71	1.1
Fe	56	45	H2	20490.00	2.0
Co	59	45	No Gas	260.67	10.4
Ni	60	45	He	90.67	14.2
Cu	63	45	He	2835.63	3.9
Zn	66	72	No Gas	3820.54	4.6
As	75	72	He	408.34	5.0
Se	78	72	H2	22.67	2.5
Sr	88	72	No Gas	743.35	5.6
Zr	90	72	No Gas	220.00	43.4
Mo	95	115	No Gas	64.45	6.0
Ag	107	115	No Gas	77.78	38.6
Cd	111	115	No Gas	29.76	20.1
Sn	118	115	No Gas	2064.61	2.3
Sb	123	115	No Gas	127.78	19.6
Ba	137	115	No Gas	555.57	17.8
W	182	159	No Gas	90.00	38.5
Hg	201	159	He	12.67	26.9
Tl	205	159	No Gas	541.13	2.0
Pb	208	159	No Gas	1271.14	2.9
U	238	159	No Gas	46.66	44.6

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2556036.88	1.3	2517133.22	101.55	60	120	
Sc	45	No Gas	5823367.17	0.3	5758793.33	101.12	60	120	
Sc	45	H2	3467203.25	0.8	3429066.25	101.11	60	120	
Sc	45	He	675563.92	0.6	686352.54	98.43	60	120	
Ge	72	No Gas	1346337.50	0.2	1340615.71	100.43	60	120	
Ge	72	H2	919898.02	0.9	932846.94	98.61	60	120	
Ge	72	He	392604.01	1.2	397358.27	98.8	60	120	
In	115	No Gas	7954136.65	0.3	8051737.11	98.79	60	120	
Tb	159	No Gas	10067954.05	0.4	10058344.88	100.1	60	120	
Tb	159	He	5790169.33	0.2	5802240.17	99.79	60	120	

Calibration Standard Report

Sample Name	S1
File Name	H6F19004.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 09:53:55
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	153370.13	1.7
Be	9	6	No Gas	2030.15	5.1
B	11	6	No Gas	8189.06	6.6
Na	23	45	H2	733443.17	1.7
Mg	24	45	No Gas	732975.13	0.9
Al	27	45	No Gas	899627.46	2.1
Si	28	45	H2	146760.23	1.1
P	31	45	No Gas	52360.43	1.1
K	39	45	He	185926.43	1.9
Ca	40	45	H2	732840.73	0.2
Ti	47	45	No Gas	1404.07	2.1
V	51	45	He	10782.90	2.0
Cr	52	45	He	5557.13	0.7
Mn	55	45	No Gas	27064.72	1.6
Fe	56	45	H2	781028.29	0.5
Co	59	45	No Gas	14327.53	1.4
Ni	60	45	He	1518.75	1.9
Cu	63	45	He	6298.12	4.2
Zn	66	72	No Gas	8252.51	0.5
As	75	72	He	1079.04	2.8
Se	78	72	H2	260.67	6.5
Sr	88	72	No Gas	18279.13	0.4
Zr	90	72	No Gas	94056.02	0.8
Mo	95	115	No Gas	3417.11	0.5
Ag	107	115	No Gas	8994.17	1.4
Cd	111	115	No Gas	1879.19	1.5
Sn	118	115	No Gas	5911.33	2.1
Sb	123	115	No Gas	6089.20	1.1
Ba	137	115	No Gas	2895.88	3.6
W	182	159	No Gas	2760.31	2.2
Hg	201	159	He	65.50	8.8
Tl	205	159	No Gas	13150.25	1.4
Pb	208	159	No Gas	18805.53	0.5
U	238	159	No Gas	15950.39	0.8

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2595159.94	1.2	2517133.22	103.1	60	120	
Sc	45	No Gas	5892435.00	0.2	5758793.33	102.32	60	120	
Sc	45	H2	3456576.25	0.9	3429066.25	100.8	60	120	
Sc	45	He	687954.69	0.6	686352.54	100.23	60	120	
Ge	72	No Gas	1367833.83	0.8	1340615.71	102.03	60	120	
Ge	72	H2	936534.58	1.5	932846.94	100.4	60	120	
Ge	72	He	403230.98	1.0	397358.27	101.48	60	120	
In	115	No Gas	8070505.38	0.3	8051737.11	100.23	60	120	
Tb	159	No Gas	10047220.71	0.7	10058344.88	99.89	60	120	
Tb	159	He	5843730.00	1.0	5802240.17	100.72	60	120	

Calibration Standard Report

Sample Name	S2
File Name	H6F19005.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\H6F19.b
Acq Time	2020-06-24 09:56:46
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	204847.10	0.4
Be	9	6	No Gas	19850.65	1.8
B	11	6	No Gas	37449.77	0.9
Na	23	45	H2	25558710.67	0.7
Mg	24	45	No Gas	67204429.33	0.6
Al	27	45	No Gas	84613232.07	0.6
Si	28	45	H2	737958.21	1.3
P	31	45	No Gas	79923.01	0.2
K	39	45	He	4860030.67	0.2
Ca	40	45	H2	51228741.33	0.4
Ti	47	45	No Gas	97678.05	0.6
V	51	45	He	357273.22	0.6
Cr	52	45	He	405024.47	0.7
Mn	55	45	No Gas	9698126.33	0.5
Fe	56	45	H2	72065850.67	1.0
Co	59	45	No Gas	1353622.21	0.2
Ni	60	45	He	138614.82	0.9
Cu	63	45	He	365551.93	0.4
Zn	66	72	No Gas	212785.55	0.4
As	75	72	He	70472.47	0.2
Se	78	72	H2	22322.11	1.4
Sr	88	72	No Gas	1731658.06	0.8
Zr	90	72	No Gas	211273.68	1.3
Mo	95	115	No Gas	323116.00	0.6
Ag	107	115	No Gas	85561.99	0.8
Cd	111	115	No Gas	172140.58	1.1
Sn	118	115	No Gas	487261.18	0.4
Sb	123	115	No Gas	115908.43	0.8
Ba	137	115	No Gas	488008.28	0.6
W	182	159	No Gas	55936.70	1.7
Hg	201	159	He	498.68	5.2
Tl	205	159	No Gas	1251865.75	0.8
Pb	208	159	No Gas	1682784.34	0.4
U	238	159	No Gas	1556225.67	0.5

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2551296.11	0.2	2517133.22	101.36	60	120	
Sc	45	No Gas	5873715.50	0.7	5758793.33	102	60	120	
Sc	45	H2	3464684.50	0.5	3429066.25	101.04	60	120	
Sc	45	He	679380.67	0.7	686352.54	98.98	60	120	
Ge	72	No Gas	1354056.88	0.6	1340615.71	101	60	120	
Ge	72	H2	940534.84	1.2	932846.94	100.82	60	120	
Ge	72	He	400277.01	1.0	397358.27	100.73	60	120	
In	115	No Gas	7931562.12	0.7	8051737.11	98.51	60	120	
Tb	159	No Gas	10077098.49	0.4	10058344.88	100.19	60	120	
Tb	159	He	5768012.33	0.3	5802240.17	99.41	60	120	

Calibration Standard Report

Sample Name	S3
File Name	H6F19006.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\H6F19.b
Acq Time	2020-06-24 09:59:46
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**LYaman**

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	432423.98	0.4
Be	9	6	No Gas	96874.91	1.2
B	11	6	No Gas	142406.27	0.3
Na	23	45	H2	127137122.67	1.5
Mg	24	45	No Gas	336790197.33	0.2
Al	27	45	No Gas	424666287.00	0.3
Si	28	45	H2	3613729.50	1.1
P	31	45	No Gas	292780.16	1.0
K	39	45	He	23659982.00	1.7
Ca	40	45	H2	257455466.67	0.1
Ti	47	45	No Gas	492496.67	1.1
V	51	45	He	1745571.00	1.2
Cr	52	45	He	1978114.75	0.8
Mn	55	45	No Gas	48277376.00	0.5
Fe	56	45	H2	359335530.67	0.7
Co	59	45	No Gas	6706597.33	0.2
Ni	60	45	He	674694.44	0.3
Cu	63	45	He	1749201.58	0.8
Zn	66	72	No Gas	1083518.46	0.5
As	75	72	He	350361.94	0.3
Se	78	72	H2	113120.96	1.1
Sr	88	72	No Gas	8607703.82	0.4
Zr	90	72	No Gas	530302.31	1.2
Mo	95	115	No Gas	1663943.41	0.6
Ag	107	115	No Gas	421786.11	0.6
Cd	111	115	No Gas	862264.40	0.5
Sn	118	115	No Gas	2498016.57	0.7
Sb	123	115	No Gas	589705.83	1.0
Ba	137	115	No Gas	2542968.02	0.9
W	182	159	No Gas	279112.90	1.0
Hg	201	159	He	2505.58	1.3
Tl	205	159	No Gas	6230362.39	1.6
Pb	208	159	No Gas	8499217.93	0.3
U	238	159	No Gas	7775664.97	0.7

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2499447.09	0.5	2517133.22	99.3	60	120	
Sc	45	No Gas	5887330.67	0.8	5758793.33	102.23	60	120	
Sc	45	H2	3491230.17	0.4	3429066.25	101.81	60	120	
Sc	45	He	678305.11	0.3	686352.54	98.83	60	120	
Ge	72	No Gas	1345003.37	0.5	1340615.71	100.33	60	120	
Ge	72	H2	935707.96	1.1	932846.94	100.31	60	120	
Ge	72	He	399348.07	1.1	397358.27	100.5	60	120	
In	115	No Gas	7834441.70	0.5	8051737.11	97.3	60	120	
Tb	159	No Gas	10165327.10	1.2	10058344.88	101.06	60	120	
Tb	159	He	5810747.83	1.0	5802240.17	100.15	60	120	

Calibration Standard Report

Sample Name	S4
File Name	H6F19007.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:02:35
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	685558.10	1.7
Be	9	6	No Gas	183301.12	0.5
B	11	6	No Gas	227588.65	1.0
Na	23	45	H2	245121365.33	1.3
Mg	24	45	No Gas	645303829.33	0.6
Al	27	45	No Gas	827568921.00	1.3
Si	28	45	H2	6967567.00	1.0
P	31	45	No Gas	538963.00	0.4
K	39	45	He	46272842.67	1.0
Ca	40	45	H2	502895541.33	0.6
Ti	47	45	No Gas	965067.11	1.1
V	51	45	He	3407761.00	0.7
Cr	52	45	He	3829349.08	0.7
Mn	55	45	No Gas	93270858.67	0.4
Fe	56	45	H2	708275413.33	0.9
Co	59	45	No Gas	12818908.00	0.6
Ni	60	45	He	1266720.46	0.5
Cu	63	45	He	3321505.42	0.2
Zn	66	72	No Gas	2069567.00	0.2
As	75	72	He	683340.77	0.6
Se	78	72	H2	220464.59	0.7
Sr	88	72	No Gas	16858904.89	1.0
Zr	90	72	No Gas	1081782.82	0.9
Mo	95	115	No Gas	3260146.54	0.4
Ag	107	115	No Gas	814789.22	0.3
Cd	111	115	No Gas	1705861.76	0.8
Sn	118	115	No Gas	4915566.06	0.8
Sb	123	115	No Gas	1169009.74	1.1
Ba	137	115	No Gas	4910825.50	0.5
W	182	159	No Gas	538463.44	1.4
Hg	201	159	He	4826.60	0.7
Tl	205	159	No Gas	11994725.35	0.4
Pb	208	159	No Gas	16410057.81	0.1
U	238	159	No Gas	15205157.73	0.9

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2436691.60	0.5	2517133.22	96.8	60	120	
Sc	45	No Gas	5793790.67	0.6	5758793.33	100.61	60	120	
Sc	45	H2	3454088.83	1.5	3429066.25	100.73	60	120	
Sc	45	He	676361.10	0.5	686352.54	98.54	60	120	
Ge	72	No Gas	1344690.08	1.2	1340615.71	100.3	60	120	
Ge	72	H2	930094.96	0.9	932846.94	99.7	60	120	
Ge	72	He	392152.76	0.6	397358.27	98.69	60	120	
In	115	No Gas	7759814.24	0.4	8051737.11	96.37	60	120	
Tb	159	No Gas	10070478.77	0.6	10058344.88	100.12	60	120	
Tb	159	He	5677515.17	0.3	5802240.17	97.85	60	120	

Initial Calibration Verification (ICV) Report

Sample Name	ICV
File Name	H6F19008.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:05:20
Sample Type	ICV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	29.986	ppb	2.9	471078.07	30	99.95	90	110	
Be	9	6	No Gas	30.966	ppb	3.6	114741.90	30	103.22	90	110	
B	11	6	No Gas	27.672	ppb	2.6	84505.30	30	92.24	90	110	
Na	23	45	H2	29694.793	ppb	1.0	146048085.33	30000	98.98	90	110	
Mg	24	45	No Gas	28945.659	ppb	2.5	373185674.67	30000	96.49	90	110	
Al	27	45	No Gas	29505.150	ppb	3.3	486101099.42	30000	98.35	90	110	
Si	28	45	H2	3280.440	ppb	1.0	4583925.67	3000	109.35	90	110	
P	31	45	No Gas	278.473	ppb	1.6	311041.70	300	92.82	90	110	
K	39	45	He	29377.458	ppb	1.2	27211103.33	30000	97.92	90	110	
Ca	40	45	H2	30063.912	ppb	0.8	302327904.00	30000	100.21	90	110	
Ti	47	45	No Gas	295.460	ppb	1.9	567042.27	300	98.49	90	110	
V	51	45	He	309.567	ppb	0.4	2111498.21	300	103.19	90	110	
Cr	52	45	He	310.577	ppb	1.6	2382899.33	300	103.53	90	110	
Mn	55	45	No Gas	1959.579	ppb	2.9	60758922.67	2000	97.98	90	110	
Fe	56	45	H2	29873.810	ppb	0.2	422279285.33	30000	99.58	90	110	
Co	59	45	No Gas	300.860	ppb	2.7	7709957.33	300	100.29	90	110	
Ni	60	45	He	319.084	ppb	2.0	815091.94	300	106.36	90	110	
Cu	63	45	He	312.931	ppb	1.3	2091844.00	300	104.31	90	110	
Zn	66	72	No Gas	289.310	ppb	1.9	1193067.96	300	96.44	90	110	
As	75	72	He	312.605	ppb	1.1	429745.87	300	104.2	90	110	
Se	78	72	H2	311.608	ppb	0.8	137314.15	300	103.87	90	110	
Sr	88	72	No Gas	308.449	ppb	1.9	10299654.87	300	102.82	90	110	
Zr	90	72	No Gas	27.809	ppb	0.5	589843.87	30	92.7	90	110	
Mo	95	115	No Gas	299.182	ppb	1.2	1952321.59	300	99.73	90	110	
Ag	107	115	No Gas	30.699	ppb	0.6	502305.28	30	102.33	90	110	
Cd	111	115	No Gas	304.895	ppb	0.6	1039168.88	300	101.63	90	110	
Sn	118	115	No Gas	306.390	ppb	1.2	3012499.12	300	102.13	90	110	
Sb	123	115	No Gas	58.334	ppb	0.4	680880.16	60	97.22	90	110	
Ba	137	115	No Gas	307.281	ppb	1.5	1515019.10	300	102.43	90	110	
W	182	159	No Gas	32.470	ppb	0.4	350808.89	30	108.23	90	110	
Hg	201	159	He	2.910	ppb	0.3	2895.84	3	97	90	110	
Tl	205	159	No Gas	311.943	ppb	1.0	7511715.53	300	103.98	90	110	
Pb	208	159	No Gas	311.164	ppb	0.9	10243377.41	300	103.72	90	110	
U	238	159	No Gas	306.320	ppb	0.7	9376782.13	300	102.11	90	110	

Initial Calibration Verification (ICV) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2447172.85	0.5	2517133.22	97.22	60	120	
Sc	45	No Gas	5755005.00	0.2	5758793.33	99.93	60	120	
Sc	45	H2	3443393.83	0.7	3429066.25	100.42	60	120	
Sc	45	He	673233.88	0.9	686352.54	98.09	60	120	
Ge	72	No Gas	1325866.96	0.8	1340615.71	98.9	60	120	
Ge	72	H2	925747.54	0.9	932846.94	99.24	60	120	
Ge	72	He	393810.16	0.7	397358.27	99.11	60	120	
In	115	No Gas	7750387.20	0.8	8051737.11	96.26	60	120	
Tb	159	No Gas	10045981.27	1.3	10058344.88	99.88	60	120	
Tb	159	He	5828855.83	0.8	5802240.17	100.46	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	ICB
File Name	H6F19009.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:07:57
Sample Type	ICB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	144608.22	0.4	
Be	9	6	No Gas	0.016	ppb	12.9	111.11	0.08	
B	11	6	No Gas	0.404	ppb	67.8	30028.67	4	
Na	23	45	H2	<0.000	ppb	N/A	481622.77	40	
Mg	24	45	No Gas	2.440	ppb	99.3	67949.38	10	
Al	27	45	No Gas	2.657	ppb	90.9	62324.38	15	
Si	28	45	H2	2.284	ppb	3.6	7844.88	8	
P	31	45	No Gas	<0.000	ppb	N/A	26025.69	10	
K	39	45	He	1.088	ppb	469.3	139829.65	20	
Ca	40	45	H2	0.516	ppb	26.5	227398.51	25	
Ti	47	45	No Gas	0.017	ppb	86.0	387.34	0.5	
V	51	45	He	<0.000	ppb	N/A	6944.43	0.5	
Cr	52	45	He	0.000	ppb	4522.0	1375.40	0.2	
Mn	55	45	No Gas	0.197	ppb	83.2	17564.76	0.2	
Fe	56	45	H2	0.704	ppb	7.7	30537.43	10	
Co	59	45	No Gas	0.027	ppb	89.1	969.38	0.15	
Ni	60	45	He	0.009	ppb	72.1	115.33	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2813.63	0.4	
Zn	66	72	No Gas	0.059	ppb	95.3	4067.95	2	
As	75	72	He	<0.000	ppb	N/A	391.68	0.2	
Se	78	72	H2	0.065	ppb	31.2	51.67	0.2	
Sr	88	72	No Gas	0.025	ppb	86.7	1605.67	0.2	
Zr	90	72	No Gas	0.001	ppb	223.1	240.00	2	
Mo	95	115	No Gas	0.040	ppb	65.1	334.45	0.2	
Ag	107	115	No Gas	0.004	ppb	40.9	140.00	0.08	
Cd	111	115	No Gas	0.054	ppb	64.2	219.66	0.2	
Sn	118	115	No Gas	0.122	ppb	18.3	3333.76	0.2	
Sb	123	115	No Gas	0.010	ppb	19.7	248.89	0.4	
Ba	137	115	No Gas	0.016	ppb	104.2	642.24	0.2	
W	182	159	No Gas	0.012	ppb	54.5	216.67	0.3	
Hg	201	159	He	0.008	ppb	42.0	20.50	0.1	
Tl	205	159	No Gas	0.128	ppb	37.2	3638.36	0.1	~~>LOD~~
Pb	208	159	No Gas	0.089	ppb	33.7	4225.86	0.1	
U	238	159	No Gas	0.029	ppb	77.2	951.16	0.05	

LY 06/24/20

Continuing Calibration Blank (CCB) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2540384.85	2.0	2517133.22	100.92	60	120	
Sc	45	No Gas	5846895.50	1.0	5758793.33	101.53	60	120	
Sc	45	H2	3470025.58	1.5	3429066.25	101.19	60	120	
Sc	45	He	677307.06	0.3	686352.54	98.68	60	120	
Ge	72	No Gas	1346979.46	0.3	1340615.71	100.47	60	120	
Ge	72	H2	931103.71	1.8	932846.94	99.81	60	120	
Ge	72	He	393299.06	0.2	397358.27	98.98	60	120	
In	115	No Gas	8059230.23	0.8	8051737.11	100.09	60	120	
Tb	159	No Gas	10130789.04	1.1	10058344.88	100.72	60	120	
Tb	159	He	5865328.17	0.6	5802240.17	101.09	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Name	MRLF2401
File Name	H6F19010.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:10:32
Sample Type	LLCCV
Total Dilution	1.0000
Comment	1/100/10 ppb
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Li	7	6	No Gas	1.037	ppb	17.4	156165.51	1	103.7	80	120	
Be	9	6	No Gas	0.995	ppb	3.0	3860.53	1	99.5	80	120	
B	11	6	No Gas	1.548	ppb	36.3	32312.62	10	15.48	80	120	> +/- 20%
Na	23	45	H2	101.696	ppb	1.5	979993.29	100	101.7	80	120	
Mg	24	45	No Gas	102.830	ppb	2.9	1382149.21	100	102.83	80	120	
Al	27	45	No Gas	102.794	ppb	2.6	1737575.81	100	102.79	80	120	
Si	28	45	H2	102.427	ppb	1.0	148026.33	100	102.43	80	120	
P	31	45	No Gas	49.515	ppb	3.3	78080.14	50	99.03	80	120	
K	39	45	He	103.321	ppb	6.4	234552.41	100	103.32	80	120	
Ca	40	45	H2	100.022	ppb	0.6	1229317.00	100	100.02	80	120	
Ti	47	45	No Gas	1.009	ppb	6.1	2320.20	1	100.9	80	120	
V	51	45	He	0.949	ppb	2.7	14058.54	1	94.9	80	120	
Cr	52	45	He	1.092	ppb	2.5	9799.50	1	109.2	80	120	
Mn	55	45	No Gas	1.033	ppb	1.3	43912.29	1	103.3	80	120	
Fe	56	45	H2	107.959	ppb	0.6	1550988.88	100	107.96	80	120	
Co	59	45	No Gas	1.039	ppb	3.5	27292.65	1	103.9	80	120	
Ni	60	45	He	1.114	ppb	1.1	2954.32	1	111.4	80	120	
Cu	63	45	He	1.109	ppb	3.6	10288.56	1	110.9	80	120	
Zn	66	72	No Gas	9.948	ppb	1.9	45918.83	10	99.48	80	120	
As	75	72	He	0.992	ppb	4.2	1784.45	1	99.2	80	120	
Se	78	72	H2	1.012	ppb	5.6	475.34	1	101.2	80	120	
Sr	88	72	No Gas	2.055	ppb	2.1	71305.93	2	102.75	80	120	
Zr	90	72	No Gas	3.880	ppb	1.7	84811.50	5	77.6	80	120	> +/- 20%
Mo	95	115	No Gas	0.970	ppb	3.9	6581.63	1	97	80	120	
Ag	107	115	No Gas	1.076	ppb	4.5	18199.19	1	107.6	80	120	
Cd	111	115	No Gas	1.023	ppb	2.3	3619.08	1	102.3	80	120	
Sn	118	115	No Gas	0.924	ppb	0.9	11413.85	1	92.4	80	120	
Sb	123	115	No Gas	0.982	ppb	4.4	11920.98	1	98.2	80	120	
Ba	137	115	No Gas	0.957	ppb	4.2	5408.91	1	95.7	80	120	
W	182	159	No Gas	2.133	ppb	3.1	23264.81	2	106.65	80	120	
Hg	201	159	He	0.233	ppb	9.0	246.17	0.1	233	80	120	> +/- 20%
Tl	205	159	No Gas	1.087	ppb	4.5	26864.43	1	108.7	80	120	
Pb	208	159	No Gas	1.069	ppb	2.2	36676.58	1	106.9	80	120	
U	238	159	No Gas	1.025	ppb	3.3	31601.78	1	102.5	80	120	

Low Level Continuing Calibration Verification (LLCCV) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2529748.50	0.9	2517133.22	100.5	60	120	
Sc	45	No Gas	5843980.50	0.4	5758793.33	101.48	60	120	
Sc	45	H2	3453856.00	0.8	3429066.25	100.72	60	120	
Sc	45	He	677181.94	0.5	686352.54	98.66	60	120	
Ge	72	No Gas	1363341.79	1.1	1340615.71	101.7	60	120	
Ge	72	H2	938826.12	0.4	932846.94	100.64	60	120	
Ge	72	He	396488.22	0.5	397358.27	99.78	60	120	
In	115	No Gas	7977200.39	0.4	8051737.11	99.07	60	120	
Tb	159	No Gas	10106793.21	1.3	10058344.88	100.48	60	120	
Tb	159	He	5883812.33	0.6	5802240.17	101.41	60	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA1
File Name	H6F19012.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:15:44
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.404	ppb	39.3	141511.02	2	-50	50	
Be	9	6	No Gas	0.002	ppb	250.9	54.45	0.4	-50	50	
B	11	6	No Gas	<0.000	ppb	N/A	26901.25	10	-50	50	
Na	23	45	H2	97038.746	ppb	1.2	477016544.00	100000	80	120	
Mg	24	45	No Gas	94085.086	ppb	1.0	1221026090.67	100000	80	120	
Al	27	45	No Gas	94385.156	ppb	2.8	1565403656.68	100000	80	120	
Si	28	45	H2	3.882	ppb	2.5	10032.95	50	-50	50	
P	31	45	No Gas	93953.652	ppb	1.5	96758482.67	100000	80	120	
K	39	45	He	96048.957	ppb	1.1	89320442.67	100000	80	120	
Ca	40	45	H2	98288.250	ppb	0.9	989645354.67	100000	80	120	
Ti	47	45	No Gas	1964.639	ppb	2.3	3794073.83	2000	80	120	
V	51	45	He	0.054	ppb	29.1	7952.98	1	-50	50	
Cr	52	45	He	0.286	ppb	7.3	3583.80	1	-50	50	
Mn	55	45	No Gas	0.231	ppb	1.5	18508.51	1	-50	50	
Fe	56	45	H2	97814.539	ppb	0.5	1385012352.00	100000	80	120	
Co	59	45	No Gas	0.348	ppb	1.0	9227.79	0.75	-50	50	
Ni	60	45	He	0.332	ppb	4.5	946.03	1	-50	50	
Cu	63	45	He	0.409	ppb	3.2	5601.15	2	-50	50	
Zn	66	72	No Gas	0.930	ppb	5.8	7534.76	20	-50	50	
As	75	72	He	0.075	ppb	13.9	509.01	1	-50	50	
Se	78	72	H2	0.147	ppb	6.0	86.00	1	-50	50	
Sr	88	72	No Gas	0.798	ppb	0.7	27181.99	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.077	ppb	5.2	1830.13	10	-50	50	
Mo	95	115	No Gas	1935.028	ppb	2.7	12513628.67	2000	80	120	
Ag	107	115	No Gas	0.014	ppb	13.3	296.67	0.4	-50	50	
Cd	111	115	No Gas	0.047	ppb	5.2	186.66	1	-50	50	
Sn	118	115	No Gas	0.319	ppb	4.1	5096.55	1	-50	50	
Ba	137	115	No Gas	0.220	ppb	7.5	1610.10	1	-50	50	
W	182	159	No Gas	0.156	ppb	8.3	1783.47	1	-50	50	
Hg	201	159	He	0.004	ppb	50.7	16.50	0.5	-50	50	
Tl	205	159	No Gas	0.000	ppb	379.7	550.01	0.5	-50	50	
Pb	208	159	No Gas	0.088	ppb	2.6	4198.05	0.5	-50	50	
U	238	159	No Gas	0.000	ppb	754.8	48.89	0.25	-50	50	

Interference Check Solution A (ICS-A) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2403616.51	0.2	2517133.22	95.49	60	120	
Sc	45	No Gas	5793333.33	1.4	5758793.33	100.6	60	120	
Sc	45	H2	3449489.17	1.1	3429066.25	100.6	60	120	
Sc	45	He	678295.25	0.9	686352.54	98.83	60	120	
Ge	72	No Gas	1317121.00	1.3	1340615.71	98.25	60	120	
Ge	72	H2	910422.25	0.4	932846.94	97.6	60	120	
Ge	72	He	390802.24	0.3	397358.27	98.35	60	120	
In	115	No Gas	7680230.37	1.1	8051737.11	95.39	60	120	
Tb	159	No Gas	10086542.66	0.8	10058344.88	100.28	60	120	
Tb	159	He	5859045.33	0.8	5802240.17	100.98	60	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB1
File Name	H6F19013.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\H6F19.b
Acq Time	2020-06-24 10:18:21
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	19.654	ppb	2.0	345723.52	20	80	120	
Be	9	6	No Gas	20.105	ppb	2.6	72188.15	20	80	120	
B	11	6	No Gas	14.231	ppb	5.4	55316.29	20	80	120	> +/- 20%
Na	23	45	H2	99618.218	ppb	1.4	494296693.33	100000	80	120	
Mg	24	45	No Gas	95915.289	ppb	2.7	1267097088.00	100000	80	120	
Al	27	45	No Gas	96631.371	ppb	1.6	1631248615.69	100000	80	120	
Si	28	45	H2	219.606	ppb	1.3	314641.93	200	80	120	
P	31	45	No Gas	95987.680	ppb	2.8	100620290.67	100000	80	120	
K	39	45	He	100085.541	ppb	1.2	92401869.33	100000	80	120	
Ca	40	45	H2	100798.885	ppb	1.9	1024384256.00	100000	80	120	
Ti	47	45	No Gas	2036.702	ppb	2.3	4003390.50	2000	80	120	
V	51	45	He	20.143	ppb	1.7	144457.85	20	80	120	
Cr	52	45	He	20.570	ppb	2.2	159143.06	20	80	120	
Mn	55	45	No Gas	19.232	ppb	1.4	622413.92	20	80	120	
Fe	56	45	H2	101550.110	ppb	2.0	1451316181.33	100000	80	120	
Co	59	45	No Gas	19.472	ppb	1.4	511550.93	20	80	120	
Ni	60	45	He	20.517	ppb	1.2	52511.50	20	80	120	
Cu	63	45	He	20.457	ppb	1.7	139426.47	20	80	120	
Zn	66	72	No Gas	20.688	ppb	0.2	88398.68	20	80	120	
As	75	72	He	20.231	ppb	0.6	27843.31	20	80	120	
Se	78	72	H2	20.523	ppb	0.6	9042.37	20	80	120	
Sr	88	72	No Gas	20.807	ppb	1.2	692344.82	20	80	120	
Zr	90	72	No Gas	14.122	ppb	1.1	298273.00	20	80	120	> +/- 20%
Mo	95	115	No Gas	2035.253	ppb	1.3	13151532.53	2000	80	120	
Ag	107	115	No Gas	19.329	ppb	1.1	313225.01	20	80	120	
Cd	111	115	No Gas	19.279	ppb	1.4	65094.85	20	80	120	
Sn	118	115	No Gas	20.099	ppb	1.0	197534.61	20	80	120	
Sb	123	115	No Gas	19.733	ppb	1.2	228151.99	20	80	120	
Ba	137	115	No Gas	20.445	ppb	0.2	100316.41	20	80	120	
W	182	159	No Gas	19.707	ppb	2.7	215770.39	20	80	120	
Hg	201	159	He	2.010	ppb	1.9	2001.50	2	80	120	
Tl	205	159	No Gas	19.515	ppb	1.0	476631.27	20	80	120	
Pb	208	159	No Gas	19.412	ppb	0.7	648724.26	20	80	120	
U	238	159	No Gas	19.605	ppb	1.5	608110.18	20	80	120	

Interference Check Solution AB (ICS-AB) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2370598.14	1.3	2517133.22	94.18	60	120	
Sc	45	No Gas	5896829.00	0.7	5758793.33	102.4	60	120	
Sc	45	H2	3482360.42	1.9	3429066.25	101.55	60	120	
Sc	45	He	673439.50	0.9	686352.54	98.12	60	120	
Ge	72	No Gas	1319852.75	1.1	1340615.71	98.45	60	120	
Ge	72	H2	923401.06	1.6	932846.94	98.99	60	120	
Ge	72	He	388878.72	0.7	397358.27	97.87	60	120	
In	115	No Gas	7675100.81	1.4	8051737.11	95.32	60	120	
Tb	159	No Gas	10179630.15	0.4	10058344.88	101.21	60	120	
Tb	159	He	5821853.00	0.8	5802240.17	100.34	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV1
File Name	H6F19015.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:23:34
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.762	ppb	2.3	411882.38	25	99.05	90	110	
Be	9	6	No Gas	24.707	ppb	0.4	91242.46	25	98.83	90	110	
B	11	6	No Gas	52.038	ppb	1.5	133694.93	50	104.08	90	110	
Na	23	45	H2	25131.127	ppb	0.9	125556744.00	25000	100.52	90	110	
Mg	24	45	No Gas	24547.135	ppb	1.7	322537088.00	25000	98.19	90	110	
Al	27	45	No Gas	24576.701	ppb	1.5	412633713.85	25000	98.31	90	110	
Si	28	45	H2	2550.971	ppb	0.8	3619880.67	2500	102.04	90	110	
P	31	45	No Gas	243.027	ppb	0.4	280020.85	250	97.21	90	110	
K	39	45	He	25264.154	ppb	0.7	23612552.00	25000	101.06	90	110	
Ca	40	45	H2	25117.580	ppb	0.3	256464629.33	25000	100.47	90	110	
Ti	47	45	No Gas	245.364	ppb	0.6	479924.21	250	98.15	90	110	
V	51	45	He	251.724	ppb	0.4	1732288.25	250	100.69	90	110	
Cr	52	45	He	254.586	ppb	0.6	1969585.71	250	101.83	90	110	
Mn	55	45	No Gas	1505.176	ppb	1.0	47561869.33	1500	100.35	90	110	
Fe	56	45	H2	25140.369	ppb	0.5	360767808.00	25000	100.56	90	110	
Co	59	45	No Gas	250.138	ppb	0.6	6532171.83	250	100.06	90	110	
Ni	60	45	He	258.356	ppb	0.6	665409.44	250	103.34	90	110	
Cu	63	45	He	257.126	ppb	0.4	1733418.16	250	102.85	90	110	
Zn	66	72	No Gas	245.708	ppb	1.1	1046635.38	250	98.28	90	110	
As	75	72	He	249.765	ppb	0.2	348086.48	250	99.91	90	110	
Se	78	72	H2	248.028	ppb	1.4	111947.55	250	99.21	90	110	
Sr	88	72	No Gas	247.310	ppb	0.8	8525592.44	250	98.92	90	110	
Zr	90	72	No Gas	24.390	ppb	0.3	534119.29	25	97.56	90	110	
Mo	95	115	No Gas	244.350	ppb	1.6	1647004.13	250	97.74	90	110	
Ag	107	115	No Gas	24.681	ppb	2.4	417166.82	25	98.72	90	110	
Cd	111	115	No Gas	243.269	ppb	1.7	856437.18	250	97.31	90	110	
Sn	118	115	No Gas	246.411	ppb	1.5	2502875.04	250	98.56	90	110	
Sb	123	115	No Gas	48.438	ppb	1.2	584054.56	50	96.88	90	110	
Ba	137	115	No Gas	497.741	ppb	2.1	2534426.01	500	99.55	90	110	
W	182	159	No Gas	25.032	ppb	0.7	276999.74	25	100.13	90	110	
Hg	201	159	He	2.502	ppb	0.4	2520.76	2.5	100.08	90	110	
Tl	205	159	No Gas	252.327	ppb	1.1	6223401.69	250	100.93	90	110	
Pb	208	159	No Gas	252.682	ppb	1.9	8518420.44	250	101.07	90	110	
U	238	159	No Gas	251.643	ppb	1.2	7889199.96	250	100.66	90	110	

Continuing Calibration Verification (CCV) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2438746.08	1.7	2517133.22	96.89	60	120	
Sc	45	No Gas	5864453.67	1.3	5758793.33	101.83	60	120	
Sc	45	H2	3495639.75	0.1	3429066.25	101.94	60	120	
Sc	45	He	678700.15	0.4	686352.54	98.89	60	120	
Ge	72	No Gas	1368803.42	0.5	1340615.71	102.1	60	120	
Ge	72	H2	948287.52	1.5	932846.94	101.66	60	120	
Ge	72	He	399121.26	0.9	397358.27	100.44	60	120	
In	115	No Gas	8006066.73	0.3	8051737.11	99.43	60	120	
Tb	159	No Gas	10289232.37	1.9	10058344.88	102.3	60	120	
Tb	159	He	5896664.50	0.3	5802240.17	101.63	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB1
File Name	H6F19016.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:26:11
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	138159.86	0.4	
Be	9	6	No Gas	0.004	ppb	162.9	62.22	0.08	
B	11	6	No Gas	<0.000	ppb	N/A	27789.63	4	
Na	23	45	H2	7.494	ppb	26.6	511944.23	40	
Mg	24	45	No Gas	0.425	ppb	96.0	40670.44	10	
Al	27	45	No Gas	0.488	ppb	92.4	25489.46	15	
Si	28	45	H2	0.570	ppb	31.1	5355.03	8	
P	31	45	No Gas	<0.000	ppb	N/A	24380.05	10	
K	39	45	He	7.646	ppb	38.4	142407.43	20	
Ca	40	45	H2	0.616	ppb	63.4	225224.44	25	
Ti	47	45	No Gas	0.169	ppb	136.7	672.09	0.5	
V	51	45	He	0.102	ppb	23.8	8071.05	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1229.39	0.2	
Mn	55	45	No Gas	0.048	ppb	54.0	12595.82	0.2	
Fe	56	45	H2	1.376	ppb	6.9	39527.72	10	
Co	59	45	No Gas	0.005	ppb	53.7	390.67	0.15	
Ni	60	45	He	0.008	ppb	66.0	110.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2413.55	0.4	
Zn	66	72	No Gas	0.037	ppb	105.8	3907.23	2	
As	75	72	He	0.008	ppb	214.2	411.68	0.2	
Se	78	72	H2	0.035	ppb	103.5	38.00	0.2	
Sr	88	72	No Gas	0.003	ppb	81.9	823.36	0.2	
Zr	90	72	No Gas	0.003	ppb	134.2	276.67	2	
Mo	95	115	No Gas	0.028	ppb	21.3	253.34	0.2	
Ag	107	115	No Gas	0.002	ppb	57.6	113.33	0.08	
Cd	111	115	No Gas	0.018	ppb	36.2	93.54	0.2	
Sn	118	115	No Gas	0.016	ppb	24.3	2241.30	0.2	
Sb	123	115	No Gas	0.005	ppb	48.1	188.89	0.4	
Ba	137	115	No Gas	0.000	ppb	3658.3	561.12	0.2	
W	182	159	No Gas	0.009	ppb	55.9	183.33	0.3	
Hg	201	159	He	0.006	ppb	17.9	18.17	0.1	
Tl	205	159	No Gas	0.055	ppb	31.5	1843.48	0.1	
Pb	208	159	No Gas	0.039	ppb	21.4	2541.22	0.1	
U	238	159	No Gas	0.007	ppb	12.8	260.00	0.05	

Continuing Calibration Blank (CCB) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2437649.87	0.6	2517133.22	96.84	60	120	
Sc	45	No Gas	5711913.50	1.8	5758793.33	99.19	60	120	
Sc	45	H2	3422316.92	2.3	3429066.25	99.8	60	120	
Sc	45	He	660962.48	1.3	686352.54	96.3	60	120	
Ge	72	No Gas	1322929.71	0.3	1340615.71	98.68	60	120	
Ge	72	H2	923355.63	0.7	932846.94	98.98	60	120	
Ge	72	He	386037.81	0.5	397358.27	97.15	60	120	
In	115	No Gas	8018607.43	0.3	8051737.11	99.59	60	120	
Tb	159	No Gas	10005465.16	1.0	10058344.88	99.47	60	120	
Tb	159	He	5774434.67	1.2	5802240.17	99.52	60	120	

Blank Report

Sample Name	IMF032WB
File Name	H6F19020.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:36:31
Sample Type	Blank
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.049	ppb	272.0	145254.76	0.4	
Be	9	6	No Gas	0.028	ppb	44.3	156.67	0.08	
B	11	6	No Gas	2.917	ppb	6.7	35296.40	4	
Na	23	45	H2	8.620	ppb	6.4	523241.42	40	
Mg	24	45	No Gas	2.072	ppb	48.1	63421.26	10	
Al	27	45	No Gas	2.350	ppb	42.0	57486.93	15	
Si	28	45	H2	0.185	ppb	48.5	4877.52	8	
P	31	45	No Gas	<0.000	ppb	N/A	25009.15	10	
K	39	45	He	0.624	ppb	854.1	139644.83	20	
Ca	40	45	H2	6.722	ppb	3.4	289408.39	25	
Ti	47	45	No Gas	0.025	ppb	118.5	404.67	0.5	
V	51	45	He	<0.000	ppb	N/A	7101.84	0.5	
Cr	52	45	He	0.031	ppb	13.7	1612.76	0.2	
Mn	55	45	No Gas	0.043	ppb	26.9	12787.97	0.2	
Fe	56	45	H2	1.113	ppb	4.4	36248.65	10	
Co	59	45	No Gas	0.013	ppb	65.9	611.35	0.15	
Ni	60	45	He	0.032	ppb	5.5	174.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2026.15	0.4	
Zn	66	72	No Gas	0.707	ppb	2.0	6845.06	2	
As	75	72	He	<0.000	ppb	N/A	323.33	0.2	
Se	78	72	H2	0.004	ppb	299.7	24.67	0.2	
Sr	88	72	No Gas	0.038	ppb	30.5	2036.83	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	163.33	2	
Mo	95	115	No Gas	0.017	ppb	60.0	184.45	0.2	
Ag	107	115	No Gas	0.077	ppb	11.1	1403.41	0.08	
Cd	111	115	No Gas	0.002	ppb	474.4	37.04	0.2	
Sn	118	115	No Gas	<0.000	ppb	N/A	984.48	0.2	
Sb	123	115	No Gas	0.019	ppb	28.0	368.90	0.4	
Ba	137	115	No Gas	<0.000	ppb	N/A	368.89	0.2	
W	182	159	No Gas	0.002	ppb	81.5	116.67	0.3	
Hg	201	159	He	0.003	ppb	141.5	15.67	0.1	
Tl	205	159	No Gas	0.009	ppb	116.0	753.36	0.1	
Pb	208	159	No Gas	0.023	ppb	37.1	2061.18	0.1	
U	238	159	No Gas	0.012	ppb	67.6	423.34	0.05	

Blank Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2536448.33	1.1	2517133.22	100.77	60	120	
Sc	45	No Gas	5859573.33	0.3	5758793.33	101.75	60	120	
Sc	45	H2	3459896.00	0.8	3429066.25	100.9	60	120	
Sc	45	He	678601.23	0.7	686352.54	98.87	60	120	
Ge	72	No Gas	1361163.17	0.7	1340615.71	101.53	60	120	
Ge	72	H2	932139.08	0.9	932846.94	99.92	60	120	
Ge	72	He	397253.38	0.5	397358.27	99.97	60	120	
In	115	No Gas	8189343.92	1.1	8051737.11	101.71	60	120	
Tb	159	No Gas	10164061.26	0.2	10058344.88	101.05	60	120	
Tb	159	He	5844038.17	0.7	5802240.17	100.72	60	120	

Laboratory Control Sample (LCS) Report

Sample Name	IMF032WL
File Name	H6F19021.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:39:06
Sample Type	LCSW
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	29.757	ppb	3.3	472464.89	30	99.19	85	115	
Be	9	6	No Gas	29.746	ppb	2.6	111139.91	30	99.15	83	121	
B	11	6	No Gas	34.873	ppb	4.6	100010.44	30	116.24	85	115	FAIL
Na	23	45	H2	3103.866	ppb	0.5	15698807.67	3000	103.46	85	117	
Mg	24	45	No Gas	3000.312	ppb	4.4	39322134.67	3000	100.01	83	118	
Al	27	45	No Gas	2991.203	ppb	4.3	50070394.25	3000	99.71	84	117	
Si	28	45	H2	0.623	ppb	1.8	5467.08	3000	0.02	85	115	FAIL
P	31	45	No Gas	<0.000	ppb	N/A	25558.21	300	-0.36	85	115	FAIL
K	39	45	He	3092.280	ppb	0.5	3038033.33	3000	103.08	87	115	
Ca	40	45	H2	3064.900	ppb	0.9	31027005.33	3000	102.16	87	118	
Ti	47	45	No Gas	29.497	ppb	1.9	57822.88	30	98.32	85	115	
V	51	45	He	30.848	ppb	1.8	220823.24	30	102.83	86	115	
Cr	52	45	He	31.533	ppb	0.6	247267.84	30	105.11	85	116	
Mn	55	45	No Gas	30.481	ppb	3.3	971207.00	30	101.6	87	115	
Fe	56	45	H2	3108.107	ppb	1.2	43962693.33	3000	103.6	87	118	
Co	59	45	No Gas	30.510	ppb	3.3	794392.67	30	101.7	86	115	
Ni	60	45	He	31.938	ppb	0.6	83045.16	30	106.46	85	117	
Cu	63	45	He	32.239	ppb	1.2	221715.93	30	107.46	85	118	
Zn	66	72	No Gas	60.685	ppb	2.3	258161.50	60	101.14	83	119	
As	75	72	He	30.578	ppb	0.0	42956.10	30	101.93	84	116	
Se	78	72	H2	31.239	ppb	0.7	13912.51	30	104.13	80	120	
Sr	88	72	No Gas	30.203	ppb	2.2	1028900.83	30	100.68	85	115	
Zr	90	72	No Gas	0.022	ppb	30.3	693.35	30	0.07	85	115	FAIL
Mo	95	115	No Gas	27.946	ppb	2.1	191679.58	30	93.15	85	115	
Ag	107	115	No Gas	30.077	ppb	2.5	517129.29	30	100.26	85	117	
Cd	111	115	No Gas	28.572	ppb	1.9	102352.34	30	95.24	87	115	
Sn	118	115	No Gas	28.324	ppb	1.8	294533.33	30	94.41	85	115	
Sb	123	115	No Gas	28.147	ppb	2.1	345303.40	30	93.82	85	117	
Ba	137	115	No Gas	28.079	ppb	1.6	145982.60	30	93.6	86	114	
W	182	159	No Gas	0.003	ppb	58.2	120.00	30	0.01	85	115	FAIL
Hg	201	159	He	<0.000	ppb	N/A	11.50	2.5	-0.04	82	119	FAIL
Tl	205	159	No Gas	30.565	ppb	2.1	741156.46	30	101.88	82	116	
Pb	208	159	No Gas	30.577	ppb	1.8	1014151.02	30	101.92	88	115	
U	238	159	No Gas	29.730	ppb	1.7	915905.55	30	99.1	85	115	

Laboratory Control Sample (LCS) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2467373.36	0.4	2517133.22	98.02	60	120	
Sc	45	No Gas	5846139.83	0.3	5758793.33	101.52	60	120	
Sc	45	H2	3444225.83	0.5	3429066.25	100.44	60	120	
Sc	45	He	684537.79	0.2	686352.54	99.74	60	120	
Ge	72	No Gas	1351640.12	1.1	1340615.71	100.82	60	120	
Ge	72	H2	934209.37	1.4	932846.94	100.15	60	120	
Ge	72	He	398901.09	0.6	397358.27	100.39	60	120	
In	115	No Gas	8144098.81	0.4	8051737.11	101.15	60	120	
Tb	159	No Gas	10110333.21	0.5	10058344.88	100.52	60	120	
Tb	159	He	5854178.50	0.7	5802240.17	100.9	60	120	

Laboratory Control Sample (LCS) Report

Sample Name	IMF032WC
File Name	H6F19022.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:41:41
Sample Type	LCSW
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	29.586	ppb	2.1	472933.99	30	98.62	85	115	
Be	9	6	No Gas	29.404	ppb	3.2	110423.36	30	98.01	83	121	
B	11	6	No Gas	34.114	ppb	3.0	98949.47	30	113.71	85	115	
Na	23	45	H2	3032.104	ppb	3.2	15466756.67	3000	101.07	85	117	
Mg	24	45	No Gas	2964.460	ppb	3.2	39058224.00	3000	98.82	83	118	
Al	27	45	No Gas	2941.770	ppb	2.8	49502275.93	3000	98.06	84	117	
Si	28	45	H2	0.312	ppb	37.5	5074.93	3000	0.01	85	115	FAIL
P	31	45	No Gas	<0.000	ppb	N/A	25188.82	300	-0.52	85	115	FAIL
K	39	45	He	3033.824	ppb	0.7	2976646.17	3000	101.13	87	115	
Ca	40	45	H2	2994.159	ppb	0.7	30559932.67	3000	99.81	87	118	
Ti	47	45	No Gas	29.193	ppb	2.1	57528.27	30	97.31	85	115	
V	51	45	He	30.538	ppb	0.7	218198.85	30	101.79	86	115	
Cr	52	45	He	31.157	ppb	0.2	243789.52	30	103.86	85	116	
Mn	55	45	No Gas	30.149	ppb	1.5	965697.67	30	100.5	87	115	
Fe	56	45	H2	3060.670	ppb	1.8	43637140.00	3000	102.02	87	118	
Co	59	45	No Gas	30.552	ppb	1.5	799625.92	30	101.84	86	115	
Ni	60	45	He	31.889	ppb	1.1	82729.96	30	106.3	85	117	
Cu	63	45	He	32.107	ppb	0.5	220330.32	30	107.02	85	118	
Zn	66	72	No Gas	60.618	ppb	1.7	257749.45	60	101.03	83	119	
As	75	72	He	30.500	ppb	1.8	42838.74	30	101.67	84	116	
Se	78	72	H2	30.436	ppb	1.3	13716.30	30	101.45	80	120	
Sr	88	72	No Gas	30.282	ppb	2.2	1031045.06	30	100.94	85	115	
Zr	90	72	No Gas	0.008	ppb	18.0	403.34	30	0.03	85	115	FAIL
Mo	95	115	No Gas	28.556	ppb	1.6	194364.34	30	95.19	85	115	
Ag	107	115	No Gas	30.262	ppb	2.0	516325.09	30	100.87	85	117	
Cd	111	115	No Gas	28.625	ppb	2.2	101759.44	30	95.42	87	115	
Sn	118	115	No Gas	28.557	ppb	2.4	294678.17	30	95.19	85	115	
Sb	123	115	No Gas	28.446	ppb	1.2	346288.60	30	94.82	85	117	
Ba	137	115	No Gas	28.344	ppb	1.3	146218.34	30	94.48	86	114	
W	182	159	No Gas	0.006	ppb	96.7	153.33	30	0.02	85	115	FAIL
Hg	201	159	He	0.000	ppb	2753.8	12.83	2.5	0	82	119	FAIL
Tl	205	159	No Gas	30.602	ppb	1.9	749263.55	30	102.01	82	116	
Pb	208	159	No Gas	29.823	ppb	2.1	998784.84	30	99.41	88	115	
U	238	159	No Gas	29.233	ppb	2.0	909335.97	30	97.44	85	115	

Laboratory Control Sample (LCS) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2479880.65	0.7	2517133.22	98.52	60	120	
Sc	45	No Gas	5875766.83	0.7	5758793.33	102.03	60	120	
Sc	45	H2	3472111.75	1.4	3429066.25	101.26	60	120	
Sc	45	He	683014.06	0.5	686352.54	99.51	60	120	
Ge	72	No Gas	1351046.96	0.4	1340615.71	100.78	60	120	
Ge	72	H2	945413.56	1.6	932846.94	101.35	60	120	
Ge	72	He	398861.15	1.5	397358.27	100.38	60	120	
In	115	No Gas	8081334.00	0.8	8051737.11	100.37	60	120	
Tb	159	No Gas	10208684.31	0.2	10058344.88	101.49	60	120	
Tb	159	He	5836920.17	0.8	5802240.17	100.6	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV2
File Name	H6F19024.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:46:51
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Flai	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	25.711	ppb	1.3	409789.18	25	102.84	90	110	
Be	9	6	No Gas	25.461	ppb	0.5	91230.37	25	101.84	90	110	
B	11	6	No Gas	53.805	ppb	1.8	133233.75	50	107.61	90	110	
Na	23	45	H2	25234.397	ppb	0.7	124793752.00	25000	100.94	90	110	
Mg	24	45	No Gas	24824.405	ppb	2.6	319522592.00	25000	99.3	90	110	
Al	27	45	No Gas	24918.087	ppb	3.3	409844527.23	25000	99.67	90	110	
Si	28	45	H2	2551.858	ppb	1.3	3584418.42	2500	102.07	90	110	
P	31	45	No Gas	248.632	ppb	1.8	280053.68	250	99.45	90	110	
K	39	45	He	25656.137	ppb	1.2	23830777.33	25000	102.62	90	110	
Ca	40	45	H2	24966.790	ppb	0.9	252345008.00	25000	99.87	90	110	
Ti	47	45	No Gas	245.566	ppb	1.6	470558.23	250	98.23	90	110	
V	51	45	He	253.513	ppb	0.5	1734161.50	250	101.41	90	110	
Cr	52	45	He	254.963	ppb	0.4	1960676.21	250	101.99	90	110	
Mn	55	45	No Gas	1510.891	ppb	2.0	46770501.33	1500	100.73	90	110	
Fe	56	45	H2	25204.042	ppb	0.7	358020981.33	25000	100.82	90	110	
Co	59	45	No Gas	249.740	ppb	1.9	6389196.50	250	99.9	90	110	
Ni	60	45	He	258.923	ppb	1.3	662818.23	250	103.57	90	110	
Cu	63	45	He	255.960	ppb	1.2	1715089.46	250	102.38	90	110	
Zn	66	72	No Gas	247.822	ppb	0.8	1028308.73	250	99.13	90	110	
As	75	72	He	252.146	ppb	0.7	347711.01	250	100.86	90	110	
Se	78	72	H2	250.122	ppb	0.5	111179.57	250	100.05	90	110	
Sr	88	72	No Gas	251.077	ppb	2.3	8431501.33	250	100.43	90	110	
Zr	90	72	No Gas	24.476	ppb	2.6	522132.50	25	97.9	90	110	
Mo	95	115	No Gas	246.704	ppb	1.2	1623762.61	250	98.68	90	110	
Ag	107	115	No Gas	24.663	ppb	1.5	406953.97	25	98.65	90	110	
Cd	111	115	No Gas	245.402	ppb	1.1	843455.52	250	98.16	90	110	
Sn	118	115	No Gas	248.476	ppb	0.6	2464239.21	250	99.39	90	110	
Sb	123	115	No Gas	49.152	ppb	0.9	578587.72	50	98.3	90	110	
Ba	137	115	No Gas	500.548	ppb	0.7	2488634.20	500	100.11	90	110	
W	182	159	No Gas	25.021	ppb	0.6	270320.90	25	100.08	90	110	
Hg	201	159	He	2.508	ppb	1.5	2487.91	2.5	100.32	90	110	
Tl	205	159	No Gas	250.214	ppb	2.1	6024819.76	250	100.09	90	110	
Pb	208	159	No Gas	251.784	ppb	1.4	8288375.00	250	100.71	90	110	
U	238	159	No Gas	245.427	ppb	0.5	7512015.81	250	98.17	90	110	

Continuing Calibration Verification (CCV) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2366247.24	2.2	2517133.22	94.01	60	120	
Sc	45	No Gas	5745312.17	0.3	5758793.33	99.77	60	120	
Sc	45	H2	3460241.42	0.2	3429066.25	100.91	60	120	
Sc	45	He	674651.62	1.3	686352.54	98.3	60	120	
Ge	72	No Gas	1333461.75	0.3	1340615.71	99.47	60	120	
Ge	72	H2	933787.59	0.8	932846.94	100.1	60	120	
Ge	72	He	394920.36	0.4	397358.27	99.39	60	120	
In	115	No Gas	7816605.75	1.5	8051737.11	97.08	60	120	
Tb	159	No Gas	10045077.38	0.9	10058344.88	99.87	60	120	
Tb	159	He	5806638.00	0.7	5802240.17	100.08	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB2
File Name	H6F19025.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 10:49:28
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	139714.22	0.4	
Be	9	6	No Gas	0.012	ppb	61.9	95.56	0.08	
B	11	6	No Gas	0.152	ppb	92.2	28733.75	4	
Na	23	45	H2	7.886	ppb	25.7	517607.05	40	
Mg	24	45	No Gas	5.988	ppb	53.8	112711.96	10	
Al	27	45	No Gas	5.954	ppb	52.4	115728.31	15	
Si	28	45	H2	1.401	ppb	10.0	6559.55	8	
P	31	45	No Gas	<0.000	ppb	N/A	24649.84	10	
K	39	45	He	4.027	ppb	130.6	142804.40	20	
Ca	40	45	H2	1.877	ppb	14.8	239579.48	25	
Ti	47	45	No Gas	0.061	ppb	19.6	466.01	0.5	
V	51	45	He	0.168	ppb	11.6	8734.11	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1354.07	0.2	
Mn	55	45	No Gas	0.373	ppb	50.7	22774.53	0.2	~~>LOD~~ LY 06/24/20
Fe	56	45	H2	2.256	ppb	9.7	52290.06	10	
Co	59	45	No Gas	0.059	ppb	51.7	1764.80	0.15	
Ni	60	45	He	0.018	ppb	41.9	136.67	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2038.15	0.4	
Zn	66	72	No Gas	0.085	ppb	52.9	4155.30	2	
As	75	72	He	0.001	ppb	1329.7	410.68	0.2	
Se	78	72	H2	0.034	ppb	61.5	37.67	0.2	
Sr	88	72	No Gas	0.057	ppb	54.4	2660.30	0.2	
Zr	90	72	No Gas	0.004	ppb	65.9	313.34	2	
Mo	95	115	No Gas	0.079	ppb	37.9	598.91	0.2	
Ag	107	115	No Gas	0.006	ppb	65.0	173.34	0.08	
Cd	111	115	No Gas	0.080	ppb	39.2	311.69	0.2	
Sn	118	115	No Gas	0.073	ppb	41.9	2823.64	0.2	
Sb	123	115	No Gas	0.017	ppb	40.8	328.90	0.4	
Ba	137	115	No Gas	0.106	ppb	69.5	1096.72	0.2	
W	182	159	No Gas	0.005	ppb	38.6	140.00	0.3	
Hg	201	159	He	0.005	ppb	28.6	17.83	0.1	
Tl	205	159	No Gas	0.119	ppb	41.2	3390.51	0.1	~~>LOD~~ LY 06/24/20
Pb	208	159	No Gas	0.089	ppb	42.6	4183.62	0.1	
U	238	159	No Gas	0.063	ppb	49.1	1952.40	0.05	>LOD

Agilent Technologies

Continuing Calibration Blank (CCB) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2474308.36	0.7	2517133.22	98.3	60	120	
Sc	45	No Gas	5766066.00	1.2	5758793.33	100.13	60	120	
Sc	45	H2	3447221.17	2.0	3429066.25	100.53	60	120	
Sc	45	He	678527.73	0.3	686352.54	98.86	60	120	
Ge	72	No Gas	1339665.75	0.9	1340615.71	99.93	60	120	
Ge	72	H2	923743.85	1.5	932846.94	99.02	60	120	
Ge	72	He	393440.00	0.6	397358.27	99.01	60	120	
In	115	No Gas	8008918.95	0.3	8051737.11	99.47	60	120	
Tb	159	No Gas	10029532.65	1.5	10058344.88	99.71	60	120	
Tb	159	He	5833471.33	0.4	5802240.17	100.54	60	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA2
File Name	H6F19112.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 14:43:46
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.633	ppb	15.3	147377.04	2	-50	50	
Be	9	6	No Gas	<0.000	ppb	N/A	17.78	0.4	-50	50	
B	11	6	No Gas	3.421	ppb	29.6	35262.02	10	-50	50	
Na	23	45	H2	96615.748	ppb	0.6	458034410.67	100000	80	120	
Mg	24	45	No Gas	95467.585	ppb	2.8	1183187413.33	100000	80	120	
Al	27	45	No Gas	96592.426	ppb	3.4	1529820563.87	100000	80	120	
Si	28	45	H2	2.893	ppb	7.5	8341.84	50	-50	50	
P	31	45	No Gas	93480.565	ppb	2.2	91934552.00	100000	80	120	
K	39	45	He	96037.476	ppb	1.0	84974984.00	100000	80	120	
Ca	40	45	H2	97654.769	ppb	0.6	948237866.67	100000	80	120	
Ti	47	45	No Gas	1965.001	ppb	2.0	3623653.33	2000	80	120	
V	51	45	He	0.238	ppb	18.5	8763.48	1	-50	50	
Cr	52	45	He	0.255	ppb	5.4	3181.04	1	-50	50	
Mn	55	45	No Gas	0.247	ppb	2.7	18160.72	1	-50	50	
Fe	56	45	H2	97331.496	ppb	0.7	1329016490.67	100000	80	120	
Co	59	45	No Gas	0.345	ppb	0.8	8738.80	0.75	-50	50	
Ni	60	45	He	0.315	ppb	4.6	856.70	1	-50	50	
Cu	63	45	He	0.196	ppb	10.0	3959.91	2	-50	50	
Zn	66	72	No Gas	0.963	ppb	7.5	7426.04	20	-50	50	
As	75	72	He	0.125	ppb	9.4	540.68	1	-50	50	
Se	78	72	H2	0.118	ppb	24.8	70.00	1	-50	50	
Sr	88	72	No Gas	0.816	ppb	3.8	26886.97	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.045	ppb	11.7	1130.05	10	-50	50	
Mo	95	115	No Gas	1945.243	ppb	2.5	12158851.46	2000	80	120	
Ag	107	115	No Gas	0.016	ppb	4.5	321.12	0.4	-50	50	
Cd	111	115	No Gas	0.089	ppb	24.6	318.88	1	-50	50	
Sn	118	115	No Gas	0.226	ppb	3.6	4055.07	1	-50	50	
Ba	137	115	No Gas	0.238	ppb	3.1	1643.44	1	-50	50	
W	182	159	No Gas	0.171	ppb	3.2	1890.15	1	-50	50	
Hg	201	159	He	0.001	ppb	1111.2	13.00	0.5	-50	50	
Tl	205	159	No Gas	<0.000	ppb	N/A	298.89	0.5	-50	50	
Pb	208	159	No Gas	0.051	ppb	2.4	2863.47	0.5	-50	50	
U	238	159	No Gas	0.000	ppb	165.2	55.56	0.25	-50	50	

Interference Check Solution A (ICS-A) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2459969.54	0.9	2517133.22	97.73	60	120	
Sc	45	No Gas	5533034.33	1.3	5758793.33	96.08	60	120	
Sc	45	H2	3326447.33	0.7	3429066.25	97.01	60	120	
Sc	45	He	645356.50	1.5	686352.54	94.03	60	120	
Ge	72	No Gas	1275006.67	1.1	1340615.71	95.11	60	120	
Ge	72	H2	865043.50	0.9	932846.94	92.73	60	120	
Ge	72	He	365881.76	0.7	397358.27	92.08	60	120	
In	115	No Gas	7424786.77	1.4	8051737.11	92.21	60	120	
Tb	159	No Gas	9798991.83	0.9	10058344.88	97.42	60	120	
Tb	159	He	5708755.67	0.9	5802240.17	98.39	60	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB2
File Name	H6F19113.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F19.b
Acq Time	2020-06-24 14:46:23
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F19002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	20.183	ppb	2.9	349948.81	20	80	120	
Be	9	6	No Gas	19.660	ppb	2.4	70298.81	20	80	120	
B	11	6	No Gas	15.916	ppb	1.1	58406.49	20	80	120	> +/- 20%
Na	23	45	H2	99977.950	ppb	0.2	472630368.00	100000	80	120	
Mg	24	45	No Gas	97176.007	ppb	2.2	1212779562.67	100000	80	120	
Al	27	45	No Gas	97592.246	ppb	2.0	1556438430.14	100000	80	120	
Si	28	45	H2	220.818	ppb	0.6	301392.02	200	80	120	
P	31	45	No Gas	94898.145	ppb	2.2	93977578.67	100000	80	120	
K	39	45	He	99839.186	ppb	0.9	87773696.00	100000	80	120	
Ca	40	45	H2	101296.174	ppb	0.1	980855082.67	100000	80	120	
Ti	47	45	No Gas	2040.736	ppb	1.9	3789568.33	2000	80	120	
V	51	45	He	20.324	ppb	1.5	138728.51	20	80	120	
Cr	52	45	He	20.527	ppb	1.4	151228.75	20	80	120	
Mn	55	45	No Gas	19.789	ppb	1.2	604700.15	20	80	120	
Fe	56	45	H2	100892.542	ppb	1.1	1373843498.67	100000	80	120	
Co	59	45	No Gas	19.787	ppb	1.1	491063.91	20	80	120	
Ni	60	45	He	20.583	ppb	1.0	50164.66	20	80	120	
Cu	63	45	He	20.052	ppb	1.4	130193.60	20	80	120	
Zn	66	72	No Gas	20.800	ppb	1.5	85005.87	20	80	120	
As	75	72	He	19.865	ppb	3.1	26272.49	20	80	120	
Se	78	72	H2	20.471	ppb	2.3	8463.99	20	80	120	
Sr	88	72	No Gas	20.977	ppb	1.0	667606.48	20	80	120	
Zr	90	72	No Gas	13.679	ppb	0.4	276368.45	20	80	120	> +/- 20%
Mo	95	115	No Gas	2040.918	ppb	0.3	12771707.83	2000	80	120	
Ag	107	115	No Gas	19.335	ppb	1.1	303468.54	20	80	120	
Cd	111	115	No Gas	19.492	ppb	0.2	63739.73	20	80	120	
Sn	118	115	No Gas	20.393	ppb	0.2	194083.79	20	80	120	
Sb	123	115	No Gas	19.734	ppb	0.5	220991.41	20	80	120	
Ba	137	115	No Gas	20.784	ppb	0.7	98758.96	20	80	120	
W	182	159	No Gas	19.960	ppb	1.3	212396.09	20	80	120	
Hg	201	159	He	1.985	ppb	1.8	1951.65	2	80	120	
Tl	205	159	No Gas	19.753	ppb	1.4	468880.57	20	80	120	
Pb	208	159	No Gas	19.729	ppb	0.1	640715.02	20	80	120	
U	238	159	No Gas	19.907	ppb	0.9	600115.48	20	80	120	

Interference Check Solution AB (ICS-AB) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2360707.12	0.9	2517133.22	93.79	60	120	
Sc	45	No Gas	5570556.00	1.3	5758793.33	96.73	60	120	
Sc	45	H2	3317219.25	0.2	3429066.25	96.74	60	120	
Sc	45	He	641312.37	1.7	686352.54	93.44	60	120	
Ge	72	No Gas	1262411.54	1.7	1340615.71	94.17	60	120	
Ge	72	H2	866753.56	1.4	932846.94	92.91	60	120	
Ge	72	He	373788.14	2.5	397358.27	94.07	60	120	
In	115	No Gas	7432959.37	1.2	8051737.11	92.31	60	120	
Tb	159	No Gas	9892516.83	0.9	10058344.88	98.35	60	120	
Tb	159	He	5746144.17	0.2	5802240.17	99.03	60	120	

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ICP-MS

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 06|26|20 10:13

End Date: 06|26|20 16:06

Comments:

All soil/solid samples are diluted at 10x dilution prior to analysis.

Filter Lot #: NA

see analytical sequence

Book #: AH6-005

Instrument No.: H6

Analytical Batch: 1H6F22

Analytical Sequence: H6F22

Method File: E6020H63

Micropipette ID: ☐ 142781004

Micropipette ID: ☑ ICP-06

Micropipette ID: ☑ 339362028

Micropipette ID: ☑ GFAA-07

Micropipette ID: ☐ 339342032

Micropipette ID: ☑ 542780515

Micropipette ID: ☐ 542761827

Micropipette ID: ☐

SOP #	Rev. #
☐ EMAX-200.8	6
☑ EMAX-6020	13
☐ EMAX-6020CA	2
☐ EMAX-	
☐ EMAX-	

STANDARDS ID		STANDARDS ID	
S0	SM6B-19-67-02	MRL1 (1)	SM6B-19-40-02
S1	68-01	MRL2 (0.4)	65-01
S2	68-02	MRL3 (CAL)	65-02
S3	69-01	MRL4	NA
S4	69-02	MRL5	↓
S5	NA	MRL6	↓
S6	↓	Internal Standard	SM6B-19-11-02
S7	↓	Post-Spike 1	SM6A-007-06-25
ICV	SM6B-19-49-01	Post-Spike 2	↓ 06-26
CCV	70-01	Post-Spike 3	NA
ICSA	66-02	Post-Spike 4	↓
ICSAB	67-01		
6020 TUNE SOLN.	NA		
200.8 TUNE SOLN.	SM6B-19-11-01		

Analyzed By: LY

Date: 06|26|20

INITIAL CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 20F176
Method : METHOD SW6020A
Sequence : IH6F22
InstrumentID: H6

Lab Samp ID :		ICV				ICSA1			ICSAB1	
QC Limit :		%R:90-110/RSD:<5				%R:80-120/<LOD			%R:80-120	
Lab File ID :		H6F22008				H6F22012			H6F22013	
DateAnalyed :		06/26/2010:28				06/26/2010:40			06/26/2010:43	
Parameter		Result	ICV EV	RSD	%Recovery	Result	ICSA EV	%Rec/LOD	Result	ICSAB EV	%Recovery
Lithium		29.74	30	0.9	99	0.22934	0	>0	19.581	20	98
Beryllium		30.32	30	1.4	101	0.000039463	0	<0.1	19.924	20	100
Boron		34.35	30	1.4	115*	9.7536	0	>5.0	22.314	20	112
Sodium		28820	30000	0.6	96	94995	100000	95	100250	100000	100
Magnesium		29080	30000	0.8	97	93164	100000	93	96322	100000	96
Aluminum		29540	30000	1.5	98	93877	100000	94	97151	100000	97
Silicon		3225	3000	0.4	108	4.2173	0	<20	222.69	200	111
Phosphorus		276.9	300	1.7	92	93807	100000	94	97156	100000	97
Potassium		29480	30000	0.3	98	98193	100000	98	102000	100000	102
Calcium		29360	30000	1.0	98	97918	100000	98	103860	100000	104
Titanium		293.4	300	1.1	98	2002.7	2000	100	2103.3	2000	105
Vanadium		313.3	300	0.7	104	0.11769	0	<0.5	20.156	20	101
Chromium	T	313.3	300	0.7	104	0.27424	0	>0.2	20.739	20	104
Manganese	T	1955	2000	1.0	98	0.24806	0	>0.2	19.625	20	98
Iron		29580	30000	1.4	99	98569	100000	99	103750	100000	104
Cobalt		301.3	300	1.5	100	0.35623	0	>0.2	19.546	20	98
Nickel		317.5	300	0.1	106	0.31803	0	>0.2	20.557	20	103
Copper		309.9	300	1.0	103	0.27185	0	<0.5	20.450	20	102
Zinc		289.1	300	2.1	96	1.6019	0	<10	21.132	20	106
Arsenic	T	313.9	300	0.6	105	0.073077	0	<0.2	20.030	20	100
Selenium		315.4	300	0.9	105	0.21767	0	<0.3	21.602	20	108
Strontium		307.6	300	1.2	103	0.77987	0	<1.0	20.142	20	101
Zirconium		27.59	30	1.1	92	0.11514	0	<2.0	8.5487	20	43*
Molybdenum		304.2	300	1.5	101	1967.9	2000	98	2039.5	2000	102
Silver		31.01	30	0.6	103	0.010431	0	<0.2	18.948	20	95
Cadmium		311.3	300	1.4	104	0.074785	0	<0.2	19.233	20	96
Tin		307.6	300	0.5	103	0.35856	0	>0.2	19.785	20	99
Antimony		58.92	60	0.8	98	0.14623	0	<0.5	19.476	20	97
Barium		310.2	300	0.7	103	0.40752	0	<0.5	20.078	20	100
Tungsten		32.14	30	1.0	107	0.18560	0	<1.0	19.295	20	96
Mercury		2.922	3	1.1	97	0.0041308	0	<0.1	1.9416	2	97
Thallium		304.1	300	2.2	101	0.0077403	0	<0.2	18.766	20	94
Lead		307.0	300	1.2	102	0.080727	0	<0.1	19.123	20	96
Uranium		305.7	300	1.3	102	0.0000052443	0	<0.1	19.160	20	96

Unit: ug/L
T: Target analyte
EV: Expected Value
Comment: * Out of QC limit

CONTINUING CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 20F176
Method : METHOD SW6020A
Sequence : IH6F22
Instrument ID: H6

CCV SampleID		: CCV10			CCV11		
CCV DataFileID		: H6F22109			H6F22118		
CCV DateTime		: 06/26/20 15:14			06/26/20 15:37		
PARAMETER		CCV EV	RESULT	%REC	RSD	RESULT	%REC	RSD
Lithium		25	24.1	96	2.8	26.5	106	1.3
Beryllium		25	23.1	92	3.2	24.2	97	2.6
Boron		50	54.2	108	4.0	78.1	156*	1.2
Sodium		25000	25700	103	2.1	29200	117*	1.1
Magnesium		25000	26000	104	1.4	27400	109	2.1
Aluminum		25000	25700	103	1.9	27000	108	2.8
Silicon		2500	2540	102	1.9	2650	106	1.4
Phosphorus		250	280	112*	4.1	265	106	2.0
Potassium		25000	25400	102	0.4	27000	108	1.0
Calcium		25000	25300	101	1.6	25800	103	1.2
Titanium		250	244	97	0.9	247	99	1.8
Vanadium		250	255	102	0.5	249	99	0.7
Chromium	T	250	257	103	0.5	245	98	0.6
Manganese	T	1500	1510	100	1.3	1470	98	1.9
Iron		25000	25700	103	1.2	24900	100	0.9
Cobalt		250	251	100	1.3	245	98	1.9
Nickel		250	256	102	1.5	236	95	1.2
Copper		250	259	104	1.2	236	94	0.6
Zinc		250	238	95	0.6	251	100	2.9
Arsenic	T	250	247	99	0.6	247	99	0.9
Selenium		250	250	100	1.1	243	97	0.2
Strontium		250	249	100	0.9	245	98	2.6
Zirconium		25	24.4	97	0.7	23.8	95	2.1
Molybdenum		250	250	100	2.5	258	103	2.3
Silver		25	24.2	97	1.7	25.0	100	1.2
Cadmium		250	239	96	1.1	241	96	1.0
Tin		250	247	99	1.3	247	99	1.4
Antimony		50	47.7	95	1.4	47.8	96	0.5
Barium		500	505	101	2.5	491	98	1.9
Tungsten		25	24.5	98	0.4	24.0	96	1.6
Mercury		2.5	2.39	96	0.6	2.34	93	2.4
Thallium		250	252	101	1.2	241	97	3.7
Lead		250	251	100	0.5	239	96	3.9
Uranium		250	244	98	1.7	226	90	3.3

Unit: ug/L
T: Target analyte
%Rec QC Limit: 90-110
RSD QC Limit: <5
CCV EV: CCV Expected Value ug/L
Comment: * Out of QC limit

CONTINUING CALIBRATION BLANK SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 20F176
Method : SW6020A
Sequence : IH6F22
Instrument ID: H6

CB SampleID	: ICB	CCB10	CCB11
CB DataFileID	: H6F22009	H6F22110	H6F22119
CB DateTime	: 06/26/2010:33	06/26/2015:17	06/26/2015:40

PARAMETER		LOD	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >
Lithium		0	0.09	>0	0.01	>0	0.6	>0
Beryllium		0.1	0.003	<0.1	0.02	<0.1	0.001	<0.1
Boron		5.0	0.3	<5.0	3	<5.0	10	>5.0
Sodium		50	0.7	<50	100	>50	2000	>50
Magnesium		10	0.3	<10	10	>10	9	<10
Aluminum		20	0.7	<20	10	<20	8	<20
Silicon		20	0.8	<20	1	<20	2	<20
Phosphorus		25	0.5	<25	3	<25	4	<25
Potassium		20	0.7	<20	9	<20	40	>20
Calcium		25	0.4	<25	6	<25	6	<25
Titanium		0.5	0.01	<0.5	0.2	<0.5	0.2	<0.5
Vanadium		0.5	0.10	<0.5	0.2	<0.5	0.2	<0.5
Chromium	T	0.2	0.01	<0.2	0.03	<0.2	0.04	<0.2
Manganese	T	0.2	0.06	<0.2	0.6	>0.2	0.4	>0.2
Iron		10	0.6	<10	7	<10	3	<10
Cobalt		0.2	0.007	<0.2	0.1	<0.2	0.07	<0.2
Nickel		0.2	0.007	<0.2	0.004	<0.2	0.02	<0.2
Copper		0.5	0.02	<0.5	0.2	<0.5	0.1	<0.5
Zinc		10	0.008	<10	0.07	<10	0.08	<10
Arsenic	T	0.2	0.007	<0.2	0.01	<0.2	0.005	<0.2
Selenium		0.3	0.05	<0.3	0.05	<0.3	0.05	<0.3
Strontium		1.0	0.02	<1.0	0.1	<1.0	0.2	<1.0
Zirconium		2.0	0.002	<2.0	0.007	<2.0	0.005	<2.0
Molybdenum		0.5	0.01	<0.5	0.2	<0.5	0.09	<0.5
Silver		0.2	0.0005	<0.2	0.010	<0.2	0.008	<0.2
Cadmium		0.2	0.02	<0.2	0.1	<0.2	0.06	<0.2
Tin		0.2	0.07	<0.2	0.2	<0.2	0.1	<0.2
Antimony		0.5	0.0010	<0.5	0.03	<0.5	0.03	<0.5
Barium		0.5	0.01	<0.5	0.2	<0.5	0.1	<0.5
Tungsten		1.0	0.007	<1.0	0.02	<1.0	0.005	<1.0
Mercury		0.1	0.004	<0.1	0.02	<0.1	0.01	<0.1
Thallium		0.2	0.03	<0.2	0.1	<0.2	0.10	<0.2
Lead		0.1	0.03	<0.1	0.10	<0.1	0.04	<0.1
Uranium		0.1	0.007	<0.1	0.09	<0.1	0.06	<0.1

Unit: ug/L
CB: Calibration Blank
T: Target analyte
Acceptance Criteria: CCB Result <LOD
Comment:

Sample List

Acq/Data Batch D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b

Block List

Acquisition Order

Sequence Order	Block Name
1	Calibration Standards
2	Unknown Samples

Blocks

Calibration Standards

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Replicates	Level	Total Dil.
1		CalBlk	BLANK		1101	H6F22001.d		1	
2		CalBlk	BLANK		1101	H6F22002.d		1	
3		CalStd	S0		1102	H6F22003.d		1	
4		CalStd	S1		1104	H6F22004.d		2	
5		CalStd	S2		1105	H6F22005.d		3	
6		CalStd	S3		1106	H6F22006.d		4	
7		CalStd	S4		1107	H6F22007.d		5	
8		ICV	ICV		1204	H6F22008.d			1
9		ICB	ICB		1102	H6F22009.d			1
10		LLCCV	MRLF2601 ✓	1/100/10 ppb	1306	H6F22010.d			1
11		LLCCV2	MRLF2602	0.4/40/4 ppb	1307	H6F22011.d			1
12		ICS-A	ICSA1		1304	H6F22012.d			1
13		ICSB	ICSAB1		1305	H6F22013.d			1
14		Sample	MRLF2603	500 ppb CAT	1207	H6F22014.d			1
15		CCV	CCV1		1206	H6F22015.d			1
16		CCB	CCB1		1102	H6F22016.d			1

Unknown Samples

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Replicates	Level	Total Dil.
1		Blank	IMF035WB		2101	H6F22017.d			1
2		LCSW	IMF035WL		2102	H6F22018.d			1
3		LCSW	IMF035WC		2103	H6F22019.d			1
4		Sample	F170-04		2104	H6F22020.d			1
5		Sample	F170-06		2105	H6F22021.d			1
6		Sample	F170-02 Ca↑		2106	H6F22022.d			1
7		Sample	F170-03 Ca↑		2107	H6F22023.d			1
8		Sample	F170-05 Na Ca↑		2108	H6F22024.d			1
9		Sample	F164-01		2109	H6F22025.d			1
10		CCV	CCV2		1206	H6F22026.d			1
11		CCB	CCB2		1102	H6F22027.d			1
12		Sample	F170-06 ✓	UNDIG	3101	H6F22028.d			1
13		Sample	F170-02I		2110	H6F22029.d			10
14		Sample	F170-03I		2111	H6F22030.d			10
15		Sample	F170-05I		2112	H6F22031.d			10
16		Sample	F155-01 Na Mg Ca↑		2201	H6F22032.d			1
17		Sample	F155-02 Na Mg Ca↑		2202	H6F22033.d			1
18		Sample	F155-01I		2203	H6F22034.d			10
19		Sample	F155-02I		2204	H6F22035.d			10
20		LLCCV	MRLF2604	1/100/10 ppb Na V↑	1306	H6F22036.d			1

Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Replicates	Level	Total Dil.
21		LLCCV2	MRLF2605	0.4/40/4 ppb Na V ↑	1307	H6F22037.d			1
22		CCV	CCV3		1206	H6F22038.d			1
23		CCB	CCB3		1102	H6F22039.d			1
24		Blank	IMF029WB		2205	H6F22040.d			1
25		LCSW	IMF029WL		2206	H6F22041.d			1
26		LCSW	IMF029WC		2207	H6F22042.d			1
27		Sample	F154-06 Ca ↑		2208	H6F22043.d			1
28		Sample	F154-01 Na Ca ↑		2209	H6F22044.d			1
29		Sample	F154-02M Na Mg Ca ↑		2210	H6F22045.d			1
30		Sample	F154-02S		2211	H6F22046.d			1
31		Sample	F154-02A		2212	H6F22047.d			1
32		Sample	F154-02		2301	H6F22048.d			1
33		Sample	F154-02J		2302	H6F22049.d			5
34		CCV	CCV4		1206	H6F22050.d			1
35		CCB	CCB4		1102	H6F22051.d			1
36		Sample	F154-05 Na Ca ↑		2303	H6F22052.d			1
37		Sample	F162-01 Na Mg Ca ↑		2304	H6F22053.d			1
38		Sample	F162-02 Na Mg Ca ↑		2305	H6F22054.d			1
39		Sample	F162-04 Ca ↑		2306	H6F22055.d			1
40		Sample	F162-05 Na Mg Ca ↑		2307	H6F22056.d			1
41		Sample	F162-07 Na Mg Ca ↑		2308	H6F22057.d			1
42		Sample	F162-08 Mg Ca ↑		2309	H6F22058.d			1
43		Sample	F162-10 Ca ↑		2310	H6F22059.d			1
44		Sample	F162-11 Na Ca ↑		2311	H6F22060.d			1
45		CCV	CCV5		1206	H6F22061.d			1
46		CCB	CCB5		1102	H6F22062.d			1
47		Sample	F154-01I		2312	H6F22063.d			10
48		Sample	F154-02M		2401	H6F22064.d			10
49		Sample	F154-02S		2402	H6F22065.d			10
50		Sample	F154-02A		2403	H6F22066.d			10
51		Sample	F154-02I		2404	H6F22067.d			10
52		Sample	F154-02J		2405	H6F22068.d			50
53		Sample	F154-05I		2406	H6F22069.d			10
54		Sample	F154-06I		3101	H6F22070.d			10
55		CCV	CCV6		1206	H6F22071.d			1
56		CCB	CCB6		1102	H6F22072.d			1
57		Sample	F162-01I		2407	H6F22073.d			10
58		Sample	F162-02I		2408	H6F22074.d			10
59		Sample	F162-04I		2409	H6F22075.d			10
60		Sample	F162-05I		2410	H6F22076.d			10
61		Sample	F162-07I		2411	H6F22077.d			10
62		Sample	F162-08I		2412	H6F22078.d			10
63		Sample	F162-10I		2501	H6F22079.d			10
64		Sample	F162-11I		2502	H6F22080.d			10
65		CCV	CCV7		1206	H6F22081.d			1
66		CCB	CCB7		1102	H6F22082.d			1
67		LLCCV	MRLF2606 ✓	1/100/10 ppb	1306	H6F22083.d			1
68		LLCCV2	MRLF2607	0.4/40/4 ppb	1307	H6F22084.d			1
69		Blank	IMF013SB		3201	H6F22085.d			1
70		LCSS	IMF013SL		3202	H6F22086.d			1
71		LCSS	IMF013SC		3203	H6F22087.d			1
72		Sample	F106-24		3204	H6F22088.d			1

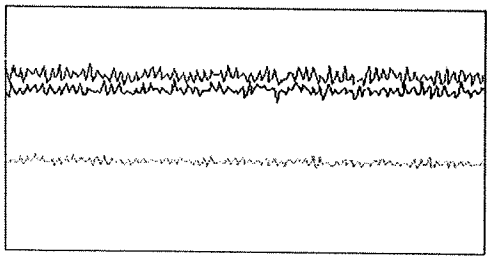
Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Replicates	Level	Total Dil.
73		Sample	F107-10		3205	H6F22089.d			1
74		CCV	CCV8		1206	H6F22090.d			1
75		CCB	CCB8		1102	H6F22091.d			1
76		Sample	F176-02M		2503	H6F22092.d			5
77		Sample	F176-02S		2504	H6F22093.d			5
78		Sample	F176-02A		2505	H6F22094.d			5
79		Sample	F176-02G		2506	H6F22095.d			5
80		Sample	F176-02J		2507	H6F22096.d			25
81		Sample	F176-04G		2508	H6F22097.d			5
82		Sample	F176-06G		2509	H6F22098.d			5
83		CCV	CCV9		1206	H6F22099.d			1
84		CCB	CCB9		1102	H6F22100.d			1
85		Sample	F176-08G		2510	H6F22101.d			5
86		Sample	F176-09G		2511	H6F22102.d			5
87		Sample	F176-10G		2512	H6F22103.d			5
88		Sample	F176-11G		3101	H6F22104.d			5
89		Sample	F176-12G		3102	H6F22105.d			5
90		Sample	F176-13G		3103	H6F22106.d			5
91		ICS-A	ICSA2		1304	H6F22107.d			1
92		ICSB	ICSAB2		1305	H6F22108.d			1
93		CCV	CCV10		1206	H6F22109.d			1
94		CCB	CCB10		1102	H6F22110.d			1
95		Sample	F176-02M ✓		3104	H6F22111.d			1
96		Sample	F176-02S		3105	H6F22112.d			1
97		Sample	F176-02A		3106	H6F22113.d			1
98		Sample	F176-02		3107	H6F22114.d			1
99		Sample	F176-02J		3108	H6F22115.d			5
100		Sample	F176-04		3109	H6F22116.d			1
101		Sample	F176-06		3110	H6F22117.d			1
102		CCV	CCV11		1206	H6F22118.d			1
103		CCB	CCB11		1102	H6F22119.d			1
104		Sample	F176-08		3111	H6F22120.d			1
105		Sample	F176-09		3112	H6F22121.d			1
106		Sample	F176-10		3201	H6F22122.d			1
107		Sample	F176-11		3202	H6F22123.d			1
108		Sample	F176-12		3203	H6F22124.d			1
109		Sample	F176-13		3204	H6F22125.d			1
110		ICS-A	ICSA3		1304	H6F22126.d			1
111		ICSB	ICSAB3		1305	H6F22127.d			1
112		CCV	CCV12		1206	H6F22128.d			1
113		CCB	CCB12		1102	H6F22129.d			1

Performance Report

Operator Name	LYaman
Acq. Date-Time	2020-06-26 09:06:44
Instrument Name	G8421A SG19253823
Sample Introduction	ISIS
Nebulizer Type	MicroMist
Ion Lens Model	x-Lens
Tune Parameters	Standard Tune

Sensitivity



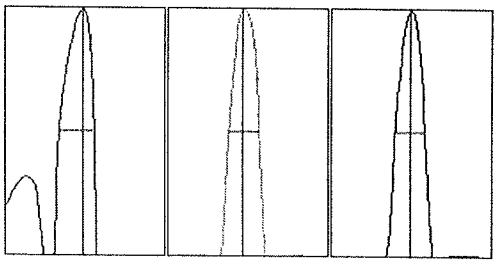
Mass	Range	Count	RSD%	Background
7	10000	7247	2.967	0.150
89	50000	18479	3.240	0.900
205	20000	13284	2.557	3.050

Sampling Period [sec]	0.311
Integration Time [sec]	0.1

Oxide/Doubly Charged Ratio

Oxide	156 / 140 1.319 %
Doubly Charged	70 / 140 1.454 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
7	7126.74	7.00	0.65	0.77
89	18082.03	88.95	0.57	0.75
205	12905.61	205.00	0.56	0.75

Integration Time [sec]	0.1
Acquisition Time [sec]	22.74

Tune Parameters

Plasma Parameters

RF Power	1550 W	Option Gas	---	Makeup Gas	0.00 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Auxiliary Gas	0.90 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C	Plasma Gas	15.0 L/min
Nebulizer Gas	1.08 L/min				

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.2 V	Deflect	13.0 V
Extract 2	-175.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-90 V	Cell Exit	-50 V		

Performance Report

Cell Parameters					
Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		
QP Parameters					
QP Bias	-3.0 V				
Hardware Settings					
Torch					
Torch H	0.5 mm	Torch H (Hot)	---	Torch H (Cool)	---
Torch V	-0.3 mm	Torch V (Hot)	---	Torch V (Cool)	---
Plasma Correction					
Nebulizer Gas Offset	0.03 L/min	Makeup Gas (Hot)	---	Makeup Gas (Cool)	---
		Sample Depth (Hot)	---		
Resolution/Axis					
Mass Gain	123	Axis Gain	0.9997		
Mass Offset	124	Axis Offset	-0.07		
EM					
Discriminator	4.1 mV	Analog HV	2401 V	Pulse HV	1546 V

Performance Report

Meter

Name	Value	Unit
Nebulizer Gas	1.08	L/min
MU./Dil. Gas	0.00	L/min
Plasma Gas	15.01	L/min
Aux Gas	0.90	L/min
Ar Gas Tank Press	7.16E+2	kPa
+5V (Press Gage)	5.0	V
Ar AMFC Temp	31.6	°C
Nebulizer Gas(DP)	6.16E+0	kPa
MU./Dil. Gas(DP)	-1.54E-1	kPa
Aux Gas(DP)	1.23E+1	kPa
Plasma Gas(DP)	1.11E+1	kPa
Nebulizer Gas(BP)	3.59E+2	kPa
MU./Dil. Gas(BP)	-2.16E+0	kPa
Aux Gas(BP)	5.93E+1	kPa
Plasma Gas(BP)	3.99E+1	kPa
S/C Temp (H)	16.3	°C
S/C Temp (L)	2.0	°C
Peltier Voltage	2.7	V
IF/BK Press	2.21E+2	Pa
Analyzer Press	6.52E-5	Pa
IG HV	178	V
IG Emission	4.98	µA
TMP Revolution	100.0	%
TMP Rev (RAW)	100.1	%
TMP Current	2.78	A
PWR AMP Drain I	0.2	A
PWR AMP Bias	4.12	V
OctP RF (Avg)	193.7	V
OctP RF Set	3.8	V
OctP FET Bias Set	3.75	V
OctP RF(+)	168.0	V
OctP RF(-)	219.4	V
OctP Bias	-8.0	V
Cell Temp.	65.0	°C
Cell Heater Volt.	3.8	V
+U Voltage	8.8	V

Name	Value	Unit
-U Voltage	-14.5	V
V Voltage	42.1	V
QPRF Fader	0.0	V
Pickup Temp	55.0	°C
PWR Amp Temp	0.1	V
+600V	609.8	V
-120V	-133.8	V
-720V	-738.2	V
Prefilter Bias	-5.01	V
Pickup Heater I	0.08	A
QP PS +48V	47.5	V
QP PS +48V I	0.00	A
Analog HV	-2405	V
Pulse HV	1557	V
EM Gate	-36.2	V
Pulse Gate	341.8	V
EM Entrance	0.2	V
EM HV Gain	-1051.3	V
Inner Pole	-300.3	V
Outer Pole	20.1	V
Analog -5V	-5.1	V
Analog +15V	14.5	V
Analog -15V	-14.4	V
Analog +5V	5.2	V
Shunt C Pos	1.2	V
Drain Volt.(max)	62.8	V
RF PS +48V	47.6	V
Forward Power	1549	W
Reflected Power	2	W
Plasma Freq.	26.75	MHz
Drain I 1	11.43	A
Drain I 2	10.96	A
Drain I 3	10.92	A
Drain I 4	10.21	A
Temp Sensor	2.8	V
Driver I	5.60	A

Name	Value	Unit
Igniter	0.1	V
Driver Voltage Set	6.5	V
Unbalance Current	0.43	A
PWM Threshold Set	0.2	V
Driver Voltage	5.1	V
PWM Threshold	0.2	V
Phase Detector	0.0	mV
H2 Gas	0.00	mL/min
He Gas	0.00	mL/min
H2 Gas Press	1.70E+2	kPa
He Gas Press	9.61E-1	kPa
ORS AMFC Temp	31.4	°C
Atmospheric Press	1.01E+2	kPa
Extract 1	-0.1	V
Extract 2	-175.3	V
Omega Bias	-90.1	V
Omega Lens	7.1	V
Cell Entrance	-29.9	V
Cell Exit	-50.2	V
Deflect	13.0	V
Plate Bias	-35.0	V
HV+530V	524	V
HV+240V	238	V
HV-360V	-357	V
Inlet Temp	30.6	°C
Internal Temp	36.2	°C
+24V	23.6	V
Water Temp	18.8	°C
Water RF/WC/IF	1.47	L/min
ISIS 3 Pump Speed	0.0	%
Valve Position		
Tune/ISTD Valve		

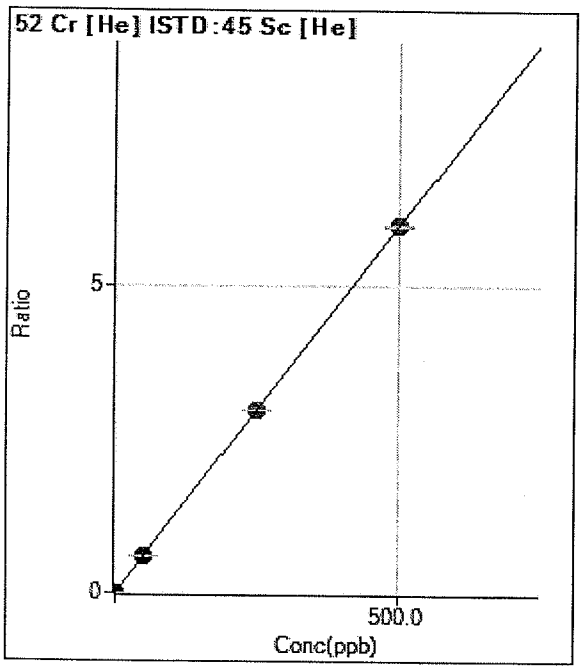
Performance Report History

Sensitivity

Calibration for H6F22129.d

Batch Folder:	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b\
Analysis File:	IH6F22.batch.bin
DA Date-Time:	2020-06-26 16:08:30
Calibration Title:	
Calibration Method:	External Calibration
VIS Interpolation Fit:	

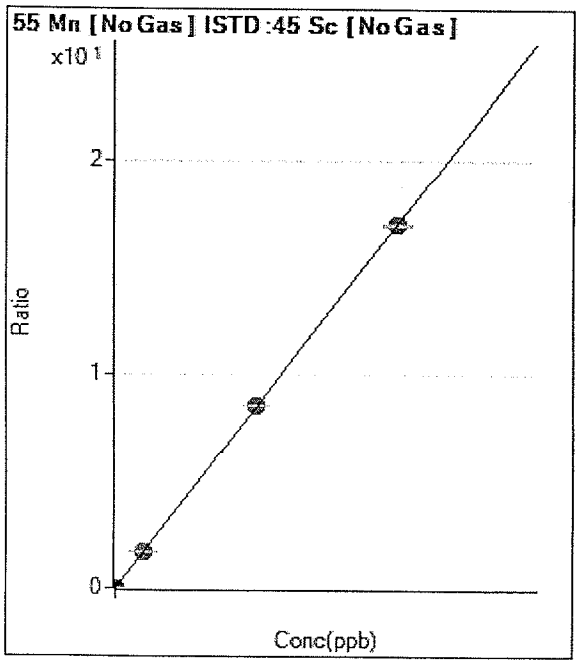
Level	Standard Data File	Sample Name	Acq. Date-Time
1	H6F22003.d	S0	2020-06-26 10:13:52
2	H6F22004.d	S1	2020-06-26 10:16:43
3	H6F22005.d	S2	2020-06-26 10:19:33
4	H6F22006.d	S3	2020-06-26 10:22:33
5	H6F22007.d	S4	2020-06-26 10:25:23



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1209.39	0.0021	P	3.1
2	☐	0.500	0.512	4964.90	0.0082	P	2.1
3	☐	50.000	51.387	367079.05	0.6146	P	0.6
4	☐	250.000	248.852	1780108.04	2.9685	A	0.7
5	☐	500.000	500.435	3511378.67	5.9675	A	0.8

y = 0.0119 * x + 0.0021
R = 1.0000
DL = 0.01616
BEC = 0.1737

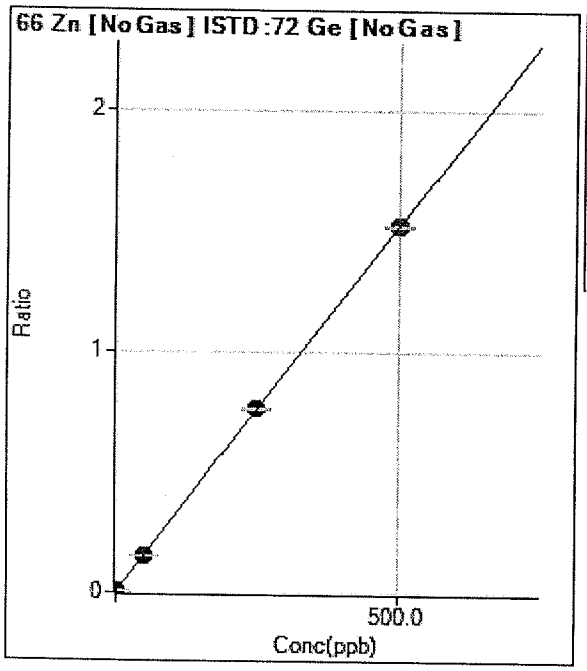
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9121.04	0.0017	P	2.3
2	☐	0.500	0.503	24661.53	0.0046	P	1.3
3	☐	300.000	304.827	9268185.67	1.7314	A	0.9
4	☐	1500.000	1507.791	45231848.00	8.5571	A	0.4
5	☐	3000.000	2995.622	89917986.67	16.9992	A	0.3

y = 0.0057 * x + 0.0017
R = 1.0000
DL = 0.02085
BEC = 0.3049

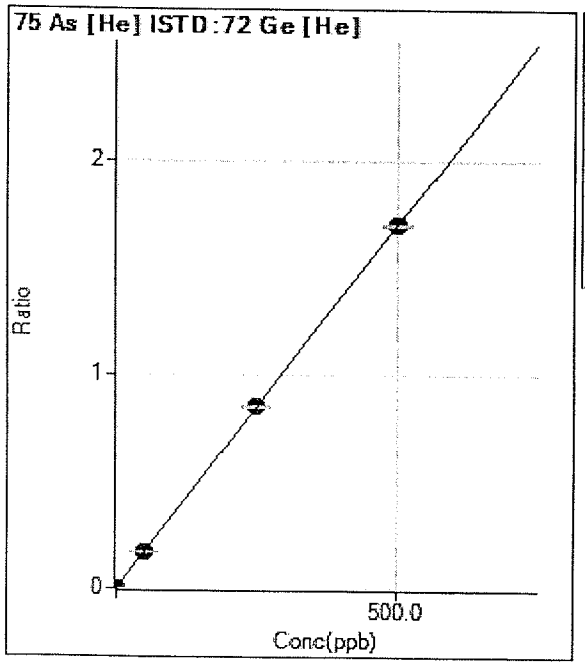
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2090.83	0.0016	P	2.3
2	☐	1.000	1.571	8820.86	0.0063	P	1.4
3	☐	50.000	49.527	209650.23	0.1520	P	0.5
4	☐	250.000	250.186	1025697.56	0.7614	P	0.9
5	☐	500.000	499.953	2034346.00	1.5199	A	0.9

y = 0.0030 * x + 0.0016
R = 1.0000
DL = 0.03577
BEC = 0.5181

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	315.00	0.0009	P	6.9
2	☐	0.500	0.458	928.70	0.0024	P	6.0
3	☐	50.000	50.252	65680.76	0.1719	P	1.0
4	☐	250.000	250.385	321727.92	0.8531	P	0.8
5	☐	500.000	499.782	634083.98	1.7019	P	0.2

y = 0.0034 * x + 8.5435E-004
R = 1.0000
DL = 0.05231
BEC = 0.251

Weight: <None>
Min Conc: 0

US EPA Tune Check Report

Operator Name	LYaman
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq. Date-Time	2020-06-26 09:31:22
Report Comment	---
Instrument Name	G8421A SG19253823

[No Gas]

Sensitivity

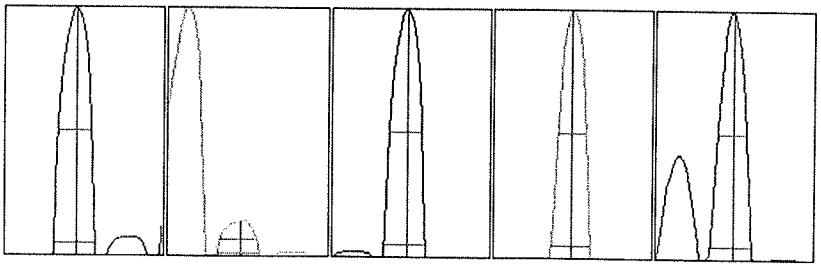
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	1946	19463.90			0.768	5.000
24	10.00	10070	100699.33			0.573	5.000
59	10.00	15522	155224.77			0.426	5.000
115	10.00	21455	214546.44			0.691	5.000
208	10.00	11182	111819.27			1.348	5.000

Mass	RSD% (Flag)
9	
24	
59	
115	
208	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
9	1948	1929	1944	1970	1940
24	10086	10019	10155	10077	10013
59	15527	15533	15434	15618	15501
115	21335	21322	21419	21517	21681
208	11242	11020	11083	11159	11407

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	3457.29	8.90	8.90 - 9.10	
24	16963.16	23.90	23.90 - 24.10	
59	26915.68	58.95	58.90 - 59.10	
115	41984.17	115.00	114.90 - 115.10	
208	21188.05	208.00	207.90 - 208.10	

US EPA Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.61	0.779	0.900	
24	0.65	0.786	0.900	
59	0.61	0.782	0.900	
115	0.53	0.729	0.900	
208	0.55	0.780	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	153.699999999999
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	HMI	Nebulizer Gas	0.62 L/min	Dilution Gas	0.36 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	9.0 V	Deflect	13.2 V
Extract 2	-200.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-80 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	123	Axis Gain	0.9997	QP Bias	-3.0 V
Mass Offset	124	Axis Offset	-0.07		

Hardware Settings

Torch

Torch H	0.5 mm	Torch V	-0.3 mm

EM

Discriminator	4.1 mV	Analog HV	2401 V	Pulse HV	1546 V

Calibration Standard Report

Sample Name	S0
File Name	H6F22003.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:13:52
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	107277.57	1.3
Be	9	6	No Gas	37.78	13.5
B	11	6	No Gas	3679.37	2.7
Na	23	45	H2	400057.54	0.4
Mg	24	45	No Gas	27330.74	2.7
Al	27	45	No Gas	9022.96	7.4
Si	28	45	H2	3723.83	2.2
P	31	45	No Gas	21333.03	1.5
K	39	45	He	101182.78	2.8
Ca	40	45	H2	134898.41	1.0
Ti	47	45	No Gas	476.68	4.8
V	51	45	He	6548.90	1.7
Cr	52	45	He	1209.39	4.0
Mn	55	45	No Gas	9121.04	2.2
Fe	56	45	H2	9666.09	2.9
Co	59	45	No Gas	253.33	12.1
Ni	80	45	He	127.33	12.8
Cu	63	45	He	2564.91	0.3
Zn	66	72	No Gas	2090.83	2.3
As	75	72	He	315.00	7.3
Se	78	72	H2	19.00	18.2
Sr	88	72	No Gas	716.69	14.8
Zr	90	72	No Gas	176.67	11.8
Mo	95	115	No Gas	54.44	23.2
Ag	107	115	No Gas	103.33	28.1
Cd	111	115	No Gas	40.92	21.1
Sn	118	115	No Gas	1496.75	4.7
Sb	123	115	No Gas	125.56	28.4
Ba	137	115	No Gas	113.33	11.8
W	182	159	No Gas	130.00	20.4
Hg	201	159	He	9.17	3.1
Tl	205	159	No Gas	788.91	18.9
Pb	208	159	No Gas	1622.27	1.3
U	238	159	No Gas	80.00	14.4

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1833807.01	0.7	1866774.34	98.23	60	120	
Sc	45	No Gas	5272647.17	0.7	5256704	100.3	60	120	
Sc	45	H2	3207538.17	1.3	3216050	99.74	60	120	
Sc	45	He	583892.71	1.0	590136.5	98.94	60	120	
Ge	72	No Gas	1328832.25	0.8	1347600.04	98.61	60	120	
Go	72	H2	905288.73	0.3	912330.27	99.23	60	120	
Ge	72	He	368649.84	0.7	378247.59	97.46	60	120	
In	115	No Gas	8749257.65	0.8	8692051.13	100.66	60	120	
Tb	159	No Gas	11771515.92	0.9	11827603.42	99.53	60	120	
Tb	159	He	6553564.17	1.0	6692094.83	97.93	60	120	

Calibration Standard Report

Sample Name	S1
File Name	H6F22004.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:16:43
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fail	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	113456.89	0.7
Be	9	6	No Gas	1466.74	2.1
B	11	6	No Gas	5391.04	3.7
Na	23	45	H2	639662.90	0.8
Mg	24	45	No Gas	596830.38	0.2
Al	27	45	No Gas	744479.13	0.4
Si	28	45	H2	130494.54	0.9
P	31	45	No Gas	41848.23	1.7
K	39	45	He	143690.33	1.9
Ca	40	45	H2	714788.73	0.6
Ti	47	45	No Gas	1288.06	5.8
V	51	45	He	8816.16	1.8
Cr	52	45	He	4964.90	1.9
Mn	55	45	No Gas	24661.53	1.3
Fe	56	45	H2	762463.85	0.8
Co	59	45	No Gas	13263.78	2.1
Ni	60	45	He	1509.42	6.3
Cu	63	45	He	5698.53	2.0
Zn	66	72	No Gas	8820.86	0.5
As	75	72	He	928.70	5.9
Se	78	72	H2	246.33	4.8
Sr	88	72	No Gas	18646.33	2.6
Zr	90	72	No Gas	95227.52	0.9
Mo	95	115	No Gas	3717.19	2.2
Ag	107	115	No Gas	9551.23	2.3
Cd	111	115	No Gas	2047.91	1.7
Sn	118	115	No Gas	6409.35	5.0
Sb	123	115	No Gas	6439.37	3.0
Ba	137	115	No Gas	3291.53	3.3
W	182	159	No Gas	3507.16	5.4
Hg	201	159	He	70.17	9.1
Tl	205	159	No Gas	16396.33	2.2
Pb	208	159	No Gas	23213.01	0.7
U	238	159	No Gas	21090.35	1.2

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1865481.64	1.4	1866774.34	99.93	60	120	
Sc	45	No Gas	5380215.17	1.4	5256704	102.35	60	120	
Sc	45	H2	3245345.92	1.0	3216050	100.91	60	120	
Sc	45	He	607201.23	0.6	590136.5	102.89	60	120	
Ge	72	No Gas	1390492.63	0.9	1347600.04	103.18	60	120	
Ge	72	H2	933932.67	0.7	912330.27	102.37	60	120	
Ge	72	He	384894.49	0.2	378247.59	101.76	60	120	
In	115	No Gas	8770387.94	1.3	8692051.13	100.9	60	120	
Tb	159	No Gas	11764732.31	1.6	11827603.42	99.47	60	120	
Tb	159	He	6637449.67	0.4	6692094.83	99.18	60	120	

Calibration Standard Report

Sample Name	S2
File Name	H6F22005.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:19:33
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	152974.61	0.4
Be	9	6	No Gas	14749.95	1.3
B	11	6	No Gas	28001.18	1.9
Na	23	45	H2	22472592.67	0.6
Mg	24	45	No Gas	54577372.00	1.0
Al	27	45	No Gas	70249423.96	0.4
Si	28	45	H2	656946.84	0.8
P	31	45	No Gas	64868.35	1.6
K	39	45	He	3981751.50	0.2
Ca	40	45	H2	47787988.00	0.4
Ti	47	45	No Gas	89269.93	1.5
V	51	45	He	320829.67	2.0
Cr	52	45	He	367079.05	0.8
Mn	55	45	No Gas	9268185.67	0.4
Fe	56	45	H2	70898853.33	0.4
Co	59	45	No Gas	1271541.08	0.5
Ni	60	45	He	128073.24	0.5
Cu	63	45	He	344308.34	0.2
Zn	66	72	No Gas	209650.23	0.5
As	75	72	He	65680.76	0.8
Se	78	72	H2	22145.49	0.9
Sr	88	72	No Gas	1778229.51	0.9
Zr	90	72	No Gas	200401.90	1.5
Mo	95	115	No Gas	340781.02	1.5
Ag	107	115	No Gas	91123.22	0.7
Cd	111	115	No Gas	184086.19	0.4
Sn	118	115	No Gas	539529.87	0.2
Sb	123	115	No Gas	126759.06	0.2
Ba	137	115	No Gas	551137.46	0.1
W	182	159	No Gas	69426.84	0.9
Hg	201	159	He	620.02	3.4
Tl	205	159	No Gas	1586570.70	0.7
Pb	208	159	No Gas	2131938.06	0.6
U	238	159	No Gas	2072481.44	0.5

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1860769.06	0.8	1866774.34	99.68	60	120	
Sc	45	No Gas	5353536.00	1.2	5256704	101.84	60	120	
Sc	45	H2	3221569.92	1.2	3216050	100.17	60	120	
Sc	45	He	597225.71	0.2	590136.5	101.2	60	120	
Ge	72	No Gas	1379402.33	0.0	1347600.04	102.36	60	120	
Ge	72	H2	930292.75	1.4	912330.27	101.97	60	120	
Ge	72	He	382113.18	0.5	378247.59	101.02	60	120	
In	115	No Gas	8748453.84	0.6	8692051.13	100.65	60	120	
Tb	159	No Gas	11746766.20	0.3	11827603.42	99.32	60	120	
Tb	159	He	6518821.83	0.4	6692094.83	97.41	60	120	

Calibration Standard Report

Sample Name	S3
File Name	H6F22006.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:22:33
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	316906.47	1.5
Be	9	6	No Gas	71627.01	0.9
B	11	6	No Gas	106612.07	1.1
Na	23	45	H2	108905344.00	0.7
Mg	24	45	No Gas	266286757.33	1.2
Al	27	45	No Gas	343325328.22	1.5
Si	28	45	H2	3166854.83	0.2
P	31	45	No Gas	234646.94	1.7
K	39	45	He	19119142.67	1.6
Ca	40	45	H2	235123573.33	0.5
Ti	47	45	No Gas	443433.34	0.0
V	51	45	He	1546369.29	0.4
Cr	52	45	He	1780108.04	0.2
Mn	55	45	No Gas	45231848.00	0.2
Fe	56	45	H2	346349685.33	0.5
Co	59	45	No Gas	6193089.50	0.7
Ni	60	45	He	621163.21	0.9
Cu	63	45	He	1621313.09	0.5
Zn	66	72	No Gas	1025697.56	0.6
As	75	72	He	321727.92	0.4
Se	78	72	H2	108207.87	0.8
Sr	88	72	No Gas	8733576.87	0.6
Zr	90	72	No Gas	541877.09	2.2
Mo	95	115	No Gas	1699527.09	1.1
Ag	107	115	No Gas	441431.89	0.7
Cd	111	115	No Gas	905752.50	0.9
Sn	118	115	No Gas	2701878.64	0.1
Sb	123	115	No Gas	626080.69	0.7
Ba	137	115	No Gas	2784517.04	0.2
W	182	159	No Gas	331320.30	1.4
Hg	201	159	He	3026.20	1.4
Tl	205	159	No Gas	7717109.42	0.7
Pb	208	159	No Gas	10460288.95	0.5
U	238	159	No Gas	10162585.43	0.7

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1807021.82	0.2	1866774.34	96.8	60	120	
Sc	45	No Gas	5285953.83	0.6	5256704	100.56	60	120	
Sc	45	H2	3248700.92	0.9	3216050	101.02	60	120	
Sc	45	He	599675.08	0.5	590136.5	101.62	60	120	
Ge	72	No Gas	1347186.84	0.4	1347600.04	99.97	60	120	
Ge	72	H2	919451.56	0.1	912330.27	100.78	60	120	
Ge	72	He	377152.10	0.7	378247.59	99.71	60	120	
In	115	No Gas	8431557.94	0.6	8692051.13	97	60	120	
Tb	159	No Gas	11647431.76	0.1	11827603.42	98.48	60	120	
Tb	159	He	6524567.00	1.1	6692094.83	97.5	60	120	

Calibration Standard Report

Sample Name	S4
File Name	H6F22007.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:25:23
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	522113.21	1.3
Be	9	6	No Gas	141322.42	1.8
B	11	6	No Gas	174690.98	1.1
Na	23	45	H2	215298154.67	0.8
Mg	24	45	No Gas	525115914.67	0.6
Al	27	45	No Gas	686882496.43	0.9
Si	28	45	H2	6220790.00	1.3
P	31	45	No Gas	441749.50	1.3
K	39	45	He	37651220.00	1.1
Ca	40	45	H2	468210709.33	0.8
Ti	47	45	No Gas	882799.27	0.8
V	51	45	He	3043591.42	0.4
Cr	52	45	He	3511378.67	0.8
Mn	55	45	No Gas	89917986.67	0.3
Fe	56	45	H2	688876117.33	0.9
Co	59	45	No Gas	12246239.67	0.5
Ni	60	45	He	1200083.54	0.6
Cu	63	45	He	3172209.42	0.4
Zn	66	72	No Gas	2034346.00	0.5
As	75	72	He	634083.98	1.4
Se	78	72	H2	213494.19	1.0
Sr	88	72	No Gas	17507492.08	0.8
Zr	90	72	No Gas	1122528.42	0.9
Mo	95	115	No Gas	3403505.07	0.6
Ag	107	115	No Gas	862475.51	0.6
Cd	111	115	No Gas	1809577.17	1.0
Sn	118	115	No Gas	5409921.03	0.9
Sb	123	115	No Gas	1257398.32	0.1
Ba	137	115	No Gas	5517116.03	0.5
W	182	159	No Gas	650361.67	0.3
Hg	201	159	He	5931.24	0.7
Tl	205	159	No Gas	15259868.28	1.4
Pb	208	159	No Gas	20692463.98	1.2
U	238	159	No Gas	20299674.75	0.2

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1804921.77	1.6	1866774.34	96.69	60	120	
Sc	45	No Gas	5289565.00	0.4	5256704	100.63	60	120	
Sc	45	H2	3197800.33	0.7	3216050	99.43	60	120	
Sc	45	He	588421.23	0.6	590136.5	99.71	60	120	
Ge	72	No Gas	1338488.71	0.3	1347600.04	99.32	60	120	
Ge	72	H2	919890.04	0.9	912330.27	100.83	60	120	
Ge	72	He	372561.70	1.2	378247.59	98.5	60	120	
In	115	No Gas	8357718.43	1.2	8692051.13	96.15	60	120	
Tb	159	No Gas	11629119.26	1.3	11827603.42	98.32	60	120	
Tb	159	He	6590832.17	0.6	6692094.83	98.49	60	120	

Initial Calibration Verification (ICV) Report

Sample Name	ICV
File Name	H6F22008.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:28:08
Sample Type	ICV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fail	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	29.736	ppb	0.9	358762.89	30	99.12	90	110	
Be	9	6	No Gas	30.318	ppb	1.4	87088.92	30	101.06	90	110	
B	11	6	No Gas	34.353	ppb	1.4	65793.73	30	114.51	90	110	> +/- 10%
Na	23	45	H2	28820.585	ppb	0.6	125437029.33	30000	96.07	90	110	
Mg	24	45	No Gas	29084.919	ppb	0.8	304505877.33	30000	96.95	90	110	
Al	27	45	No Gas	29539.820	ppb	1.5	403294793.99	30000	98.47	90	110	
Si	28	45	H2	3225.330	ppb	0.4	4058938.17	3000	107.51	90	110	
P	31	45	No Gas	276.945	ppb	1.7	253303.21	300	92.32	90	110	
K	39	45	He	29477.359	ppb	0.3	22081847.33	30000	98.26	90	110	
Ca	40	45	H2	29356.214	ppb	1.0	277205365.33	30000	97.85	90	110	
Ti	47	45	No Gas	293.408	ppb	1.1	515484.43	300	97.8	90	110	
V	51	45	He	313.309	ppb	0.7	1896610.54	300	104.44	90	110	
Cr	52	45	He	313.274	ppb	0.7	2185556.58	300	104.42	90	110	
Mn	55	45	No Gas	1954.829	ppb	1.0	58316386.67	2000	97.74	90	110	
Fe	56	45	H2	29575.971	ppb	1.4	410980554.67	30000	98.59	90	110	
Co	59	45	No Gas	301.291	ppb	1.5	7352505.67	300	100.43	90	110	
Ni	60	45	He	317.535	ppb	0.1	760300.81	300	105.85	90	110	
Cu	63	45	He	309.944	ppb	1.0	1957464.25	300	103.31	90	110	
Zn	66	72	No Gas	289.061	ppb	2.1	1176040.92	300	96.35	90	110	
As	75	72	He	313.887	ppb	0.6	394956.29	300	104.63	90	110	
Se	78	72	H2	315.425	ppb	0.9	132973.74	300	105.14	90	110	
Sr	88	72	No Gas	307.647	ppb	1.2	10742358.74	300	102.55	90	110	
Zr	90	72	No Gas	27.589	ppb	1.1	610565.53	30	91.96	90	110	
Mo	95	115	No Gas	304.183	ppb	1.5	2059956.23	300	101.39	90	110	
Ag	107	115	No Gas	31.012	ppb	0.6	535050.69	30	103.37	90	110	
Cd	111	115	No Gas	311.300	ppb	1.4	1121536.20	300	103.77	90	110	
Sn	118	115	No Gas	307.583	ppb	0.5	3310964.80	300	102.53	90	110	
Sb	123	115	No Gas	58.921	ppb	0.8	736684.00	60	98.2	90	110	
Ba	137	115	No Gas	310.185	ppb	0.7	1706160.34	300	103.4	90	110	
W	182	159	No Gas	32.137	ppb	1.0	421841.17	30	107.12	90	110	
Hg	201	159	He	2.999	ppb	0.5	3558.67	3	99.97	90	110	
Tl	205	159	No Gas	304.059	ppb	2.2	9349810.46	300	101.35	90	110	
Pb	208	159	No Gas	307.021	ppb	1.2	12798195.58	300	102.34	90	110	
U	238	159	No Gas	305.688	ppb	1.3	12553883.39	300	101.9	90	110	

Initial Calibration Verification (ICV) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1828949.17	1.6	1866774.34	97.97	60	120	
Sc	45	No Gas	5256178.33	2.0	5256704	99.99	60	120	
Sc	45	H2	3231272.67	0.9	3216050	100.47	60	120	
Sc	45	He	584914.69	0.6	590136.5	99.12	60	120	
Ge	72	No Gas	1337087.17	1.4	1347600.04	99.22	60	120	
Ge	72	H2	905466.06	1.3	912330.27	99.25	60	120	
Ge	72	He	369396.60	0.5	378247.59	97.66	60	120	
In	115	No Gas	8333193.12	1.2	8692051.13	95.87	60	120	
Tb	159	No Gas	11689694.26	1.0	11827603.42	98.83	60	120	
Tb	159	He	6544758.33	0.7	6692094.83	97.8	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	ICB
File Name	H6F22009.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:33:07
Sample Type	ICB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Flal	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	104858.54	0.4	
Be	9	6	No Gas	0.003	ppb	100.0	44.45	0.08	
B	11	6	No Gas	0.344	ppb	75.3	4232.87	4	
Na	23	45	H2	0.711	ppb	196.6	395594.45	40	
Mg	24	45	No Gas	0.323	ppb	72.1	30278.99	10	
Al	27	45	No Gas	0.654	ppb	37.1	17705.07	15	
Si	28	45	H2	0.771	ppb	17.2	4596.76	8	
P	31	45	No Gas	<0.000	ppb	N/A	20648.66	10	
K	39	45	He	0.703	ppb	272.1	101012.94	20	
Ca	40	45	H2	0.424	ppb	60.5	136289.07	25	
Ti	47	45	No Gas	0.014	ppb	843.2	495.35	0.5	
V	51	45	He	<0.000	ppb	N/A	5914.61	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1117.38	0.2	
Mn	55	45	No Gas	0.063	ppb	33.3	10860.32	0.2	
Fe	56	45	H2	0.637	ppb	8.2	18096.65	10	
Co	59	45	No Gas	0.007	ppb	46.4	410.01	0.15	
Ni	60	45	He	<0.000	ppb	N/A	108.67	0.2	
Cu	63	45	He	0.020	ppb	9.7	2670.26	0.4	
Zn	66	72	No Gas	0.008	ppb	124.4	2100.16	2	
As	75	72	He	<0.000	ppb	N/A	307.00	0.2	
Se	78	72	H2	0.050	ppb	13.1	39.67	0.2	
Sr	88	72	No Gas	0.018	ppb	146.3	1323.67	0.2	
Zr	90	72	No Gas	0.002	ppb	46.1	226.67	2	
Mo	95	115	No Gas	0.012	ppb	24.9	140.00	0.2	
Ag	107	115	No Gas	0.001	ppb	130.8	112.22	0.08	
Cd	111	115	No Gas	0.022	ppb	13.8	122.26	0.2	
Sn	118	115	No Gas	0.074	ppb	3.9	2317.99	0.2	
Sb	123	115	No Gas	0.001	ppb	127.7	137.78	0.4	
Ba	137	115	No Gas	0.013	ppb	4.4	185.56	0.2	
W	182	159	No Gas	0.007	ppb	54.2	226.67	0.3	
Hg	201	159	He	0.004	ppb	51.3	14.33	0.1	
Tl	205	159	No Gas	0.033	ppb	16.2	1821.25	0.1	
Pb	208	159	No Gas	0.031	ppb	11.4	2914.58	0.1	
U	238	159	No Gas	0.007	ppb	13.9	383.34	0.05	

Continuing Calibration Blank (CCB) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1805900.20	1.4	1866774.34	96.74	60	120	
Sc	45	No Gas	5200317.33	1.6	5256704	98.93	60	120	
Sc	45	H2	3148112.17	2.3	3216050	97.89	60	120	
Sc	45	He	579918.98	1.0	590136.5	98.27	60	120	
Ge	72	No Gas	1315078.71	1.4	1347600.04	97.59	60	120	
Ge	72	H2	892639.04	1.3	912330.27	97.84	60	120	
Ge	72	He	369136.27	0.8	378247.59	97.59	60	120	
In	115	No Gas	8709759.51	1.0	8692051.13	100.2	60	120	
Tb	159	No Gas	11780840.64	1.4	11827603.42	99.6	60	120	
Tb	159	He	6721993.83	0.4	6692094.83	100.45	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Name	MRLF2601
File Name	H6F22010.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:35:43
Sample Type	LLCCV
Total Dilution	1.0000
Comment	1/100/10 ppb
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Li	7	6	No Gas	0.882	ppb	21.5	112120.55	1	88.2	80	120	
Be	9	6	No Gas	0.984	ppb	4.8	2803.62	1	98.4	80	120	
B	11	6	No Gas	9.131	ppb	1.8	19769.45	10	91.31	80	120	
Na	23	45	H2	101.451	ppb	0.3	828278.92	100	101.45	80	120	
Mg	24	45	No Gas	99.949	ppb	1.4	1065124.68	100	99.95	80	120	
Al	27	45	No Gas	100.561	ppb	2.2	1371232.95	100	100.56	80	120	
Si	28	45	H2	100.043	ppb	0.6	127247.18	100	100.04	80	120	
P	31	45	No Gas	47.671	ppb	1.3	60727.72	50	95.34	80	120	
K	39	45	He	103.056	ppb	4.3	178444.80	100	103.06	80	120	
Ca	40	45	H2	103.977	ppb	0.5	1097548.50	100	103.98	80	120	
Ti	47	45	No Gas	0.993	ppb	4.6	2200.18	1	99.3	80	120	
V	51	45	He	0.895	ppb	2.4	11977.89	1	89.5	80	120	
Cr	52	45	He	1.068	ppb	0.9	8672.08	1	106.8	80	120	
Mn	55	45	No Gas	1.040	ppb	1.5	39790.41	1	104	80	120	
Fe	56	45	H2	104.624	ppb	1.3	1437664.25	100	104.62	80	120	
Co	59	45	No Gas	1.022	ppb	0.9	25003.59	1	102.2	80	120	
Ni	60	45	He	1.094	ppb	0.4	2750.94	1	109.4	80	120	
Cu	63	45	He	1.069	ppb	4.3	9327.20	1	106.9	80	120	
Zn	66	72	No Gas	10.040	ppb	1.1	43835.94	10	100.4	80	120	
As	75	72	He	0.964	ppb	2.4	1571.76	1	96.4	80	120	
Se	78	72	H2	1.061	ppb	3.9	476.68	1	106.1	80	120	
Sr	88	72	No Gas	1.991	ppb	0.5	71805.28	2	99.55	80	120	
Zr	90	72	No Gas	3.808	ppb	2.7	86334.70	5	76.16	80	120	> +/- 20%
Mo	95	115	No Gas	0.919	ppb	2.6	6520.49	1	91.9	80	120	
Ag	107	115	No Gas	1.039	ppb	2.7	18724.34	1	103.9	80	120	
Cd	111	115	No Gas	1.002	ppb	1.8	3789.94	1	100.2	80	120	
Sn	118	115	No Gas	0.944	ppb	0.4	12031.07	1	94.4	80	120	
Sb	123	115	No Gas	0.953	ppb	1.0	12493.75	1	95.3	80	120	
Ba	137	115	No Gas	1.049	ppb	1.8	6102.55	1	104.9	80	120	
W	182	159	No Gas	2.077	ppb	0.1	27393.00	2	103.85	80	120	
Hg	201	159	He	0.085	ppb	7.1	112.00	0.1	85	80	120	
Tl	205	159	No Gas	1.029	ppb	2.8	32407.56	1	102.9	80	120	
Pb	208	159	No Gas	1.036	ppb	0.5	44783.81	1	103.6	80	120	
U	238	159	No Gas	0.989	ppb	1.2	40679.65	1	98.9	80	120	

Low Level Continuing Calibration Verification (LLCCV) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1791533.69	1.2	1866774.34	95.97	60	120	
Sc	45	No Gas	5214731.17	0.9	5256704	99.2	60	120	
Sc	45	H2	3174085.25	0.7	3216050	98.7	60	120	
Sc	45	He	585793.98	0.9	590136.5	99.26	60	120	
Ge	72	No Gas	1367003.67	1.1	1347600.04	101.44	60	120	
Ge	72	H2	925155.17	1.4	912330.27	101.41	60	120	
Ge	72	He	380000.60	0.1	378247.59	100.46	60	120	
In	115	No Gas	8655547.44	0.9	8692051.13	99.58	60	120	
Tb	159	No Gas	11690698.15	0.4	11827603.42	98.84	60	120	
Tb	159	He	6672892.67	0.4	6692094.83	99.71	60	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA1
File Name	H6F22012.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:40:53
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.229	ppb	102.2	98983.75	2	-50	50	
Be	9	6	No Gas	0.000	ppb	5956.4	34.45	0.4	-50	50	
B	11	6	No Gas	9.754	ppb	4.9	19356.65	10	-50	50	> +/- 20%
Na	23	45	H2	94995.036	ppb	0.7	403774208.00	100000	80	120	
Mg	24	45	No Gas	93163.519	ppb	1.1	949078165.33	100000	80	120	
Al	27	45	No Gas	93877.409	ppb	1.4	1247176674.75	100000	80	120	
Si	28	45	H2	4.217	ppb	1.7	8861.50	50	-50	50	
P	31	45	No Gas	93807.222	ppb	0.8	76510472.00	100000	80	120	
K	39	45	He	98193.331	ppb	0.3	70832144.00	100000	80	120	
Ca	40	45	H2	97917.561	ppb	1.0	904676864.00	100000	80	120	
Ti	47	45	No Gas	2002.695	ppb	1.5	3421023.67	2000	80	120	
V	51	45	He	<0.000	ppb	N/A	5651.17	1	-50	50	
Cr	52	45	He	0.274	ppb	3.6	3017.00	1	-50	50	
Mn	55	45	No Gas	0.248	ppb	3.5	16042.73	1	-50	50	
Fe	56	45	H2	98568.621	ppb	2.1	1340498432.00	100000	80	120	
Co	59	45	No Gas	0.356	ppb	2.2	8701.44	0.75	-50	50	
Ni	60	45	He	0.318	ppb	1.2	858.70	1	-50	50	
Cu	63	45	He	0.272	ppb	5.3	4138.63	2	-50	50	
Zn	66	72	No Gas	1.602	ppb	2.3	8395.26	20	-50	50	
As	75	72	He	0.073	ppb	12.8	396.68	1	-50	50	
Se	78	72	H2	0.218	ppb	15.8	107.67	1	-50	50	
Sr	88	72	No Gas	0.780	ppb	0.7	27251.05	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.115	ppb	10.0	2653.61	10	-50	50	
Mo	95	115	No Gas	1967.866	ppb	1.4	13021799.48	2000	80	120	
Ag	107	115	No Gas	0.010	ppb	22.9	272.23	0.4	-50	50	
Cd	111	115	No Gas	0.075	ppb	38.3	301.73	1	-50	50	
Sn	118	115	No Gas	0.359	ppb	4.9	5159.91	1	-50	50	
Ba	137	115	No Gas	0.408	ppb	4.4	2294.65	1	-50	50	
W	182	159	No Gas	0.186	ppb	0.6	2543.59	1	-50	50	
Hg	201	159	He	0.002	ppb	121.4	11.83	0.5	-50	50	
Tl	205	159	No Gas	<0.000	ppb	N/A	538.90	0.5	-50	50	
Pb	208	159	No Gas	0.081	ppb	1.8	4933.71	0.5	-50	50	
U	238	159	No Gas	0.000	ppb	11184.7	78.89	0.25	-50	50	

Interference Check Solution A (ICS-A) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1662265.44	2.6	1866774.34	89.04	60	120	
Sc	45	No Gas	5114177.17	1.8	5256704	97.29	60	120	
Sc	45	H2	3162619.00	0.9	3216050	98.34	60	120	
Sc	45	He	565041.46	1.1	590136.5	95.75	60	120	
Ge	72	No Gas	1303712.33	2.0	1347600.04	96.74	60	120	
Ge	72	H2	880464.38	0.4	912330.27	96.51	60	120	
Ge	72	He	359651.50	0.6	378247.59	95.08	60	120	
In	115	No Gas	8142481.56	2.0	8692051.13	93.68	60	120	
Tb	159	No Gas	11592594.26	2.3	11827603.42	98.01	60	120	
Tb	159	He	6539212.50	0.5	6692094.83	97.72	60	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB1
File Name	H6F22013.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:43:30
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	19.581	ppb	1.3	245283.72	20	80	120	
Be	9	6	No Gas	19.924	ppb	2.9	51476.32	20	80	120	
B	11	6	No Gas	22.314	ppb	1.3	39590.13	20	80	120	
Na	23	45	H2	100251.981	ppb	0.3	426762048.00	100000	80	120	
Mg	24	45	No Gas	96321.885	ppb	2.1	990204416.00	100000	80	120	
Al	27	45	No Gas	97150.885	ppb	1.5	1302457607.26	100000	80	120	
Si	28	45	H2	222.687	ppb	1.1	278133.39	200	80	120	
P	31	45	No Gas	97155.920	ppb	2.1	79968762.67	100000	80	120	
K	39	45	He	102000.772	ppb	1.7	75100917.33	100000	80	120	
Ca	40	45	H2	103855.990	ppb	0.9	961069333.33	100000	80	120	
Ti	47	45	No Gas	2103.311	ppb	2.4	3625589.42	2000	80	120	
V	51	45	He	20.156	ppb	2.2	126368.57	20	80	120	
Cr	52	45	He	20.739	ppb	1.9	143783.99	20	80	120	
Mn	55	45	No Gas	19.625	ppb	1.7	583678.00	20	80	120	
Fe	56	45	H2	103753.587	ppb	1.1	1413312554.67	100000	80	120	
Co	59	45	No Gas	19.546	ppb	1.2	468578.96	20	80	120	
Ni	60	45	He	20.557	ppb	1.9	48652.57	20	80	120	
Cu	63	45	He	20.450	ppb	1.1	129732.00	20	80	120	
Zn	66	72	No Gas	21.132	ppb	1.1	87143.45	20	80	120	
As	75	72	He	20.030	ppb	1.7	25217.83	20	80	120	
Se	78	72	H2	21.602	ppb	1.3	8791.86	20	80	120	
Sr	88	72	No Gas	20.142	ppb	1.2	697726.22	20	80	120	
Zr	90	72	No Gas	8.549	ppb	2.2	187656.19	20	80	120	> +/- 20%
Mo	95	115	No Gas	2039.545	ppb	1.2	13696100.84	2000	80	120	
Ag	107	115	No Gas	18.948	ppb	0.8	324184.99	20	80	120	
Cd	111	115	No Gas	19.233	ppb	0.4	68740.38	20	80	120	
Sn	118	115	No Gas	19.785	ppb	0.4	212620.20	20	80	120	
Sb	123	115	No Gas	19.476	ppb	0.4	241566.22	20	80	120	
Ba	137	115	No Gas	20.078	ppb	0.7	109609.91	20	80	120	
W	182	159	No Gas	19.295	ppb	0.5	255168.37	20	80	120	
Hg	201	159	He	2.020	ppb	1.8	2431.07	2	80	120	
Tl	205	159	No Gas	18.766	ppb	2.6	581951.14	20	80	120	
Pb	208	159	No Gas	19.123	ppb	1.2	804395.74	20	80	120	
U	238	159	No Gas	19.160	ppb	1.1	792644.43	20	80	120	

Interference Check Solution AB (ICS-AB) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1644718.44	1.9	1866774.34	88.1	60	120	
Sc	45	No Gas	5160537.00	1.4	5256704	98.17	60	120	
Sc	45	H2	3167616.00	1.1	3216050	98.49	60	120	
Sc	45	He	576853.04	1.4	590136.5	97.75	60	120	
Ge	72	No Gas	1325201.50	1.6	1347600.04	98.34	60	120	
Ge	72	H2	872513.64	1.6	912330.27	95.64	60	120	
Ge	72	He	365384.33	1.9	378247.59	96.6	60	120	
In	115	No Gas	8263891.15	2.8	8692051.13	95.07	60	120	
Tb	159	No Gas	11774390.08	2.1	11827603.42	99.55	60	120	
Tb	159	He	6630706.33	0.9	6692094.83	99.08	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV1
File Name	H6F22015.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:48:43
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.333	ppb	1.4	296499.35	25	97.33	90	110	
Be	9	6	No Gas	24.763	ppb	1.6	67385.47	25	99.05	90	110	
B	11	6	No Gas	55.565	ppb	4.0	98684.24	50	111.13	90	110	> +/- 10%
Na	23	45	H2	24680.379	ppb	1.8	108926117.33	25000	98.72	90	110	
Mg	24	45	No Gas	24488.547	ppb	2.6	261271850.67	25000	97.95	90	110	
Al	27	45	No Gas	24272.939	ppb	2.6	337729468.30	25000	97.09	90	110	
Si	28	45	H2	2495.484	ppb	1.6	3183676.17	2500	99.82	90	110	
P	31	45	No Gas	240.427	ppb	2.4	226984.23	250	96.17	90	110	
K	39	45	He	25468.794	ppb	1.2	19559913.33	25000	101.88	90	110	
Ca	40	45	H2	24945.958	ppb	1.9	238762965.33	25000	99.78	90	110	
Ti	47	45	No Gas	242.650	ppb	1.5	434475.16	250	97.06	90	110	
V	51	45	He	253.745	ppb	0.8	1574934.92	250	101.5	90	110	
Cr	52	45	He	253.445	ppb	0.4	1811615.08	250	101.38	90	110	
Mn	55	45	No Gas	1508.127	ppb	1.7	45845438.67	1500	100.54	90	110	
Fe	56	45	H2	25353.954	ppb	0.7	357126848.00	25000	101.42	90	110	
Co	59	45	No Gas	251.343	ppb	1.6	6250206.67	250	100.54	90	110	
Ni	60	45	He	255.972	ppb	0.4	627923.52	250	102.39	90	110	
Cu	63	45	He	257.534	ppb	0.7	1666764.38	250	103.01	90	110	
Zn	66	72	No Gas	242.351	ppb	2.6	1018859.21	250	96.94	90	110	
As	75	72	He	251.901	ppb	0.9	324704.22	250	100.76	90	110	
Se	78	72	H2	253.763	ppb	1.9	110362.02	250	101.51	90	110	
Sr	88	72	No Gas	248.102	ppb	1.2	8947380.20	250	99.24	90	110	
Zr	90	72	No Gas	24.057	ppb	1.7	549936.45	25	96.23	90	110	
Mo	95	115	No Gas	246.965	ppb	1.3	1756909.24	250	98.79	90	110	
Ag	107	115	No Gas	24.017	ppb	1.5	435357.54	25	96.07	90	110	
Cd	111	115	No Gas	238.406	ppb	1.1	902260.13	250	95.36	90	110	
Sn	118	115	No Gas	244.628	ppb	1.2	2766612.18	250	97.85	90	110	
Sb	123	115	No Gas	47.239	ppb	1.0	620484.49	50	94.48	90	110	
Ba	137	115	No Gas	490.822	ppb	0.3	2835847.11	500	98.16	90	110	
W	182	159	No Gas	24.552	ppb	2.6	329941.78	25	98.21	90	110	
Hg	201	159	He	2.493	ppb	0.6	3023.37	2.5	99.72	90	110	
Tl	205	159	No Gas	250.219	ppb	2.6	7874936.07	250	100.09	90	110	
Pb	208	159	No Gas	254.057	ppb	0.9	10840452.45	250	101.62	90	110	
U	238	159	No Gas	246.796	ppb	1.3	10374103.75	250	98.72	90	110	

Continuing Calibration Verification (CCV) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1732389.92	1.2	1866774.34	92.8	60	120	
Sc	45	No Gas	5356287.17	0.3	5256704	101.89	60	120	
Sc	45	H2	3275347.75	1.6	3216050	101.84	60	120	
Sc	45	He	599227.98	0.2	590136.5	101.54	60	120	
Ge	72	No Gas	1381000.29	1.5	1347600.04	102.48	60	120	
Ge	72	H2	934265.44	2.2	912330.27	102.4	60	120	
Ge	72	He	378353.57	0.8	378247.59	100.03	60	120	
In	115	No Gas	8753711.63	1.3	8692051.13	100.71	60	120	
Tb	159	No Gas	11964646.75	0.4	11827603.42	101.16	60	120	
Tb	159	He	6685128.00	0.2	6692094.83	99.9	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB1
File Name	H6F22016.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 10:53:45
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	98865.27	0.4	
Be	9	6	No Gas	0.004	ppb	213.7	46.67	0.08	
B	11	6	No Gas	0.151	ppb	142.2	3679.38	4	
Na	23	45	H2	8.037	ppb	1.1	432110.11	40	
Mg	24	45	No Gas	1.105	ppb	28.2	38064.79	10	
Al	27	45	No Gas	1.078	ppb	32.4	23240.09	15	
Si	28	45	H2	<0.000	ppb	N/A	3578.46	8	
P	31	45	No Gas	<0.000	ppb	N/A	19215.96	10	
K	39	45	He	0.916	ppb	192.6	101172.94	20	
Ca	40	45	H2	0.438	ppb	41.7	138180.55	25	
Ti	47	45	No Gas	<0.000	ppb	N/A	372.67	0.5	
V	51	45	He	0.069	ppb	64.8	6912.41	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1075.38	0.2	
Mn	55	45	No Gas	0.062	ppb	26.9	10720.20	0.2	
Fe	56	45	H2	1.209	ppb	5.5	26189.74	10	
Co	59	45	No Gas	0.007	ppb	36.0	420.01	0.15	
Ni	60	45	He	<0.000	ppb	N/A	116.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	1938.80	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	2021.48	2	
As	75	72	He	0.011	ppb	198.7	328.33	0.2	
Se	78	72	H2	0.022	ppb	66.4	28.33	0.2	
Sr	88	72	No Gas	0.005	ppb	71.8	895.59	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	120.00	2	
Mo	95	115	No Gas	0.019	ppb	4.8	187.78	0.2	
Ag	107	115	No Gas	0.001	ppb	184.6	125.56	0.08	
Cd	111	115	No Gas	0.015	ppb	38.2	97.83	0.2	
Sn	118	115	No Gas	0.032	ppb	20.3	1865.60	0.2	
Sb	123	115	No Gas	0.003	ppb	34.5	170.00	0.4	
Ba	137	115	No Gas	0.021	ppb	36.4	235.56	0.2	
W	182	159	No Gas	0.009	ppb	38.6	250.00	0.3	
Hg	201	159	He	0.002	ppb	144.9	11.83	0.1	
Tl	205	159	No Gas	0.022	ppb	22.1	1478.97	0.1	
Pb	208	159	No Gas	0.019	ppb	38.8	2462.32	0.1	
U	238	159	No Gas	0.008	ppb	7.8	428.90	0.05	

Continuing Calibration Blank (CCB) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1709238.89	1.9	1866774.34	91.56	60	120	
Sc	45	No Gas	5156921.00	1.0	5256704	98.1	60	120	
Sc	45	H2	3188394.83	0.3	3216050	99.14	60	120	
Sc	45	He	579926.92	2.5	590136.5	98.27	60	120	
Ge	72	No Gas	1323948.75	2.7	1347600.04	98.24	60	120	
Ge	72	H2	903765.81	0.8	912330.27	99.06	60	120	
Ge	72	He	368350.32	0.8	378247.59	97.38	60	120	
In	115	No Gas	8764699.40	1.9	8692051.13	100.84	60	120	
Tb	159	No Gas	11933850.36	1.7	11827603.42	100.9	60	120	
Tb	159	He	6692787.00	0.4	6692094.83	100.01	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV10
File Name	H6F22109.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 15:14:28
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.101	ppb	2.8	330159.25	25	96.4	90	110	
Be	9	6	No Gas	23.092	ppb	3.2	70409.19	25	92.37	90	110	
B	11	6	No Gas	54.244	ppb	4.0	108024.99	50	108.49	90	110	
Na	23	45	H2	25721.223	ppb	2.1	100733592.00	25000	102.88	90	110	
Mg	24	45	No Gas	25982.829	ppb	1.4	257609482.67	25000	103.93	90	110	
Al	27	45	No Gas	25661.916	ppb	1.9	331818595.05	25000	102.65	90	110	
Si	28	45	H2	2539.723	ppb	1.9	2875630.00	2500	101.59	90	110	
P	31	45	No Gas	279.737	ppb	4.1	242085.51	250	111.89	90	110	> +/- 10%
K	39	45	He	25415.112	ppb	0.4	17746115.33	25000	101.66	90	110	
Ca	40	45	H2	25346.934	ppb	1.6	215322149.33	25000	101.39	90	110	
Ti	47	45	No Gas	243.704	ppb	0.9	405502.57	250	97.48	90	110	
V	51	45	He	254.748	ppb	0.5	1437459.46	250	101.9	90	110	
Cr	52	45	He	257.209	ppb	0.5	1671436.05	250	102.88	90	110	
Mn	55	45	No Gas	1506.543	ppb	1.3	42558770.67	1500	100.44	90	110	
Fe	56	45	H2	25722.577	ppb	1.2	321555904.00	25000	102.89	90	110	
Co	59	45	No Gas	251.242	ppb	1.3	5805970.50	250	100.5	90	110	
Ni	60	45	He	256.106	ppb	1.5	571122.73	250	102.44	90	110	
Cu	63	45	He	259.409	ppb	1.2	1526251.25	250	103.76	90	110	
Zn	66	72	No Gas	237.599	ppb	0.6	919276.83	250	95.04	90	110	
As	75	72	He	246.779	ppb	0.6	294333.08	250	98.71	90	110	
Se	78	72	H2	250.387	ppb	1.1	98439.58	250	100.15	90	110	
Sr	88	72	No Gas	249.296	ppb	0.9	8274292.73	250	99.72	90	110	
Zr	90	72	No Gas	24.367	ppb	0.7	512649.69	25	97.47	90	110	
Mo	95	115	No Gas	250.329	ppb	2.5	1627812.54	250	100.13	90	110	
Ag	107	115	No Gas	24.217	ppb	1.7	401241.36	25	96.87	90	110	
Cd	111	115	No Gas	239.295	ppb	1.1	827796.18	250	95.72	90	110	
Sn	118	115	No Gas	247.342	ppb	1.3	2556922.33	250	98.94	90	110	
Sb	123	115	No Gas	47.693	ppb	1.4	572633.52	50	95.39	90	110	
Ba	137	115	No Gas	504.852	ppb	2.5	2666415.86	500	100.97	90	110	
W	182	159	No Gas	24.535	ppb	0.4	307393.87	25	98.14	90	110	
Hg	201	159	He	2.489	ppb	0.6	2836.32	2.5	99.56	90	110	
Tl	205	159	No Gas	252.428	ppb	1.2	7406939.43	250	100.97	90	110	
Pb	208	159	No Gas	250.920	ppb	0.5	9982028.11	250	100.37	90	110	
U	238	159	No Gas	244.504	ppb	1.7	9581062.12	250	97.8	90	110	

Continuing Calibration Verification (CCV) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1941339.50	1.7	1866774.34	103.99	60	120	
Sc	45	No Gas	4977379.00	0.8	5256704	94.69	60	120	
Sc	45	H2	2907080.92	1.8	3216050	90.39	60	120	
Sc	45	He	544785.15	0.9	590136.5	92.32	60	120	
Ge	72	No Gas	1271227.96	2.6	1347600.04	94.33	60	120	
Ge	72	H2	844406.88	1.4	912330.27	92.55	60	120	
Ge	72	He	350078.40	1.2	378247.59	92.55	60	120	
In	115	No Gas	8001981.70	0.5	8692051.13	92.06	60	120	
Tb	159	No Gas	11155816.22	1.6	11827603.42	94.32	60	120	
Tb	159	He	6283762.17	0.3	6692094.83	93.9	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB10
File Name	H6F22110.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 15:17:04
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	112482.25	0.4	
Be	9	6	No Gas	0.015	ppb	77.4	86.67	0.08	
B	11	6	No Gas	2.739	ppb	8.3	9075.16	4	
Na	23	45	H2	105.674	ppb	3.8	765974.31	40	>LOD
Mg	24	45	No Gas	12.529	ppb	32.4	146184.25	10	>LOD
Al	27	45	No Gas	12.090	ppb	33.4	160653.40	15	
Si	28	45	H2	1.223	ppb	4.4	4702.80	8	
P	31	45	No Gas	3.481	ppb	24.6	22293.21	10	
K	39	45	He	9.099	ppb	66.3	98637.91	20	
Ca	40	45	H2	6.068	ppb	6.5	171778.41	25	
Ti	47	45	No Gas	0.233	ppb	28.4	815.36	0.5	
V	51	45	He	<0.000	ppb	N/A	4912.88	0.5	
Cr	52	45	He	<0.000	ppb	N/A	938.70	0.2	
Mn	55	45	No Gas	0.583	ppb	34.7	24434.70	0.2	~~>LOD~~ LY 06/26/20
Fe	56	45	H2	7.136	ppb	8.2	96829.23	10	
Co	59	45	No Gas	0.101	ppb	38.1	2520.26	0.15	
Ni	60	45	He	<0.000	ppb	N/A	108.67	0.2	
Cu	63	45	He	<0.000	ppb	N/A	1180.05	0.4	
Zn	66	72	No Gas	0.071	ppb	15.7	2181.51	2	
As	75	72	He	0.011	ppb	216.3	301.67	0.2	
Se	78	72	H2	0.052	ppb	20.0	36.67	0.2	
Sr	88	72	No Gas	0.103	ppb	31.8	3942.84	0.2	
Zr	90	72	No Gas	0.007	ppb	83.3	313.34	2	
Mo	95	115	No Gas	0.162	ppb	26.1	1107.83	0.2	
Ag	107	115	No Gas	0.010	ppb	27.6	260.00	0.08	
Cd	111	115	No Gas	0.100	ppb	31.4	385.30	0.2	
Sn	118	115	No Gas	0.155	ppb	16.0	2987.01	0.2	
Sb	123	115	No Gas	0.028	ppb	33.2	456.68	0.4	
Ba	137	115	No Gas	0.174	ppb	42.9	1028.94	0.2	
W	182	159	No Gas	0.016	ppb	29.8	320.01	0.3	
Hg	201	159	He	0.008	ppb	52.6	18.00	0.1	
Tl	205	159	No Gas	0.136	ppb	32.7	4622.03	0.1	>LOD
Pb	208	159	No Gas	0.096	ppb	37.1	5228.25	0.1	
U	238	159	No Gas	0.090	ppb	29.6	3543.88	0.05	>LOD

Continuing Calibration Blank (CCB) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1924590.33	2.3	1866774.34	103.1	60	120	
Sc	45	No Gas	4846995.83	2.1	5256704	92.21	60	120	
Sc	45	H2	2873563.50	1.7	3216050	89.35	60	120	
Sc	45	He	533702.92	1.3	590136.5	90.44	60	120	
Ge	72	No Gas	1220097.38	0.6	1347600.04	90.54	60	120	
Ge	72	H2	813116.27	1.1	912330.27	89.13	60	120	
Ge	72	He	338347.04	1.2	378247.59	89.45	60	120	
In	115	No Gas	8028696.06	1.7	8692051.13	92.37	60	120	
Tb	159	No Gas	10894719.01	1.4	11827603.42	92.11	60	120	
Tb	159	He	6252326.83	0.7	6692094.83	93.43	60	120	

Sample Report

Sample Name	F176-02M
File Name	H6F22111.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 15:19:40
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	1022.283	1022.283	ppb	2.0	6177059.75	50	>LDR
Be	9	6	No Gas	33.985	33.985	ppb	2.4	68816.79	50	
B	11	6	No Gas	2834.304	2834.304	ppb	3.5	3616461.17	100	>LDR
Na	23	45	H2	OR	OR	ppb	OR	OR	50000	
Mg	24	45	No Gas	7571.384	7571.384	ppb	1.8	67747688.00	50000	
Al	27	45	No Gas	2925.966	2925.966	ppb	1.0	34136499.49	50000	
Si	28	45	H2	9144.307	9144.307	ppb	1.0	10092200.67	5000	>LDR
P	31	45	No Gas	8.232	8.232	ppb	7.6	24048.80	500	
K	39	45	He	38154.123	38154.123	ppb	1.2	26762465.33	50000	
Ca	40	45	H2	128756.245	128756.245	ppb	1.5	1066492842.67	50000	>LDR
Ti	47	45	No Gas	32.016	32.016	ppb	0.9	48406.48	500	
V	51	45	He	29.332	29.332	ppb	1.0	172009.89	500	
Cr	52	45	He	28.390	28.390	ppb	1.1	186675.90	500	
Mn	55	45	No Gas	381.364	381.364	ppb	1.0	9724582.33	3000	
Fe	56	45	H2	2917.036	2917.036	ppb	0.7	35580089.33	50000	
Co	59	45	No Gas	27.673	27.673	ppb	0.8	576978.31	500	
Ni	60	45	He	26.768	26.768	ppb	0.6	60186.42	500	
Cu	63	45	He	25.529	25.529	ppb	1.8	153332.49	500	
Zn	66	72	No Gas	59.305	59.305	ppb	2.2	198678.42	500	
As	75	72	He	31.860	31.860	ppb	0.3	34474.22	500	
Se	78	72	H2	30.760	30.760	ppb	0.7	10647.20	500	
Sr	88	72	No Gas	3233.102	3233.102	ppb	2.9	92316747.44	500	>LDR
Zr	90	72	No Gas	0.079	0.079	ppb	28.5	1573.44	50	
Mo	95	115	No Gas	146.090	146.090	ppb	1.8	775265.66	500	
Ag	107	115	No Gas	28.478	28.478	ppb	1.0	385027.73	50	
Cd	111	115	No Gas	28.087	28.087	ppb	1.5	79312.76	500	
Sn	118	115	No Gas	29.282	29.282	ppb	0.9	247996.35	500	
Sb	123	115	No Gas	29.090	29.090	ppb	1.9	285051.79	100	
Ba	137	115	No Gas	69.490	69.490	ppb	0.9	299549.97	1000	
W	182	159	No Gas	1.753	1.753	ppb	3.2	17782.57	50	
Hg	201	159	He	0.012	0.012	ppb	19.6	16.67	5	
Tl	205	159	No Gas	27.722	27.722	ppb	0.4	655696.14	500	
Pb	208	159	No Gas	27.788	27.788	ppb	1.1	891489.95	500	
U	238	159	No Gas	28.792	28.792	ppb	1.1	908913.23	497	

Sample Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1289402.33	0.2	1866774.34	69.07	60	120	
Sc	45	No Gas	4489569.33	3.4	5256704	85.41	60	120	
Sc	45	H2	2835618.08	1.1	3216050	88.17	60	120	
Sc	45	He	548299.94	1.2	590136.5	92.91	60	120	
Ge	72	No Gas	1093350.16	2.7	1347600.04	81.13	60	120	
Ge	72	H2	742466.42	0.7	912330.27	81.38	60	120	
Ge	72	He	315424.43	0.5	378247.59	83.39	60	120	
In	115	No Gas	6529855.69	1.7	8692051.13	75.12	60	120	
Tb	159	No Gas	8985014.37	0.1	11827603.42	75.97	60	120	
Tb	159	He	4774021.83	1.3	6692094.83	71.34	60	120	

Sample Report

Sample Name	F176-02S
File Name	H6F22112.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 15:22:17
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	1014.442	1014.442	ppb	2.8	6844358.34	50	>LDR
Be	9	6	No Gas	32.646	32.646	ppb	1.9	73812.73	50	
B	11	6	No Gas	2819.096	2819.096	ppb	2.9	4016089.84	100	>LDR
Na	23	45	H2	OR	OR	ppb	OR	OR	50000	
Mg	24	45	No Gas	8013.307	8013.307	ppb	2.6	74916706.67	50000	
Al	27	45	No Gas	3087.890	3087.890	ppb	2.6	37648073.60	50000	
Si	28	45	H2	9585.919	9585.919	ppb	1.3	10536103.00	5000	>LDR
P	31	45	No Gas	9.464	9.464	ppb	3.3	26066.42	500	
K	39	45	He	38670.334	38670.334	ppb	0.7	28156306.00	50000	
Ca	40	45	H2	133103.867	133103.867	ppb	1.0	1098117845.33	50000	>LDR
Ti	47	45	No Gas	31.446	31.446	ppb	2.7	49695.71	500	
V	51	45	He	28.904	28.904	ppb	0.6	176057.54	500	
Cr	52	45	He	28.044	28.044	ppb	1.1	191432.13	500	
Mn	55	45	No Gas	384.849	384.849	ppb	2.5	10255279.00	3000	
Fe	56	45	H2	2949.475	2949.475	ppb	1.9	35823485.33	50000	
Co	59	45	No Gas	27.802	27.802	ppb	2.4	605867.83	500	
Ni	60	45	He	26.164	26.164	ppb	1.3	61066.94	500	
Cu	63	45	He	24.903	24.903	ppb	0.4	155348.17	500	
Zn	66	72	No Gas	59.699	59.699	ppb	2.6	203808.02	500	
As	75	72	He	31.664	31.664	ppb	0.7	34930.06	500	
Se	78	72	H2	31.099	31.099	ppb	1.4	10783.64	500	
Sr	88	72	No Gas	3255.709	3255.709	ppb	2.5	94738318.46	500	>LDR
Zr	90	72	No Gas	0.047	0.047	ppb	13.5	1020.05	50	
Mo	95	115	No Gas	147.720	147.720	ppb	2.7	782146.44	500	
Ag	107	115	No Gas	28.301	28.301	ppb	1.6	381804.87	50	
Cd	111	115	No Gas	27.950	27.950	ppb	2.4	78752.91	500	
Sn	118	115	No Gas	29.131	29.131	ppb	1.8	246196.40	500	
Sb	123	115	No Gas	28.634	28.634	ppb	2.4	279981.64	100	
Ba	137	115	No Gas	68.526	68.526	ppb	2.0	294770.59	1000	
W	182	159	No Gas	1.732	1.732	ppb	2.8	16794.53	50	
Hg	201	159	He	0.010	0.010	ppb	33.8	15.67	5	
Tl	205	159	No Gas	27.259	27.259	ppb	1.4	616428.92	500	
Pb	208	159	No Gas	27.220	27.220	ppb	0.7	834956.13	500	
U	238	159	No Gas	27.669	27.669	ppb	0.5	835098.04	497	

Sample Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1439891.02	1.1	1866774.34	77.13	60	120	
Sc	45	No Gas	4692823.50	1.1	5256704	89.27	60	120	
Sc	45	H2	2824106.75	1.7	3216050	87.81	60	120	
Sc	45	He	569166.75	1.6	590136.5	96.45	60	120	
Ge	72	No Gas	1114552.75	0.7	1347600.04	82.71	60	120	
Ge	72	H2	743847.25	1.6	912330.27	81.53	60	120	
Ge	72	He	321538.39	1.3	378247.59	85.01	60	120	
In	115	No Gas	6516352.40	0.8	8692051.13	74.97	60	120	
Tb	159	No Gas	8590874.10	0.8	11827603.42	72.63	60	120	
Tb	159	He	4787919.67	1.2	6692094.83	71.55	60	120	

Sample Report

Sample Name	F176-02A
File Name	H6F22113.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 15:24:55
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	989.705	989.705	ppb	3.4	6986550.28	50	>LDR
Be	9	6	No Gas	35.249	35.249	ppb	3.4	83354.63	50	
B	11	6	No Gas	2740.110	2740.110	ppb	4.7	4082049.14	100	>LDR
Na	23	45	H2	OR	OR	ppb	OR	OR	50000	
Mg	24	45	No Gas	8292.838	8292.838	ppb	2.7	79200688.00	50000	
Al	27	45	No Gas	3407.829	3407.829	ppb	1.8	42444556.03	50000	
Si	28	45	H2	9344.024	9344.024	ppb	1.9	10267205.00	5000	>LDR
P	31	45	No Gas	9.618	9.618	ppb	3.5	26751.05	500	
K	39	45	He	38549.046	38549.046	ppb	0.7	27656912.00	50000	
Ca	40	45	H2	130056.207	130056.207	ppb	1.7	1072566357.33	50000	>LDR
Ti	47	45	No Gas	33.586	33.586	ppb	2.3	54195.27	500	
V	51	45	He	31.174	31.174	ppb	0.7	186596.89	500	
Cr	52	45	He	30.269	30.269	ppb	0.1	203507.21	500	
Mn	55	45	No Gas	379.141	379.141	ppb	3.2	10320772.33	3000	
Fe	56	45	H2	3196.910	3196.910	ppb	1.7	38819425.33	50000	
Co	59	45	No Gas	29.791	29.791	ppb	2.3	663229.08	500	
Ni	60	45	He	28.209	28.209	ppb	0.8	64867.78	500	
Cu	63	45	He	26.900	26.900	ppb	1.6	165141.46	500	
Zn	66	72	No Gas	66.614	66.614	ppb	1.5	228707.22	500	
As	75	72	He	33.876	33.876	ppb	1.4	36703.41	500	
Se	78	72	H2	32.660	32.660	ppb	2.1	11101.57	500	
Sr	88	72	No Gas	3201.855	3201.855	ppb	0.8	93783907.38	500	>LDR
Zr	90	72	No Gas	0.040	0.040	ppb	10.8	893.37	50	
Mo	95	115	No Gas	149.264	149.264	ppb	3.3	784274.45	500	
Ag	107	115	No Gas	28.867	28.867	ppb	2.6	386489.98	50	
Cd	111	115	No Gas	30.353	30.353	ppb	3.1	84868.30	500	
Sn	118	115	No Gas	31.570	31.570	ppb	2.0	264712.91	500	
Sb	123	115	No Gas	30.363	30.363	ppb	2.2	294639.41	100	
Ba	137	115	No Ges	70.567	70.567	ppb	2.0	301269.49	1000	
W	182	159	No Gas	1.722	1.722	ppb	2.1	16467.42	50	
Hg	201	159	He	0.009	0.009	ppb	33.0	14.17	5	
Tl	205	159	No Gas	29.299	29.299	ppb	0.7	653259.09	500	
Pb	208	159	No Gas	29.459	29.459	ppb	1.1	890842.69	500	
U	238	159	No Gas	29.979	29.979	ppb	1.6	892054.86	497	

Sample Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1506676.44	2.6	1866774.34	80.71	60	120	
Sc	45	No Gas	4794554.50	0.9	5256704	91.21	60	120	
Sc	45	H2	2823242.92	1.2	3216050	87.79	60	120	
Sc	45	He	560787.69	0.6	590136.5	95.03	60	120	
Ge	72	No Gas	1121759.58	1.1	1347600.04	83.24	60	120	
Ge	72	H2	729191.54	0.5	912330.27	79.93	60	120	
Ge	72	He	315977.06	0.3	378247.59	83.54	60	120	
In	115	No Gas	6468681.01	2.1	8692051.13	74.42	60	120	
Tb	159	No Gas	8470899.66	1.7	11827603.42	71.62	60	120	
Tb	159	He	4718704.33	0.2	6692094.83	70.51	60	120	

Sample Report

Sample Name	F176-02
File Name	H6F22114.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 15:27:32
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	979.160	979.160	ppb	3.0	6795262.37	50	>LDR
Be	9	6	No Gas	0.028	0.028	ppb	12.4	95.56	50	
B	11	6	No Gas	2760.667	2760.667	ppb	3.2	4043546.92	100	>LDR
Na	23	45	H2	OR	OR	ppb	OR	OR	50000	
Mg	24	45	No Gas	4888.470	4888.470	ppb	1.5	47626904.00	50000	
Al	27	45	No Gas	11.708	11.708	ppb	4.4	157002.73	50000	
Si	28	45	H2	9244.091	9244.091	ppb	1.4	10530153.00	5000	>LDR
P	31	45	No Gas	7.515	7.515	ppb	6.2	25633.62	500	
K	39	45	He	35866.914	35866.914	ppb	0.5	26790599.33	50000	
Ca	40	45	H2	128174.605	128174.605	ppb	1.8	1095799338.67	50000	>LDR
Ti	47	45	No Gas	1.036	1.036	ppb	8.4	2132.83	500	
V	51	45	He	0.022	0.022	ppb	132.0	6679.63	500	
Cr	52	45	He	0.520	0.520	ppb	6.5	4826.23	500	
Mn	55	45	No Gas	349.969	349.969	ppb	2.2	9717842.00	3000	
Fe	56	45	H2	86.032	86.032	ppb	1.6	1091595.67	50000	
Co	59	45	No Gas	0.166	0.166	ppb	2.3	4002.59	500	
Ni	60	45	He	1.051	1.051	ppb	1.8	2636.92	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	2092.83	500	
Zn	66	72	No Gas	3.049	3.049	ppb	2.2	12432.37	500	
As	75	72	He	0.777	0.777	ppb	2.5	1152.05	500	
Se	78	72	H2	0.218	0.218	ppb	24.7	92.67	500	
Sr	88	72	No Gas	3142.493	3142.493	ppb	2.2	94177767.37	500	>LDR
Zr	90	72	No Gas	0.024	0.024	ppb	14.0	610.02	50	
Mo	95	115	No Gas	117.251	117.251	ppb	2.2	619566.64	500	
Ag	107	115	No Gas	0.069	0.069	ppb	2.1	1004.48	50	
Cd	111	115	No Gas	0.006	0.006	ppb	103.8	46.35	500	
Sn	118	115	No Gas	0.419	0.419	ppb	8.6	4629.71	500	
Sb	123	115	No Gas	0.193	0.193	ppb	3.2	1979.04	100	
Ba	137	115	No Gas	39.514	39.514	ppb	1.5	169656.56	1000	
W	182	159	No Gas	1.706	1.706	ppb	3.7	16137.04	50	
Hg	201	159	He	0.007	0.007	ppb	22.4	12.33	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	331.12	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1032.24	500	
U	238	159	No Gas	0.836	0.836	ppb	1.9	24648.08	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1480309.25	0.9	1866774.34	79.3	60	120	
Sc	45	No Gas	4888995.67	1.9	5256704	93	60	120	
Sc	45	H2	2926853.92	1.3	3216050	91.01	60	120	
Sc	45	He	583690.31	0.4	590136.5	98.91	60	120	
Ge	72	No Gas	1147514.42	2.0	1347600.04	85.15	60	120	
Ge	72	H2	755716.73	0.4	912330.27	82.83	60	120	
Ge	72	He	329234.47	0.6	378247.59	87.04	60	120	
In	115	No Gas	6501814.55	0.8	8692051.13	74.8	60	120	
Tb	159	No Gas	8377124.67	1.1	11827603.42	70.83	60	120	
Tb	159	He	4765513.83	0.2	6692094.83	71.21	60	120	

Sample Report

Sample Name	F176-02J
File Name	H6F22115.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\H6F22.b
Acq Time	2020-06-26 15:30:09
Sample Type	Sample
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	940.811	188.162	ppb	0.9	1853381.52	50	>LDR
Be	9	6	No Gas	0.018	0.004	ppb	76.1	52.22	50	
B	11	6	No Gas	2648.459	529.692	ppb	2.6	1048279.27	100	>LDR
Na	23	45	H2	OR	OR	ppb	OR	OR	50000	
Mg	24	45	No Gas	5139.534	1027.907	ppb	2.0	11626151.33	50000	
Al	27	45	No Gas	12.144	2.429	ppb	8.3	45442.13	50000	
Si	28	45	H2	9465.355	1893.071	ppb	1.7	2486745.75	5000	
P	31	45	No Gas	19.598	3.920	ppb	14.3	26456.49	500	
K	39	45	He	35313.308	7062.662	ppb	0.6	5943073.00	50000	
Ca	40	45	H2	127458.688	25491.738	ppb	1.3	251133104.00	50000	
Ti	47	45	No Gas	1.307	0.261	ppb	33.2	1006.04	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	5938.62	500	
Cr	52	45	He	0.312	0.062	ppb	9.3	1822.79	500	
Mn	55	45	No Gas	355.470	71.094	ppb	2.5	2294931.67	3000	
Fe	56	45	H2	87.935	17.587	ppb	0.6	265127.21	50000	
Co	59	45	No Gas	0.170	0.034	ppb	6.0	1166.72	500	
Ni	60	45	He	0.975	0.195	ppb	2.3	658.02	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1762.12	500	
Zn	66	72	No Gas	5.598	1.120	ppb	2.1	6608.28	500	
As	75	72	He	0.631	0.126	ppb	14.5	477.34	500	
Se	78	72	H2	0.168	0.034	ppb	22.6	32.67	500	
Sr	88	72	No Gas	3152.536	630.507	ppb	3.2	21873097.46	500	>LDR
Zr	90	72	No Gas	0.010	0.002	ppb	62.8	220.00	50	
Mo	95	115	No Gas	117.402	23.480	ppb	1.6	143590.69	500	
Ag	107	115	No Gas	0.059	0.012	ppb	12.1	272.23	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	7.38	500	
Sn	118	115	No Gas	0.345	0.069	ppb	14.3	1955.70	500	
Sb	123	115	No Gas	0.269	0.054	ppb	3.4	714.46	100	
Ba	137	115	No Gas	40.322	8.064	ppb	1.1	40136.28	1000	
W	182	159	No Gas	1.613	0.323	ppb	4.6	3623.87	50	
Hg	201	159	He	0.021	0.004	ppb	65.1	12.00	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	175.56	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	800.01	500	
U	238	159	No Gas	0.850	0.170	ppb	3.3	5863.63	497	

Sample Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1993950.62	0.7	1866774.34	106.81	60	120	
Sc	45	No Gas	5664549.83	0.6	5256704	107.76	60	120	
Sc	45	H2	3371139.83	1.6	3216050	104.82	60	120	
Sc	45	He	647593.71	0.8	590136.5	109.74	60	120	
Ge	72	No Gas	1328704.09	0.5	1347600.04	98.6	60	120	
Ge	72	H2	891843.98	1.5	912330.27	97.75	60	120	
Ge	72	He	371712.16	1.1	378247.59	98.27	60	120	
In	115	No Gas	7523130.07	0.9	8692051.13	86.55	60	120	
Tb	159	No Gas	9712515.73	0.9	11827603.42	82.12	60	120	
Tb	159	He	5604309.33	0.7	6692094.83	83.75	60	120	

Sample Report

Sample Name	F176-04
File Name	H6F22116.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 15:32:46
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Flal	Fail
ISTD QC Pass/Fail	Pass
Operator	**LYaman**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	275.945	275.945	ppb	2.0	2540066.29	50	>LDR
Be	9	6	No Gas	0.001	0.001	ppb	688.3	41.11	50	
B	11	6	No Gas	997.181	997.181	ppb	2.8	1878892.84	100	>LDR
Na	23	45	H2	OR	OR	ppb	OR	OR	50000	
Mg	24	45	No Gas	56677.386	56677.386	ppb	1.8	618730773.33	50000	>LDR
Al	27	45	No Gas	10.043	10.043	ppb	5.5	152353.74	50000	
Si	28	45	H2	14989.985	14989.985	ppb	3.7	18507323.33	5000	>LDR
P	31	45	No Gas	22.777	22.777	ppb	3.9	42073.55	500	
K	39	45	He	10599.687	10599.687	ppb	2.1	8523536.67	50000	
Ca	40	45	H2	108849.164	108849.164	ppb	2.6	1009043904.00	50000	>LDR
Ti	47	45	No Gas	0.953	0.953	ppb	5.9	2238.18	500	
V	51	45	He	1.822	1.822	ppb	4.6	18684.05	500	
Cr	52	45	He	0.437	0.437	ppb	5.4	4530.75	500	
Mn	55	45	No Gas	472.153	472.153	ppb	1.0	14693624.67	3000	
Fe	56	45	H2	103.819	103.819	ppb	3.5	1426054.04	50000	
Co	59	45	No Gas	0.261	0.261	ppb	2.4	6893.08	500	
Ni	60	45	He	1.136	1.136	ppb	2.5	3031.01	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	2261.52	500	
Zn	66	72	No Gas	6.713	6.713	ppb	1.8	28178.53	500	
As	75	72	He	5.192	5.192	ppb	2.2	6720.67	500	
Se	78	72	H2	0.190	0.190	ppb	14.4	93.00	500	
Sr	88	72	No Gas	2510.238	2510.238	ppb	2.5	84097538.88	500	>LDR
Zr	90	72	No Gas	0.014	0.014	ppb	34.8	463.34	50	
Mo	95	115	No Gas	62.031	62.031	ppb	0.4	367930.53	500	
Ag	107	115	No Gas	0.065	0.065	ppb	5.2	1072.27	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	-0.33	500	
Sn	118	115	No Gas	0.057	0.057	ppb	6.1	1783.45	500	
Sb	123	115	No Gas	0.177	0.177	ppb	1.5	2042.38	100	
Ba	137	115	No Gas	48.493	48.493	ppb	1.6	233672.32	1000	
W	182	159	No Gas	3.760	3.760	ppb	1.6	40648.60	50	
Hg	201	159	He	0.005	0.005	ppb	55.0	12.83	5	
Tl	205	159	No Gas	0.191	0.191	ppb	3.7	5466.76	500	
Pb	208	159	No Gas	0.041	0.041	ppb	12.8	2727.90	500	
U	238	159	No Gas	2.822	2.822	ppb	1.8	95295.28	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1901664.33	0.9	1866774.34	101.87	60	120	
Sc	45	No Gas	5481182.67	1.2	5256704	104.27	60	120	
Sc	45	H2	3174801.25	3.1	3216050	98.72	60	120	
Sc	45	He	622896.17	1.4	590136.5	105.55	60	120	
Ge	72	No Gas	1283148.12	0.9	1347600.04	95.22	60	120	
Ge	72	H2	849928.87	2.3	912330.27	93.16	60	120	
Ge	72	He	362766.60	0.5	378247.59	95.91	60	120	
In	115	No Gas	7298779.23	1.4	8692051.13	83.97	60	120	
Tb	159	No Gas	9605315.45	0.9	11827603.42	81.21	60	120	
Tb	159	He	5463671.33	0.9	6692094.83	81.64	60	120	

Sample Report

Sample Name	F176-06
File Name	H6F22117.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 15:35:23
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	702.801	702.801	ppb	2.1	5586658.67	50	>LDR
Be	9	6	No Gas	0.001	0.001	ppb	175.4	37.78	50	
B	11	6	No Gas	1612.320	1612.320	ppb	3.7	2692792.33	100	>LDR
Na	23	45	H2	OR	OR	ppb	OR	OR	50000	
Mg	24	45	No Gas	19894.036	19894.036	ppb	1.0	207951994.67	50000	
Al	27	45	No Gas	22.320	22.320	ppb	4.2	313170.63	50000	
Si	28	45	H2	15900.577	15900.577	ppb	13.9	16896566.00	5000	>LDR
P	31	45	No Gas	14.457	14.457	ppb	7.5	33323.23	500	
K	39	45	He	22173.463	22173.463	ppb	0.7	17425390.67	50000	
Ca	40	45	H2	178246.411	178246.411	ppb	12.4	1423530880.00	50000	>LDR
Ti	47	45	No Gas	1.492	1.492	ppb	7.1	3087.70	500	
V	51	45	He	1.384	1.384	ppb	1.6	15619.55	500	
Cr	52	45	He	0.655	0.655	ppb	2.2	6056.01	500	
Mn	55	45	No Gas	106.303	106.303	ppb	2.6	3174338.50	3000	
Fe	56	45	H2	47.023	47.023	ppb	14.6	560182.04	50000	
Co	59	45	No Gas	0.236	0.236	ppb	5.4	6011.99	500	
Ni	60	45	He	1.344	1.344	ppb	1.4	3503.79	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	2241.52	500	
Zn	66	72	No Gas	8.653	8.653	ppb	2.0	34134.16	500	
As	75	72	He	2.659	2.659	ppb	0.8	3483.45	500	
Se	78	72	H2	0.372	0.372	ppb	21.6	138.33	500	
Sr	88	72	No Gas	3185.688	3185.688	ppb	1.5	101947762.62	500	>LDR
Zr	90	72	No Gas	0.021	0.021	ppb	33.1	590.01	50	
Mo	95	115	No Gas	50.177	50.177	ppb	1.4	282959.89	500	
Ag	107	115	No Gas	0.061	0.061	ppb	11.2	956.70	50	
Cd	111	115	No Gas	0.000	0.000	ppb	4479.1	33.59	500	
Sn	118	115	No Gas	0.165	0.165	ppb	11.7	2665.83	500	
Sb	123	115	No Gas	0.282	0.282	ppb	2.6	3035.91	100	
Ba	137	115	No Gas	43.765	43.765	ppb	1.3	200513.62	1000	
W	182	159	No Gas	1.078	1.078	ppb	4.1	11084.91	50	
Hg	201	159	He	0.008	0.008	ppb	19.6	14.50	5	
Tl	205	159	No Gas	0.374	0.374	ppb	2.3	9533.64	500	
Pb	208	159	No Gas	0.012	0.012	ppb	17.7	1635.61	500	
U	238	159	No Gas	11.500	11.500	ppb	0.5	366789.80	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1687092.20	0.7	1866774.34	90.37	60	120	
Sc	45	No Gas	5247679.50	0.6	5256704	99.83	60	120	
Sc	45	H2	2762910.25	12.7	3216050	85.91	60	120	
Sc	45	He	612696.19	0.5	590136.5	103.82	60	120	
Ge	72	No Gas	1225562.54	0.5	1347600.04	90.94	60	120	
Ge	72	H2	724874.25	13.5	912330.27	79.45	60	120	
Ge	72	He	351737.91	0.7	378247.59	92.99	60	120	
In	115	No Gas	6938957.07	0.2	8692051.13	79.83	60	120	
Tb	159	No Gas	9077606.03	0.4	11827603.42	76.75	60	120	
Tb	159	He	5193339.67	0.7	6692094.83	77.6	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV11
File Name	H6F22118.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 15:37:59
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	26.522	ppb	1.3	404108.94	25	106.09	90	110	
Be	9	6	No Gas	24.244	ppb	2.6	84885.16	25	96.98	90	110	
B	11	6	No Gas	78.113	ppb	1.2	176670.53	50	156.23	90	110	> +/- 10%
Na	23	45	H2	29176.384	ppb	1.1	135030405.33	25000	116.71	90	110	> +/- 10%
Mg	24	45	No Gas	27364.156	ppb	2.1	318704181.33	25000	109.46	90	110	
Al	27	45	No Gas	27006.135	ppb	2.8	410182287.22	25000	108.02	90	110	
Si	28	45	H2	2652.567	ppb	1.4	3550379.50	2500	106.1	90	110	
P	31	45	No Gas	265.261	ppb	2.0	270938.52	250	106.1	90	110	
K	39	45	He	27011.964	ppb	1.0	22616114.67	25000	108.05	90	110	
Ca	40	45	H2	25794.894	ppb	1.2	259041610.67	25000	103.18	90	110	
Ti	47	45	No Gas	246.555	ppb	1.8	481921.41	250	98.62	90	110	
V	51	45	He	248.514	ppb	0.7	1682207.04	250	99.41	90	110	
Cr	52	45	He	244.932	ppb	0.6	1909252.88	250	97.97	90	110	
Mn	55	45	No Gas	1469.143	ppb	1.9	48753696.00	1500	97.94	90	110	
Fe	56	45	H2	24929.075	ppb	0.9	368408042.67	25000	99.72	90	110	
Co	59	45	No Gas	245.185	ppb	1.9	6655917.67	250	98.07	90	110	
Ni	60	45	He	236.428	ppb	1.2	632460.96	250	94.57	90	110	
Cu	63	45	He	236.022	ppb	0.6	1666008.29	250	94.41	90	110	
Zn	66	72	No Gas	250.664	ppb	2.9	1067712.39	250	100.27	90	110	
As	75	72	He	246.565	ppb	0.9	329416.54	250	98.63	90	110	
Se	78	72	H2	243.153	ppb	0.2	107736.17	250	97.26	90	110	
Sr	88	72	No Gas	244.864	ppb	2.6	8949861.59	250	97.95	90	110	
Zr	90	72	No Gas	23.782	ppb	2.1	550953.26	25	95.13	90	110	
Mo	95	115	No Gas	258.052	ppb	2.3	1707890.77	250	103.22	90	110	
Ag	107	115	No Gas	24.987	ppb	1.2	421396.69	25	99.95	90	110	
Cd	111	115	No Gas	240.985	ppb	1.0	848535.09	250	96.39	90	110	
Sn	118	115	No Gas	247.159	ppb	1.4	2600648.58	250	98.86	90	110	
Sb	123	115	No Gas	47.806	ppb	0.5	584288.92	50	95.61	90	110	
Ba	137	115	No Gas	490.693	ppb	1.9	2637866.63	500	98.14	90	110	
W	182	159	No Gas	23.987	ppb	1.6	286627.47	25	95.95	90	110	
Hg	201	159	He	2.352	ppb	1.4	2590.27	2.5	94.08	90	110	
Tl	205	159	No Gas	241.495	ppb	3.7	6755971.81	250	96.6	90	110	
Pb	208	159	No Gas	239.324	ppb	3.9	9077438.36	250	95.73	90	110	
U	238	159	No Gas	225.835	ppb	3.3	8439007.44	250	90.33	90	110	

Continuing Calibration Verification (CCV) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2229327.11	0.5	1866774.34	119.42	60	120	
Sc	45	No Gas	5847547.83	0.3	5256704	111.24	60	120	
Sc	45	H2	3436184.75	0.7	3216050	106.84	60	120	
Sc	45	He	653474.17	0.8	590136.5	110.73	60	120	
Ge	72	No Gas	1399946.33	1.2	1347600.04	103.88	60	120	
Ge	72	H2	951601.10	1.3	912330.27	104.3	60	120	
Ge	72	He	392142.27	0.6	378247.59	103.67	60	120	
In	115	No Gas	8145565.13	0.9	8692051.13	93.71	60	120	
Tb	159	No Gas	10641078.47	2.0	11827603.42	89.97	60	120	
Tb	159	He	6070747.17	0.3	6692094.83	90.72	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB11
File Name	H6F22119.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 15:40:36
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Fail
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.598	ppb	24.3	139437.37	0.4	>LOD
Be	9	6	No Gas	0.001	ppb	157.1	51.11	0.08	
B	11	6	No Gas	13.128	ppb	6.5	34100.20	4	>LOD
Na	23	45	H2	1784.370	ppb	1.2	8346289.00	40	>LOD
Mg	24	45	No Gas	9.394	ppb	49.5	133974.12	10	
Al	27	45	No Gas	7.680	ppb	53.5	121453.52	15	
Si	28	45	H2	2.419	ppb	4.2	6961.08	8	
P	31	45	No Gas	4.104	ppb	7.6	26357.64	10	
K	39	45	He	42.674	ppb	11.6	146697.29	20	>LOD
Ca	40	45	H2	5.989	ppb	4.2	197197.38	25	
Ti	47	45	No Gas	0.162	ppb	38.5	810.69	0.5	
V	51	45	He	<0.000	ppb	N/A	5777.22	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1046.71	0.2	
Mn	55	45	No Gas	0.417	ppb	53.7	22971.34	0.2	~~>LOD~~
Fe	56	45	H2	2.793	ppb	7.7	49749.16	10	
Co	59	45	No Gas	0.067	ppb	58.3	2010.84	0.15	
Ni	60	45	He	<0.000	ppb	N/A	85.33	0.2	
Cu	63	45	He	<0.000	ppb	N/A	1908.13	0.4	
Zn	66	72	No Gas	0.080	ppb	39.5	2428.88	2	
As	75	72	He	0.005	ppb	488.8	328.67	0.2	
Se	78	72	H2	0.049	ppb	17.4	39.00	0.2	
Sr	88	72	No Gas	0.192	ppb	34.2	7441.13	0.2	
Zr	90	72	No Gas	0.005	ppb	45.9	283.34	2	
Mo	95	115	No Gas	0.086	ppb	45.2	626.68	0.2	
Ag	107	115	No Gas	0.008	ppb	38.0	227.78	0.08	
Cd	111	115	No Gas	0.056	ppb	48.7	237.98	0.2	
Sn	118	115	No Gas	0.122	ppb	26.2	2706.95	0.2	
Sb	123	115	No Gas	0.025	ppb	28.4	431.12	0.4	
Ba	137	115	No Gas	0.118	ppb	53.9	747.80	0.2	
W	182	159	No Gas	0.005	ppb	84.3	173.33	0.3	
Hg	201	159	He	0.010	ppb	49.6	20.00	0.1	
Tl	205	159	No Gas	0.096	ppb	50.7	3343.85	0.1	
Pb	208	159	No Gas	0.044	ppb	70.5	3084.63	0.1	
U	238	159	No Gas	0.059	ppb	53.3	2258.03	0.05	>LOD

LY 06/26/20

Continuing Calibration Blank (CCB) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2275772.68	0.7	1866774.34	121.91	60	120	ISTD Failed
Sc	45	No Gas	5607906.17	0.7	5256704	106.68	60	120	
Sc	45	H2	3311417.92	0.4	3216050	102.97	60	120	
Sc	45	He	644341.10	0.1	590136.5	109.19	60	120	
Ge	72	No Gas	1336373.75	0.4	1347600.04	99.17	60	120	
Ge	72	H2	893184.15	0.3	912330.27	97.9	60	120	
Ge	72	He	377324.02	0.1	378247.59	99.76	60	120	
In	115	No Gas	8226738.30	1.0	8692051.13	94.65	60	120	
Tb	159	No Gas	10440877.64	1.3	11827603.42	88.28	60	120	
Tb	159	He	6071524.00	0.5	6692094.83	90.73	60	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA3
File Name	H6F22126.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 15:58:56
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	1.678	ppb	16.7	135643.34	2	-50	50	> +/- 20%
Be	9	6	No Gas	<0.000	ppb	N/A	21.11	0.4	-50	50	
B	11	6	No Gas	37.377	ppb	17.3	79729.53	10	-50	50	> +/- 20%
Na	23	45	H2	98645.980	ppb	2.7	455626421.33	100000	80	120	
Mg	24	45	No Gas	100714.586	ppb	1.4	1132641749.33	100000	80	120	
Al	27	45	No Gas	100400.903	ppb	2.3	1472651604.72	100000	80	120	
Si	28	45	H2	7.250	ppb	9.6	13672.72	50	-50	50	
P	31	45	No Gas	97831.679	ppb	1.6	88089621.33	100000	80	120	
K	39	45	He	102537.301	ppb	0.5	82430746.67	100000	80	120	
Ca	40	45	H2	97021.731	ppb	2.3	974265514.67	100000	80	120	
Ti	47	45	No Gas	1992.924	ppb	1.6	3757905.08	2000	80	120	
V	51	45	He	0.109	ppb	19.8	7773.54	1	-50	50	
Cr	52	45	He	0.228	ppb	1.3	3012.33	1	-50	50	
Mn	55	45	No Gas	0.568	ppb	30.7	27949.36	1	-50	50	> +/- 20% LY 06/26/20
Fe	56	45	H2	92623.544	ppb	3.2	1368871253.33	100000	80	120	
Co	59	45	No Gas	0.335	ppb	0.7	9053.68	0.75	-50	50	
Ni	60	45	He	0.270	ppb	2.4	832.03	1	-50	50	
Cu	63	45	He	0.111	ppb	3.2	3518.46	2	-50	50	
Zn	66	72	No Gas	1.796	ppb	2.5	9615.41	20	-50	50	
As	75	72	He	0.107	ppb	3.3	459.01	1	-50	50	
Se	78	72	H2	0.149	ppb	20.9	82.33	1	-50	50	
Sr	88	72	No Gas	1.915	ppb	29.3	69135.94	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.041	ppb	8.8	1116.72	10	-50	50	
Mo	95	115	No Gas	1972.687	ppb	1.9	12905718.65	2000	80	120	
Ag	107	115	No Gas	0.010	ppb	29.7	270.00	0.4	-50	50	
Cd	111	115	No Gas	0.069	ppb	62.4	278.32	1	-50	50	
Sn	118	115	No Gas	0.327	ppb	4.7	4771.98	1	-50	50	
Ba	137	115	No Gas	0.419	ppb	1.9	2329.10	1	-50	50	
W	182	159	No Gas	0.198	ppb	1.3	2540.27	1	-50	50	
Hg	201	159	He	0.001	ppb	157.0	10.50	0.5	-50	50	
Tl	205	159	No Gas	<0.000	ppb	N/A	172.22	0.5	-50	50	
Pb	208	159	No Gas	0.053	ppb	5.0	3561.32	0.5	-50	50	
U	238	159	No Gas	0.006	ppb	72.3	300.01	0.25	-50	50	

Interference Check Solution A (ICS-A) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2046892.26	1.3	1866774.34	109.65	60	120	
Sc	45	No Gas	5645998.67	1.0	5256704	107.41	60	120	
Sc	45	H2	3438849.33	3.3	3216050	106.93	60	120	
Sc	45	He	629756.00	0.7	590136.5	106.71	60	120	
Ge	72	No Gas	1368049.08	0.4	1347600.04	101.52	60	120	
Ge	72	H2	909665.62	1.0	912330.27	99.71	60	120	
Ge	72	He	376815.52	0.5	378247.59	99.62	60	120	
In	115	No Gas	8050528.61	1.0	8692051.13	92.62	60	120	
Tb	159	No Gas	10906336.23	2.0	11827603.42	92.21	60	120	
Tb	159	He	6293155.00	1.3	6692094.83	94.04	60	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB3
File Name	H6F22127.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\F\IH6F22.b
Acq Time	2020-06-26 16:01:33
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F22002.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	20.178	ppb	3.3	308359.81	20	80	120	
Be	9	6	No Gas	18.548	ppb	3.0	59149.76	20	80	120	
B	11	6	No Gas	34.353	ppb	2.4	73015.64	20	80	120	> +/- 20%
Na	23	45	H2	105067.141	ppb	0.4	454872778.67	100000	80	120	
Mg	24	45	No Gas	101779.869	ppb	2.6	1124027050.67	100000	80	120	
Al	27	45	No Gas	100973.708	ppb	2.5	1454332245.00	100000	80	120	
Si	28	45	H2	232.090	ppb	0.5	294675.68	200	80	120	
P	31	45	No Gas	99539.922	ppb	2.4	88015688.00	100000	80	120	
K	39	45	He	104652.061	ppb	0.9	80736869.33	100000	80	120	
Ca	40	45	H2	103491.849	ppb	0.5	974046122.67	100000	80	120	
Ti	47	45	No Gas	2070.185	ppb	3.1	3833399.58	2000	80	120	
V	51	45	He	19.815	ppb	1.1	130290.08	20	80	120	
Cr	52	45	He	19.401	ppb	1.7	141018.97	20	80	120	
Mn	55	45	No Gas	18.588	ppb	2.8	594419.33	20	80	120	
Fe	56	45	H2	99136.633	ppb	0.9	1373493120.00	100000	80	120	
Co	59	45	No Gas	18.522	ppb	2.5	477043.39	20	80	120	
Ni	60	45	He	18.811	ppb	0.2	46660.93	20	80	120	
Cu	63	45	He	18.495	ppb	0.8	123188.32	20	80	120	
Zn	66	72	No Gas	20.676	ppb	1.4	86593.15	20	80	120	
As	75	72	He	19.756	ppb	0.9	24737.61	20	80	120	
Se	78	72	H2	20.473	ppb	0.9	8203.16	20	80	120	
Sr	88	72	No Gas	19.688	ppb	1.4	692324.77	20	80	120	
Zr	90	72	No Gas	7.994	ppb	1.7	178121.54	20	80	120	> +/- 20%
Mo	95	115	No Gas	2055.453	ppb	2.3	13394855.02	2000	80	120	
Ag	107	115	No Gas	18.704	ppb	1.9	310612.63	20	80	120	
Cd	111	115	No Gas	18.619	ppb	1.3	64587.84	20	80	120	
Sn	118	115	No Gas	19.347	ppb	0.9	201723.61	20	80	120	
Sb	123	115	No Gas	18.982	ppb	0.9	228491.40	20	80	120	
Ba	137	115	No Gas	19.712	ppb	1.7	104449.97	20	80	120	
W	182	159	No Gas	18.391	ppb	2.4	227037.70	20	80	120	
Hg	201	159	He	1.860	ppb	1.9	2105.85	2	80	120	
Tl	205	159	No Gas	18.035	ppb	3.6	522028.92	20	80	120	
Pb	208	159	No Gas	18.185	ppb	2.6	714177.38	20	80	120	
U	238	159	No Gas	17.737	ppb	2.5	684925.18	20	80	120	

Interference Check Solution AB (ICS-AB) Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2029795.54	0.7	1866774.34	108.73	60	120	
Sc	45	No Gas	5545283.83	0.4	5256704	105.49	60	120	
Sc	45	H2	3221584.67	0.5	3216050	100.17	60	120	
Sc	45	He	604358.90	0.5	590136.5	102.41	60	120	
Ge	72	No Gas	1345298.00	0.4	1347600.04	99.83	60	120	
Ge	72	H2	858770.17	1.7	912330.27	94.13	60	120	
Ge	72	He	363273.66	0.4	378247.59	96.04	60	120	
In	115	No Gas	8020573.77	1.1	8692051.13	92.27	60	120	
Tb	159	No Gas	10991670.40	0.5	11827603.42	92.93	60	120	
Tb	159	He	6236064.00	0.5	6692094.83	93.19	60	120	

EMAX LABORATORIES, INC.

DIGESTION LOG
for
ICP-MS METALS

Note: For samples, relevant QCs/Standards digested, refer to attached digestion sequence.

Comments:

Digestion Vessel Lot # SM5A-04-04-10

ALL SAMPLES PH<2

Book #: EIM-081
Batch: IMF032W
Matrix: WATER
Digestor ID: E

SOP #	Rev. #
☐ EMAX-200.8	6
☑ EMAX-6020	13
☐ EMAX-6020CA	2
☐ EMAX-	

Start	Temp	End	Temp
	91.3 °C		93.4 °C

Standards	ID	Amount Added (ml/g)
LCS-1	SM6A-007-06-25	0.15
LCS-2	-06-26	0.15
MS	SAME SPIKE SOLN AND VOL AS LCS1,2	
Blank Soil (Bead)	N/A	N/A
Reagent	**Lot# / ID**	**Amount Added (ml)**
HNO_3	SW1A-009-02-08	0.5+1.0
HCl	↓ -02-09	0.25+0.25
H_2O_2	N/A	N/A
HNO_3(1:1)	↓	↓
Au	SM5A-04-03-09	0.1
pH Strip (0-14)	HC998032	
Digestate Location		
Extract Location		
☑ Reagent Water ID:	SW1A-08-25-05	
☑ Thermometer ID:	192272442/E13	
☑ Pipette ID:	742766331	
☐ Pipette ID:		
☐ Pipette ID:		
☐ HNO_3 dispenser checked @ 5.0 ml with Class A volumetric flask		
☐ HCl dispenser checked @ 5.0 ml with Class A volumetric flask		

Prepared By: CK / MC

Standard Added By: CK Witnessed By: MC

Extract Rcvd By: W Checked By: MC

EMAX LABORATORIES INC

DIGESTION LOG FOR METALS

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Vd(ml)	ExpAmt	ExpVd(ml)	PrepFctr	Comments
20IMF032W01	IMF032WB	50	ml	6/23/20 9:46	50	50	50	1	
20IMF032W02	IMF032WL	50	ml	6/23/20 9:46	50	50	50	1	
20IMF032W03	IMF032WC	50	ml	6/23/20 9:46	50	50	50	1	
20IMF032W04	F167-01	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W05	F167-03	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W06	F167-04	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W07	F167-04M	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W08	F167-04S	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W09	F167-05	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W10	F167-06	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W11	F167-07	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W12	F167-08	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W13	F167-09	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W14	F167-10	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W15	F167-11	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W16	F176-02	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W17	F176-02M	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W18	F176-02S	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W19	F176-04	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W20	F176-06	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W21	F176-08	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W22	F176-09	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W23	F176-10	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W24	F176-11	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W25	F176-12	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED
20IMF032W26	F176-13	50	ml	6/23/20 9:46	50	50	50	1	DISSOLVED

CK

6/23/20

Vd=digestate volume PrepFctr=(ExpAmt/Aliquot)*(Vd/ExpVd)

☑ Digestion Started @ 6/23/20 11:40 Prepared By: CKaing/MCande

☑ Digestion Ended @ 6/23/20 14:18 Checked By: CK / MC

Comments: Date 6/23/20

SOP EMAX-6020 Rev. 13

LABORATORY REPORT FOR

ARCADIS

PG&E TOPOCK-GMP

WET CHEMICAL ANALYSES

SDG#: 20F176

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 20F176

METHOD E120.1
SPECIFIC CONDUCTANCE

A total of nine(9) water samples were received on 06/19/20 to be analyzed for Specific Conductance in accordance with Method E120.1 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Calibration was performed as specified by the method. All calibration requirements were within acceptance criteria.

Matrix QC Sample
Sample duplicate was analyzed and RPD was within expected value.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

E120.1
SPECIFIC CONDUCTANCE

Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 20F176

Matrix : WATER
InstrumentID : D4

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (umhos/cm)	PREP FACTOR	MOIST (%)	RL (umhos/cm)	MDL (umhos/cm)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MW-54-195-Q220	F176-02	16300	1	NA	2.00	2.00	07/10/2013:05	NA	20ECG00101	20ECG001	ECG001W	06/19/2008:43	06/19/20
MW-54-195-Q220DUP	F176-02D	16300	1	NA	2.00	2.00	07/10/2013:06	NA	20ECG00102	20ECG001	ECG001W	06/19/2008:43	06/19/20
MW-54-085-Q220	F176-04	5590	1	NA	2.00	2.00	07/10/2013:07	NA	20ECG00103	20ECG001	ECG001W	06/19/2010:27	06/19/20
MW-54-140-Q220	F176-06	9360	1	NA	2.00	2.00	07/10/2013:08	NA	20ECG00104	20ECG001	ECG001W	06/19/2009:51	06/19/20
MW-55-045-Q220	F176-08	963	1	NA	2.00	2.00	07/10/2013:09	NA	20ECG00105	20ECG001	ECG001W	06/19/2008:50	06/19/20
MW-55-120-Q220	F176-09	5970	1	NA	2.00	2.00	07/10/2013:10	NA	20ECG00106	20ECG001	ECG001W	06/19/2008:12	06/19/20
MW-903-Q220	F176-10	6170	1	NA	2.00	2.00	07/10/2013:11	NA	20ECG00107	20ECG001	ECG001W	06/19/2008:22	06/19/20
MW-56D-Q220	F176-11	16100	1	NA	2.00	2.00	07/10/2013:12	NA	20ECG00108	20ECG001	ECG001W	06/19/2009:56	06/19/20
MW-56M-Q220	F176-12	6120	1	NA	2.00	2.00	07/10/2013:13	NA	20ECG00109	20ECG001	ECG001W	06/19/2010:26	06/19/20
MW-56S-Q220	F176-13	4010	1	NA	2.00	2.00	07/10/2013:14	NA	20ECG00110	20ECG001	ECG001W	06/19/2010:55	06/19/20

EMAX QUALITY CONTROL DATA
SAMPLE DUPLICATE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 20F176
METHOD : E120.1

==========

MATRIX	: WATER	
DILUTION FACTOR	: 1	1
SAMPLE ID	: MW-54-195-Q220	MW-54-195-Q220DUP
LAB SAMPLE ID	: F176-02	F176-02D
LAB FILE ID	: 20ECG00101	20ECG00102
DATE PREPARED	: NA	NA
DATE ANALYZED	: 07/10/2013:05	07/10/2013:06
PREP BATCH	: ECG001W	ECG001W
CALIBRATION REF	: 20ECG001	20ECG001

ACCESSION:

PARAMETER	PARENT RESULT (umhos/cm)	DUP RESULT (umhos/cm)	RPD (%)	MAX RPD (%)
Specific Conductivity	16300	16300	0	5

EMAX LABORATORIES, INC.

FileID: 20ECG001W

SPECIFIC CONDUCTANCE ANALYSIS LOG

PrepBatchID	LabSampleID	Aliquot (ml)	Temp (°C)	AnalysisDateTime	Found Conc.	Conductivity	Unit	Notes
20ECG00101	F176-02	20	25.0	7/10/20 13:05	16250	16300	uS/cm	
20ECG00102	F176-02D	20	25.0	7/10/20 13:06	16300	16300	uS/cm	
20ECG00103	F176-04	20	25.0	7/10/20 13:07	5590	5590	uS/cm	
20ECG00104	F176-06	20	25.0	7/10/20 13:08	9360	9360	uS/cm	
20ECG00105	F176-08	20	25.0	7/10/20 13:09	963	963	uS/cm	
20ECG00106	F176-09	20	25.0	7/10/20 13:10	5970	5970	uS/cm	
20ECG00107	F176-10	20	25.0	7/10/20 13:11	6170	6170	uS/cm	
20ECG00108	F176-11	20	25.0	7/10/20 13:12	16100	16100	uS/cm	
20ECG00109	F176-12	20	25.0	7/10/20 13:13	6120	6120	uS/cm	
20ECG00110	F176-13	20	25.0	7/10/20 13:14	4010	4010	uS/cm	
20ECG00111	F407-03	20	25.0	7/10/20 13:15	539	539	uS/cm	
20ECG00112	F408-03	20	25.0	7/10/20 13:16	543	543	uS/cm	
20ECG00113	F503-01	20	25.0	7/10/20 13:17	19690	19700	uS/cm	
20ECG00114	G406-01	20	25.0	7/10/20 13:18	1194	1190	uS/cm	
20ECG00115	G406-03	20	25.0	7/10/20 13:19	521	521	uS/cm	

Calibration of Conductivity Meter — InstrumentID: D4

CAL Standard ID		Conc.(µS/cm)	Reading	DateTime
ICAL1	SW1-02-04-1	0.66	0.66	7/10/20 12:59
ICAL2	SW1-02-04-1	98.7	98.7	7/10/20 13:00
ICAL3	SW1-02-04-1	998	998	7/10/20 13:01
ICAL4	SW1-02-06-0	99959	99900	7/10/20 13:02
CCS	SW1-02-04-1	1408	1408	7/10/20 13:03
ICV	SW1-02-02-2	470	480	7/10/20 13:04

Calibration Temp (°C): 25.0 Thermometer ID: 111862324

☐ Verified Cell Constant (K) @ 1 S/cm

LOQ = 0.66 uS/cm

CV Acceptance Limits: 446 498

QC Check	Result(µS/cm)	Expected Val	QC Check
CCS	1408	1408	%Rec=100
ICV	480	446-498	PASS
F176-02D	16300	16300	RPD=0

☑ Sample(s) is/are filtered upon receipt

☐ Sample(s) is/are analyzed upon receipt

pH strip Lot#: HC998032 Snapseal Lot#: 1220001

0.45 micron filter Lot#:00191103

Comment:

Conductivity reading is automatically compensated to 25°C.

☑ EMAX-2510B Rev. 6 Analyzed By: NHando/TKosak

☑ EMAX-120.1 Rev. 8 Checked By: TK

☐ EMAX-9050 Rev. 4 Date: 07/10/20

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 20F176

METHOD E218.6
HEXAVALENT CHROMIUM

A total of thirteen(13) water samples were received on 06/19/20 to be analyzed for Hexavalent Chromium in accordance with Method E218.6 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Calibration was performed as prescribed by the method and was verified using a secondary source (ICV). All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. Hexavalent Chromium was not detected in HCF005WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. HCF005WL/HCF005WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, two(2) sets of MS/MSD and eleven(11) sets of MS were analyzed.

- Hexavalent Chromium was within MS/MSD QC limits in F176-02M/F176-02S.
- Hexavalent Chromium was within MS/MSD QC limits in F176-08M/F176-08S.

Percent recovery for Hexavalent Chromium was within MS QC limits in F176-01M, -03M, -04M, -05M, -06M, -07M, -09M, -10M, -11M, -12M and -13M. Refer to Matrix QC summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.
Samples F176-02I, -06I, -11I and -12I were reported at dilution due to matrix interferences.

SAMPLE RESULTS

METHOD E218.6
HEXAVALENT CHROMIUM

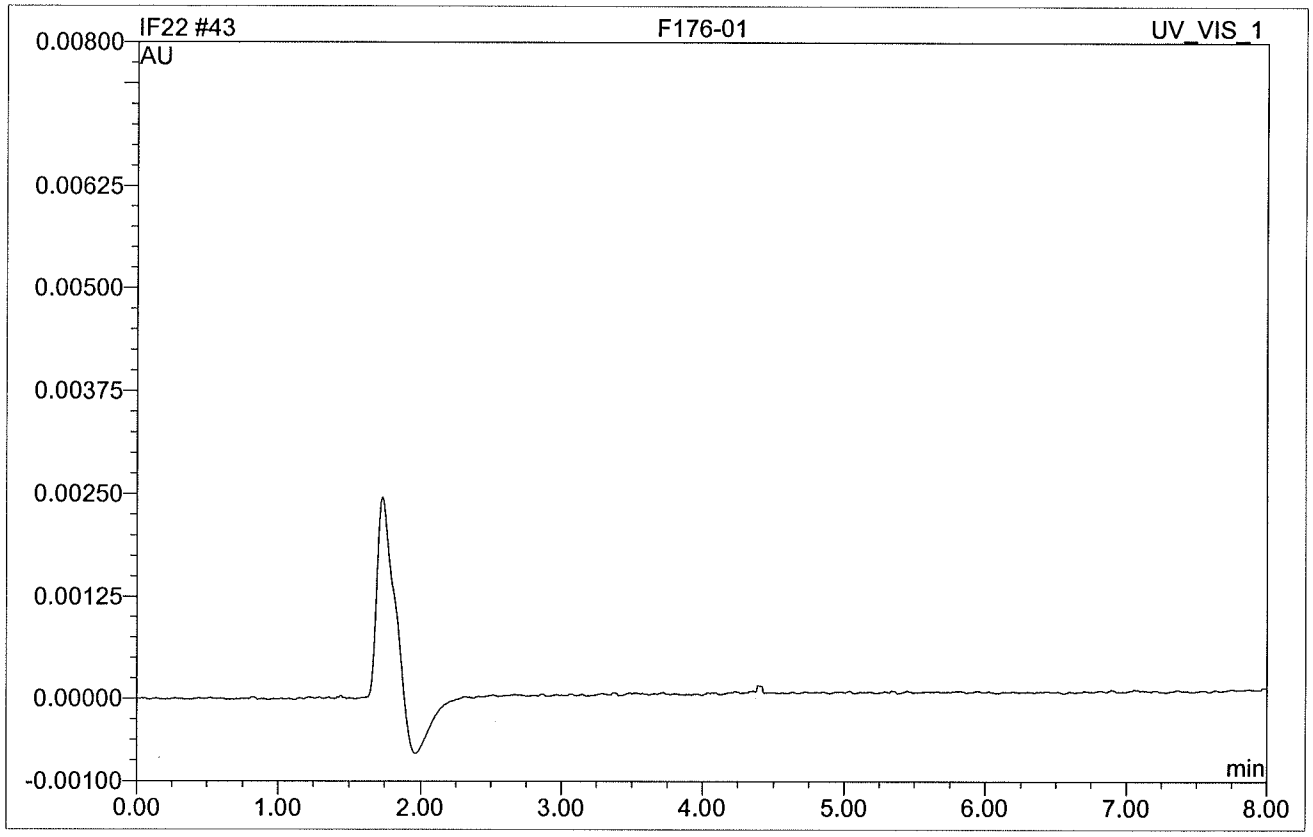
Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 20F176

Matrix : WATER
InstrumentID : 59

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DIL'N. FACTOR	MOIST (%)	LOQ (ug/L)	LOD (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	HCF005WB	ND	1	NA	0.2	0.1	06/22/2015:14	NA	IF22016	IF22014	HCF005W	NA	NA
LCS1W	HCF005WL	2.03	1	NA	0.2	0.1	06/22/2015:25	NA	IF22017	IF22014	HCF005W	NA	NA
LCD1W	HCF005WC	2.03	1	NA	0.2	0.1	06/22/2015:35	NA	IF22018	IF22014	HCF005W	NA	NA
MW-54-085-Q220	F176-04	ND	1	NA	0.2	0.1	06/22/2016:17	NA	IF22022	IF22014	HCF005W	06/19/2010:27	06/19/20
MW-54-085-Q220MS	F176-04M	0.983	1	NA	0.2	0.1	06/22/2016:27	NA	IF22023	IF22014	HCF005W	06/19/2010:27	06/19/20
MW-55-045-Q220	F176-08	ND	1	NA	0.2	0.1	06/22/2017:19	NA	IF22028	IF22026	HCF005W	06/19/2008:50	06/19/20
MW-55-045-Q220MS	F176-08M	0.975	1	NA	0.2	0.1	06/22/2017:29	NA	IF22029	IF22026	HCF005W	06/19/2008:50	06/19/20
MW-55-045-Q220MSD	F176-08S	0.973	1	NA	0.2	0.1	06/22/2017:40	NA	IF22030	IF22026	HCF005W	06/19/2008:50	06/19/20
MW-55-120-Q220	F176-09	7.94	1	NA	0.2	0.1	06/22/2017:50	NA	IF22031	IF22026	HCF005W	06/19/2008:12	06/19/20
MW-55-120-Q220MS	F176-09M	9.94	1	NA	0.2	0.1	06/22/2018:01	NA	IF22032	IF22026	HCF005W	06/19/2008:12	06/19/20
MW-903-Q220	F176-10	7.99	1	NA	0.2	0.1	06/22/2018:11	NA	IF22033	IF22026	HCF005W	06/19/2008:22	06/19/20
MW-903-Q220MS	F176-10M	9.96	1	NA	0.2	0.1	06/22/2018:22	NA	IF22034	IF22026	HCF005W	06/19/2008:22	06/19/20
MW-56S-Q220	F176-13	ND	1	NA	0.2	0.1	06/22/2019:35	NA	IF22041	IF22037	HCF005W	06/19/2010:55	06/19/20
MW-56S-Q220MS	F176-13M	0.954	1	NA	0.2	0.1	06/22/2019:45	NA	IF22042	IF22037	HCF005W	06/19/2010:55	06/19/20
MW-54-195-EB-Q220	F176-01	ND	1	NA	0.2	0.1	06/22/2019:56	NA	IF22043	IF22037	HCF005W	06/19/2008:15	06/19/20
MW-54-195-EB-Q220MS	F176-01M	1.01	1	NA	0.2	0.1	06/22/2020:06	NA	IF22044	IF22037	HCF005W	06/19/2008:15	06/19/20
MW-54-085-EB-Q220	F176-03	ND	1	NA	0.2	0.1	06/22/2020:17	NA	IF22045	IF22037	HCF005W	06/19/2010:00	06/19/20
MW-54-085-EB-Q220MS	F176-03M	1.02	1	NA	0.2	0.1	06/22/2020:27	NA	IF22046	IF22037	HCF005W	06/19/2010:00	06/19/20
MW-54-140-EB-Q220	F176-05	ND	1	NA	0.2	0.1	06/22/2020:37	NA	IF22047	IF22037	HCF005W	06/19/2009:10	06/19/20
MW-54-140-EB-Q220MS	F176-05M	1.04	1	NA	0.2	0.1	06/22/2020:48	NA	IF22048	IF22037	HCF005W	06/19/2009:10	06/19/20
MW-55-045-EB-Q220	F176-07	ND	1	NA	0.2	0.1	06/22/2021:19	NA	IF22051	IF22049	HCF005W	06/19/2008:27	06/19/20
MW-55-045-EB-Q220MS	F176-07M	0.967	1	NA	0.2	0.1	06/22/2021:29	NA	IF22052	IF22049	HCF005W	06/19/2008:27	06/19/20
MW-54-195-Q220	F176-02I	ND	5	NA	1	0.5	06/22/2021:40	NA	IF22053	IF22049	HCF005W	06/19/2008:43	06/19/20
MW-54-195-Q220MS	F176-02M	4.79	5	NA	1	0.5	06/22/2021:50	NA	IF22054	IF22049	HCF005W	06/19/2008:43	06/19/20
MW-54-195-Q220MSD	F176-02S	4.79	5	NA	1	0.5	06/22/2022:01	NA	IF22055	IF22049	HCF005W	06/19/2008:43	06/19/20
MW-54-140-Q220	F176-06I	ND	5	NA	1	0.5	06/22/2022:11	NA	IF22056	IF22049	HCF005W	06/19/2009:51	06/19/20
MW-54-140-Q220MS	F176-06M	4.67	5	NA	1	0.5	06/22/2022:21	NA	IF22057	IF22049	HCF005W	06/19/2009:51	06/19/20
MW-56D-Q220	F176-11I	ND	5	NA	1	0.5	06/22/2022:32	NA	IF22058	IF22049	HCF005W	06/19/2009:56	06/19/20
MW-56D-Q220MS	F176-11M	4.93	5	NA	1	0.5	06/22/2022:42	NA	IF22059	IF22049	HCF005W	06/19/2009:56	06/19/20
MW-56M-Q220	F176-12I	ND	5	NA	1	0.5	06/22/2023:24	NA	IF22063	IF22061	HCF005W	06/19/2010:26	06/19/20
MW-56M-Q220MS	F176-12M	4.76	5	NA	1	0.5	06/22/2023:34	NA	IF22064	IF22061	HCF005W	06/19/2010:26	06/19/20

IF22 043 F176-01

Sample Name:	**F176-01**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 19:56**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

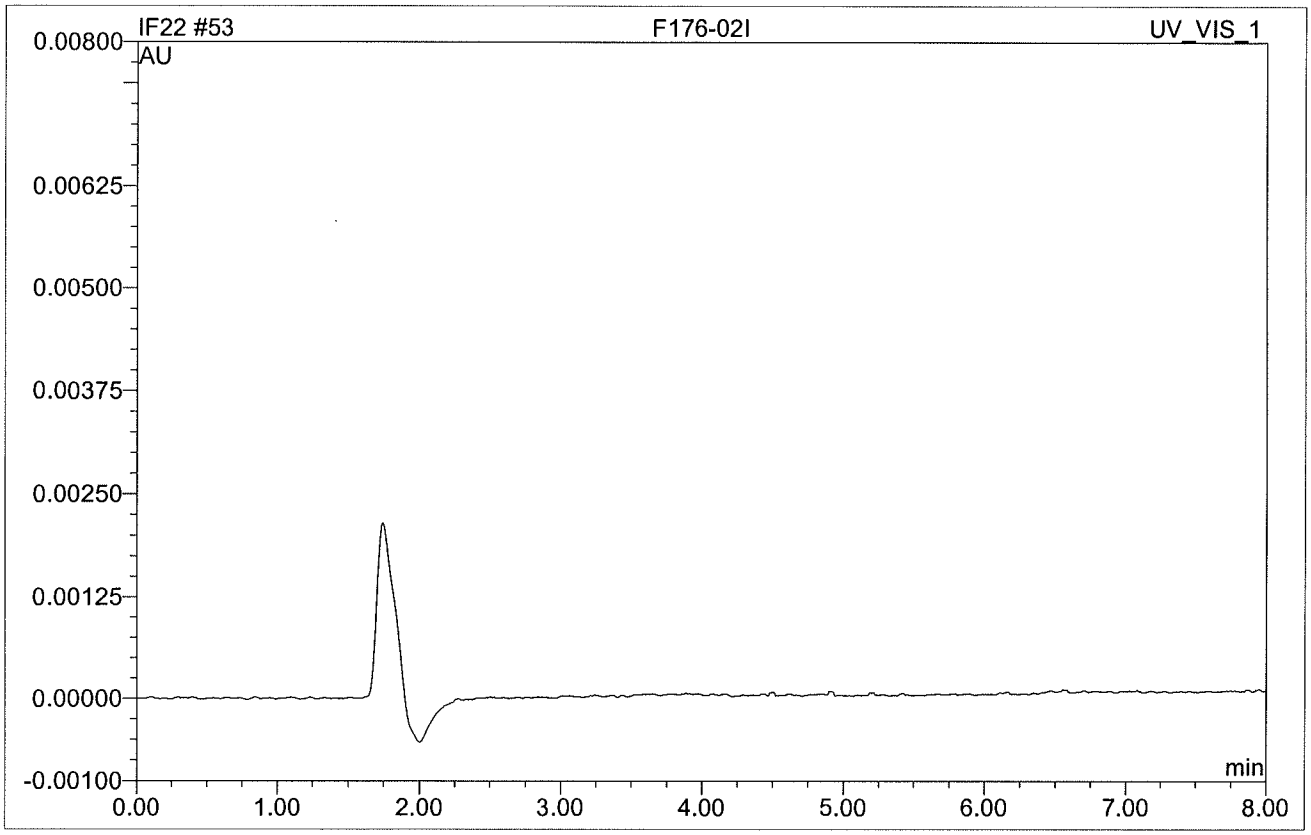


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 053 F176-02I

DF=5

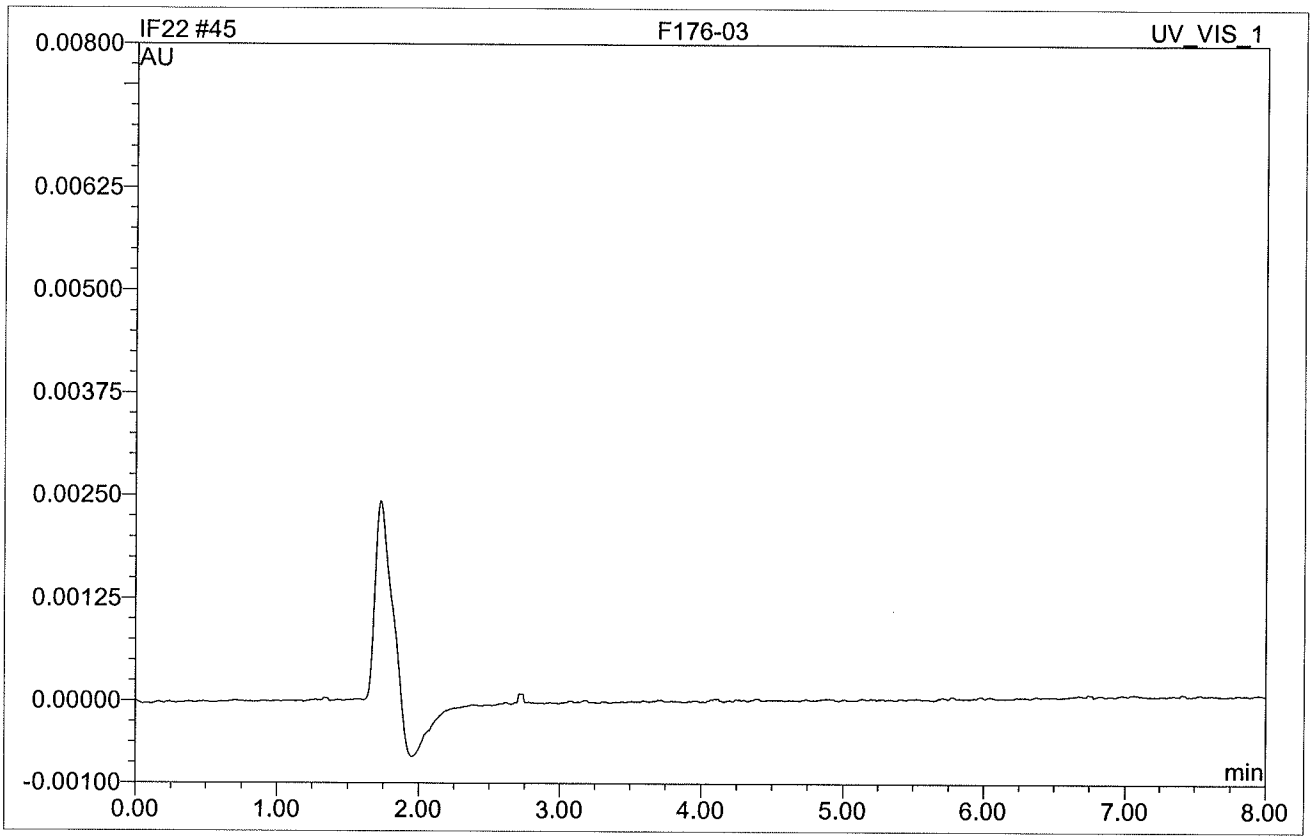
Sample Name:	**F176-02I**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**5**
Recording Time:	**6/22/2020 21:40**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 045 F176-03

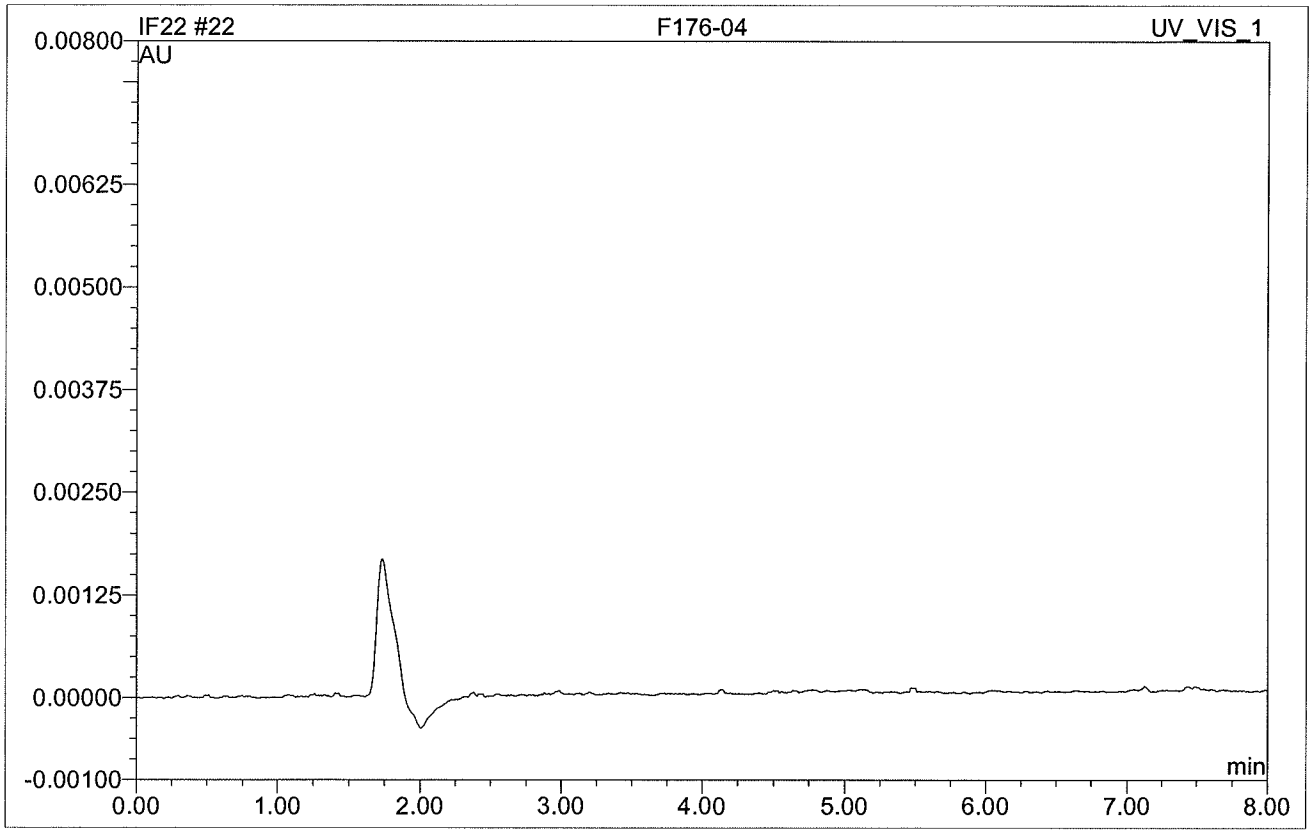
Sample Name:	**F176-03**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 20:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 022 F176-04

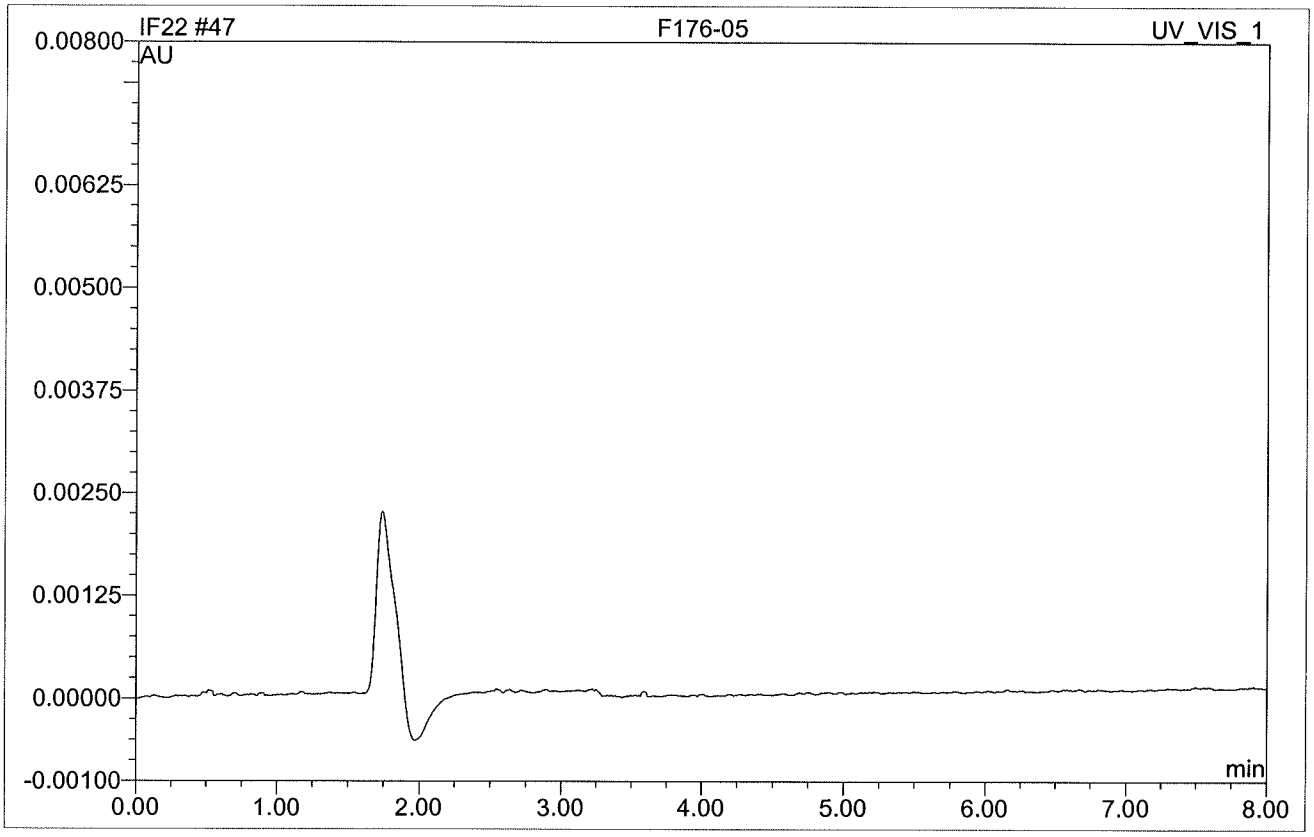
Sample Name:	**F176-04**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 16:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 047 F176-05

Sample Name:	**F176-05**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 20:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

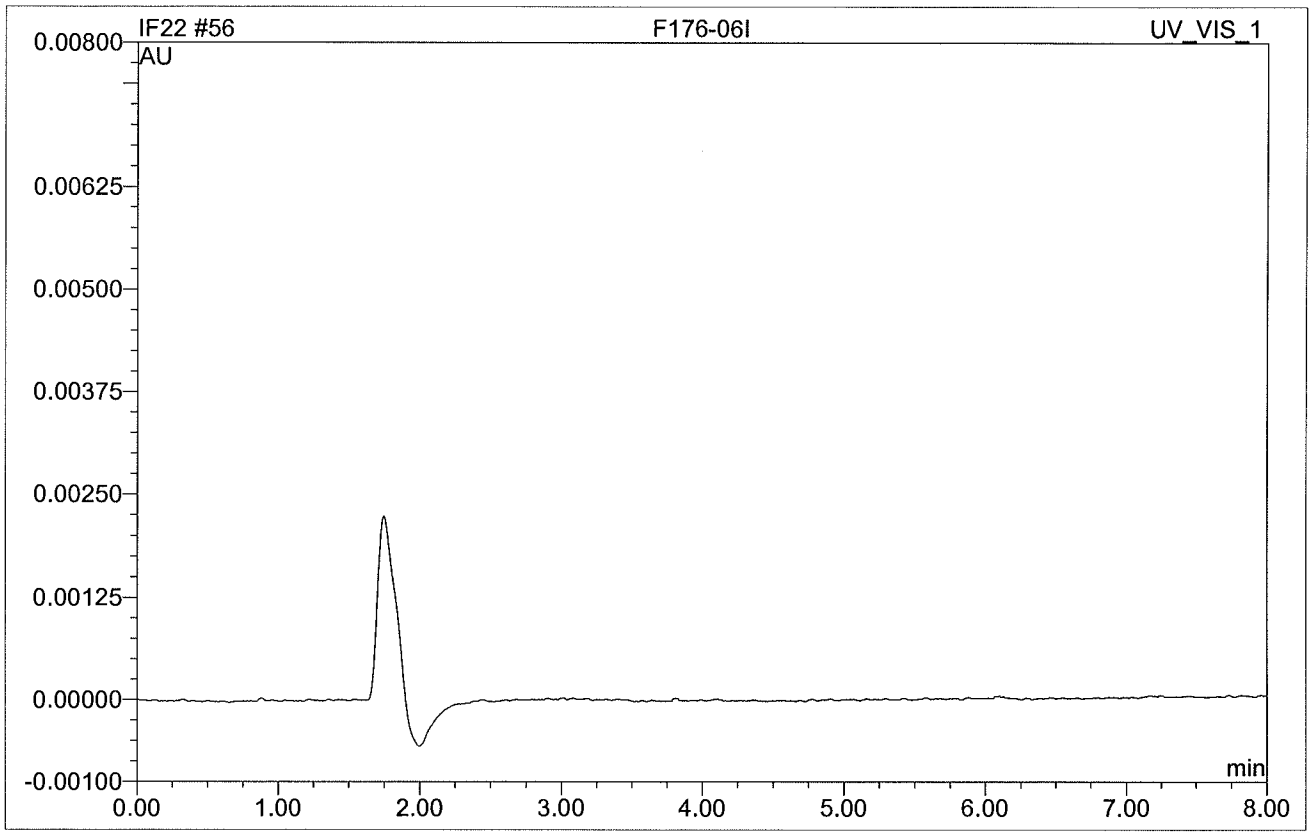


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 056 F176-06I

DF=5

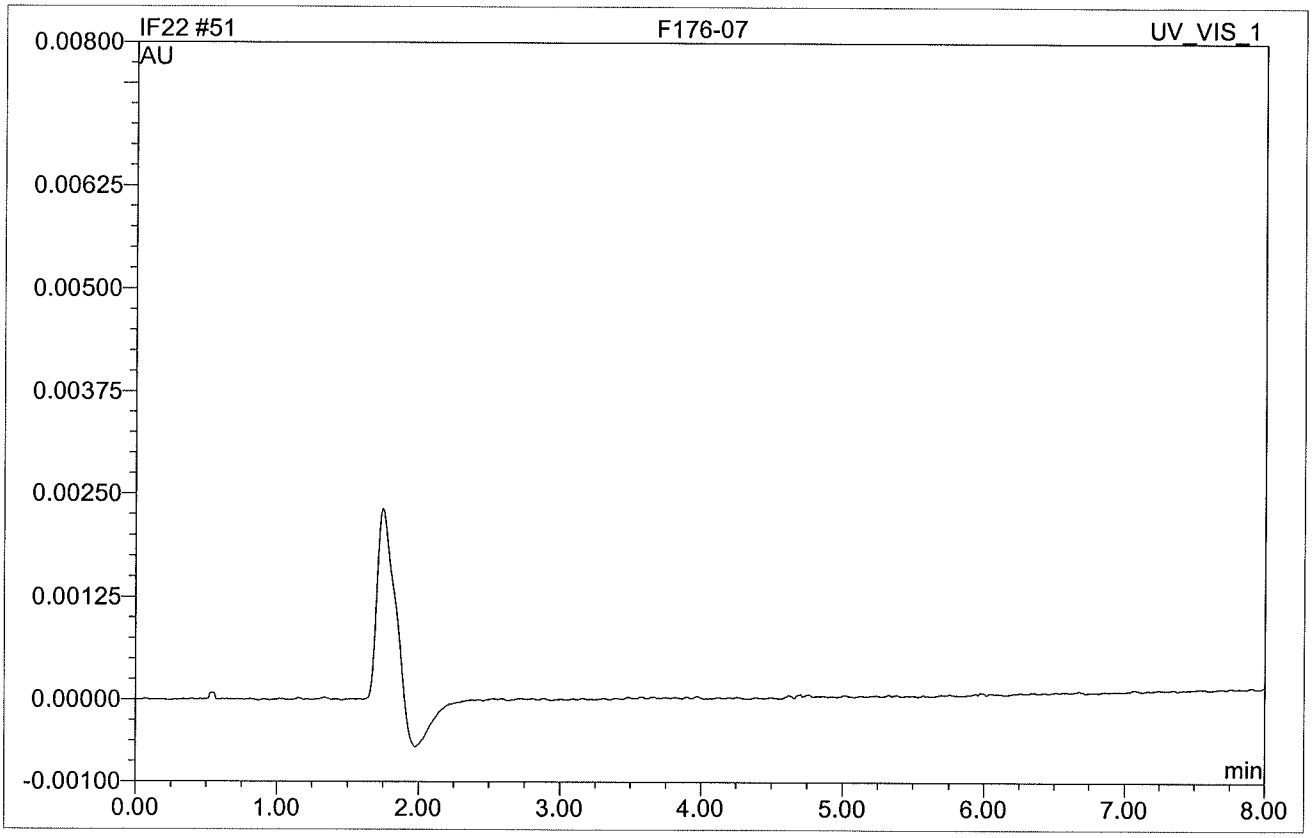
Sample Name:	**F176-06I**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**5**
Recording Time:	**6/22/2020 22:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 051 F176-07

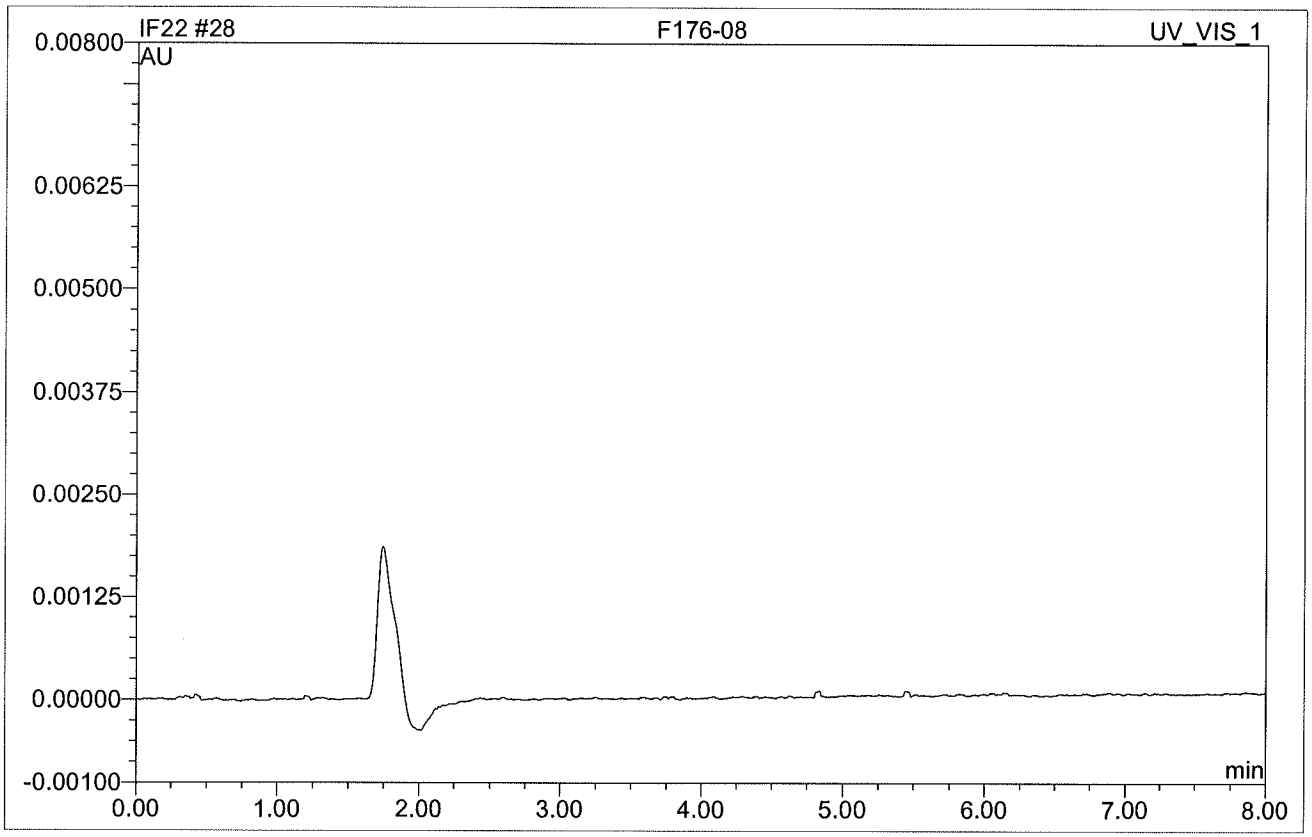
Sample Name:	**F176-07**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 21:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 028 F176-08

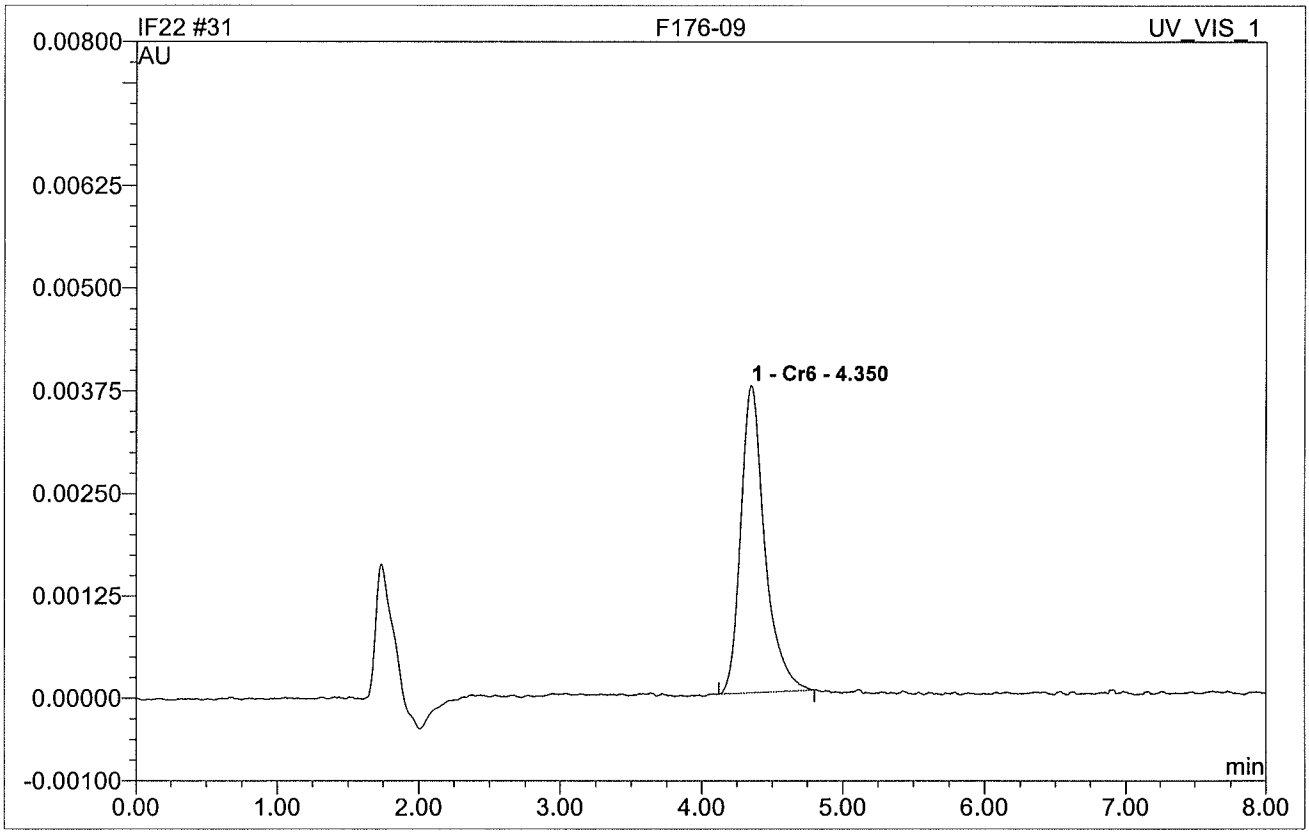
Sample Name:	**F176-08**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 17:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 031 F176-09

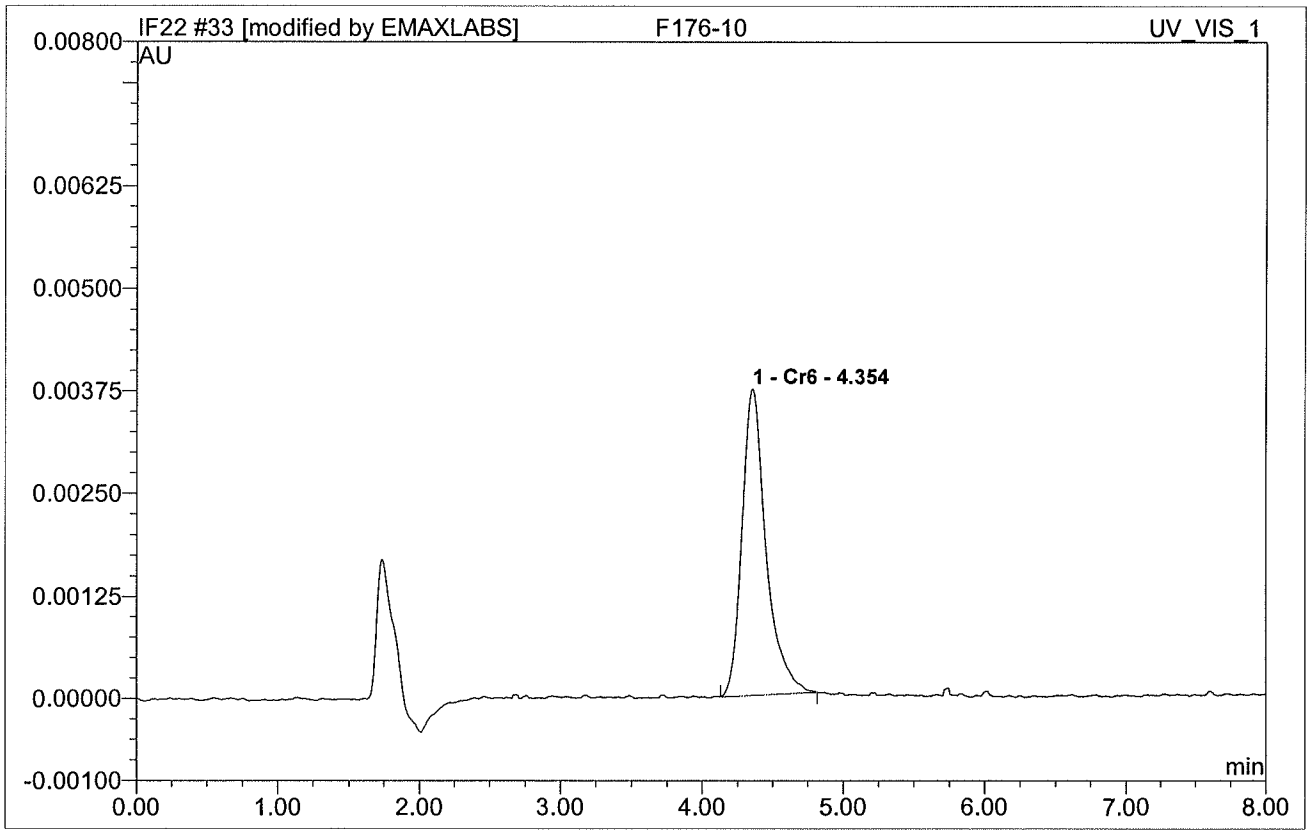
Sample Name:	**F176-09**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 17:50**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.35	Cr6	0.0037470	0.0007403	100.00	7.943	BMB
Total:			0.004	0.001	100.00	7.943	

IF22 033 F176-10

Sample Name:	**F176-10**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 18:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

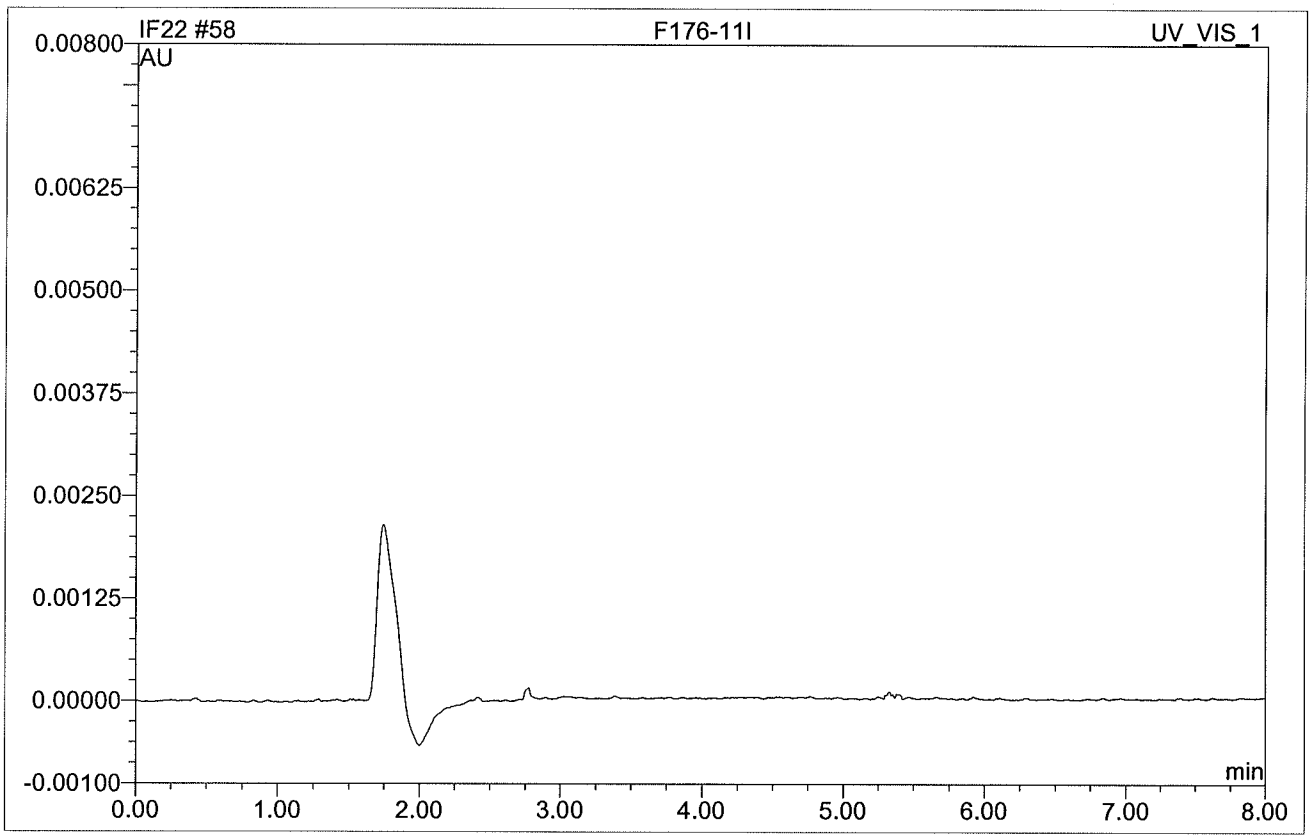


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.35	Cr6	0.0037370	0.0007449	100.00	7.992	BMB*
Total:			0.004	0.001	100.00	7.992	

IF22 058 F176-11I

DF=5

Sample Name:	**F176-11I**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**5**
Recording Time:	**6/22/2020 22:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

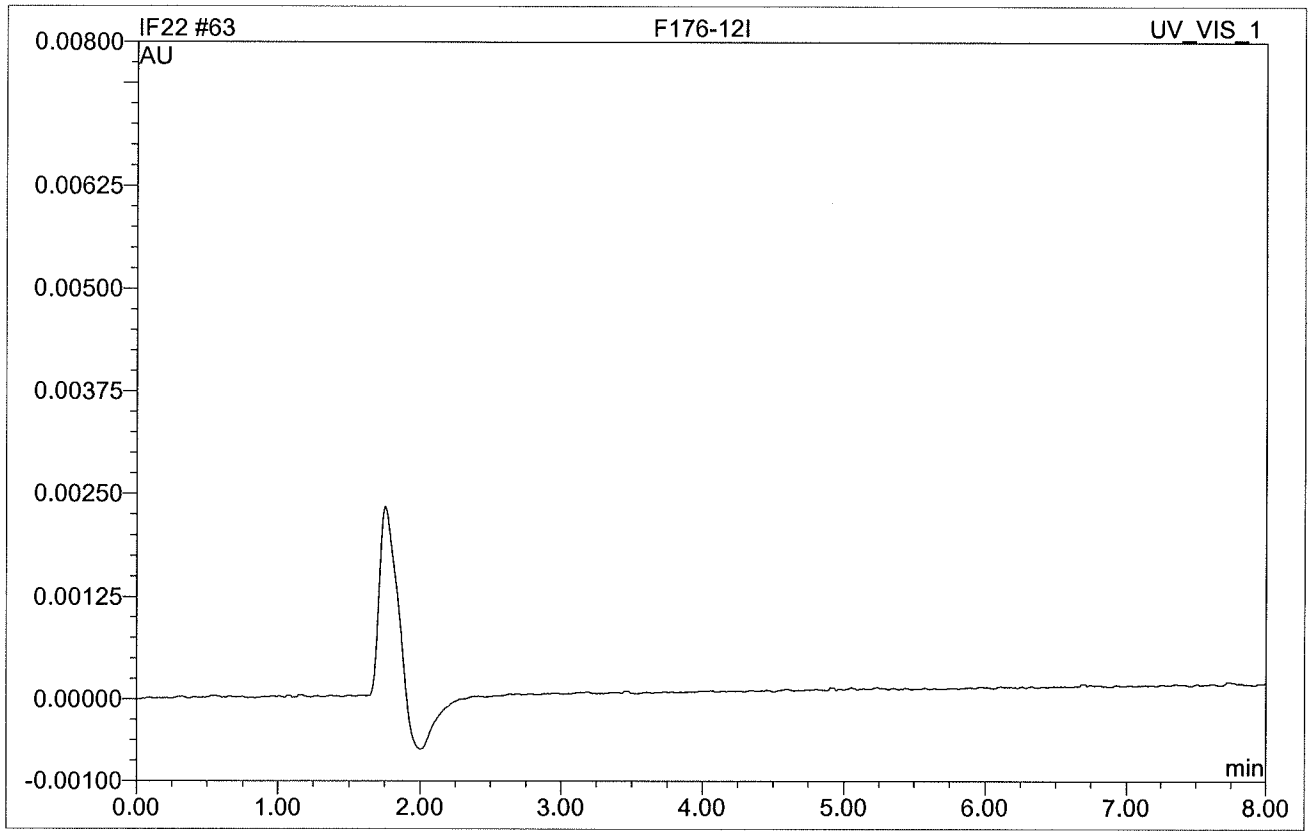


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 063 F176-12I

DF=5

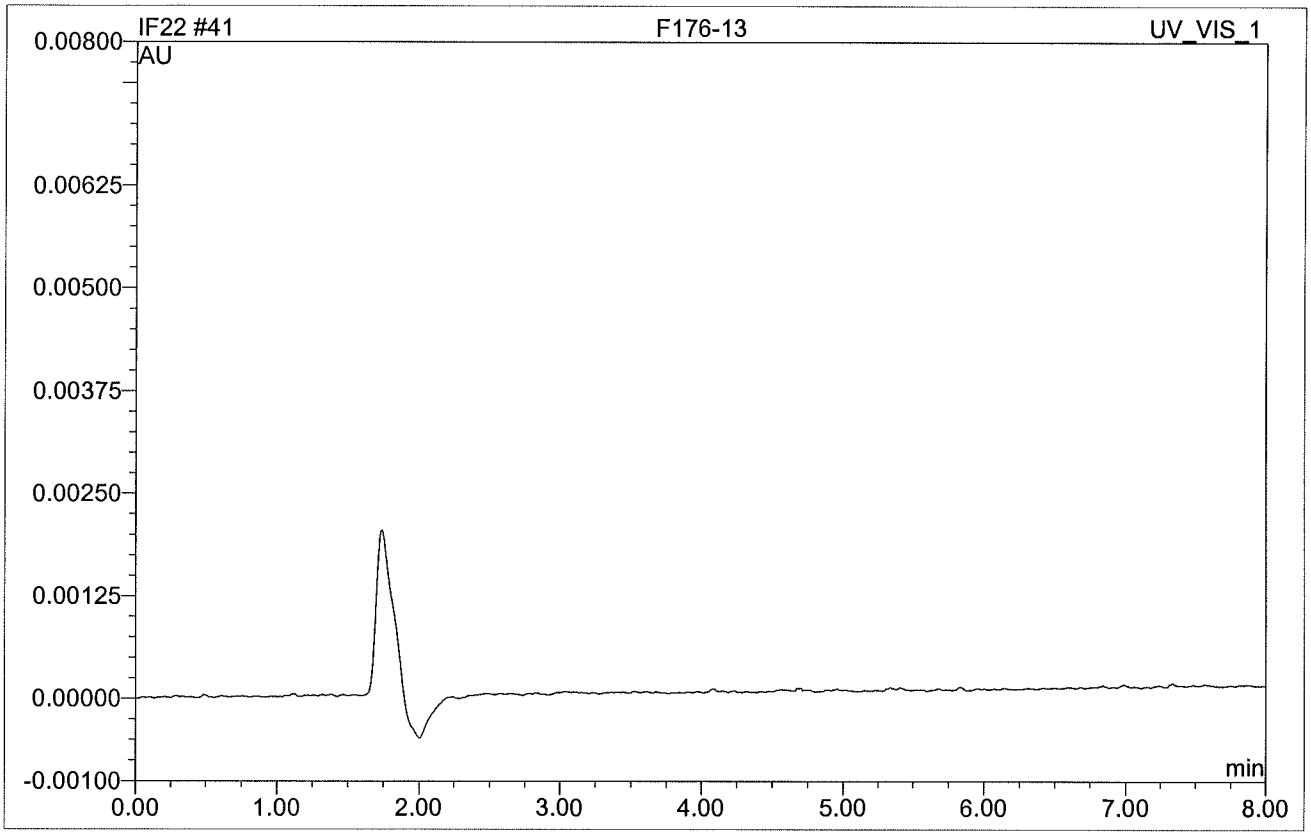
Sample Name:	**F176-12I**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**5**
Recording Time:	**6/22/2020 23:24**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 041 F176-13

Sample Name:	**F176-13**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 19:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

QC SUMMARIES

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 20F176
METHOD : E218.6

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: HCF005WB	HCF005WL	HCF005WC
LAB FILE ID	: IF22016	IF22017	IF22018
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 06/22/2015:14	06/22/2015:25	06/22/2015:35
PREP BATCH	: HCF005W	HCF005W	HCF005W
CALIBRATION REF	: IF22014	IF22014	IF22014

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpkAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
HEXAVALENT CHROMIUM	ND	2.00	2.03	102	2.00	2.03	102	0	90-110	20

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 20F176
METHOD : E218.6

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR	: 5	5	5
SAMPLE ID	: MW-54-195-Q220	MW-54-195-Q220MS	MW-54-195-Q220MSD
LAB SAMPLE ID	: F176-02I	F176-02M	F176-02S
LAB FILE ID	: IF22053	IF22054	IF22055
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 06/22/2021:40	06/22/2021:50	06/22/2022:01
PREP BATCH	: HCF005W	HCF005W	HCF005W
CALIBRATION REF	: IF22049	IF22049	IF22049

ACCESSION:

PARAMETERS	PSResult (ug/L)	SpkAmt (ug/L)	MSResult (ug/L)	MSRec (%)	SpikeAmt (ug/L)	MSDResult (ug/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
HEXAVALENT CHROMIUM	ND	5.00	4.79	95.8	5.00	4.79	95.8	0	90-110	20

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 20F176
METHOD : E218.6

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MW-55-045-Q220	MW-55-045-Q220MS	MW-55-045-Q220MSD
LAB SAMPLE ID	: F176-08	F176-08M	F176-08S
LAB FILE ID	: IF22028	IF22029	IF22030
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 06/22/2017:19	06/22/2017:29	06/22/2017:40
PREP BATCH	: HCF005W	HCF005W	HCF005W
CALIBRATION REF	: IF22026	IF22026	IF22026

ACCESSION:

PARAMETERS	PSResult (ug/L)	SpkAmt (ug/L)	MSResult (ug/L)	MSRec (%)	SpikeAmt (ug/L)	MSDResult (ug/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
HEXAVALENT CHROMIUM	ND	1.00	0.975	97.5	1.00	0.973	97.3	0	90-110	20

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

EMAX QUALITY CONTROL DATA
MATRIX SPIKE SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 20F176
METHOD : E218.6

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR	: 1	1
SAMPLE ID	: MW-54-195-EB-Q220	MW-54-195-EB-Q220MS
LAB SAMPLE ID	: F176-01	F176-01M
LAB FILE ID	: IF22043	IF22044
DATE PREPARED	: NA	NA
DATE ANALYZED	: 06/22/2019:56	06/22/2020:06
PREP BATCH	: HCF005W	HCF005W
CALIBRATION REF	: IF22037	IF22037

ACCESSION:

PARAMETER	PSResult (ug/L)	SPIKE AMT (ug/L)	MSResult (ug/L)	MSRec (%)	QC LIMIT (%)
HEXAVALENT CHROMIUM	ND	1.00	1.01	101	90-110

PS: Parent Sample MS: Matrix Spike

EMAX QUALITY CONTROL DATA
MATRIX SPIKE SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 20F176
METHOD : E218.6

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR	: 1	1
SAMPLE ID	: MW-54-085-EB-Q220	MW-54-085-EB-Q220MS
LAB SAMPLE ID	: F176-03	F176-03M
LAB FILE ID	: IF22045	IF22046
DATE PREPARED	: NA	NA
DATE ANALYZED	: 06/22/2020:17	06/22/2020:27
PREP BATCH	: HCF005W	HCF005W
CALIBRATION REF	: IF22037	IF22037

ACCESSION:

PARAMETER	PSResult (ug/L)	SPIKE AMT (ug/L)	MSResult (ug/L)	MSRec (%)	QC LIMIT (%)
HEXAVALENT CHROMIUM	ND	1.00	1.02	102	90-110

PS: Parent Sample MS: Matrix Spike

EMAX QUALITY CONTROL DATA
MATRIX SPIKE SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 20F176
METHOD : E218.6

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR	: 1	1
SAMPLE ID	: MW-54-085-Q220	MW-54-085-Q220MS
LAB SAMPLE ID	: F176-04	F176-04M
LAB FILE ID	: IF22022	IF22023
DATE PREPARED	: NA	NA
DATE ANALYZED	: 06/22/2016:17	06/22/2016:27
PREP BATCH	: HCF005W	HCF005W
CALIBRATION REF	: IF22014	IF22014

ACCESSION:

PARAMETER	PSResult (ug/L)	SPIKE AMT (ug/L)	MSResult (ug/L)	MSRec (%)	QC LIMIT (%)
HEXAVALENT CHROMIUM	ND	1.00	0.983	98.3	90-110

PS: Parent Sample MS: Matrix Spike

EMAX QUALITY CONTROL DATA
MATRIX SPIKE SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 20F176
METHOD : E218.6

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR	: 1	1
SAMPLE ID	: MW-54-140-EB-Q220	MW-54-140-EB-Q220MS
LAB SAMPLE ID	: F176-05	F176-05M
LAB FILE ID	: IF22047	IF22048
DATE PREPARED	: NA	NA
DATE ANALYZED	: 06/22/2020:37	06/22/2020:48
PREP BATCH	: HCF005W	HCF005W
CALIBRATION REF	: IF22037	IF22037

ACCESSION:

PARAMETER	PSResult (ug/L)	SPIKE AMT (ug/L)	MSResult (ug/L)	MSRec (%)	QC LIMIT (%)
HEXAVALENT CHROMIUM	ND	1.00	1.04	104	90-110

PS: Parent Sample MS: Matrix Spike

EMAX QUALITY CONTROL DATA
MATRIX SPIKE SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 20F176
METHOD : E218.6

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR	: 5	5
SAMPLE ID	: MW-54-140-Q220	MW-54-140-Q220MS
LAB SAMPLE ID	: F176-06I	F176-06M
LAB FILE ID	: IF22056	IF22057
DATE PREPARED	: NA	NA
DATE ANALYZED	: 06/22/2022:11	06/22/2022:21
PREP BATCH	: HCF005W	HCF005W
CALIBRATION REF	: IF22049	IF22049

ACCESSION:

PARAMETER	PSResult (ug/L)	SPIKE AMT (ug/L)	MSResult (ug/L)	MSRec (%)	QC LIMIT (%)
HEXAVALENT CHROMIUM	ND	5.00	4.67	93.4	90-110

PS: Parent Sample MS: Matrix Spike

EMAX QUALITY CONTROL DATA
MATRIX SPIKE SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 20F176
METHOD : E218.6

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR	: 1	1
SAMPLE ID	: MW-55-045-EB-Q220	MW-55-045-EB-Q220MS
LAB SAMPLE ID	: F176-07	F176-07M
LAB FILE ID	: IF22051	IF22052
DATE PREPARED	: NA	NA
DATE ANALYZED	: 06/22/2021:19	06/22/2021:29
PREP BATCH	: HCF005W	HCF005W
CALIBRATION REF	: IF22049	IF22049

ACCESSION:

PARAMETER	PSResult (ug/L)	SPIKE AMT (ug/L)	MSResult (ug/L)	MSRec (%)	QC LIMIT (%)
HEXAVALENT CHROMIUM	ND	1.00	0.967	96.7	90-110

PS: Parent Sample MS: Matrix Spike

EMAX QUALITY CONTROL DATA
MATRIX SPIKE SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 20F176
METHOD : E218.6

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR	: 1	1
SAMPLE ID	: MW-55-120-Q220	MW-55-120-Q220MS
LAB SAMPLE ID	: F176-09	F176-09M
LAB FILE ID	: IF22031	IF22032
DATE PREPARED	: NA	NA
DATE ANALYZED	: 06/22/2017:50	06/22/2018:01
PREP BATCH	: HCF005W	HCF005W
CALIBRATION REF	: IF22026	IF22026

ACCESSION:

PARAMETER	PSResult (ug/L)	SPIKE AMT (ug/L)	MSResult (ug/L)	MSRec (%)	QC LIMIT (%)
HEXAVALENT CHROMIUM	7.94	2.00	9.94	100	90-110

PS: Parent Sample MS: Matrix Spike

EMAX QUALITY CONTROL DATA
MATRIX SPIKE SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 20F176
METHOD : E218.6

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR	: 1	1
SAMPLE ID	: MW-903-Q220	MW-903-Q220MS
LAB SAMPLE ID	: F176-10	F176-10M
LAB FILE ID	: IF22033	IF22034
DATE PREPARED	: NA	NA
DATE ANALYZED	: 06/22/2018:11	06/22/2018:22
PREP BATCH	: HCF005W	HCF005W
CALIBRATION REF	: IF22026	IF22026

ACCESSION:

PARAMETER	PSResult (ug/L)	SPIKE AMT (ug/L)	MSResult (ug/L)	MSRec (%)	QC LIMIT (%)
HEXAVALENT CHROMIUM	7.99	2.00	9.96	98.5	90-110

PS: Parent Sample MS: Matrix Spike

EMAX QUALITY CONTROL DATA
MATRIX SPIKE SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 20F176
METHOD : E218.6

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR	: 5	5
SAMPLE ID	: MW-56D-Q220	MW-56D-Q220MS
LAB SAMPLE ID	: F176-11I	F176-11M
LAB FILE ID	: IF22058	IF22059
DATE PREPARED	: NA	NA
DATE ANALYZED	: 06/22/2022:32	06/22/2022:42
PREP BATCH	: HCF005W	HCF005W
CALIBRATION REF	: IF22049	IF22049

ACCESSION:

PARAMETER	PSResult (ug/L)	SPIKE AMT (ug/L)	MSResult (ug/L)	MSRec (%)	QC LIMIT (%)
HEXAVALENT CHROMIUM	ND	5.00	4.93	98.6	90-110

PS: Parent Sample MS: Matrix Spike

EMAX QUALITY CONTROL DATA
MATRIX SPIKE SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 20F176
METHOD : E218.6

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR	: 5	5
SAMPLE ID	: MW-56M-Q220	MW-56M-Q220MS
LAB SAMPLE ID	: F176-12I	F176-12M
LAB FILE ID	: IF22063	IF22064
DATE PREPARED	: NA	NA
DATE ANALYZED	: 06/22/2023:24	06/22/2023:34
PREP BATCH	: HCF005W	HCF005W
CALIBRATION REF	: IF22061	IF22061

ACCESSION:

PARAMETER	PSResult (ug/L)	SPIKE AMT (ug/L)	MSResult (ug/L)	MSRec (%)	QC LIMIT (%)
HEXAVALENT CHROMIUM	ND	5.00	4.76	95.2	90-110

PS: Parent Sample MS: Matrix Spike

EMAX QUALITY CONTROL DATA
MATRIX SPIKE SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 20F176
METHOD : E218.6

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR	: 1	1
SAMPLE ID	: MW-56S-Q220	MW-56S-Q220MS
LAB SAMPLE ID	: F176-13	F176-13M
LAB FILE ID	: IF22041	IF22042
DATE PREPARED	: NA	NA
DATE ANALYZED	: 06/22/2019:35	06/22/2019:45
PREP BATCH	: HCF005W	HCF005W
CALIBRATION REF	: IF22037	IF22037

ACCESSION:

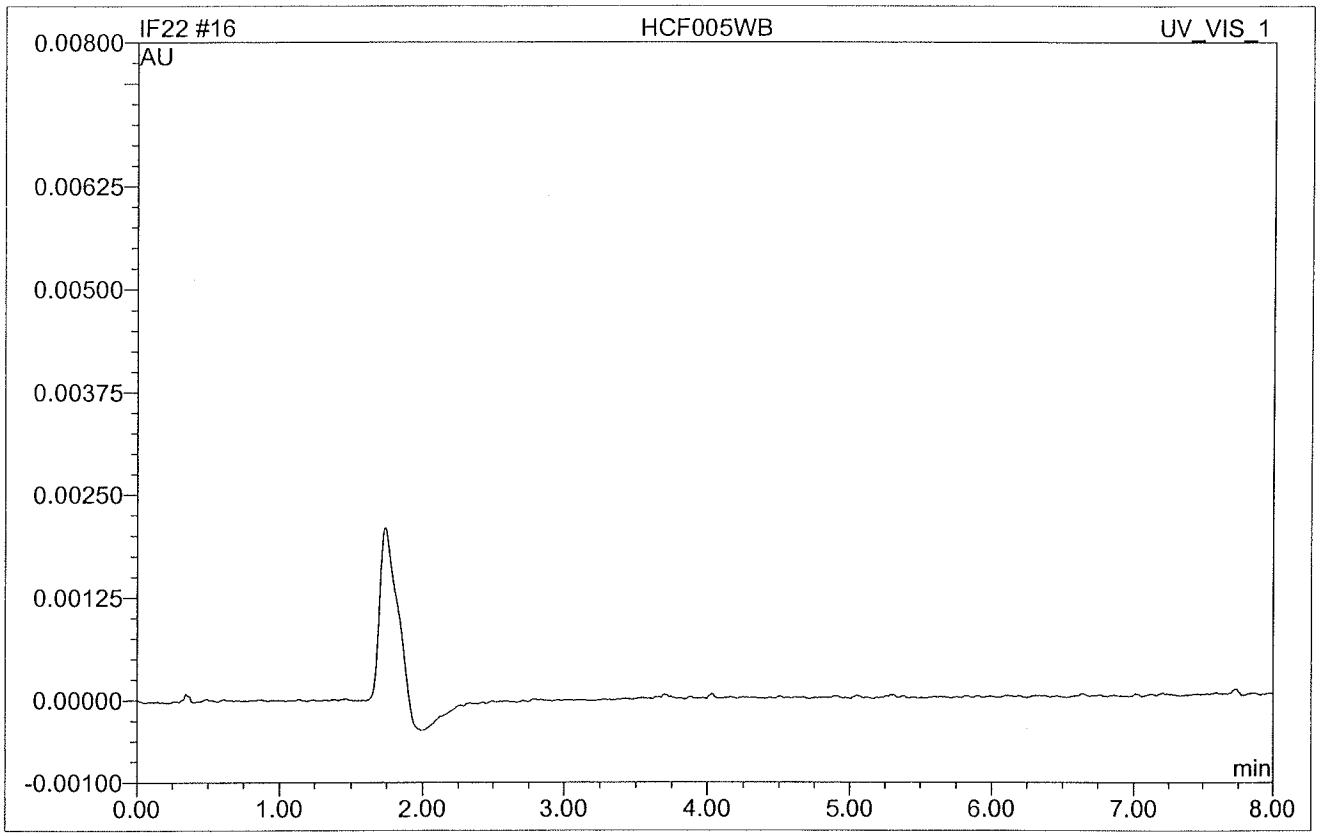
PARAMETER	PSResult (ug/L)	SPIKE AMT (ug/L)	MSResult (ug/L)	MSRec (%)	QC LIMIT (%)
HEXAVALENT CHROMIUM	ND	1.00	0.954	95.4	90-110

PS: Parent Sample MS: Matrix Spike

QC DATA

IF22 016 HCF005WB

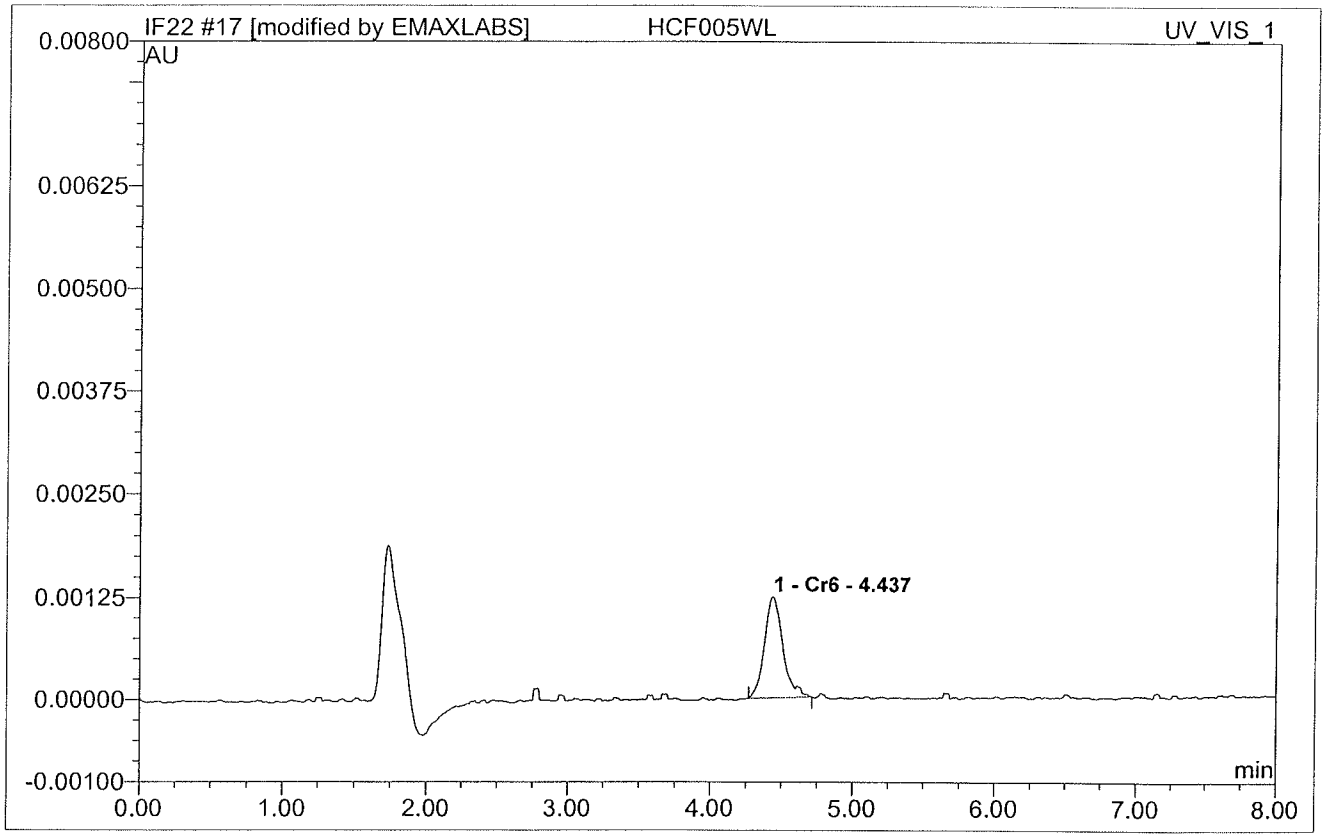
Sample Name:	**HCF005WB**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 15:14**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 017 HCF005WL

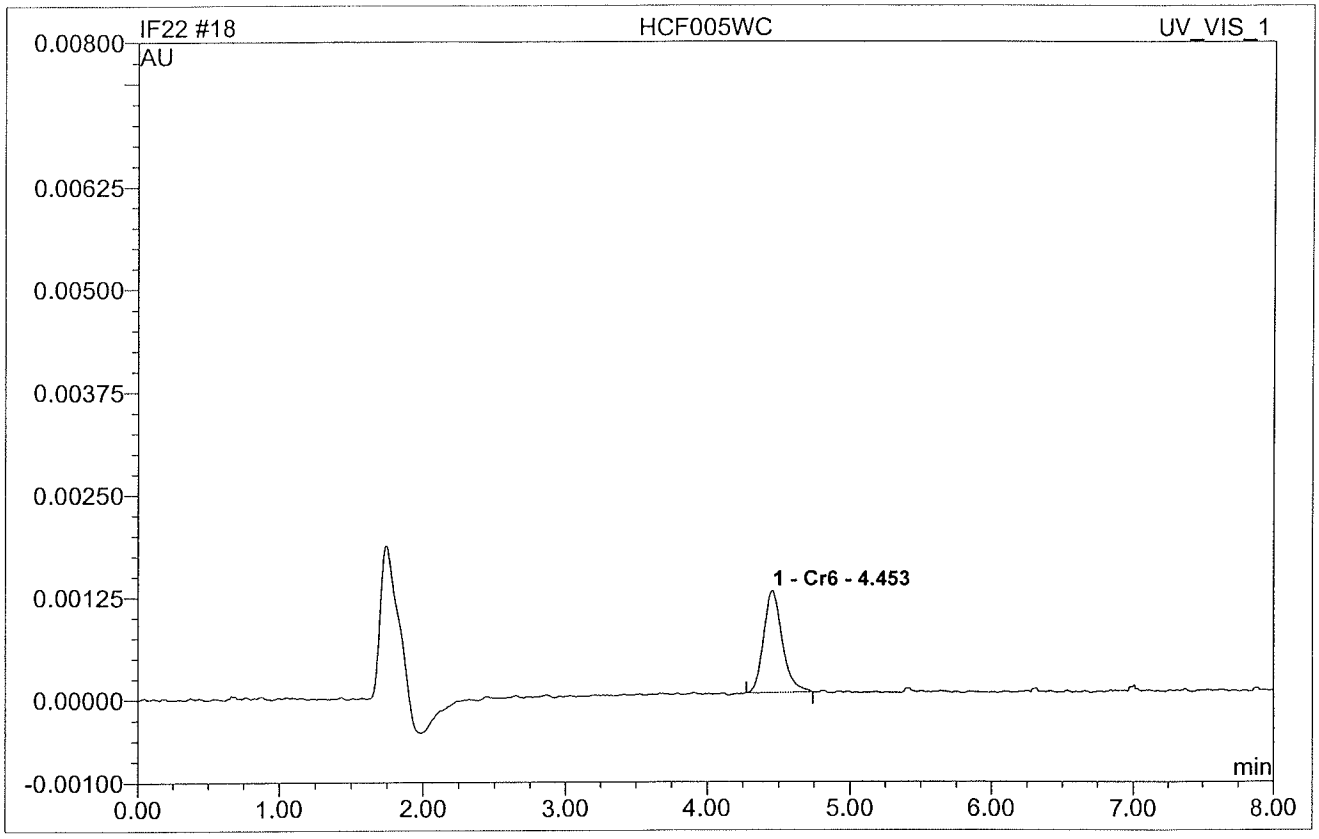
Sample Name:	**HCF005WL**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 15:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.44	Cr6	0.0012330	0.0001879	100.00	2.033	BMB*
Total:			0.001	0.000	100.00	2.033	

IF22 018 HCF005WC

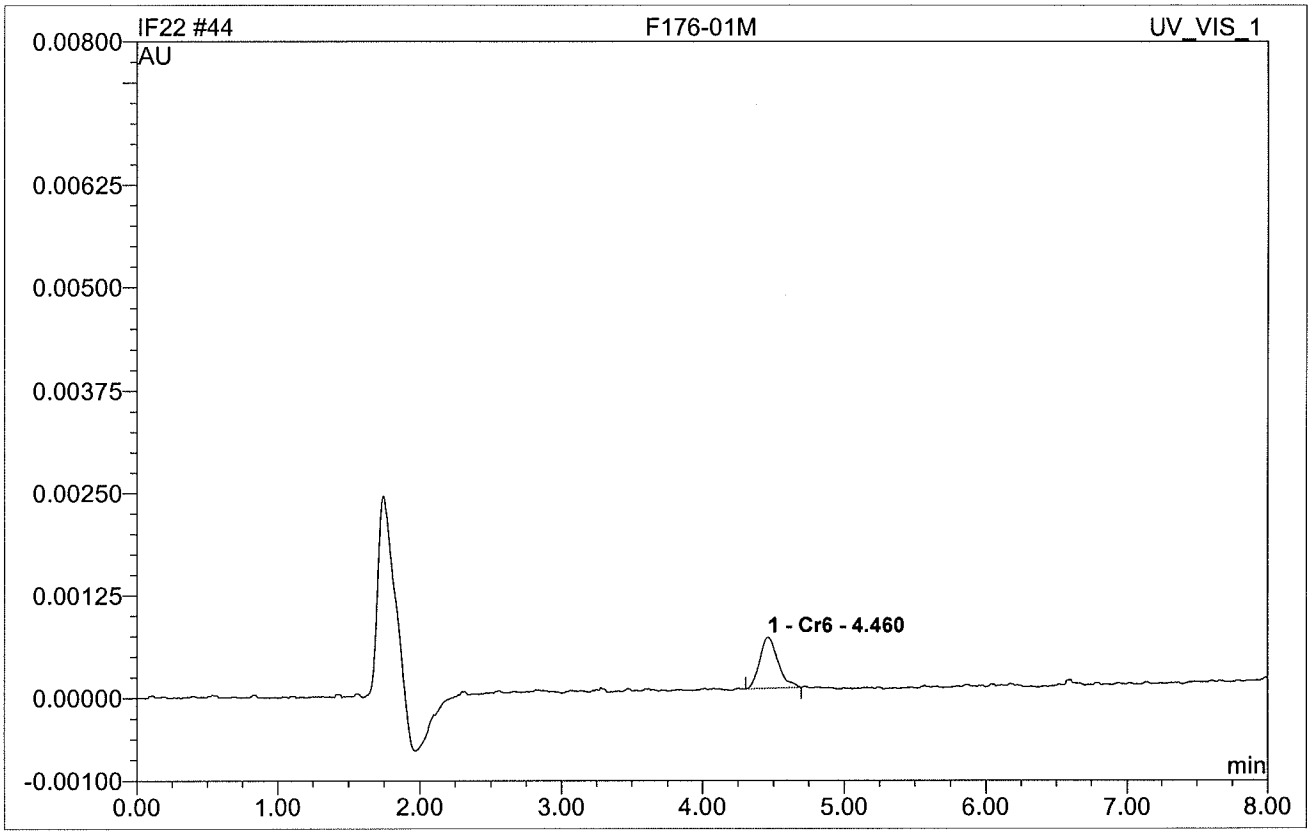
Sample Name:	**HCF005WC**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 15:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.45	Cr6	0.0012440	0.0001879	100.00	2.033	BMB
Total:			0.001	0.000	100.00	2.033	

IF22 044 F176-01M

Sample Name:	**F176-01M**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 20:06**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

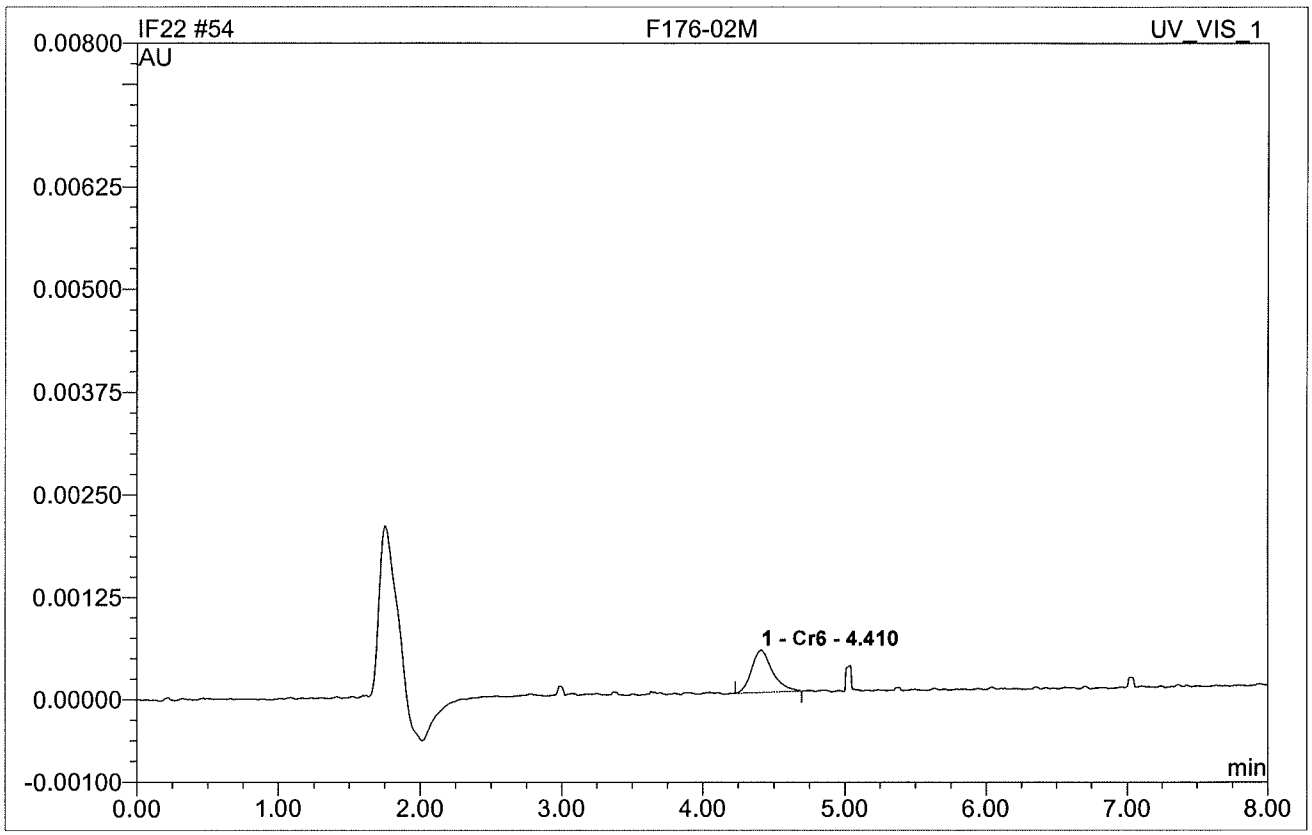


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.46	Cr6	0.0006230	0.0000923	100.00	1.011	BMB
Total:			0.001	0.000	100.00	1.011	

IF22 054 F176-02M

DF=5

Sample Name:	**F176-02M**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**5**
Recording Time:	**6/22/2020 21:50**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

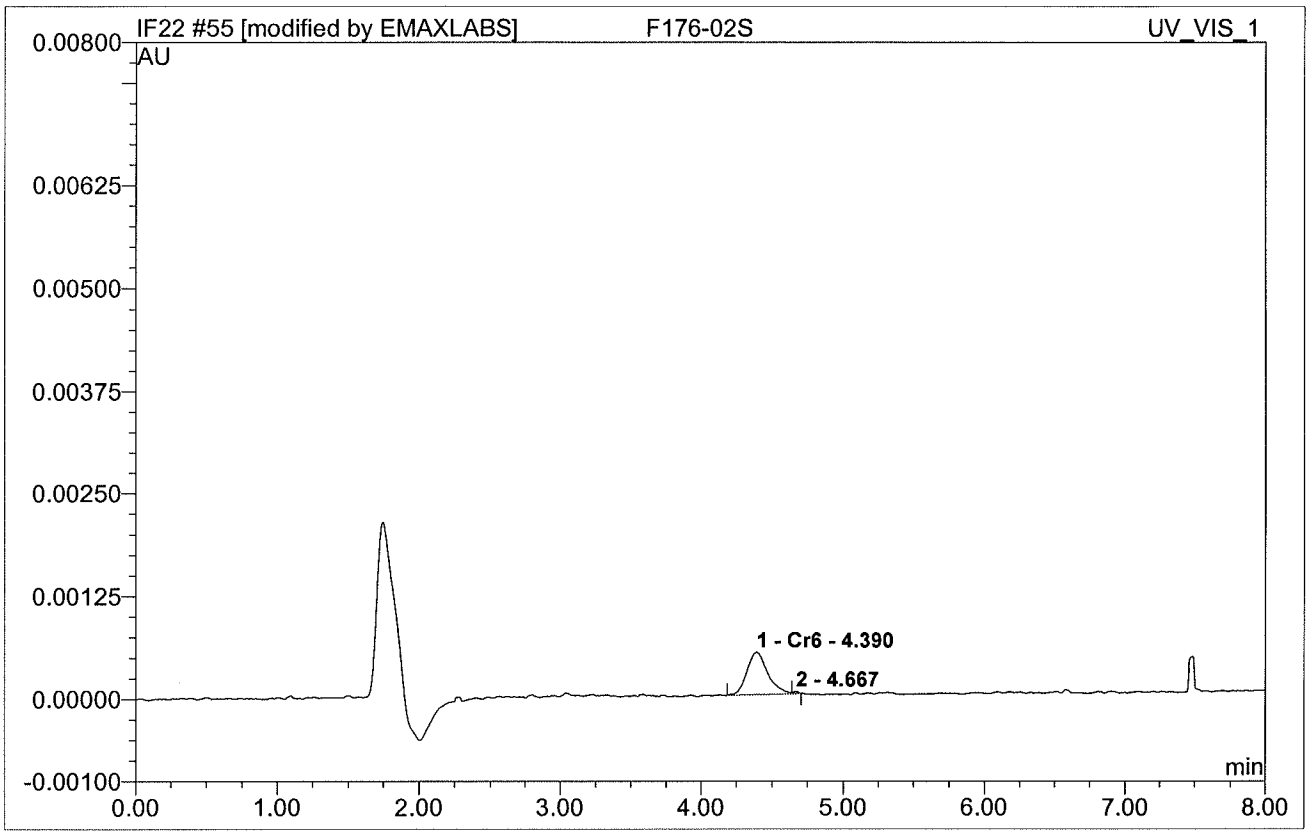


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.41	Cr6	0.0005160	0.0000874	100.00	4.791	BMB
Total:			0.001	0.000	100.00	4.791	

IF22 055 F176-02S

DF=5

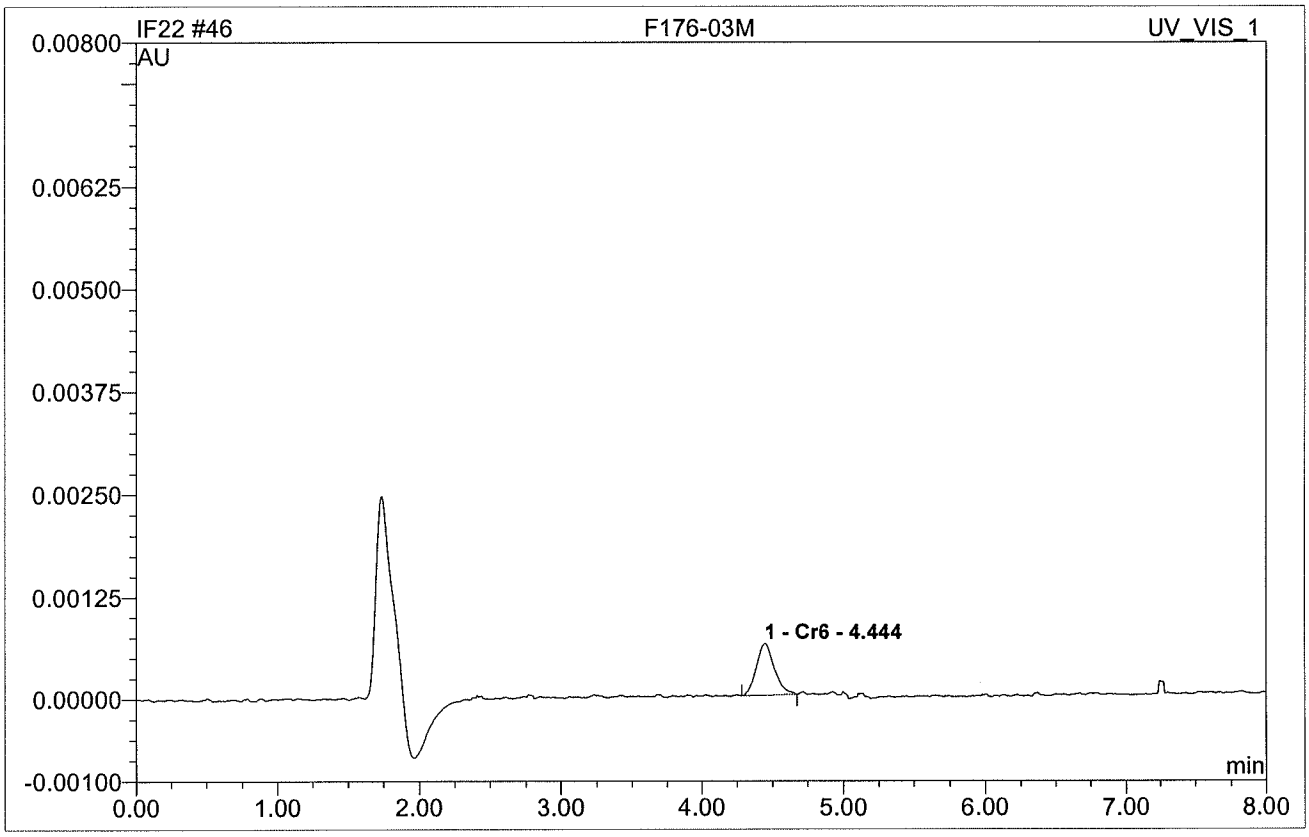
Sample Name:	**F176-02S**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**5**
Recording Time:	**6/22/2020 22:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.39	Cr6	0.0005140	0.0000874	99.04	4.790	BMB*
2	4.67	n.a.	0.0000210	0.0000008	0.96	n.a.	Rd*
Total:			0.001	0.000	100.00	4.790	

IF22 046 F176-03M

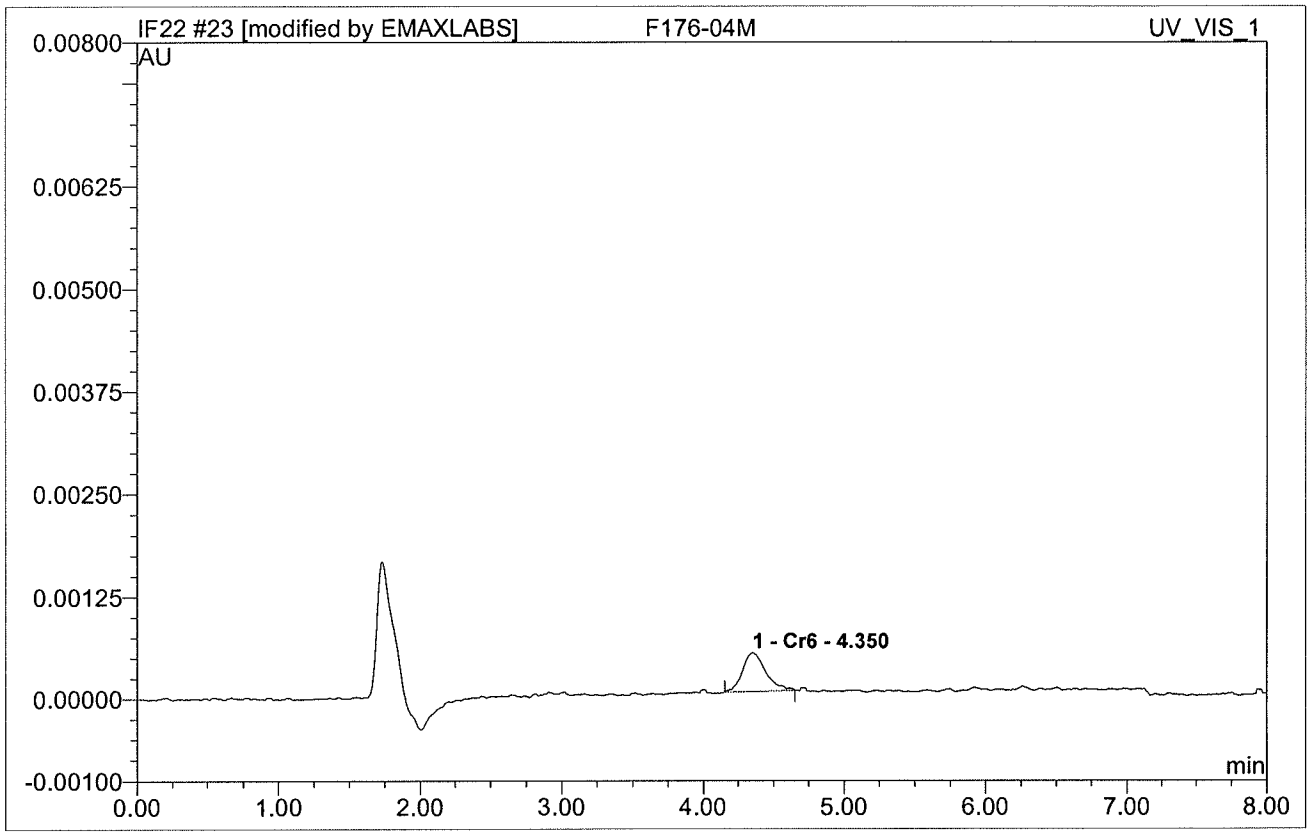
Sample Name:	**F176-03M**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 20:27**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.44	Cr6	0.0006300	0.0000932	100.00	1.020	BMB
Total:			0.001	0.000	100.00	1.020	

IF22 023 F176-04M

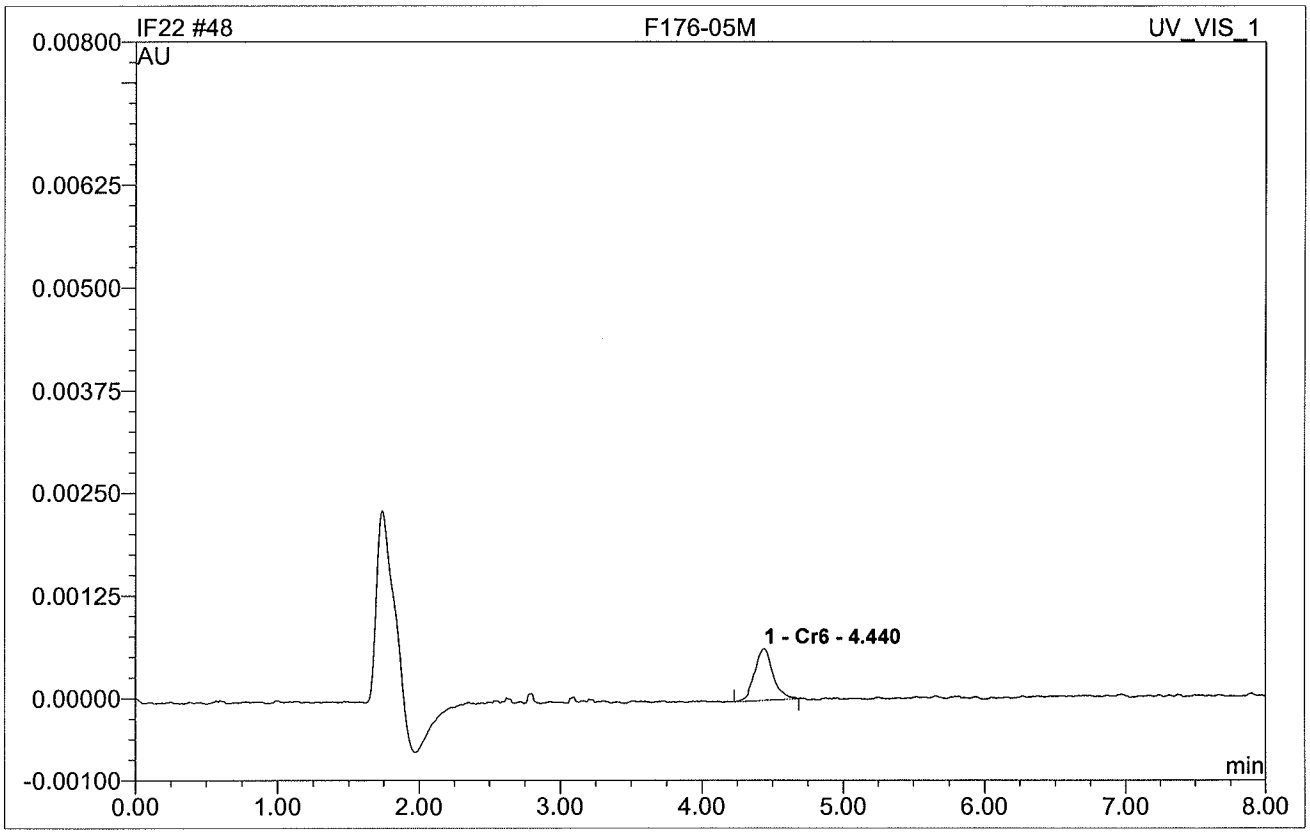
Sample Name:	**F176-04M**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 16:27**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.35	Cr6	0.0004720	0.0000897	100.00	0.983	BMB*
Total:			0.000	0.000	100.00	0.983	

IF22 048 F176-05M

Sample Name:	**F176-05M**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 20:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

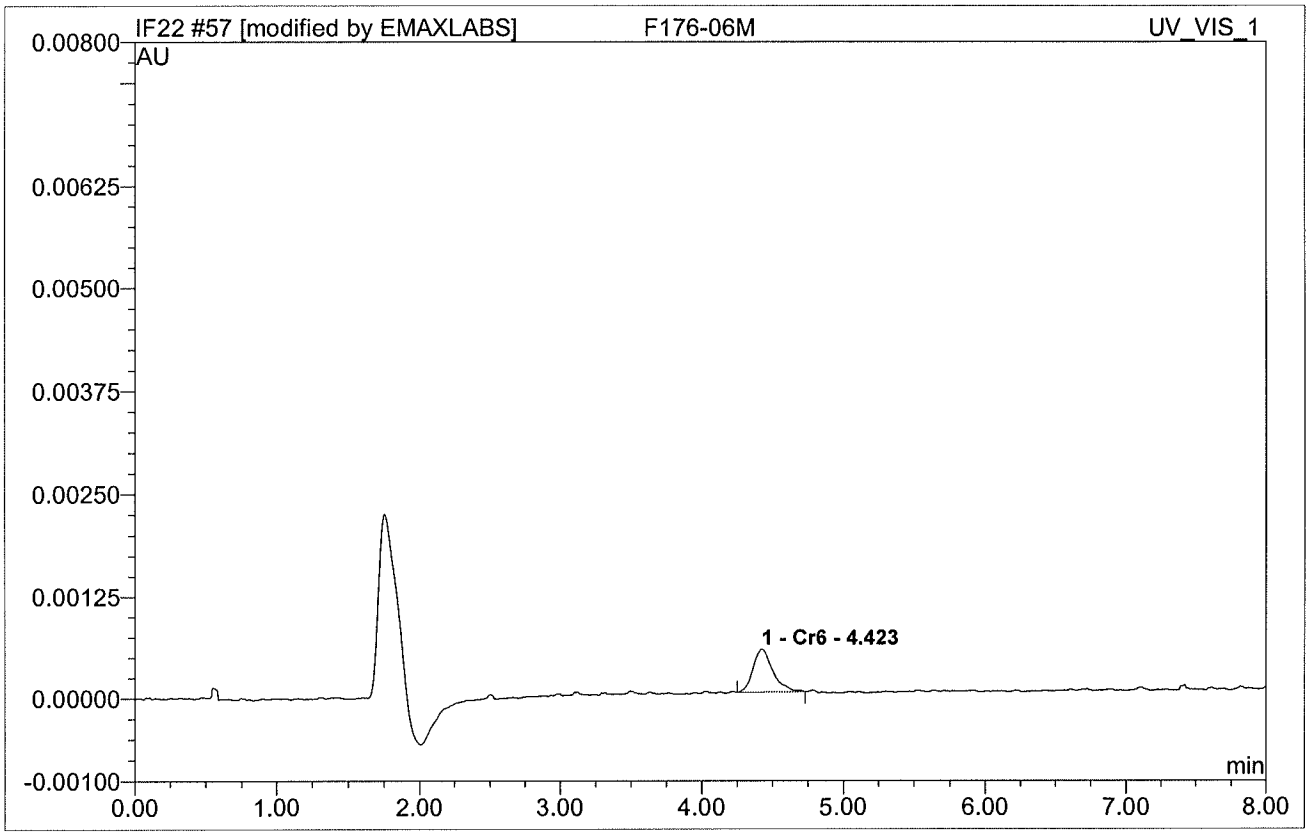


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.44	Cr6	0.0006300	0.0000952	100.00	1.042	BMB
Total:			0.001	0.000	100.00	1.042	

IF22 057 F176-06M

DF=5

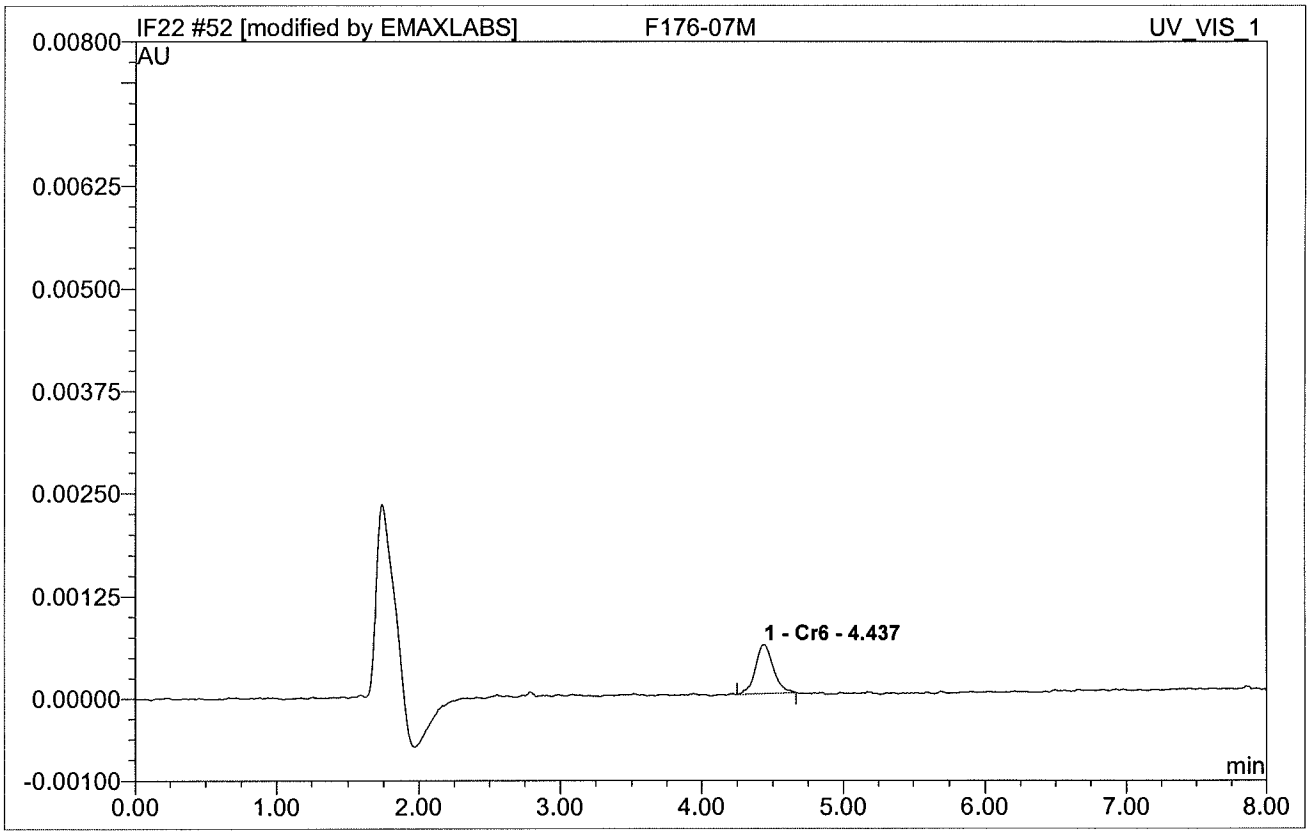
Sample Name:	**F176-06M**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**5**
Recording Time:	**6/22/2020 22:21**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.42	Cr6	0.0005220	0.0000852	100.00	4.674	BMB*
Total:			0.001	0.000	100.00	4.674	

IF22 052 F176-07M

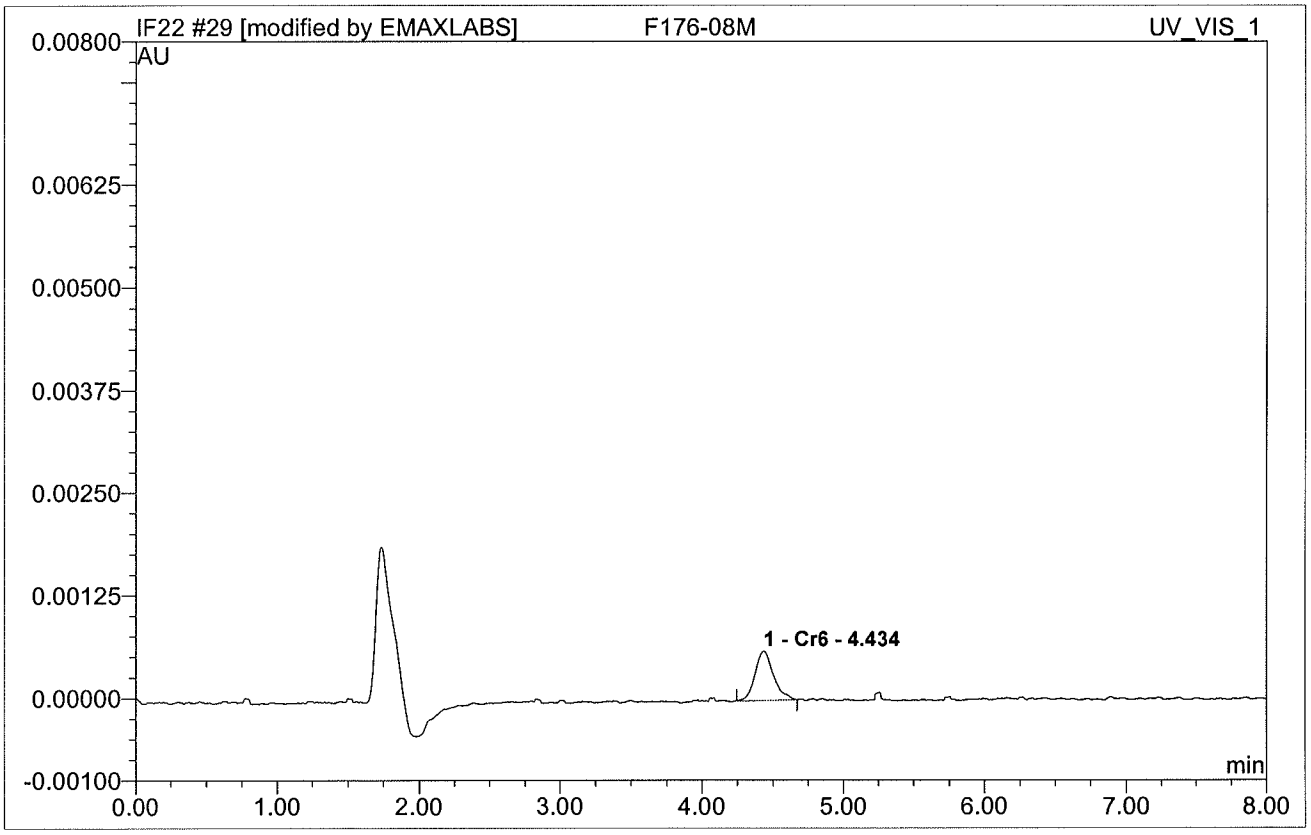
Sample Name:	**F176-07M**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 21:29**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.44	Cr6	0.0005980	0.0000882	100.00	0.967	BMB*
Total:			0.001	0.000	100.00	0.967	

IF22 029 F176-08M

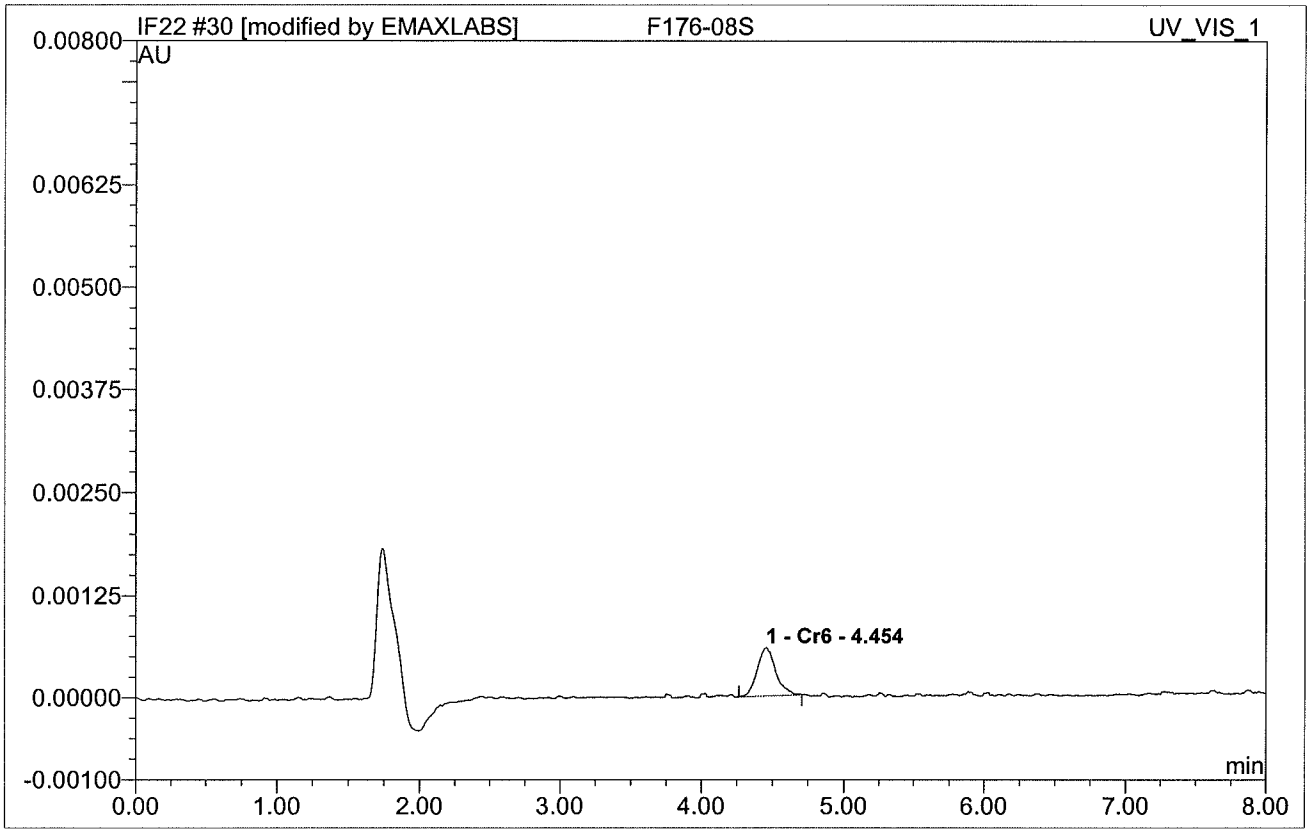
Sample Name:	**F176-08M**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 17:29**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.43	Cr6	0.0005990	0.0000890	100.00	0.975	BMB*
Total:			0.001	0.000	100.00	0.975	

IF22 030 F176-08S

Sample Name:	**F176-08S**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 17:40**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

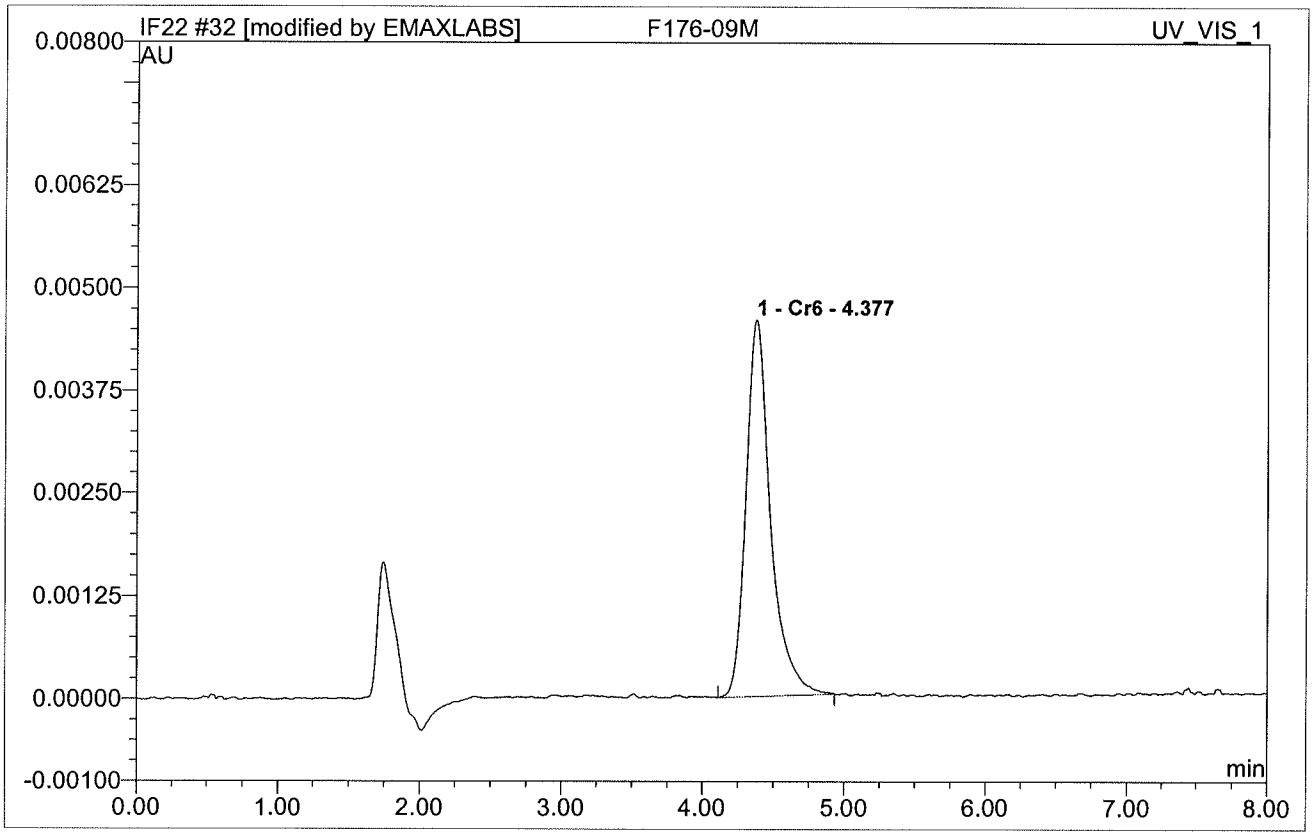


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.45	Cr6	0.0005890	0.0000888	100.00	0.973	BMB*
Total:			0.001	0.000	100.00	0.973	

IF22 032 F176-09M

SPIKE @ 2 PPB

Sample Name:	**F176-09M**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 18:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

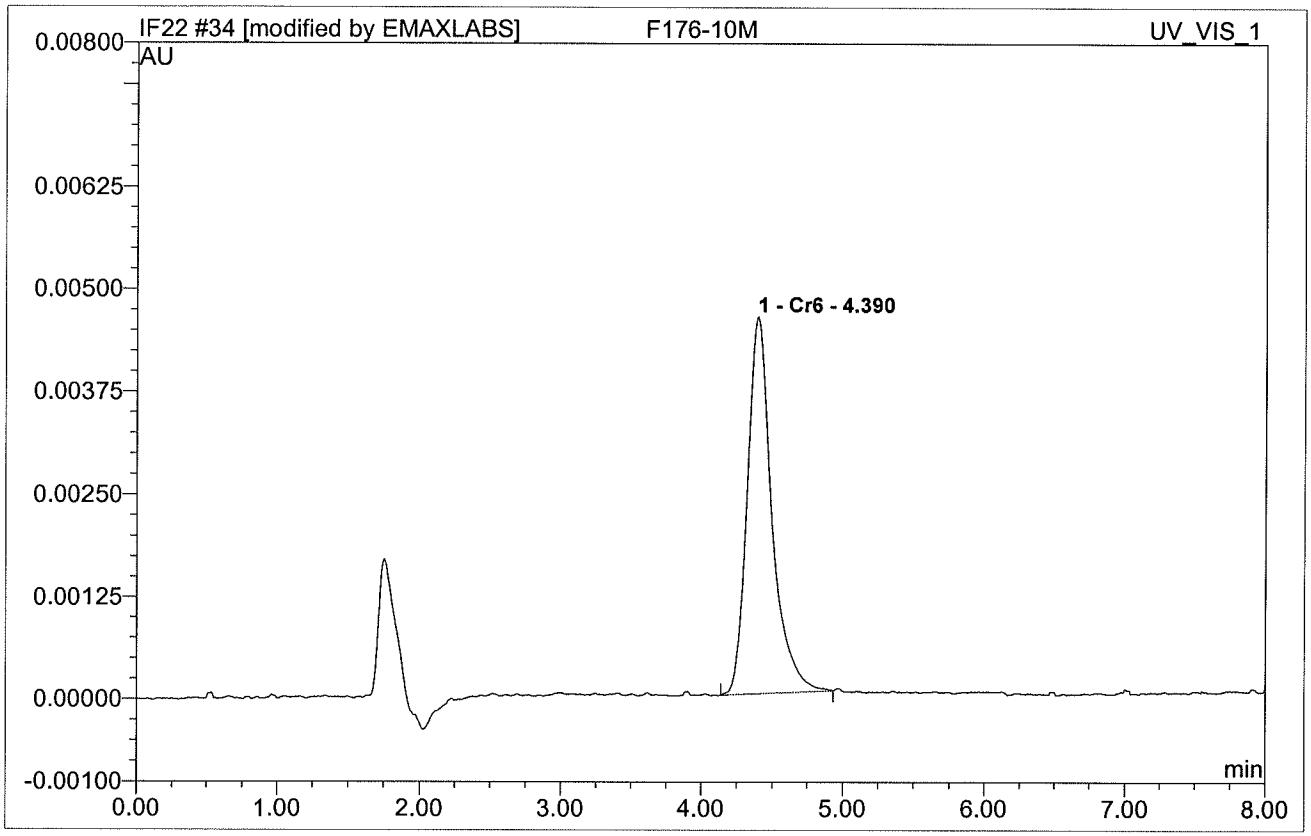


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.38	Cr6	0.0045840	0.0009268	100.00	9.938	BMB*
Total:			0.005	0.001	100.00	9.938	

IF22 034 F176-10M

SPIKE @ 2 PPB

Sample Name:	**F176-10M**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 18:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

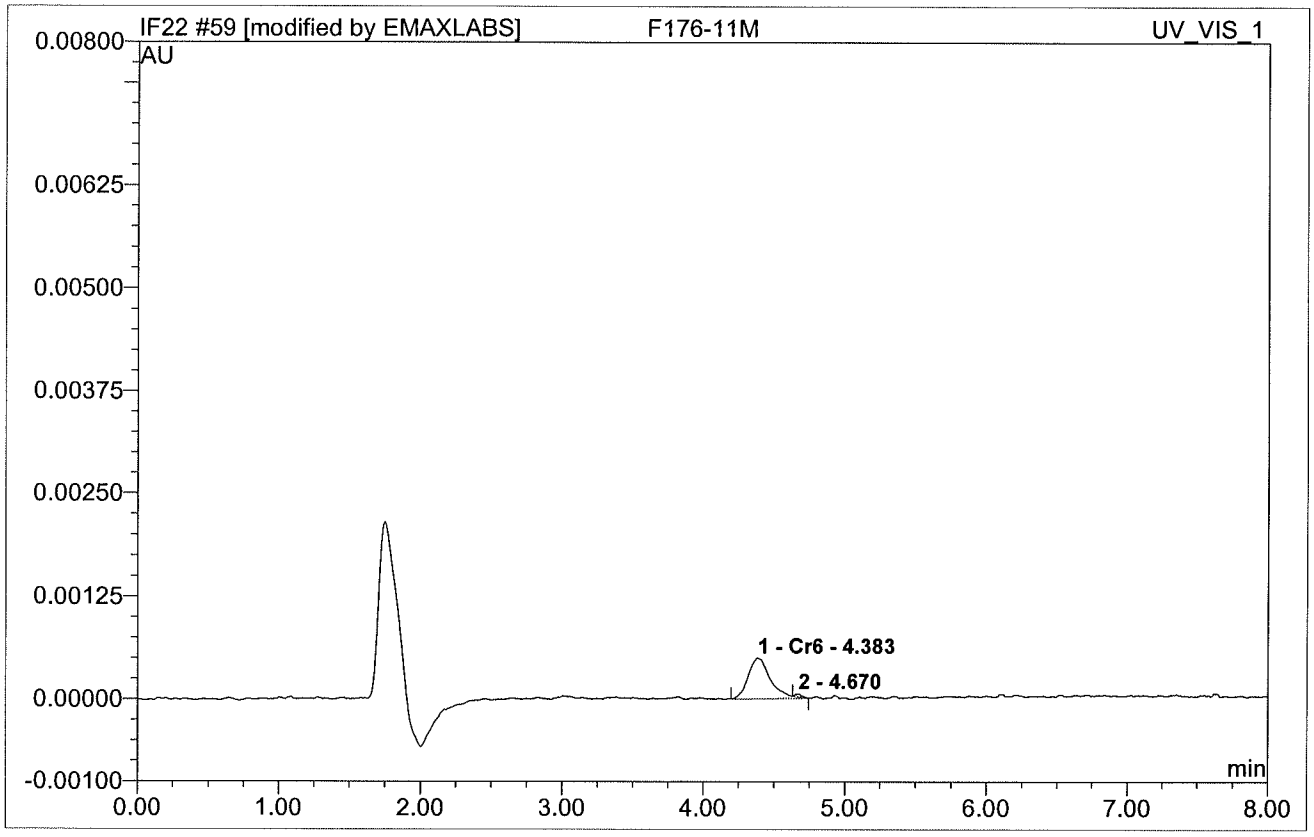


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.39	Cr6	0.0045930	0.0009292	100.00	9.964	BMB*
Total:			0.005	0.001	100.00	9.964	

IF22 059 F176-11M

DF=5

Sample Name:	**F176-11M**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**5**
Recording Time:	**6/22/2020 22:42**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

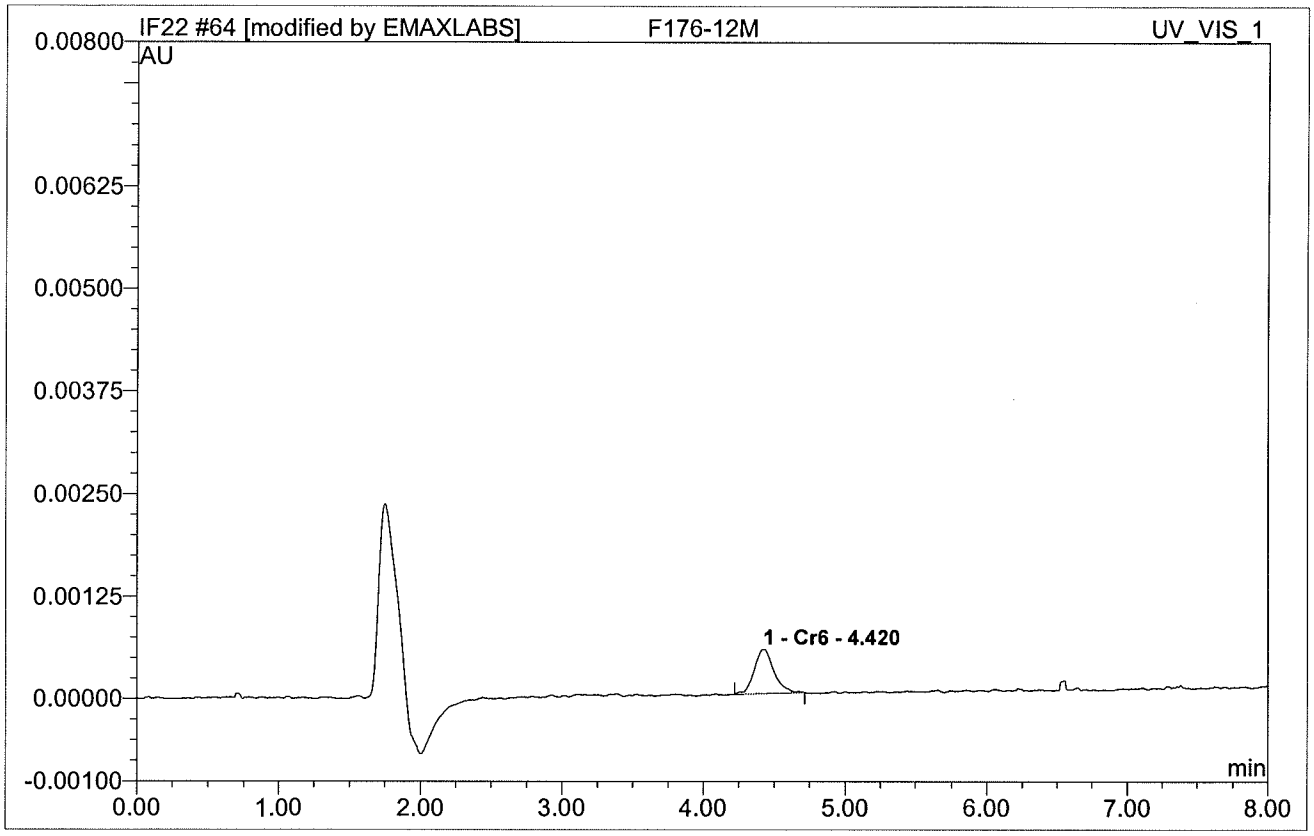


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.38	Cr6	0.0004940	0.0000899	98.10	4.927	BMB*
2	4.67	n.a.	0.0000340	0.0000017	1.90	n.a.	Rd*
Total:			0.001	0.000	100.00	4.927	

IF22 064 F176-12M

DF=5

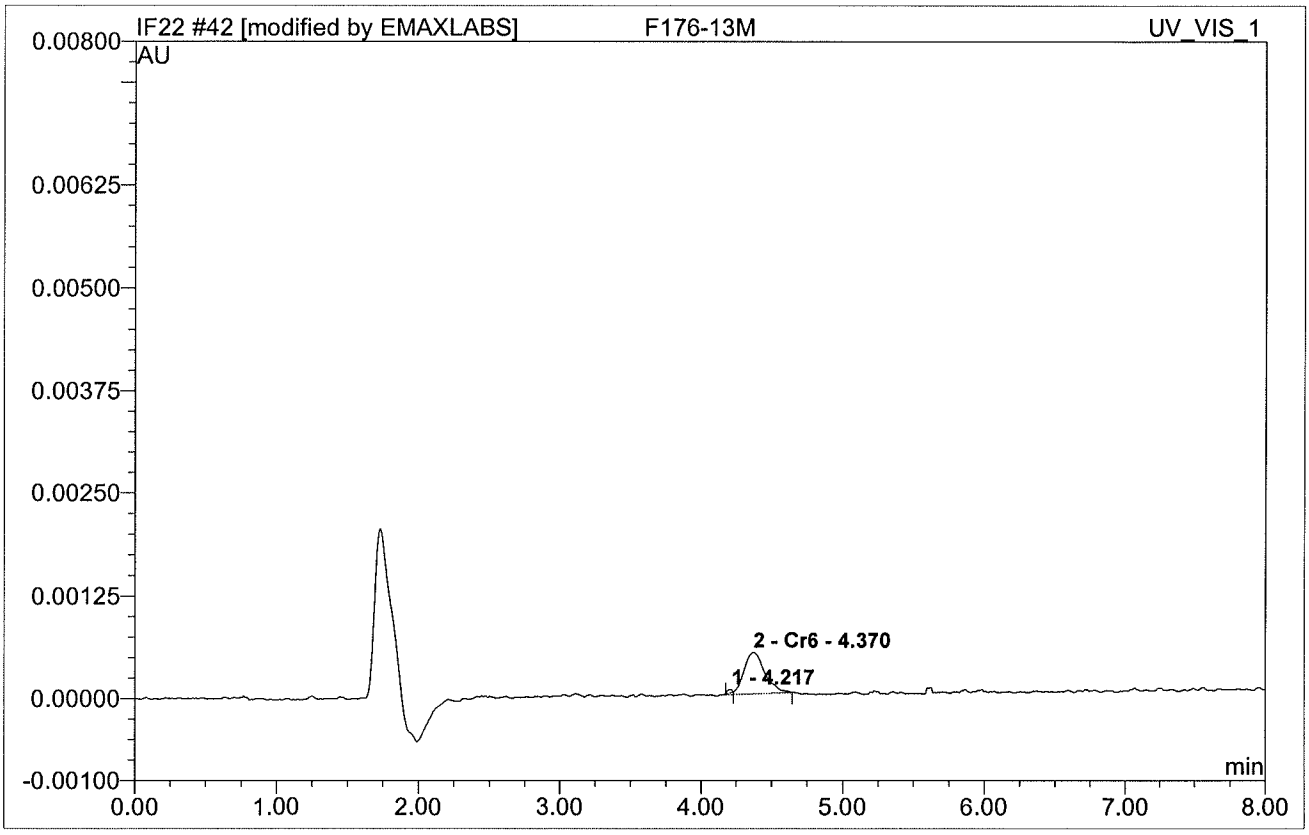
Sample Name:	**F176-12M**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**5**
Recording Time:	**6/22/2020 23:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.42	Cr6	0.0005400	0.0000867	100.00	4.757	BMB*
Total:			0.001	0.000	100.00	4.757	

IF22 042 F176-13M

Sample Name:	**F176-13M**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 19:45**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.22	n.a.	0.0000380	0.0000017	1.91	n.a.	Ru*
2	4.37	Cr6	0.0005070	0.0000870	98.09	0.954	BMB*
Total:			0.001	0.000	100.00	0.954	

INITIAL CALIBRATION

IC RESULT FORM CalVersion : CR6.F22/IF22(2020)

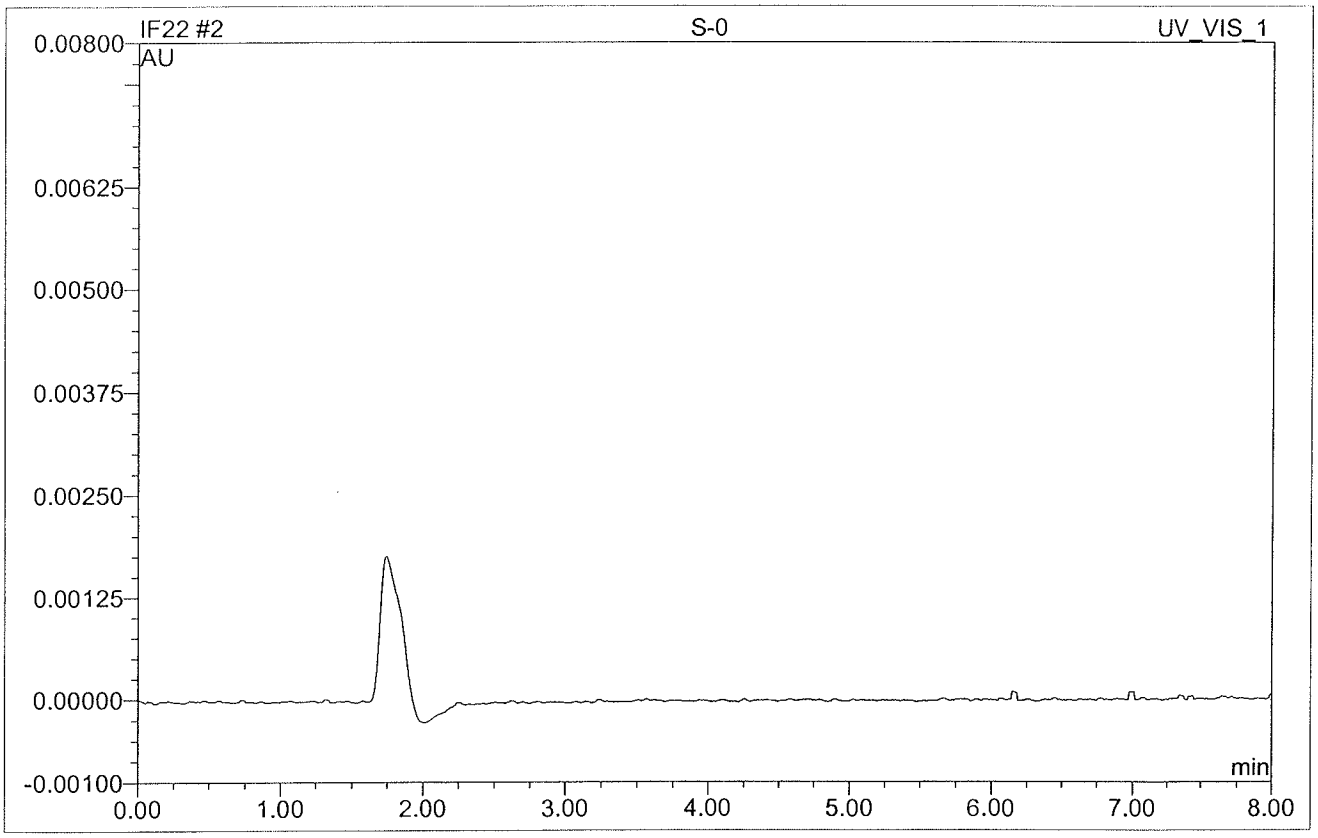
LFID	LSID	SelCmp	Cr6	DateTime	DF
IF22001	IB	C	ND	06/22/2012:16	1
IF22002	S-0	C	ND	06/22/2012:26	1
IF22003	S-1	C	0.214	06/22/2012:48	1
IF22004	S-2	C	0.512	06/22/2012:59	1
IF22005	S-3	C	1.000	06/22/2013:09	1
IF22006	S-4	C	1.986	06/22/2013:19	1
IF22007	S-5	C	4.933	06/22/2013:41	1
IF22008	S-6	C	7.482	06/22/2013:51	1
IF22009	S-7	C	10.049	06/22/2014:01	1
IF22010	ICV	C	100%	06/22/2014:12	1
IF22011	ICB	C	ND	06/22/2014:22	1
IF22012	LOW LEVEL	C	0.204	06/22/2014:33	1

METHOD: IC59F22
SOLVENT: BUFFER (SP2-01-28-04)

LE 6/26/20

IF22 002 S-0

Sample Name:	**S-0**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 12:26**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

LE 6/26/20

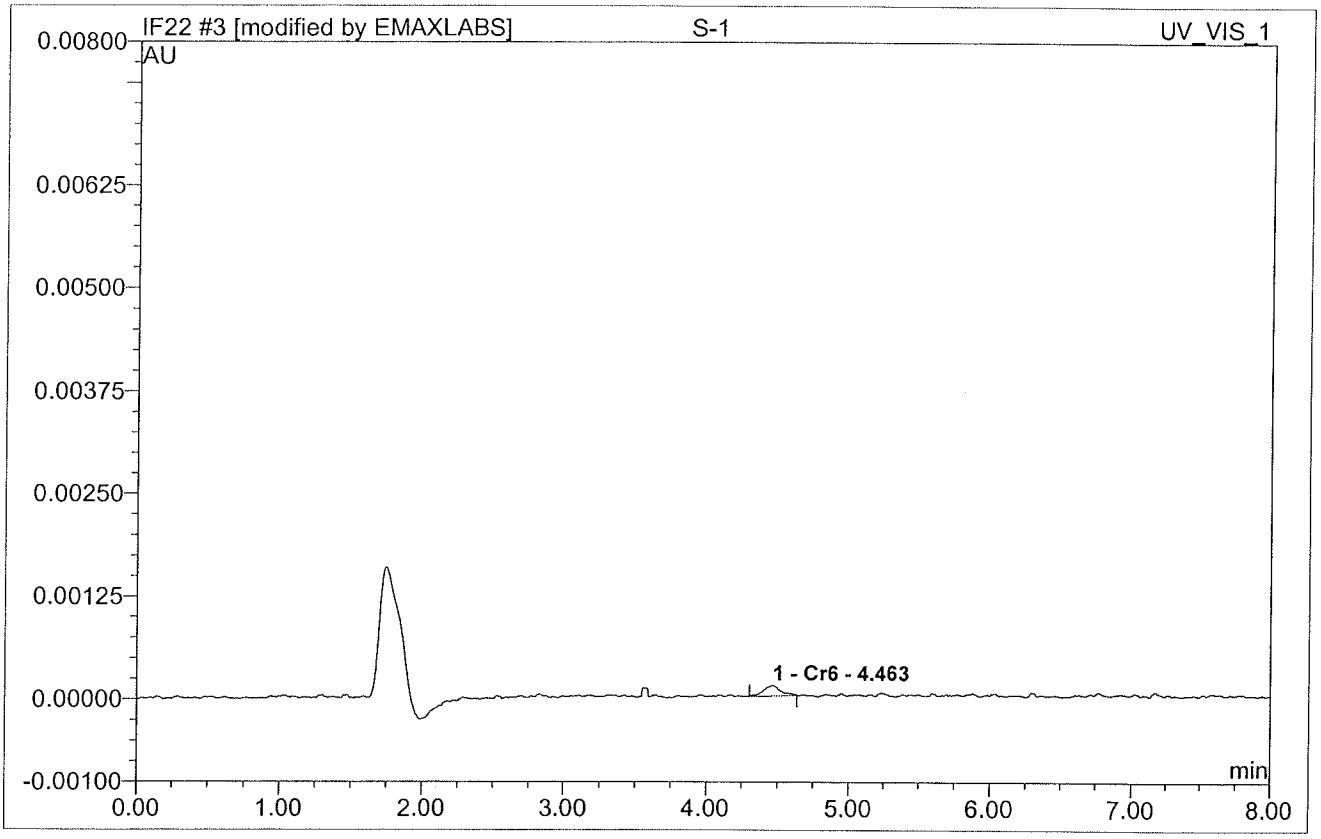
Chromeleon (c) Dionex 1996-2001
Version 6.70 SP2a Build 1871

Report/Integration

IF22 003 S-1

0.2 PPB

Sample Name:	**S-1**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 12:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.46	Cr6	0.0001290	0.0000179	100.00	0.214	BMB*
Total:			0.000	0.000	100.00	0.214	

LEE 6/26/20

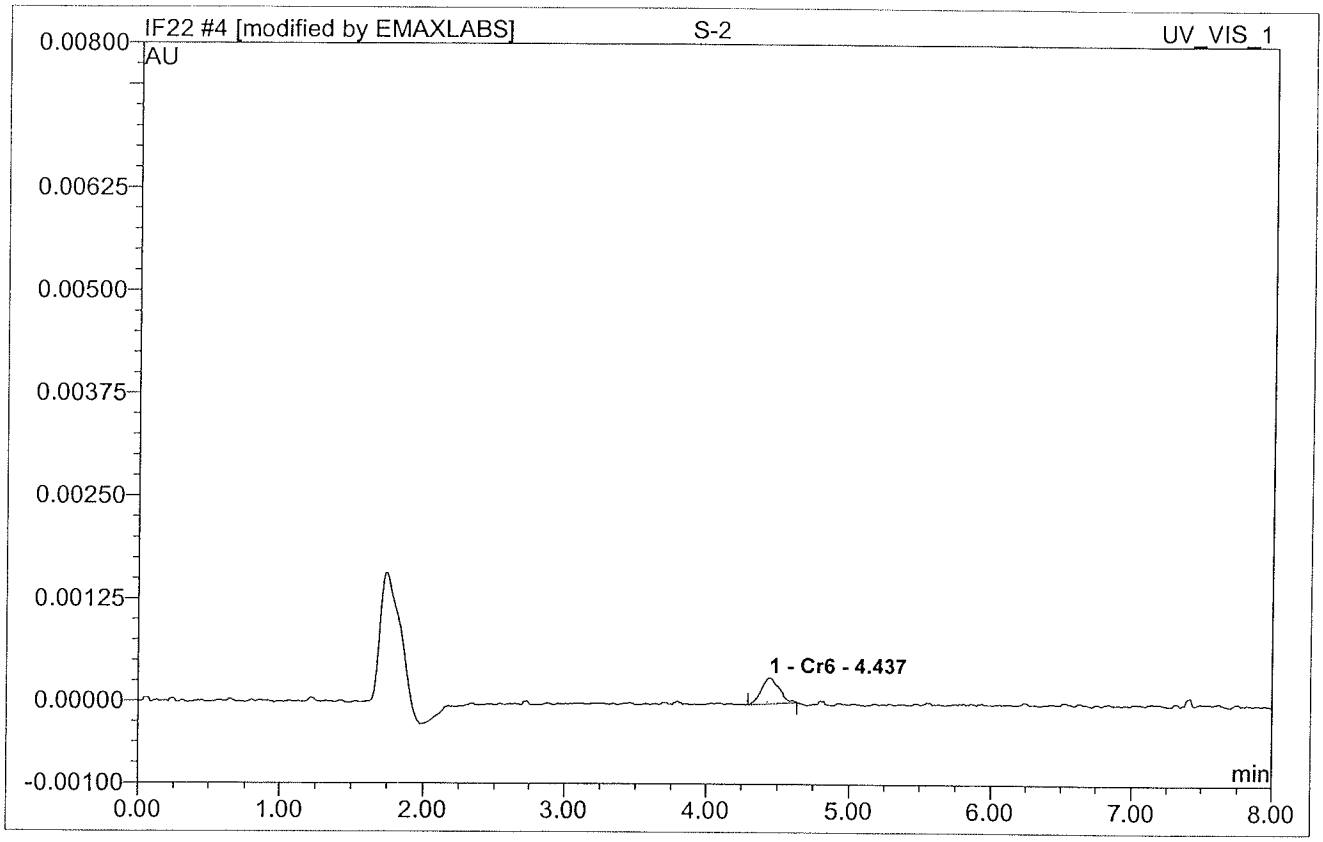
Report/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.70 SP2a Build 1871

IF22 004 S-2

0.5 PPB

Sample Name:	**S-2**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 12:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.44	Cr6	0.0003160	0.0000457	100.00	0.512	BMB*
Total:			0.000	0.000	100.00	0.512	

LE 6/26/20

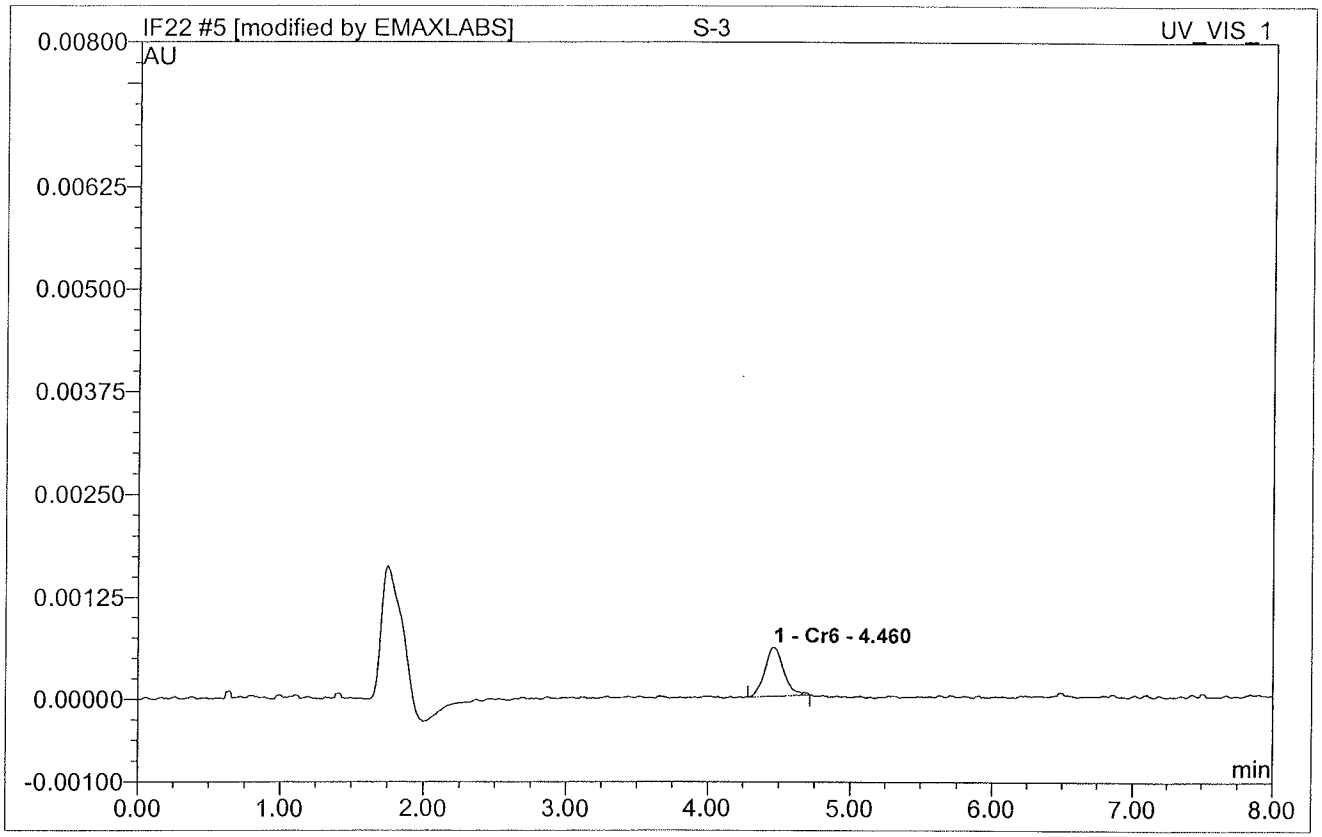
Report/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.70 SP2a Build 1871

IF22 005 S-3

1.0 PPB

Sample Name:	**S-3**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 13:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.46	Cr6	0.0005990	0.0000913	100.00	1.000	BMB*
Total:			0.001	0.000	100.00	1.000	

LE 6/26/20

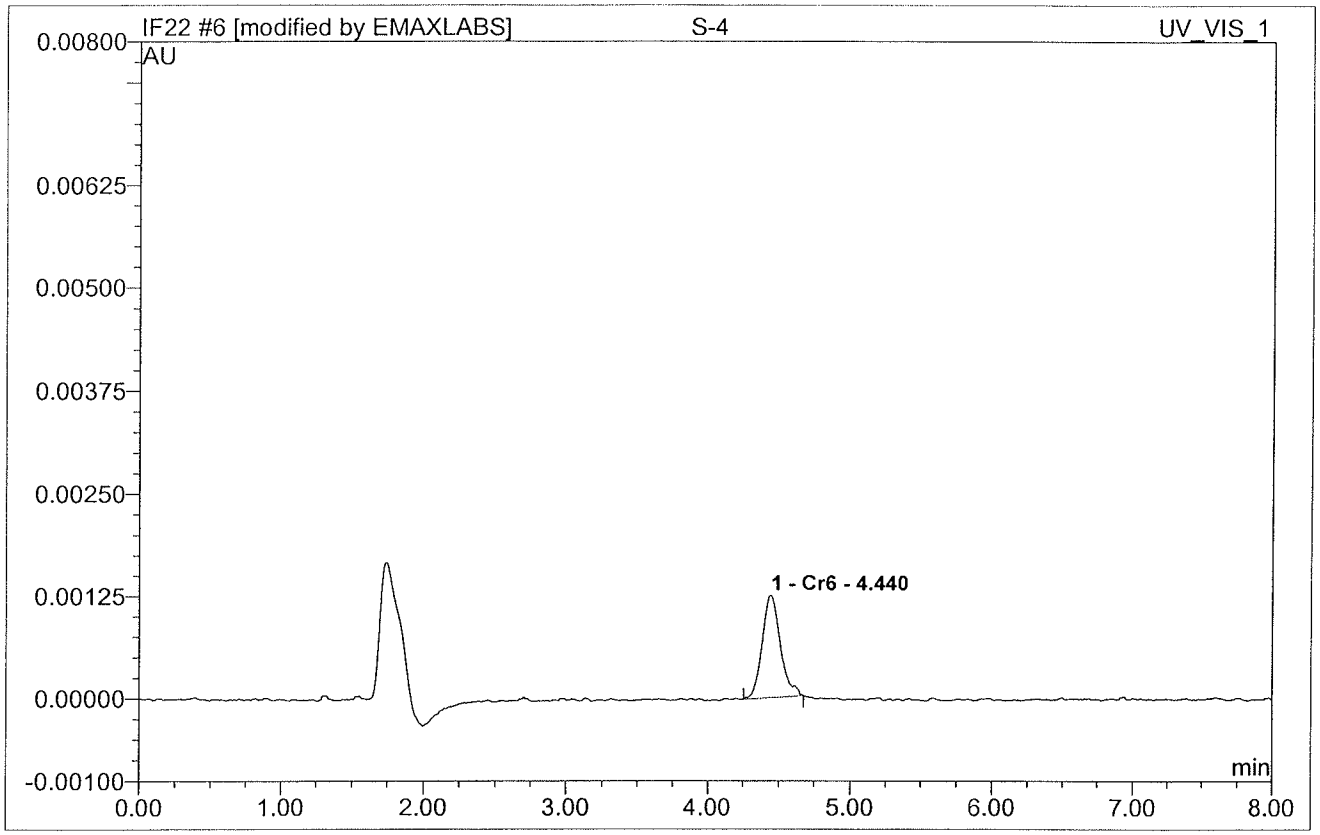
Chromeleon (c) Dionex 1996-2001
Version 6.70 SP2a Build 1871

Report/Integration

IF22 006 S-4

2.0 PPB

Sample Name:	**S-4**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 13:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



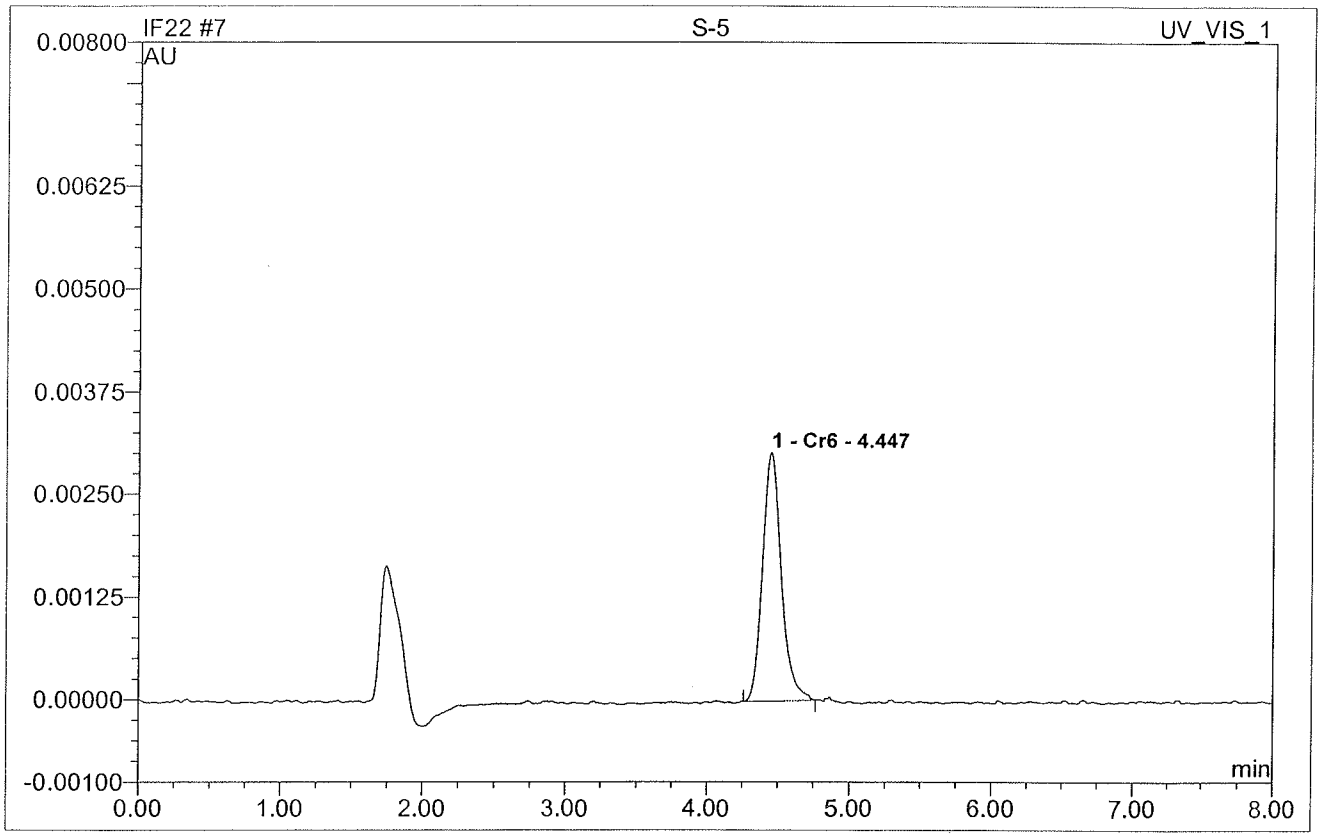
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.44	Cr6	0.0012520	0.0001835	100.00	1.986	BMB*
Total:			0.001	0.000	100.00	1.986	

LEE 6/26/20

IF22 007 S-5

5.0 PPB

Sample Name:	**S-5**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 13:41**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



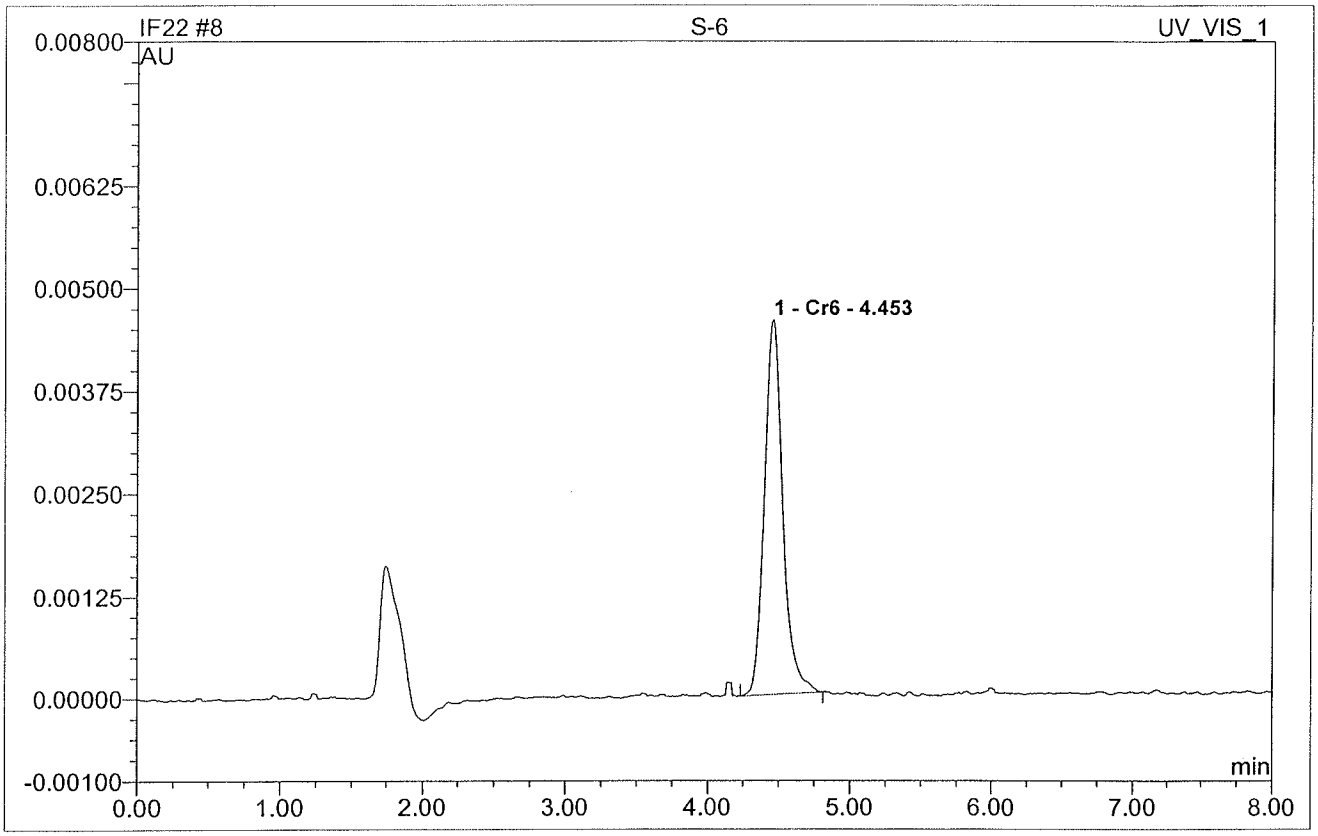
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.45	Cr6	0.0030260	0.0004589	100.00	4.933	BMB
Total:			0.003	0.000	100.00	4.933	

LE 6/26/20

IF22 008 S-6

7.5 PPB

Sample Name:	**S-6**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 13:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.45	Cr6	0.0045620	0.0006972	100.00	7.482	BMB
Total:			0.005	0.001	100.00	7.482	

LEE 6/26/20

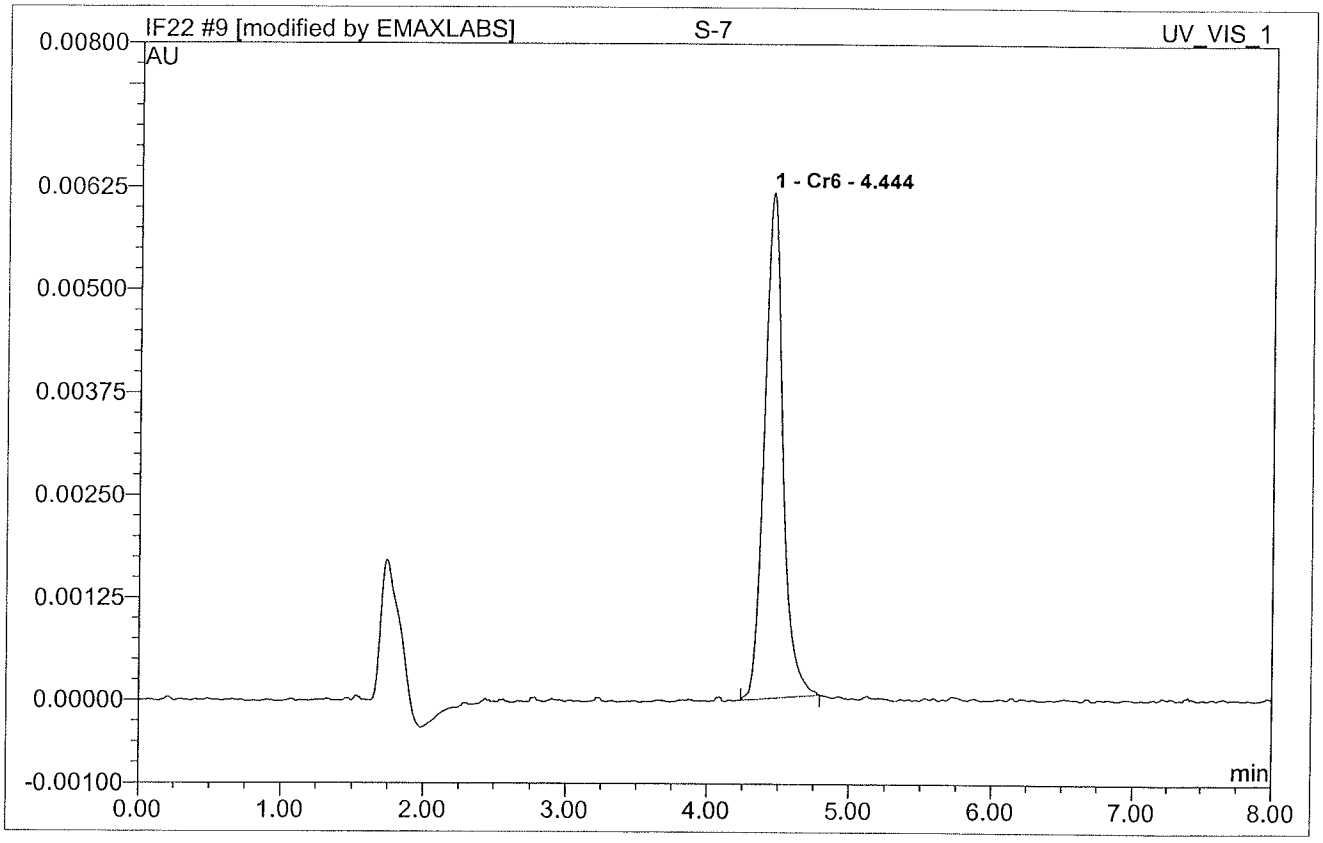
Chromeleon (c) Dionex 1996-2001
Version 6.70 SP2a Build 1871

Report/Integration

IF22 009 S-7

10 PPB

Sample Name:	**S-7**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 14:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.44	Cr6	0.0061600	0.0009371	100.00	10.049	BMB*
Total:			0.006	0.001	100.00	10.049	

LE 6/26/20

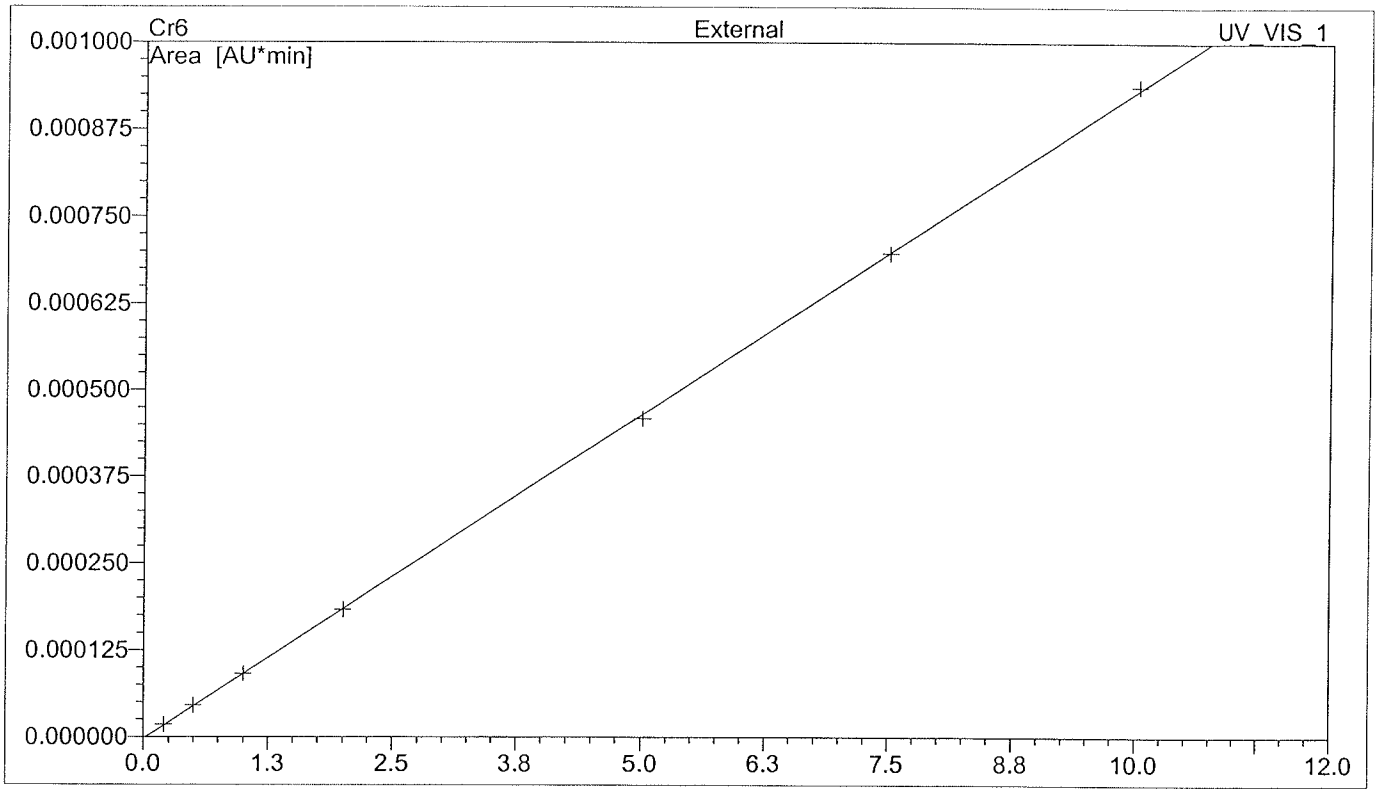
Report/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.70 SP2a Build 1871

9 S-7

10 PPB

Sample Name:	**S-7**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1.0000**
Recording Time:	**6/22/2020 14:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Cal.Type	Points	R-Square	Offset	Slope	Curve
1	4.44	Cr6	0LOff	7	0.9999	-0.0000022	0.0000935	0.0000
Average:					0.9999	0.0000	0.0001	0.0000

LEE 6/26/20

SECOND SOURCE VERIFICATION

IC RESULT FORM CalVersion : CR6.F22/IF22(2020)

LFID	LSID	SelCmp	Cr6	DateTime	DF
IF22001	IB	C	ND	06/22/2012:16	1
IF22002	S-0	C	ND	06/22/2012:26	1
IF22003	S-1	C	0.214	06/22/2012:48	1
IF22004	S-2	C	0.512	06/22/2012:59	1
IF22005	S-3	C	1.000	06/22/2013:09	1
IF22006	S-4	C	1.986	06/22/2013:19	1
IF22007	S-5	C	4.933	06/22/2013:41	1
IF22008	S-6	C	7.482	06/22/2013:51	1
IF22009	S-7	C	10.049	06/22/2014:01	1
IF22010	ICV	C	100%	06/22/2014:12	1
IF22011	ICB	C	ND	06/22/2014:22	1
IF22012	LOW LEVEL	C	0.204	06/22/2014:33	1

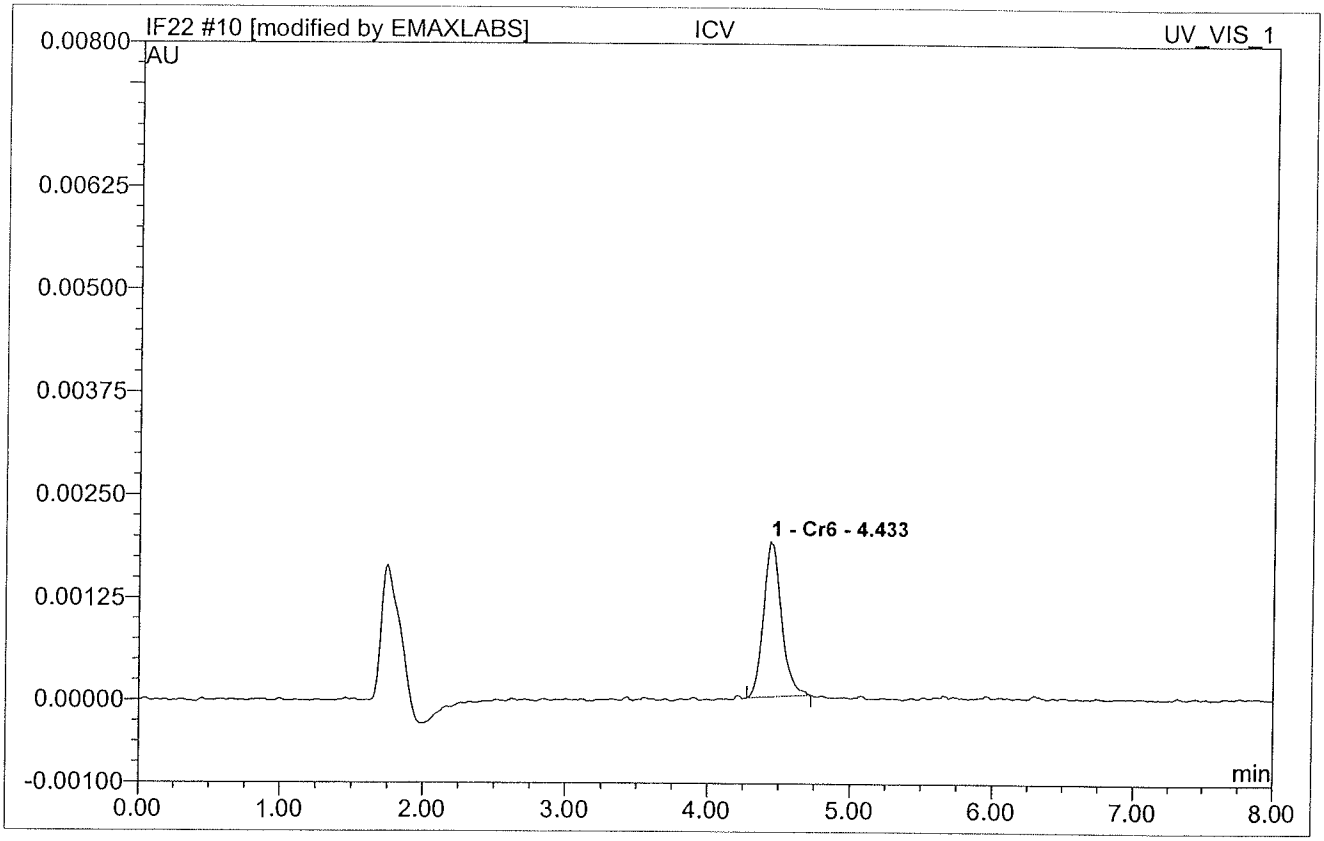
METHOD: IC59F22
SOLVENT: BUFFER (SP2-01-28-04)

LE 6/26/20

IF22 010 ICV

3.0 PPB

Sample Name:	**ICV**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 14:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



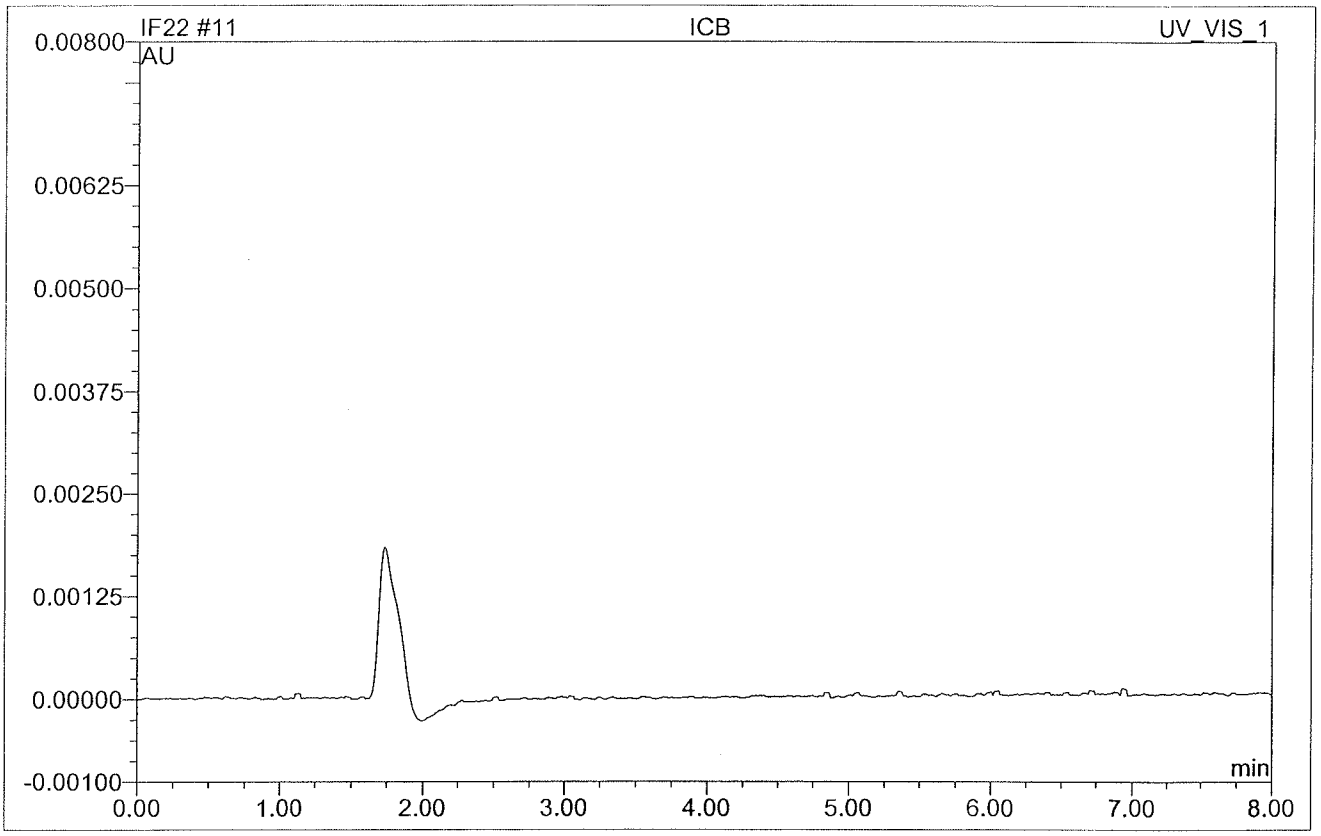
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.43	Cr6	0.0019000	0.0002790	100.00	3.008	BMB*
Total:			0.002	0.000	100.00	3.008	

Conc. = $\frac{\text{Area} - \text{offset}}{\text{slope}}$

LE 6/26/20

IF22 011 ICB

Sample Name:	**ICB**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 14:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



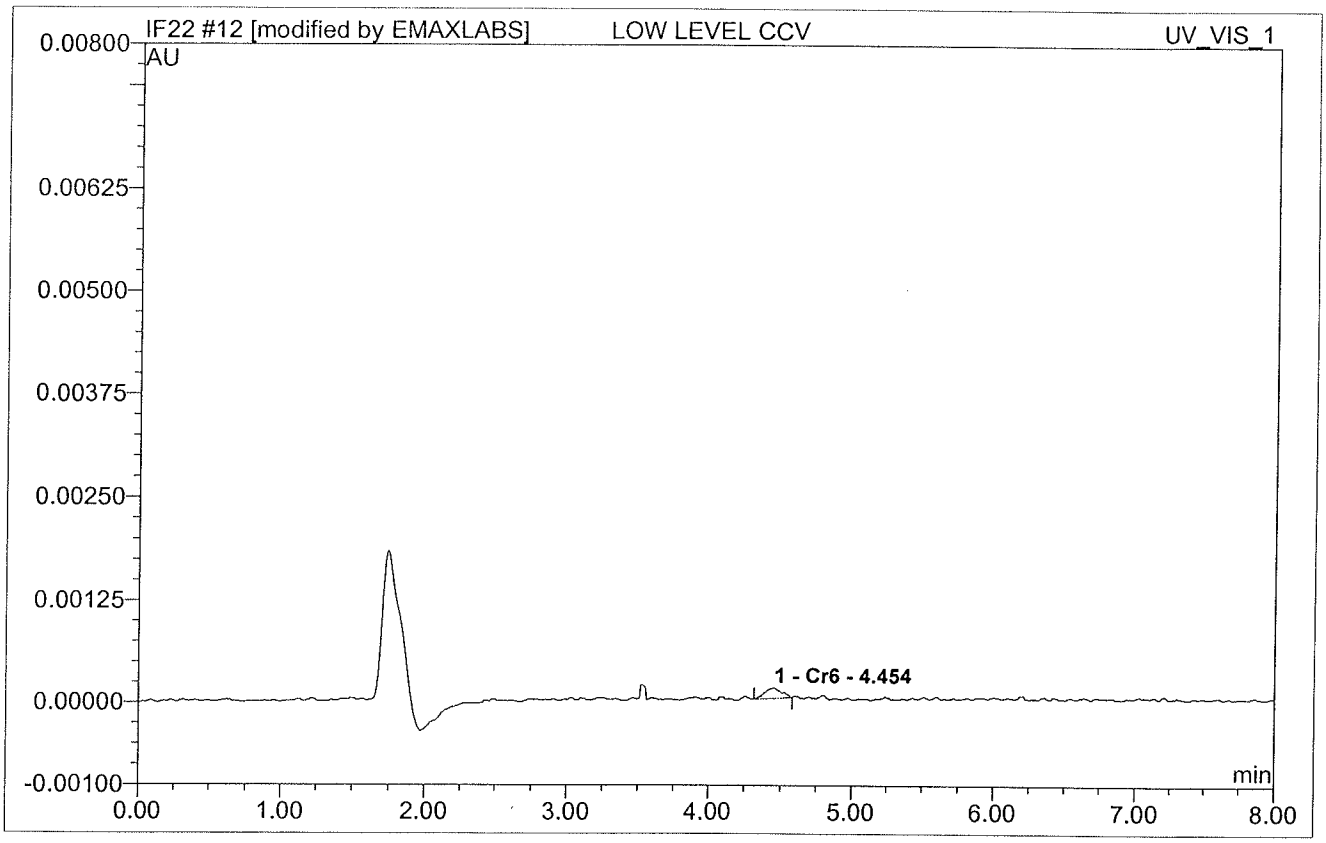
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

LE 6/26/20

IF22 012 LOW LEVEL CCV

0.2 PPB

Sample Name:	**LOW LEVEL CCV**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 14:33**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.45	Cr6	0.0001270	0.0000169	100.00	0.204	BMB*
Total:			0.000	0.000	100.00	0.204	

LLE 6/26/20

Report/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.70 SP2a Build 1871

DAILY CALIBRATIONS

Continuing Calibration Summary Form

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG : 20F176
Method : E218.6
QuantMethod : IC59F22
InstrumentID: 59
Parameter : HEXAVALENT CHROMIUM

LFID	LSID	DF	Expected	Result	Unit	%Rec	AnalysisDateTime
IF22012	LOW CCV	1	0.2	0.204	ug/L	102	06/22/2014:53
IF22014	CCV1	1	2	2.011	ug/L	101	06/22/2014:53
IF22026	CCV3	1	2	1.989	ug/L	99	06/22/2016:58
IF22037	CCV5	1	2	1.999	ug/L	100	06/22/2018:53
IF22049	CCV7	1	2	1.967	ug/L	98	06/22/2020:58
IF22061	CCV9	1	2	1.973	ug/L	99	06/22/2023:03
IF22065	CCV11	1	2	1.965	ug/L	98	06/22/2023:45

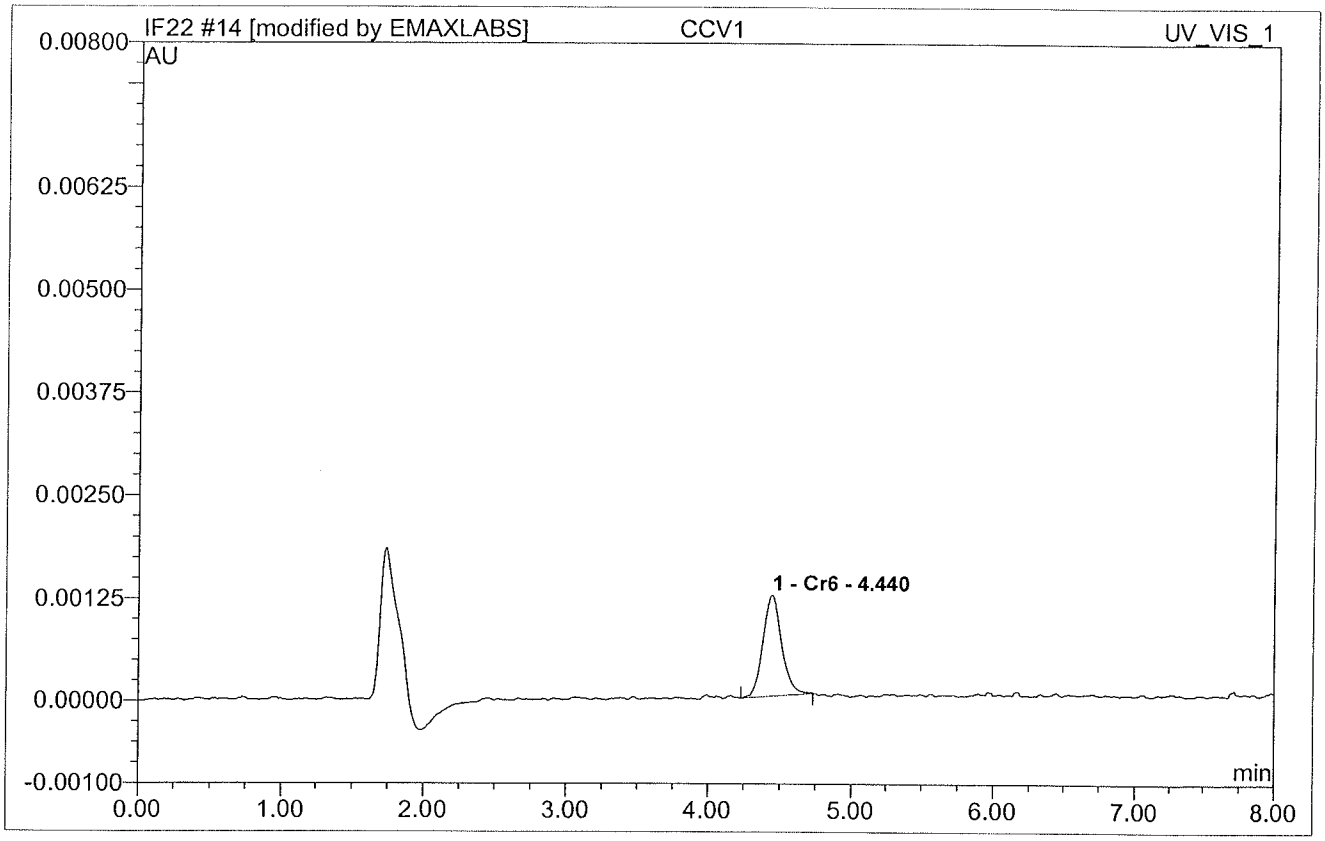
CCV Acceptance Criteria: 95-105%

IC RESULT FORM CalVersion : CR6.F22/IF22(2020)

LFID	LSID	SelCmp	Cr6	DateTime	DF
IF22001	IB	C	ND	06/22/2012:16	1
IF22002	S-0	C	ND	06/22/2012:26	1
IF22003	S-1	C	0.214	06/22/2012:48	1
IF22004	S-2	C	0.512	06/22/2012:59	1
IF22005	S-3	C	1.000	06/22/2013:09	1
IF22006	S-4	C	1.986	06/22/2013:19	1
IF22007	S-5	C	4.933	06/22/2013:41	1
IF22008	S-6	C	7.482	06/22/2013:51	1
IF22009	S-7	C	10.049	06/22/2014:01	1
IF22010	ICV	C	100%	06/22/2014:12	1
IF22011	ICB	C	ND	06/22/2014:22	1
IF22012	LOW LEVEL	C	0.204	06/22/2014:33	1
IF22013	QC BUFFER	C	ND	06/22/2014:43	1
IF22014	CCV1	C	101%	06/22/2014:53	1
IF22015	CCB1	C	ND	06/22/2015:04	1
IF22016	HCF005WB	C	ND	06/22/2015:14	1
IF22017	HCF005WL	C	2.033	06/22/2015:25	1
IF22018	HCF005WC	C	2.033	06/22/2015:35	1
IF22019	F176-02	C	ND	06/22/2015:45	1
IF22020	F176-02M	C	ND	06/22/2015:56	1
IF22021	F176-02S	C	ND	06/22/2016:06	1
IF22022	F176-04	C	ND	06/22/2016:17	1
IF22023	F176-04M	C	0.983	06/22/2016:27	1
IF22024	F176-06	C	ND	06/22/2016:37	1
IF22025	F176-06M	C	0.852	06/22/2016:48	1
IF22026	CCV3	C	99%	06/22/2016:58	1
IF22027	CCB3	C	ND	06/22/2017:09	1
IF22028	F176-08	C	ND	06/22/2017:19	1
IF22029	F176-08M	C	0.975	06/22/2017:29	1
IF22030	F176-08S	C	0.973	06/22/2017:40	1
IF22031	F176-09	C	7.943	06/22/2017:50	1
IF22032	F176-09M	C	9.938	06/22/2018:01	1
IF22033	F176-10	C	7.992	06/22/2018:11	1
IF22034	F176-10M	C	9.964	06/22/2018:22	1
IF22035	F176-11	C	ND	06/22/2018:33	1
IF22036	F176-11M	C	ND	06/22/2018:43	1
IF22037	CCV5	C	100%	06/22/2018:53	1
IF22038	CCB5	C	ND	06/22/2019:04	1
IF22039	F176-12	C	ND	06/22/2019:14	1
IF22040	F176-12M	C	0.840	06/22/2019:25	1
IF22041	F176-13	C	ND	06/22/2019:35	1
IF22042	F176-13M	C	0.954	06/22/2019:45	1
IF22043	F176-01	C	ND	06/22/2019:56	1
IF22044	F176-01M	C	1.011	06/22/2020:06	1
IF22045	F176-03	C	ND	06/22/2020:17	1
IF22046	F176-03M	C	1.020	06/22/2020:27	1
IF22047	F176-05	C	ND	06/22/2020:37	1
IF22048	F176-05M	C	1.042	06/22/2020:48	1
IF22049	CCV7	C	98%	06/22/2020:58	1
IF22050	CCB7	C	ND	06/22/2021:09	1
IF22051	F176-07	C	ND	06/22/2021:19	1
IF22052	F176-07M	C	0.967	06/22/2021:29	1
IF22053	F176-02I	C	ND	06/22/2021:40	5
IF22054	F176-02M	C	4.791	06/22/2021:50	5
IF22055	F176-02S	C	4.790	06/22/2022:01	5
IF22056	F176-06I	C	ND	06/22/2022:11	5
IF22057	F176-06M	C	4.674	06/22/2022:21	5
IF22058	F176-11I	C	ND	06/22/2022:32	5
IF22059	F176-11M	C	4.927	06/22/2022:42	5
IF22060	TEST	C	7.841	06/22/2022:53	1
IF22061	CCV9	C	99%	06/22/2023:03	1
IF22062	CCB9	C	ND	06/22/2023:13	1
IF22063	F176-12I	C	ND	06/22/2023:24	5
IF22064	F176-12M	C	4.757	06/22/2023:34	5
IF22065	CCV11	C	98%	06/22/2023:45	1
IF22066	CCB11	C	ND	06/22/2023:55	1

IF22 014 CCV1

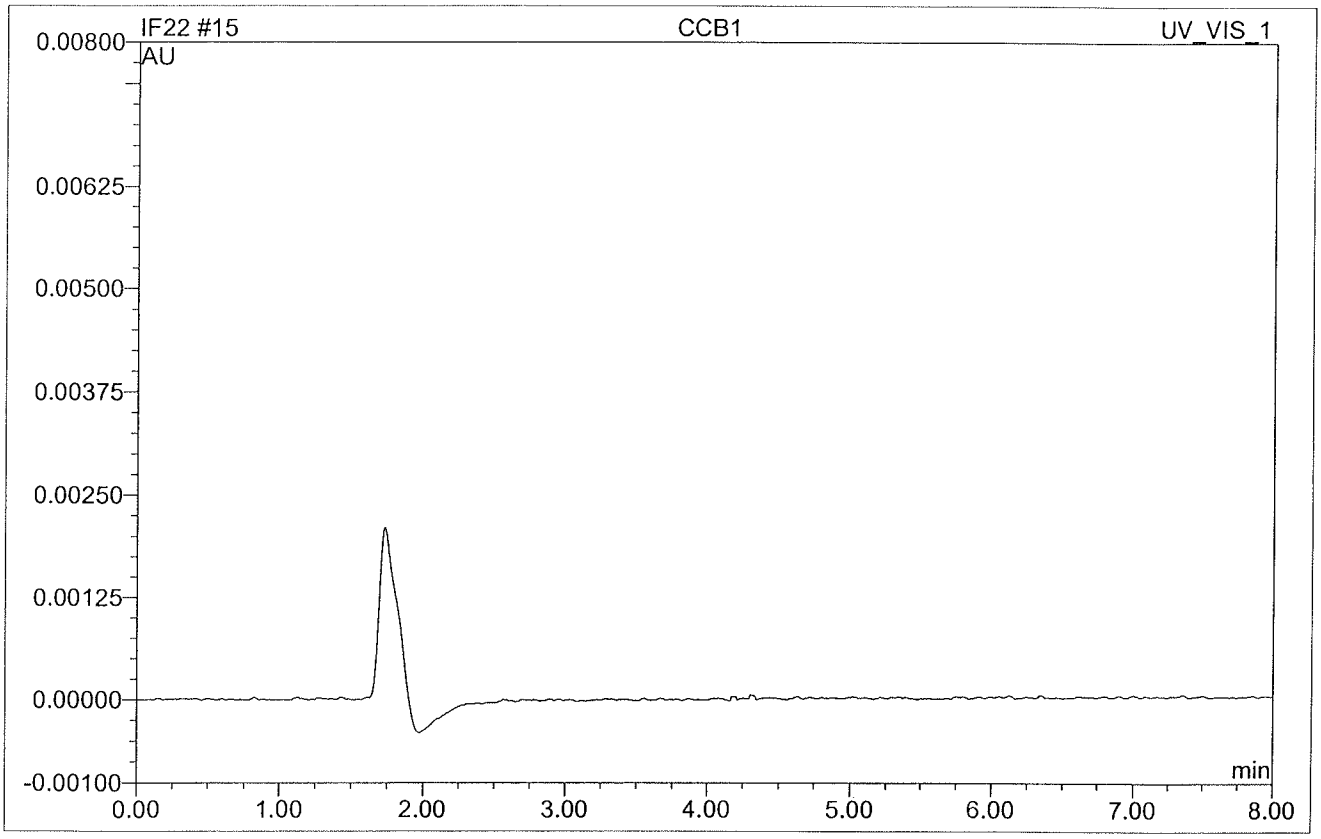
Sample Name:	**CCV1**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 14:53**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.44	Cr6	0.0012300	0.0001858	100.00	2.011	BMB*
Total:			0.001	0.000	100.00	2.011	

IF22 015 CCB1

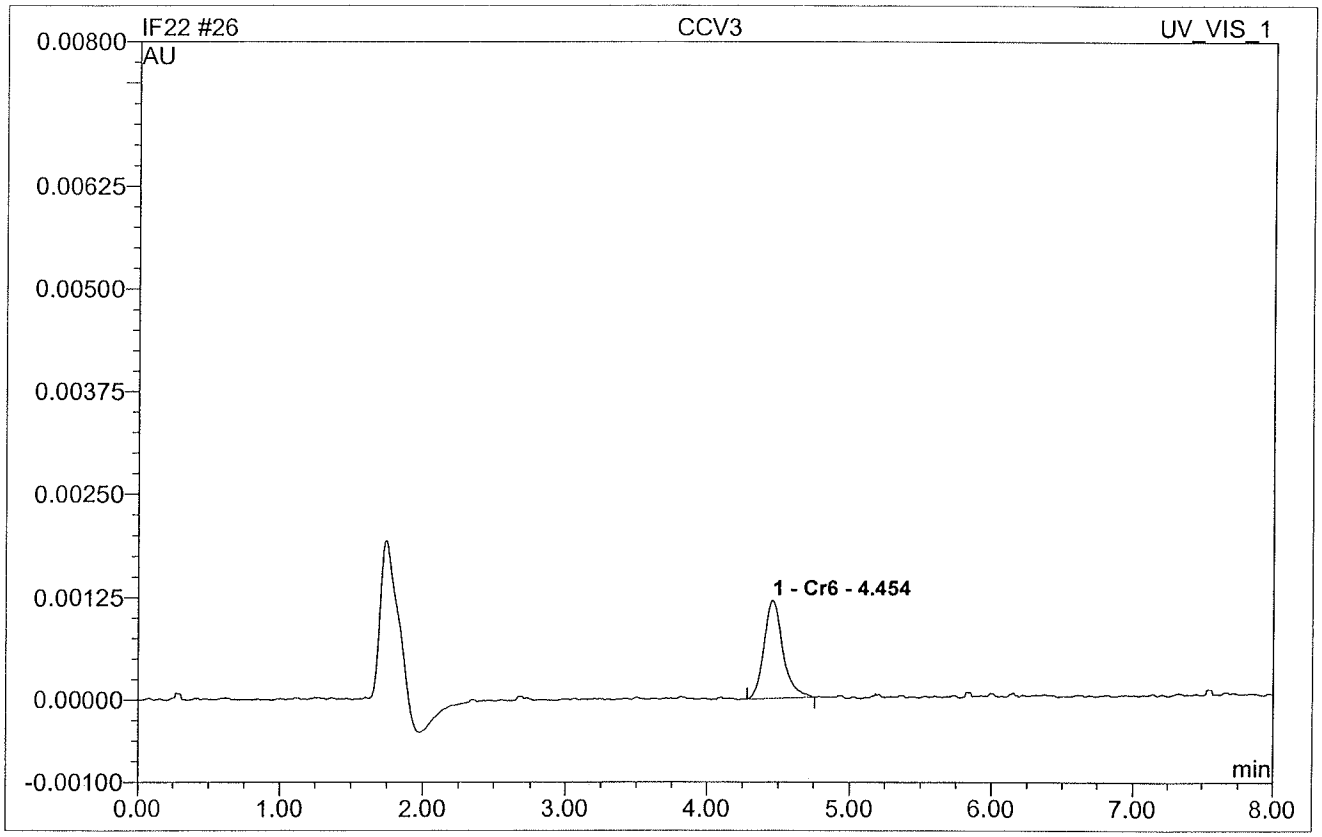
Sample Name:	**CCB1**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 15:04**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 026 CCV3

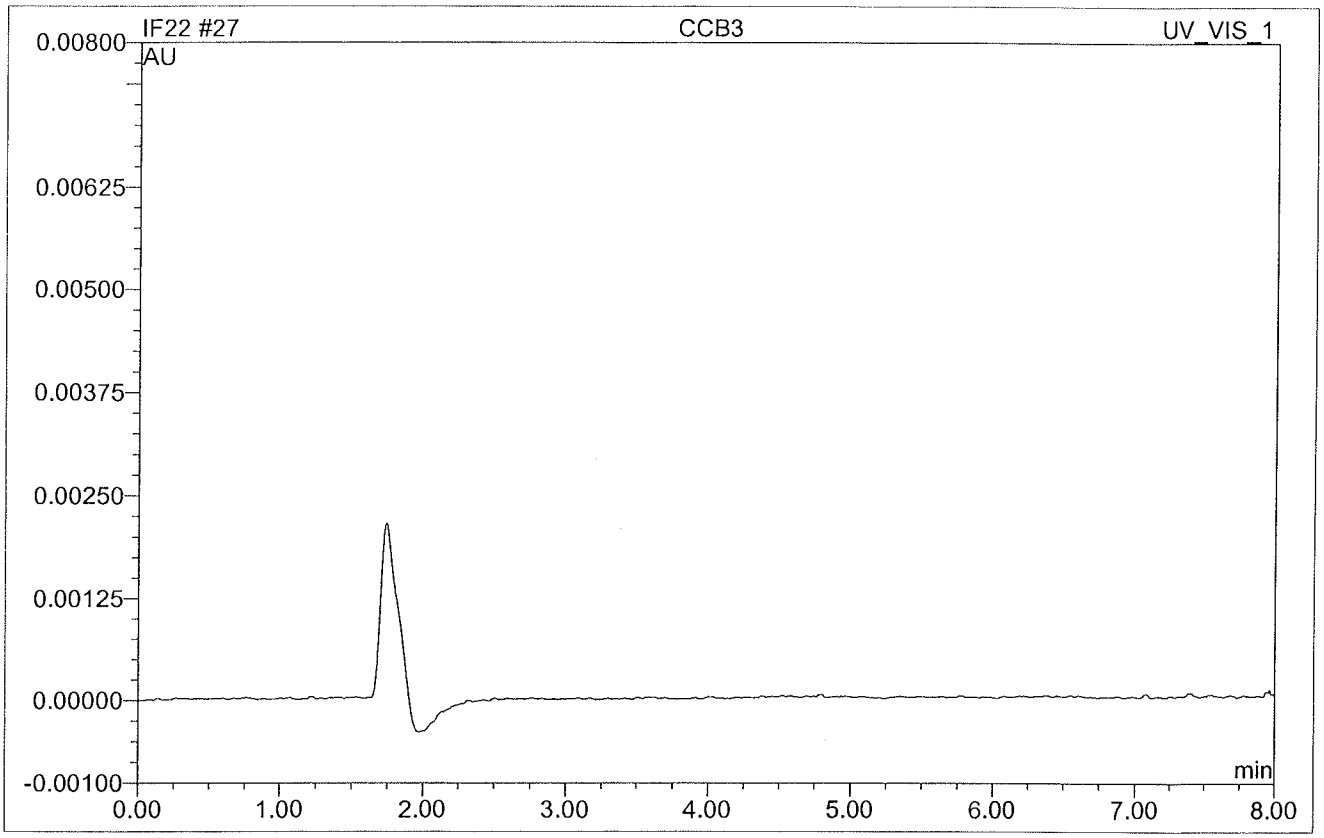
Sample Name:	**CCV3**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 16:58**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.45	Cr6	0.0011960	0.0001838	100.00	1.989	BMB
Total:			0.001	0.000	100.00	1.989	

IF22 027 CCB3

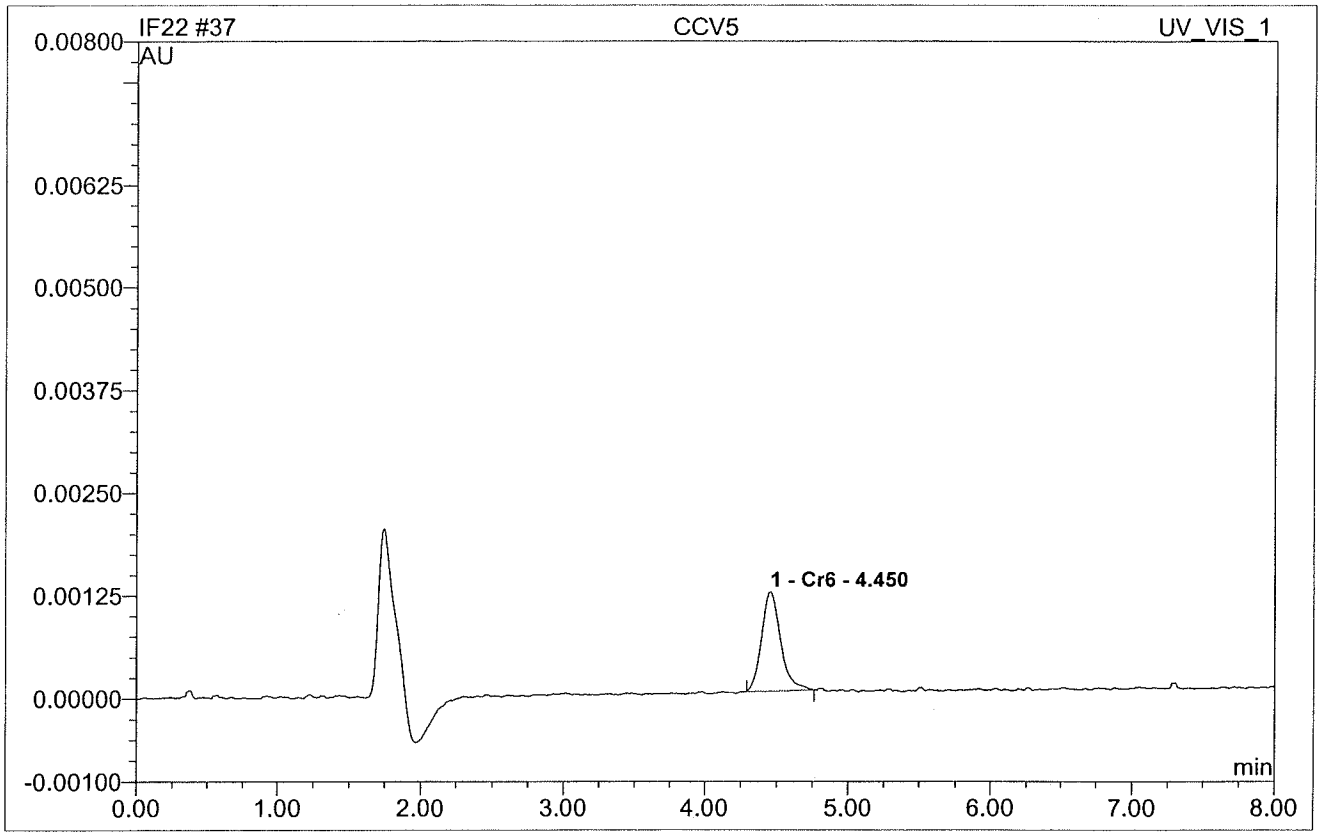
Sample Name:	**CCB3**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 17:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 037 CCV5

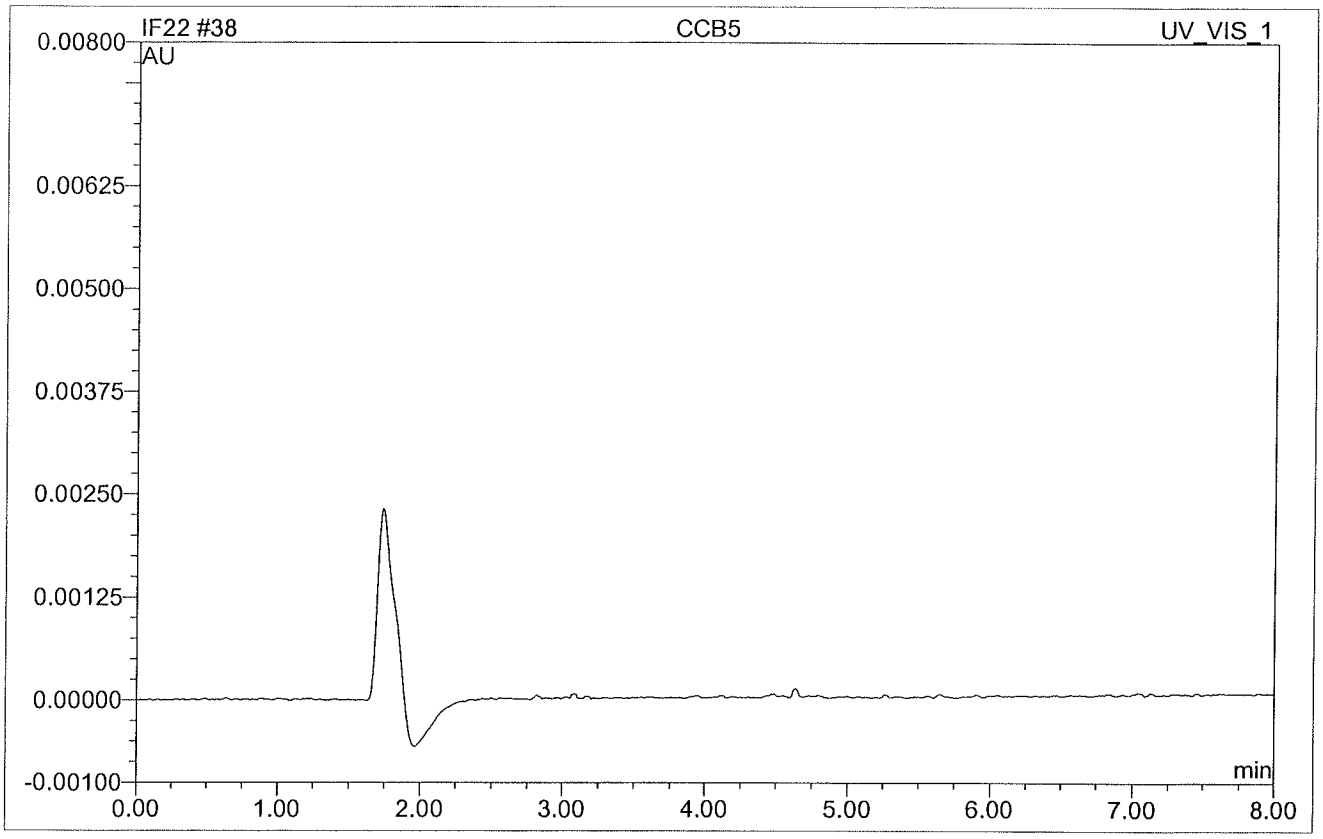
Sample Name:	**CCV5**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 18:53**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.45	Cr6	0.0012050	0.0001847	100.00	1.999	BMB
Total:			0.001	0.000	100.00	1.999	

IF22 038 CCB5

Sample Name:	**CCB5**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F22**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2020 19:04**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
HEXAVALENT CHROMIUM IC

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

1,5 Diphenylcarbohydrazide : 0.5 g SW9A-04-064
MeOH : 100 mL SW1A-08-17-05
H_2SO_4 : 28 mL ↓ -24-05
$(NH_4)_2SO_4$: 66 g SW6A-01-01-03
NH_4OH : 13 mL SW9A-04-066
☐ pH Adjusted Water ID #:
(range 9.3-9.5)
☑ Buffer (10 mL → 100 mL) SP2-01-28-04
Reagent Water ID #: RW1-19-003

ICAL Linear Range (ppb): S_0 - 0
S_1 - 0.2
S_2 - 0.5
S_3 - 1.0
S_4 - 2.0
S_5 - 5.0
S_6 - 7.5
S_7 - 10.0
ICV - 3.0

HCF005W: F176

QC Buffer: SP2-01-29-04

Column: Dionex IonPac AS7 (4x250mm) Serial: 19010324 8
Guard Column: Dionex IonPac NG1 (4x35mm) Serial: 190611218
Wavelength: 520nm
Flow Rate: 1.00mL/min
Injection: 0.250 mL

Book #:	A59-049
Instrument No.:	59
Pipette ID:	SW9A-04-017
	SW9A-04-025
	SW9A-04-052
Balance ID:	10601202
Analytical Sequence:	IF22
Method File:	IC59F22
Analytical Batch:	HCF005W

SOP #	Rev. #
☑ EMAX-218.6	7
☑ EMAX-7199	7
☐ EMAX-	

STANDARDS ID	
ICAL	SW6B-002-21-01
ICV	↓ -21-02
CCV	↓ -21-04

LCS/MS STANDARDS				
	Standard ID	Conc	Spike Amt	Final Vol
LCS	SW6B-002-20-11	100ppb	0.100mL	5 mL
MS	↓	↓	0.050mL	↓

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ CHROMELEON	
☐	

5 mL vial kit Lot #: 038008 Snap-Seal Container
0.45 µm filter lot #: 90944103 4 oz: 04119002
0.2 µm filter lot #: 1.5 oz: 10419004

Analyzed By: AS
Date: 6/22/20

Sequence: IF22
Operator: EMAXLABS
Printed: 6/23/2020 10:17:16 AM

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2020
Timebase: DX600
#Samples: 66

FINAL

Created: 6/22/2020 12:14:20 PM by EMAXLABS
Last Update: 6/23/2020 9:51:52 AM by EMAXLABS

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
1	IF22	001	IB	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 12:16:27 PM	1.0000	BUFFER
2	IF22	002	S-0	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 12:26:51 PM	1.0000	
3	IF22	003	S-1	Standard	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 12:48:41 PM	1.0000	0.2 PPB
4	IF22	004	S-2	Standard	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 12:59:05 PM	1.0000	0.5 PPB
5	IF22	005	S-3	Standard	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 1:09:29 PM	1.0000	1.0 PPB
6	IF22	006	S-4	Standard	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 1:19:53 PM	1.0000	2.0 PPB
7	IF22	007	S-5	Standard	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 1:41:01 PM	1.0000	5.0 PPB
8	IF22	008	S-6	Standard	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 1:51:25 PM	1.0000	7.5 PPB
9	IF22	009	S-7	Standard	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 2:01:50 PM	1.0000	10 PPB
10	IF22	010	ICV	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 2:12:14 PM	1.0000	3.0 PPB
11	IF22	011	ICB	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 2:22:38 PM	1.0000	
12	IF22	012	LOW LEVEL CCV	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 2:33:02 PM	1.0000	0.2 PPB
13	IF22	013	QC BUFFER	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 2:43:26 PM	1.0000	SP2-01-29-04
14	IF22	014	CCV1	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 2:53:50 PM	1.0000	
15	IF22	015	CCB1	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 3:04:15 PM	1.0000	
16	IF22	016	HCF005WB	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 3:14:39 PM	1.0000	
17	IF22	017	HCF005WL	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 3:25:03 PM	1.0000	
18	IF22	018	HCF005WC	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 3:35:27 PM	1.0000	
19	IF22	019	F176-02	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 3:45:52 PM	1.0000	NOT EVALUATED
20	IF22	020	F176-02M	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 3:56:16 PM	1.0000	NOT EVALUATED
21	IF22	021	F176-02S	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 4:06:40 PM	1.0000	NOT EVALUATED
22	IF22	022	F176-04	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 4:17:05 PM	1.0000	
23	IF22	023	F176-04M	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 4:27:29 PM	1.0000	
24	IF22	024	F176-06	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 4:37:53 PM	1.0000	NOT EVALUATED
25	IF22	025	F176-06M	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 4:48:17 PM	1.0000	NOT EVALUATED
26	IF22	026	CCV3	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 4:58:41 PM	1.0000	
27	IF22	027	CCB3	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 5:09:05 PM	1.0000	

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Sequence: IF22
Operator: EMAXLABS

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2020
Timebase: DX600
#Samples: 66

FINAL

Created: 6/22/2020 12:14:20 PM by EMAXLABS
Last Update: 6/23/2020 9:51:52 AM by EMAXLABS

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
28	IF22	028	F176-08	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 5:19:29 PM	1.0000	
29	IF22	029	F176-08M	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 5:29:53 PM	1.0000	
30	IF22	030	F176-08S	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 5:40:17 PM	1.0000	
31	IF22	031	F176-09	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 5:50:41 PM	1.0000	
32	IF22	032	F176-09M	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 6:01:06 PM	1.0000	SPIKE @ 2 PPB
33	IF22	033	F176-10	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 6:11:30 PM	1.0000	
34	IF22	034	F176-10M	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 6:22:41 PM	1.0000	SPIKE @ 2 PPB
35	IF22	035	F176-11	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 6:33:05 PM	1.0000	NOT EVALUATED
36	IF22	036	F176-11M	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 6:43:29 PM	1.0000	NOT EVALUATED
37	IF22	037	CCV5	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 6:53:53 PM	1.0000	
38	IF22	038	CCB5	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 7:04:17 PM	1.0000	
39	IF22	039	F176-12	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 7:14:42 PM	1.0000	NOT EVALUATED
40	IF22	040	F176-12M	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 7:25:06 PM	1.0000	NOT EVALUATED
41	IF22	041	F176-13	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 7:35:30 PM	1.0000	
42	IF22	042	F176-13M	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 7:45:54 PM	1.0000	
43	IF22	043	F176-01	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 7:56:18 PM	1.0000	
44	IF22	044	F176-01M	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 8:06:42 PM	1.0000	
45	IF22	045	F176-03	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 8:17:06 PM	1.0000	
46	IF22	046	F176-03M	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 8:27:30 PM	1.0000	
47	IF22	047	F176-05	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 8:37:54 PM	1.0000	
48	IF22	048	F176-05M	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 8:48:18 PM	1.0000	
49	IF22	049	CCV7	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 8:58:42 PM	1.0000	
50	IF22	050	CCB7	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 9:09:07 PM	1.0000	
51	IF22	051	F176-07	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 9:19:31 PM	1.0000	
52	IF22	052	F176-07M	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 9:29:55 PM	1.0000	
53	IF22	053	F176-02I	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 9:40:19 PM	5.0000	DF=5
54	IF22	054	F176-02M	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 9:50:43 PM	5.0000	DF=5

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Sequence: IF22
Operator: EMAXLABS

Printed: 6/23/2020 10:17:16 AM

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2020
Timebase: DX600
#Samples: 66

FINAL

Created: 6/22/2020 12:14:20 PM by EMAXLABS
Last Update: 6/23/2020 9:51:52 AM by EMAXLABS

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
55	IF22	055	F176-02S	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 10:01:07 PM	5.0000	DF=5
56	IF22	056	F176-06I	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 10:11:31 PM	5.0000	DF=5
57	IF22	057	F176-06M	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 10:21:55 PM	5.0000	DF=5
58	IF22	058	F176-11I	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 10:32:20 PM	5.0000	DF=5
59	IF22	059	F176-11M	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 10:42:44 PM	5.0000	DF=5
60	IF22	060	TEST	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 10:53:08 PM	1.0000	
61	IF22	061	CCV9	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 11:03:32 PM	1.0000	
62	IF22	062	CCB9	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 11:13:57 PM	1.0000	
63	IF22	063	F176-12I	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 11:24:21 PM	5.0000	DF=5
64	IF22	064	F176-12M	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 11:34:45 PM	5.0000	DF=5
65	IF22	065	CCV11	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 11:45:09 PM	1.0000	
66	IF22	066	CCB11	Unknown	250.0	Cr6 Program	IC59F22	Finished	6/22/2020 11:55:33 PM	1.0000	

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SAMPLE PRESERVATION LOG(S)

EMAX LABORATORIES, INC.

pH ADJUSTMENT/SAMPLE PRESERVATION LOG FOR HEXAVALENT CHROMIUM

SOP ☑ EMAX-218.6 Rev. 7 ☐ EMAX-7199 Rev. 7

Book #: PHC-021

Matrix: w Start Date: 6/19/20 Time: 18:40 End Date: 6/19/20 Time: 19:06

Sample Prep ID	Lab Sample ID (bottle number)	Initial pH	Final pH	Notes
01	F176-01	9.50	9.50	no adjustment needed; Cr
02	-02 (003)	9.50	9.50	
03	-02M (004)	9.50	9.50	
04	-02S (005)	9.50	9.50	
05	-03	9.50	9.50	
06	-04 (009)	9.49	9.49	
07	-04 (010)	9.50	9.50	
08	-04 (011)	9.49	9.49	
09	-05	9.50	9.50	
10	-06 ~~(015)~~ AS 6/19/20 (015)	9.50	9.50	
11	-06 ~~(016)~~ (016)	9.48	9.48	
12	-06 (017)	9.49	9.49	
13	-07	9.50	9.50	
14	-08 (021)	9.49	9.49	
15	-08 (022)	9.50	9.50	
16	-08 (023)	9.50	9.50	
17	-09 (026)	9.50	9.50	
18	-09 (027)	9.50	9.50	
19	-10 (030)	9.48	9.48	
20	-10 (031)	9.49	9.49	
21	-11	9.48	9.48	
22	-12	9.47	9.47	
23	-13	9.48	9.48	
24				
25				AS 6/19/20

Standards	ID	pH
Buffer 7	SW1-02-05-22	7.00
Buffer 10	-12	10.01
Check pH Buffer (8)	-08	7.95
pH meter	F7	

Reagent	Standard ID #
NaOH	—
$(NH_4)_2SO_4/NH_4OH$	—
Reagent Water	—

Legend:

Color	Texture	Clarity	Artifacts
Bu = Blue Bl = Black	Cs = Coarse	Cr = Clear	Rk = Rocks
Bn = Brown Gn = Green	Md = Medium	Cy = Cloudy	Sl = Shale
Og = Orange Rd = Red	Fn = Fine	Td = Turbid	Vg = Vegetation
Yw = Yellow			

☑ Samples were received with preservation

Comments:

Prepared By: AS

Standard Added By: —

Checked By: AS

RETENTION TIME WINDOW

RETENTION TIME WINDOW

METHOD 218.6/7199

Lab Name:	EMAX	**METHOD:**	EMAX-218.6/7199
Instrument ID:	DX500IC59	**IC COLUMN:**	AS7/AG7 / AS7/NG1
		COLUMN SIZE:	4x250mm

Compound	Ical Mean RT	from	to	Retention Time Window
CHROMIUM VI	**4.45**	4.24	4.66	**0.213**

IC59F22

LE 6/26/20

April 21, 2020

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

TEL: (916) 786-3302
FAX:

Workorder No.: N040231

RE: PG&E Topock - PMP, RC000753.801D

Attention: Dan Bush

Enclosed are the results for sample(s) received on April 07, 2020 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

Nancy Liberacio for

Puri Romualdo
Laboratory Director

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

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

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

Analytical Comments for EPA 200.7_Dissolved:

Dilution was necessary since plasma was extinguished when sample was analyzed at lower dilution.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N040229-001E-MS1, N040229-001E-MSD1, N040231-001B-MS2 and N040231-001B-MSD2 since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

RPD for Matrix Spike (MS) and Matrix Spike Duplicate(MSD) is outside criteria for Iron ; however, the associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 200.8_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N040229-001E-MS and N040229-001E-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *21-Apr-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PMP, RC000753.801D
Lab Order: N040231
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N040231-001A	TW-03D-0420	Groundwater	4/7/2020 12:00:00 PM	4/7/2020	4/21/2020
N040231-001B	TW-03D-0420	Groundwater	4/7/2020 12:00:00 PM	4/7/2020	4/21/2020
N040231-001C	TW-03D-0420	Groundwater	4/7/2020 12:00:00 PM	4/7/2020	4/21/2020
N040231-001D	TW-03D-0420	Groundwater	4/7/2020 12:00:00 PM	4/7/2020	4/21/2020

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *21-Apr-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-0420
Lab Order:	N040231	**Collection Date:**	4/7/2020 12:00:00 PM
Project:	PG&E Topock - PMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040231-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200408C**	QC Batch: **R143495**			PrepDate:			Analyst: **LR**
Specific Conductance	6800	0.10	0.10		umhos/cm	1	4/8/2020 11:20 AM

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040231
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **N040229-003ADUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **143495**
Client ID: **ZZZZZZ** Batch ID: **R143495** TestNo: **EPA 120.1** Analysis Date: **4/8/2020** SeqNo: **3742822**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	37900.000	0.10						38000	0.264	2	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N040231
Project: PG&E Topock - PMP, RC000753.801D
Lab ID: N040231-001

Client Sample ID: TW-03D-0420
Collection Date: 4/7/2020 12:00:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **NV00922-WC_200408B**	QC Batch: **R143494**			PrepDate:			Analyst: **LR**
pH	7.3	0.10	0.10	H	pH Units	1	4/8/2020 10:35 AM
Temp. at time of pH Analysis	25	0.10	0.10	H	°C	1	4/8/2020 10:35 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040231
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 150.1_4500H+B_W

Sample ID: **N040231-001CDUP** SampType: **DUP** TestCode: **150.1_4500H+** Units: **pH Units** Prep Date: RunNo: **143494**
Client ID: **ZZZZZZ** Batch ID: **R143494** TestNo: **SM4500-H+B** Analysis Date: **4/8/2020** SeqNo: **3742816**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.300	0.10						7.310	0.137	10	H
Temp. at time of pH Analysis	25.000	0.10						25.00	0	10	H

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *21-Apr-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-0420
Lab Order:	N040231	**Collection Date:**	4/7/2020 12:00:00 PM
Project:	PG&E Topock - PMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040231-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
SM2540C							
RunID: **NV00922-WC_200408I** QC Batch: **78835** PrepDate: **4/8/2020** Analyst: **LR**							
Total Dissolved Solids (Residue, Filterable)	4700	50	50		mg/L	1	4/8/2020 01:05 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040231
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: **LCS-78835** SampType: **LCS** TestCode: **160.1_2540C_** Units: **mg/L** Prep Date: **4/8/2020** RunNo: **143547**
Client ID: **LCSW** Batch ID: **78835** TestNo: **SM2540C** Analysis Date: **4/8/2020** SeqNo: **3746834**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	987.000	10	1000	0	98.7	80	120				

Sample ID: **MB-78835** SampType: **MBLK** TestCode: **160.1_2540C_** Units: **mg/L** Prep Date: **4/8/2020** RunNo: **143547**
Client ID: **PBW** Batch ID: **78835** TestNo: **SM2540C** Analysis Date: **4/8/2020** SeqNo: **3746835**

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

Sample ID: **N040229-003ADUP** SampType: **DUP** TestCode: **160.1_2540C_** Units: **mg/L** Prep Date: **4/8/2020** RunNo: **143547**
Client ID: **ZZZZZZ** Batch ID: **78835** TestNo: **SM2540C** Analysis Date: **4/8/2020** SeqNo: **3746842**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	33850.000	500						34050	0.589	5	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *21-Apr-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-0420
Lab Order:	N040231	**Collection Date:**	4/7/2020 12:00:00 PM
Project:	PG&E Topock - PMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040231-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_200410A**	QC Batch: **78843**				PrepDate: **4/9/2020**		Analyst: **DJ**
Calcium	200000	420	2500		µg/L	5	4/10/2020 10:42 AM
Iron	ND	89	100		µg/L	5	4/10/2020 10:42 AM
Magnesium	30000	240	500		µg/L	5	4/10/2020 10:42 AM
Sodium	1500000	4800	25000		µg/L	50	4/13/2020 07:09 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040231
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WDPGEPPB

Sample ID: **N040229-001E-MS1** SampType: **MS** TestCode: **200.7_WDPG** Units: **µg/L** Prep Date: **4/9/2020** RunNo: **143544**
Client ID: **ZZZZZZ** Batch ID: **78843** TestNo: **EPA 200.7** Analysis Date: **4/10/2020** SeqNo: **3746719**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	206954.879	2500	10000	202300	46.7	75	125				S
Iron	201.239	100	100.0	203.1	-1.87	75	125				S
Magnesium	40489.468	500	10000	32710	77.8	75	125				

Sample ID: **N040229-001E-MSD** SampType: **MSD** TestCode: **200.7_WDPG** Units: **µg/L** Prep Date: **4/9/2020** RunNo: **143544**
Client ID: **ZZZZZZ** Batch ID: **78843** TestNo: **EPA 200.7** Analysis Date: **4/10/2020** SeqNo: **3746720**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	211009.658	2500	10000	202300	87.2	75	125	207000	1.94	20	
Iron	164.335	100	100.0	203.1	-38.8	75	125	201.2	20.2	20	SR
Magnesium	41070.523	500	10000	32710	83.6	75	125	40490	1.42	20	

Sample ID: **MB-78843** SampType: **MBLK** TestCode: **200.7_WDPG** Units: **µg/L** Prep Date: **4/9/2020** RunNo: **143544**
Client ID: **PBW** Batch ID: **78843** TestNo: **EPA 200.7** Analysis Date: **4/10/2020** SeqNo: **3746723**

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

Sample ID: **LCS1-78843** SampType: **LCS** TestCode: **200.7_WDPG** Units: **µg/L** Prep Date: **4/9/2020** RunNo: **143544**
Client ID: **LCSW** Batch ID: **78843** TestNo: **EPA 200.7** Analysis Date: **4/10/2020** SeqNo: **3746724**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10233.027	500	10000	0	102	85	115				
Iron	114.326	20	100.0	0	114	85	115				
Magnesium	10612.114	100	10000	0	106	85	115				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040231
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WDPGEPPB

Sample ID: **MB-78843** SampType: **MBLK** TestCode: **200.7_WDPG** Units: **µg/L** Prep Date: **4/9/2020** RunNo: **143572**
Client ID: **PBW** Batch ID: **78843** TestNo: **EPA 200.7** Analysis Date: **4/13/2020** SeqNo: **3747944**

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

Sample ID: **LCS2-78843** SampType: **LCS** TestCode: **200.7_WDPG** Units: **µg/L** Prep Date: **4/9/2020** RunNo: **143572**
Client ID: **LCSW** Batch ID: **78843** TestNo: **EPA 200.7** Analysis Date: **4/13/2020** SeqNo: **3747945**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	20378.961	500	20000	0	102	85	115				

Sample ID: **N040231-001B-MS2** SampType: **MS** TestCode: **200.7_WDPG** Units: **µg/L** Prep Date: **4/9/2020** RunNo: **143572**
Client ID: **ZZZZZZ** Batch ID: **78843** TestNo: **EPA 200.7** Analysis Date: **4/13/2020** SeqNo: **3747958**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	1420814.788	25000	20000	1453000	-163	75	125				S

Sample ID: **N040231-001B-MSD** SampType: **MSD** TestCode: **200.7_WDPG** Units: **µg/L** Prep Date: **4/9/2020** RunNo: **143572**
Client ID: **ZZZZZZ** Batch ID: **78843** TestNo: **EPA 200.7** Analysis Date: **4/13/2020** SeqNo: **3747959**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	1414292.050	25000	20000	1453000	-195	75	125	1421000	0.460	20	S

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040231
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WDPGEPPB

Sample ID: **N040229-001E-PS** SampType: **PS** TestCode: **200.7_WDPG** Units: **µg/L** Prep Date: RunNo: **143544**
Client ID: **ZZZZZZ** Batch ID: **78843** TestNo: **EPA 200.7** Analysis Date: **4/10/2020** SeqNo: **3746718**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	193930.850	2500	10000	202300	-83.6	80	120				S
Iron	182.506	100	100.0	203.1	-20.6	80	120				S
Magnesium	38004.653	500	10000	32710	52.9	80	120				S

Sample ID: **N040231-001B-PS** SampType: **PS** TestCode: **200.7_WDPG** Units: **µg/L** Prep Date: RunNo: **143572**
Client ID: **ZZZZZZ** Batch ID: **78843** TestNo: **EPA 200.7** Analysis Date: **4/13/2020** SeqNo: **3747953**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	1412883.194	25000	20000	1453000	-202	80	120				S

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *21-Apr-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-0420
Lab Order:	N040231	**Collection Date:**	4/7/2020 12:00:00 PM
Project:	PG&E Topock - PMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040231-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICPMS							
EPA 200.8							
RunID: **NV00922-ICP8_200409A** QC Batch: **78841** PrepDate: **4/9/2020** Analyst: **CEI**							
Manganese	21	0.26	0.50		µg/L	1	4/9/2020 11:42 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040231
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID: **MB-78841** SampType: **MBLK** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **4/9/2020** RunNo: **143524**
Client ID: **PBW** Batch ID: **78841** TestNo: **EPA 200.8** Analysis Date: **4/9/2020** SeqNo: **3744622**

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

Sample ID: **LCS-78841** SampType: **LCS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **4/9/2020** RunNo: **143524**
Client ID: **LCSW** Batch ID: **78841** TestNo: **EPA 200.8** Analysis Date: **4/9/2020** SeqNo: **3744623**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	101.879	0.50	100.0	0	102	85	115				

Sample ID: **N040229-001E-MS** SampType: **MS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **4/9/2020** RunNo: **143524**
Client ID: **ZZZZZZ** Batch ID: **78841** TestNo: **EPA 200.8** Analysis Date: **4/9/2020** SeqNo: **3744629**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	100.510	0.50	100.0	7.272	93.2	75	125				

Sample ID: **N040229-001E-MSD** SampType: **MSD** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **4/9/2020** RunNo: **143524**
Client ID: **ZZZZZZ** Batch ID: **78841** TestNo: **EPA 200.8** Analysis Date: **4/9/2020** SeqNo: **3744634**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	100.727	0.50	100.0	7.272	93.5	75	125	100.5	0.216	20	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *21-Apr-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-0420
Lab Order:	N040231	**Collection Date:**	4/7/2020 12:00:00 PM
Project:	PG&E Topock - PMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040231-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200408B** QC Batch: **R143517** PrepDate: Analyst: **HG**							
Hexavalent Chromium	440	1.7	10		µg/L	50	4/8/2020 11:02 PM
DISSOLVED METALS BY ICP-MS							
EPA 200.8							
RunID: **NV00922-ICP8_200409A** QC Batch: **78841** PrepDate: **4/9/2020** Analyst: **CEI**							
Chromium	420	0.65	5.0		µg/L	5	4/9/2020 11:46 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040231
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8DIS_CrPGE

Sample ID: **MB-78841** SampType: **MBLK** TestCode: **200.8DIS_CrP** Units: **µg/L** Prep Date: **4/9/2020** RunNo: **143524**
Client ID: **PBW** Batch ID: **78841** TestNo: **EPA 200.8** Analysis Date: **4/9/2020** SeqNo: **3744583**

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

Sample ID: **LCS-78841** SampType: **LCS** TestCode: **200.8DIS_CrP** Units: **µg/L** Prep Date: **4/9/2020** RunNo: **143524**
Client ID: **LCSW** Batch ID: **78841** TestNo: **EPA 200.8** Analysis Date: **4/9/2020** SeqNo: **3744584**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.912	1.0	10.00	0	99.1	85	115				

Sample ID: **N040229-001E-MS** SampType: **MS** TestCode: **200.8DIS_CrP** Units: **µg/L** Prep Date: **4/9/2020** RunNo: **143524**
Client ID: **ZZZZZZ** Batch ID: **78841** TestNo: **EPA 200.8** Analysis Date: **4/9/2020** SeqNo: **3744594**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	442.946	5.0	10.00	415.6	273	75	125				S

Sample ID: **N040229-001E-MSD** SampType: **MSD** TestCode: **200.8DIS_CrP** Units: **µg/L** Prep Date: **4/9/2020** RunNo: **143524**
Client ID: **ZZZZZZ** Batch ID: **78841** TestNo: **EPA 200.8** Analysis Date: **4/9/2020** SeqNo: **3744596**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	455.171	5.0	10.00	415.6	396	75	125	442.9	2.72	20	S

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040231
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **LCS-R143517** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143517**
Client ID: **LCSW** Batch ID: **R143517** TestNo: **EPA 218.6** Analysis Date: **4/8/2020** SeqNo: **3743664**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.024	0.20	5.000	0	100	90	110				

Sample ID: **MB-R143517** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143517**
Client ID: **PBW** Batch ID: **R143517** TestNo: **EPA 218.6** Analysis Date: **4/8/2020** SeqNo: **3743665**

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

Sample ID: **N040233-016ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143517**
Client ID: **ZZZZZZ** Batch ID: **R143517** TestNo: **EPA 218.6** Analysis Date: **4/8/2020** SeqNo: **3743668**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.514	0.20						1.515	0.0330	20	

Sample ID: **N040233-015AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143517**
Client ID: **ZZZZZZ** Batch ID: **R143517** TestNo: **EPA 218.6** Analysis Date: **4/8/2020** SeqNo: **3743669**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.791	0.20	1.000	2.815	97.6	90	110				

Sample ID: **N040233-015AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143517**
Client ID: **ZZZZZZ** Batch ID: **R143517** TestNo: **EPA 218.6** Analysis Date: **4/8/2020** SeqNo: **3743670**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.833	0.20	1.000	2.815	102	90	110	3.791	1.10	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040231
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N040233-016AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143517**
Client ID: **ZZZZZZ** Batch ID: **R143517** TestNo: **EPA 218.6** Analysis Date: **4/8/2020** SeqNo: **3743671**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.664	0.20	5.000	1.515	103	90	110				

Sample ID: **N040231-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143517**
Client ID: **ZZZZZZ** Batch ID: **R143517** TestNo: **EPA 218.6** Analysis Date: **4/8/2020** SeqNo: **3743687**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	693.055	10	250.0	443.6	99.8	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040231
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8DIS_CrPGE

Sample ID: **N040229-001E-PS** SampType: **PS** TestCode: **200.8DIS_CrP** Units: **µg/L** Prep Date: RunNo: **143524**
Client ID: **ZZZZZZ** Batch ID: **78841** TestNo: **EPA 200.8** Analysis Date: **4/9/2020** SeqNo: **3744589**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	437.239	5.0	10.00	415.6	216	80	120				S

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *21-Apr-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-0420
Lab Order:	N040231	**Collection Date:**	4/7/2020 12:00:00 PM
Project:	PG&E Topock - PMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040231-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_200410E**	QC Batch: **R143554**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	170	1.2	5.0		mg/L	1	4/10/2020 10:30 AM

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040231
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **LCS-R143554** SampType: **LCS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **143554**
Client ID: **LCSW** Batch ID: **R143554** TestNo: **SM 2320 B** Analysis Date: **4/10/2020** SeqNo: **3746940**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	97.737	5.0	100.0	0	97.7	85	115				

Sample ID: **MB-R143554** SampType: **MBLK** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **143554**
Client ID: **PBW** Batch ID: **R143554** TestNo: **SM 2320 B** Analysis Date: **4/10/2020** SeqNo: **3746941**

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

Sample ID: **N040227-004ADUP** SampType: **DUP** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **143554**
Client ID: **ZZZZZZ** Batch ID: **R143554** TestNo: **SM 2320 B** Analysis Date: **4/10/2020** SeqNo: **3746944**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	69.959	5.0						69.96	0	30	

Sample ID: **N040227-004AMS** SampType: **MS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **143554**
Client ID: **ZZZZZZ** Batch ID: **R143554** TestNo: **SM 2320 B** Analysis Date: **4/10/2020** SeqNo: **3746945**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	163.580	5.0	100.0	69.96	93.6	75	125				

Sample ID: **N040227-004AMSD** SampType: **MSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **143554**
Client ID: **ZZZZZZ** Batch ID: **R143554** TestNo: **SM 2320 B** Analysis Date: **4/10/2020** SeqNo: **3746946**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	162.551	5.0	100.0	69.96	92.6	75	125	163.6	0.631	20	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *21-Apr-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-0420
Lab Order:	N040231	**Collection Date:**	4/7/2020 12:00:00 PM
Project:	PG&E Topock - PMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040231-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_200413A** QC Batch: **R143584** PrepDate: Analyst: **HG**							
Chloride	2100	17	250		mg/L	500	4/13/2020 12:28 PM
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_200413A** QC Batch: **R143584** PrepDate: Analyst: **HG**							
Sulfate	500	2.0	25		mg/L	50	4/13/2020 03:43 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040231
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **MB-R143584_CL** SampType: **MBLK** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **143584**
Client ID: **PBW** Batch ID: **R143584** TestNo: **EPA 300.0** Analysis Date: **4/13/2020** SeqNo: **3748884**

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

Sample ID: **LCS-R143584_CL** SampType: **LCS** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **143584**
Client ID: **LCSW** Batch ID: **R143584** TestNo: **EPA 300.0** Analysis Date: **4/13/2020** SeqNo: **3748885**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1.954	0.50	2.000	0	97.7	90	110				

Sample ID: **N040231-001CDUP** SampType: **DUP** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **143584**
Client ID: **ZZZZZZ** Batch ID: **R143584** TestNo: **EPA 300.0** Analysis Date: **4/13/2020** SeqNo: **3748893**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2140.600	250						2093	2.24	20	

Sample ID: **N040231-001CMS** SampType: **MS** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **143584**
Client ID: **ZZZZZZ** Batch ID: **R143584** TestNo: **EPA 300.0** Analysis Date: **4/13/2020** SeqNo: **3748894**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3156.350	250	1000	2093	106	80	120				

Sample ID: **N040231-001CMSD** SampType: **MSD** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **143584**
Client ID: **ZZZZZZ** Batch ID: **R143584** TestNo: **EPA 300.0** Analysis Date: **4/13/2020** SeqNo: **3748895**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3168.250	250	1000	2093	108	80	120	3156	0.376	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040231
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R143584_SO4** SampType: **MBLK** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **143584**
Client ID: **PBW** Batch ID: **R143584** TestNo: **EPA 300.0** Analysis Date: **4/13/2020** SeqNo: **3748922**

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

Sample ID: **LCS-R143584_SO4** SampType: **LCS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **143584**
Client ID: **LCSW** Batch ID: **R143584** TestNo: **EPA 300.0** Analysis Date: **4/13/2020** SeqNo: **3748923**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.746	0.50	4.000	0	93.6	90	110				

Sample ID: **N040229-001BDUP** SampType: **DUP** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **143584**
Client ID: **ZZZZZZ** Batch ID: **R143584** TestNo: **EPA 300.0** Analysis Date: **4/13/2020** SeqNo: **3748929**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	512.235	25						495.0	3.43	20	

Sample ID: **N040231-001CMS** SampType: **MS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **143584**
Client ID: **ZZZZZZ** Batch ID: **R143584** TestNo: **EPA 300.0** Analysis Date: **4/13/2020** SeqNo: **3748931**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	725.205	25	200.0	497.2	114	80	120				

Sample ID: **N040231-001CMSD** SampType: **MSD** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **143584**
Client ID: **ZZZZZZ** Batch ID: **R143584** TestNo: **EPA 300.0** Analysis Date: **4/13/2020** SeqNo: **3748932**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	719.380	25	200.0	497.2	111	80	120	725.2	0.806	20	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *21-Apr-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-0420
Lab Order:	N040231	**Collection Date:**	4/7/2020 12:00:00 PM
Project:	PG&E Topock - PMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040231-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200413A** QC Batch: **R143581** PrepDate: Analyst: **JBB**							
Nitrate/Nitrite as N	2.9	0.16	0.25		mg/L	5	4/13/2020 02:21 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040231
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID: **MB-R143581** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **143581**
Client ID: **PBW** Batch ID: **R143581** TestNo: **SM4500-NO3** Analysis Date: **4/13/2020** SeqNo: **3748752**

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

Sample ID: **LCS-R143581** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **143581**
Client ID: **LCSW** Batch ID: **R143581** TestNo: **SM4500-NO3** Analysis Date: **4/13/2020** SeqNo: **3748753**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.976	0.050	1.000	0	97.6	85	115				

Sample ID: **N040229-002DDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **143581**
Client ID: **ZZZZZZ** Batch ID: **R143581** TestNo: **SM4500-NO3** Analysis Date: **4/13/2020** SeqNo: **3748755**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	2.858	0.25						2.874	0.576	20	

Sample ID: **N040231-001DMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **143581**
Client ID: **ZZZZZZ** Batch ID: **R143581** TestNo: **SM4500-NO3** Analysis Date: **4/13/2020** SeqNo: **3748757**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	8.384	0.25	5.000	2.904	110	75	125				

Sample ID: **N040231-001DMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **143581**
Client ID: **ZZZZZZ** Batch ID: **R143581** TestNo: **SM4500-NO3** Analysis Date: **4/13/2020** SeqNo: **3748758**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	7.720	0.25	5.000	2.904	96.3	75	125	8.384	8.25	20	

Qualifiers:

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

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118.
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD
Address: Roseville, CA 95661	Email: [illegible]	Address:	Geotracker
Phone: 916-786-3302 / Fax:	Address: 1410 Rocky Ridge Dr # 330, Roseville, CA 95661	Email to: mbloes@pivcx.com	P.O.#: SWA-ASSET-C9817-051
Submitted By:		Phone: 949-727-1400, ext 200	Fax:
Title:	Phone: 916-786-3302 / Fax:		
Signature: / Date:	Sampled By: Spencer Doolittle		
Project Name: PG&E Topock - FMP	Signature: / Date: 4/7/20		
Project Number: RC000753.801D			

Matrix: Ground x; Sediment; Potable; Soil; NPDES; Other Solid; Surface

I hereby authorize ASSET Labs to perform the tests indicated below.

I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory

Others ✓; Specify: RWQCB; Global ID:; Specify State:

Sample Receipt Condition (Y / N): 1. Chilled ✓; 2. Headspace; 3. Container Intact ✓; 4. Seal Present; 5. IR number 2; 6. Method of Cooling: ICE; Sample Temp: 3.82

Courier:

Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly		Dissolved metals (EPA 200.8) FF; HNO3, Cr, Mn 1 L poly	Dissolved metals (EPA200.7) FF; HNO3, Ca, Mg, Fe, Na 1 L poly	Dissolved metals (SW6010B/SW6020Adis) FF; HNO3, As, Mn, Fe, Se, Mo, Ba 1 L poly	Total metals (SW6010B); HNO3, Fe 500 mL poly	Anions (E300.0); Cl, SO4 1 liter poly	Specific Conductance (E120.1) 1 liter poly	pH (SM4500HB) 1 liter poly	TDS (SM2540C) 1 liter poly	Alkalinity (Total, reported as CaCO3) (SM2320B) 1 liter poly	TSS (SM2540) 1 liter poly	Nitrate/Nitrite (SM4500N03) Nitrate; H2SO4 125 mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N040231-01	TW-03D-0420	4/7/20	1200		X		X	X			X	X	X	X	X		X	E	4	P	BN	
2		~~[illegible]~~																					SW
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

Relinquished by (Signature and Printed Name)	Date/Time	Relinquished by (Signature and Printed Name)	Date/Time
Spencer Doolittle	4/7/20 1515	M. Bundalian	4/7/20 1515
M. Bundalian	4/7/20 1734	M. Bundalian	4/7/20 1734

Turn Around Time (TAT)

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

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

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

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

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy Yellow=Customer's Copy

ASSET Laboratories

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

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

Cooler Received/Opened On:	4/7/2020	Workorder:	N040231
Rep sample Temp (Deg C):	3.8	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

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

Comments: Sample for pH received past holding time.

For:

Checklist Completed By: MPB YRJ 4/8/2020

Reviewed By: NBC 4/9/2020

ASSET Laboratories

WORK ORDER Summary

08-Apr-20

WorkOrder: N040231

Client ID: ARCUS02

Project: PG&E Topock - PMP, RC000753.801D **QC Level:** Level IV **Date Received:** 4/7/2020

Comments: Title 22 Metals :Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N040231-001A	TW-03D-0420	4/7/2020 12:00:00 PM	4/21/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040231-001B			4/21/2020			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/21/2020		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/21/2020			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/21/2020		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW
			4/21/2020		EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040231-001C			4/21/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			4/21/2020		SM4500-H+B	pH	☐	☐	☐	WW
			4/21/2020		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			4/21/2020			Total Dissolved Solids Prep	☐	☐	☐	WW
			4/21/2020		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			4/21/2020		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/21/2020		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N040231-001D			4/21/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040231-002A	FOLDER	4/21/2020	4/21/2020		EDD	RWQCB	☐	☐	☐	LAB
			4/21/2020		Folder	Folder	☐	☐	☐	LAB
			4/21/2020		Folder	Level IV Report	☐	☐	☐	LAB
			4/21/2020		Folder	Folder	☐	☐	☐	LAB

May 06, 2020

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

TEL: (916) 786-3302
FAX:

Workorder No.: N040417

RE: PG&E Topock - GMP, RC000753.801D

Attention: Dan Bush

Enclosed are the results for sample(s) received on April 23, 2020 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

Nancy Liberman for

Puri Romualdo
Laboratory Director

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

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Analytical Comments for EPA 6020_Dissolved:

Dilution was necessary on some analytes for sample N040417-005 due to associated internal standard not meeting method criteria possibly due to matrix interference. Sample was analyzed with dilution and internal standard met method criteria. Affected analytes for this failed internal standard were reported at dilution that meets internal standard recovery limit.

Analytical Comments for SM 4500-NO3F:

RPD for Sample Duplicate N040392-010ADUP is outside criteria; however, the associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *06-May-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N040417
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N040417-001A	MW-10-Q220	Groundwater	4/23/2020 12:12:00 PM	4/23/2020	5/6/2020
N040417-001B	MW-10-Q220	Groundwater	4/23/2020 12:12:00 PM	4/23/2020	5/6/2020
N040417-001C	MW-10-Q220	Groundwater	4/23/2020 12:12:00 PM	4/23/2020	5/6/2020
N040417-001D	MW-10-Q220	Groundwater	4/23/2020 12:12:00 PM	4/23/2020	5/6/2020
N040417-002A	MW-11-Q220	Groundwater	4/23/2020 12:52:00 PM	4/23/2020	5/6/2020
N040417-002B	MW-11-Q220	Groundwater	4/23/2020 12:52:00 PM	4/23/2020	5/6/2020
N040417-002C	MW-11-Q220	Groundwater	4/23/2020 12:52:00 PM	4/23/2020	5/6/2020
N040417-002D	MW-11-Q220	Groundwater	4/23/2020 12:52:00 PM	4/23/2020	5/6/2020
N040417-003A	MW-38S-Q220	Groundwater	4/23/2020 1:33:00 PM	4/23/2020	5/6/2020
N040417-003B	MW-38S-Q220	Groundwater	4/23/2020 1:33:00 PM	4/23/2020	5/6/2020
N040417-003C	MW-38S-Q220	Groundwater	4/23/2020 1:33:00 PM	4/23/2020	5/6/2020
N040417-003D	MW-38S-Q220	Groundwater	4/23/2020 1:33:00 PM	4/23/2020	5/6/2020
N040417-004A	MW-910-Q220	Groundwater	4/23/2020 1:43:00 PM	4/23/2020	5/6/2020
N040417-004B	MW-910-Q220	Groundwater	4/23/2020 1:43:00 PM	4/23/2020	5/6/2020
N040417-004C	MW-910-Q220	Groundwater	4/23/2020 1:43:00 PM	4/23/2020	5/6/2020
N040417-004D	MW-910-Q220	Groundwater	4/23/2020 1:43:00 PM	4/23/2020	5/6/2020
N040417-005A	MW-38D-Q220	Groundwater	4/23/2020 2:53:00 PM	4/23/2020	5/6/2020
N040417-005B	MW-38D-Q220	Groundwater	4/23/2020 2:53:00 PM	4/23/2020	5/6/2020
N040417-005C	MW-38D-Q220	Groundwater	4/23/2020 2:53:00 PM	4/23/2020	5/6/2020
N040417-005D	MW-38D-Q220	Groundwater	4/23/2020 2:53:00 PM	4/23/2020	5/6/2020

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-10-Q220
Lab Order:	N040417	**Collection Date:**	4/23/2020 12:12:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040417-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200424D**	QC Batch: **R143819**			PrepDate:			Analyst: **LR**
Specific Conductance	2900	0.10	0.10		umhos/cm	1	4/24/2020 10:35 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-11-Q220
Lab Order:	N040417	**Collection Date:**	4/23/2020 12:52:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040417-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200424D**	QC Batch: **R143819**			PrepDate:			Analyst: **LR**
Specific Conductance	2200	0.10	0.10		umhos/cm	1	4/24/2020 10:35 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38S-Q220
Lab Order:	N040417	**Collection Date:**	4/23/2020 1:33:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040417-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200424D**	QC Batch: **R143819**			PrepDate:			Analyst: **LR**
Specific Conductance	1600	0.10	0.10		umhos/cm	1	4/24/2020 10:35 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-910-Q220
Lab Order:	N040417	**Collection Date:**	4/23/2020 1:43:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040417-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200424D**	QC Batch: **R143819**			PrepDate:			Analyst: **LR**
Specific Conductance	1600	0.10	0.10		umhos/cm	1	4/24/2020 10:35 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38D-Q220
Lab Order:	N040417	**Collection Date:**	4/23/2020 2:53:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040417-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200424D**	QC Batch: **R143819**			PrepDate:			Analyst: **LR**
Specific Conductance	21000	0.10	0.10		umhos/cm	1	4/24/2020 10:35 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040417
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N040417-002BDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **143819**
Client ID: **ZZZZZZ** Batch ID: **R143819** TestNo: **EPA 120.1** Analysis Date: **4/24/2020** SeqNo: **3759428**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	2240.000	0.10						2220	0.897	2	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-10-Q220
Lab Order:	N040417	**Collection Date:**	4/23/2020 12:12:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040417-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200424A** QC Batch: **R143825** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	150	0.66	4.0		µg/L	20	4/24/2020 10:21 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200429B** QC Batch: **79054** PrepDate: **4/24/2020** Analyst: **CEI**							
Chromium	150	0.13	1.0		µg/L	1	4/29/2020 10:12 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-11-Q220
Lab Order:	N040417	**Collection Date:**	4/23/2020 12:52:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040417-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200424A** QC Batch: **R143825** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	43	0.33	2.0		µg/L	10	4/24/2020 10:31 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200429B** QC Batch: **79054** PrepDate: **4/24/2020** Analyst: **CEI**							
Chromium	43	0.13	1.0		µg/L	1	4/29/2020 10:17 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38S-Q220
Lab Order:	N040417	**Collection Date:**	4/23/2020 1:33:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040417-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200424A** QC Batch: **R143825** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	4.0	0.033	0.20		µg/L	1	4/24/2020 10:40 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200429B** QC Batch: **79054** PrepDate: **4/24/2020** Analyst: **CEI**							
Chromium	4.4	0.13	1.0		µg/L	1	4/29/2020 10:49 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-910-Q220
Lab Order:	N040417	**Collection Date:**	4/23/2020 1:43:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040417-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200424A** QC Batch: **R143825** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	4.0	0.033	0.20		µg/L	1	4/24/2020 11:18 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200429B** QC Batch: **79054** PrepDate: **4/24/2020** Analyst: **CEI**							
Chromium	4.6	0.13	1.0		µg/L	1	4/29/2020 10:54 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N040417
Project: PG&E Topock - GMP, RC000753.801D
Lab ID: N040417-005

Client Sample ID: MW-38D-Q220
Collection Date: 4/23/2020 2:53:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200424A** QC Batch: **R143825** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	19	0.17	1.0		µg/L	5	4/24/2020 11:09 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200429B** QC Batch: **79054** PrepDate: **4/24/2020** Analyst: **CEI**							
Chromium	16	0.13	1.0		µg/L	1	4/29/2020 10:59 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040417
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R143825** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143825**
Client ID: **PBW** Batch ID: **R143825** TestNo: **EPA 218.6** Analysis Date: **4/24/2020** SeqNo: **3759684**

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

Sample ID **LCS-R143825** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143825**
Client ID: **LCSW** Batch ID: **R143825** TestNo: **EPA 218.6** Analysis Date: **4/24/2020** SeqNo: **3759685**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.901	0.20	5.000	0	98.0	90	110				

Sample ID **N040415-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143825**
Client ID: **ZZZZZZ** Batch ID: **R143825** TestNo: **EPA 218.6** Analysis Date: **4/24/2020** SeqNo: **3759687**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.997	0.20	1.000	0	99.7	90	110				

Sample ID **N040417-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143825**
Client ID: **ZZZZZZ** Batch ID: **R143825** TestNo: **EPA 218.6** Analysis Date: **4/24/2020** SeqNo: **3759698**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	93.243	2.0	50.00	42.91	101	90	110				

Sample ID **N040417-002AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143825**
Client ID: **ZZZZZZ** Batch ID: **R143825** TestNo: **EPA 218.6** Analysis Date: **4/24/2020** SeqNo: **3759699**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	92.834	2.0	50.00	42.91	99.9	90	110	93.24	0.440	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040417
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N040415-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143825**
Client ID: **ZZZZZZ** Batch ID: **R143825** TestNo: **EPA 218.6** Analysis Date: **4/24/2020** SeqNo: **3759700**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	44.326	1.0	25.00	19.91	97.7	90	110				

Sample ID **N040415-002ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143825**
Client ID: **ZZZZZZ** Batch ID: **R143825** TestNo: **EPA 218.6** Analysis Date: **4/24/2020** SeqNo: **3759701**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.808	0.20						4.773	0.724	20	

Sample ID **N040415-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143825**
Client ID: **ZZZZZZ** Batch ID: **R143825** TestNo: **EPA 218.6** Analysis Date: **4/24/2020** SeqNo: **3759702**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.539	0.20	5.000	4.773	95.3	90	110				

Sample ID **N040417-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143825**
Client ID: **ZZZZZZ** Batch ID: **R143825** TestNo: **EPA 218.6** Analysis Date: **4/24/2020** SeqNo: **3759703**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	251.642	4.0	100.0	151.8	99.8	90	110				

Sample ID **N040417-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143825**
Client ID: **ZZZZZZ** Batch ID: **R143825** TestNo: **EPA 218.6** Analysis Date: **4/24/2020** SeqNo: **3759704**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.059	0.20	5.000	3.961	102	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040417
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N040417-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	143825
Client ID:	ZZZZZZ	Batch ID:	R143825	TestNo:	EPA 218.6			Analysis Date:	4/24/2020	SeqNo:	3759705

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.120	0.20	5.000	3.988	103	90	110				

Sample ID	N040417-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	143825
Client ID:	ZZZZZZ	Batch ID:	R143825	TestNo:	EPA 218.6			Analysis Date:	4/24/2020	SeqNo:	3759708

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	43.439	1.0	25.00	18.71	98.9	90	110				

Sample ID	N040415-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	143825
Client ID:	ZZZZZZ	Batch ID:	R143825	TestNo:	EPA 218.6			Analysis Date:	4/24/2020	SeqNo:	3759709

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	17.748	0.40	10.00	7.869	98.8	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040417
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **MB-79054** SampType: **MBLK** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **4/24/2020** RunNo: **143946**
Client ID: **PBW** Batch ID: **79054** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/29/2020** SeqNo: **3766368**

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

Sample ID **LCS-79054** SampType: **LCS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **4/24/2020** RunNo: **143946**
Client ID: **LCSW** Batch ID: **79054** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/29/2020** SeqNo: **3766369**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.574	1.0	10.00	0	95.7	85	115				

Sample ID **N040417-002DMS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **4/24/2020** RunNo: **143946**
Client ID: **ZZZZZZ** Batch ID: **79054** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/29/2020** SeqNo: **3766376**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	51.250	1.0	10.00	42.99	82.6	75	125				

Sample ID **N040417-002DMSD** SampType: **MSD** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **4/24/2020** RunNo: **143946**
Client ID: **ZZZZZZ** Batch ID: **79054** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/29/2020** SeqNo: **3766377**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	51.320	1.0	10.00	42.99	83.3	75	125	51.25	0.136	20	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-10-Q220
Lab Order:	N040417	**Collection Date:**	4/23/2020 12:12:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040417-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200428D**	QC Batch: **R143920**			PrepDate:			Analyst: **HG**
Nitrate/Nitrite as N	12	0.63	1.0		mg/L	20	4/28/2020 01:02 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-11-Q220
Lab Order:	N040417	**Collection Date:**	4/23/2020 12:52:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040417-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200428D**	QC Batch: **R143920**			PrepDate:			Analyst: **HG**
Nitrate/Nitrite as N	5.2	0.32	0.50		mg/L	10	4/28/2020 01:09 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38S-Q220
Lab Order:	N040417	**Collection Date:**	4/23/2020 1:33:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040417-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200428D** QC Batch: **R143920** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	5.1	0.16	0.25		mg/L	5	4/28/2020 01:42 PM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-910-Q220
Lab Order:	N040417	**Collection Date:**	4/23/2020 1:43:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040417-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200428D**	QC Batch: **R143920**			PrepDate:			Analyst: **HG**
Nitrate/Nitrite as N	5.5	0.16	0.25		mg/L	5	4/28/2020 01:45 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38D-Q220
Lab Order:	N040417	**Collection Date:**	4/23/2020 2:53:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040417-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200430A** QC Batch: **R143954** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	ND	0.032	0.050		mg/L	1	4/30/2020 01:56 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040417
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID **MB-R143920** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **143920**
Client ID: **PBW** Batch ID: **R143920** TestNo: **SM4500-NO3** Analysis Date: **4/28/2020** SeqNo: **3765649**

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

Sample ID **LCS-R143920** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **143920**
Client ID: **LCSW** Batch ID: **R143920** TestNo: **SM4500-NO3** Analysis Date: **4/28/2020** SeqNo: **3765650**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.029	0.050	1.000	0	103	85	115				

Sample ID **N040417-001CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **143920**
Client ID: **ZZZZZZ** Batch ID: **R143920** TestNo: **SM4500-NO3** Analysis Date: **4/28/2020** SeqNo: **3765652**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	11.794	1.0						11.87	0.642	20	

Sample ID **N040417-002CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **143920**
Client ID: **ZZZZZZ** Batch ID: **R143920** TestNo: **SM4500-NO3** Analysis Date: **4/28/2020** SeqNo: **3765654**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	16.178	0.50	10.00	5.241	109	75	125				

Sample ID **N040417-002CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **143920**
Client ID: **ZZZZZZ** Batch ID: **R143920** TestNo: **SM4500-NO3** Analysis Date: **4/28/2020** SeqNo: **3765655**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	15.291	0.50	10.00	5.241	101	75	125	16.18	5.64	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040417
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID **MB-R143954** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **143954**
Client ID: **PBW** Batch ID: **R143954** TestNo: **SM4500-NO3** Analysis Date: **4/30/2020** SeqNo: **3766795**

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

Sample ID **LCS-R143954** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **143954**
Client ID: **LCSW** Batch ID: **R143954** TestNo: **SM4500-NO3** Analysis Date: **4/30/2020** SeqNo: **3766796**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.982	0.050	1.000	0	98.2	85	115				

Sample ID **N040392-008AMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **143954**
Client ID: **ZZZZZZ** Batch ID: **R143954** TestNo: **SM4500-NO3** Analysis Date: **4/30/2020** SeqNo: **3766798**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.067	0.050	1.000	0.1080	95.9	75	125				

Sample ID **N040392-008AMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **143954**
Client ID: **ZZZZZZ** Batch ID: **R143954** TestNo: **SM4500-NO3** Analysis Date: **4/30/2020** SeqNo: **3766799**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.038	0.050	1.000	0.1080	93.0	75	125	1.067	2.72	20	

Sample ID **N040392-010ADUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **143954**
Client ID: **ZZZZZZ** Batch ID: **R143954** TestNo: **SM4500-NO3** Analysis Date: **4/30/2020** SeqNo: **3766801**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.080	0.050						0.1248	44.0	20	R

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-10-Q220
Lab Order:	N040417	**Collection Date:**	4/23/2020 12:12:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040417-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200429C**	QC Batch: **79054**			PrepDate:		**4/24/2020**	Analyst: **CEI**
Molybdenum	19	0.21	0.50		µg/L	1	4/29/2020 10:12 AM
Selenium	6.1	0.36	0.50		µg/L	1	4/29/2020 10:12 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-11-Q220
Lab Order:	N040417	**Collection Date:**	4/23/2020 12:52:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040417-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200429C**	QC Batch: **79054**			PrepDate:		**4/24/2020**	Analyst: **CEI**
Arsenic	0.90	0.081	0.10		µg/L	1	4/29/2020 10:17 AM
Manganese	1.3	0.26	0.50		µg/L	1	4/29/2020 10:17 AM
Molybdenum	5.8	0.21	0.50		µg/L	1	4/29/2020 10:17 AM
Selenium	4.0	0.36	0.50		µg/L	1	4/29/2020 10:17 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38S-Q220
Lab Order:	N040417	**Collection Date:**	4/23/2020 1:33:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040417-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200429C**	QC Batch: **79054**			PrepDate:		**4/24/2020**	Analyst: **CEI**
Arsenic	5.7	0.081	0.10		µg/L	1	4/29/2020 10:49 AM
Manganese	69	0.26	0.50		µg/L	1	4/29/2020 10:49 AM
Molybdenum	21	0.21	0.50		µg/L	1	4/29/2020 10:49 AM
Selenium	2.9	0.36	0.50		µg/L	1	4/29/2020 10:49 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-910-Q220
Lab Order:	N040417	**Collection Date:**	4/23/2020 1:43:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040417-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200429C**	QC Batch: **79054**			PrepDate:		**4/24/2020**	Analyst: **CEI**
Arsenic	5.8	0.081	0.10		µg/L	1	4/29/2020 10:54 AM
Manganese	75	0.26	0.50		µg/L	1	4/29/2020 10:54 AM
Molybdenum	22	0.21	0.50		µg/L	1	4/29/2020 10:54 AM
Selenium	3.1	0.36	0.50		µg/L	1	4/29/2020 10:54 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38D-Q220
Lab Order:	N040417	**Collection Date:**	4/23/2020 2:53:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040417-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200429C**	QC Batch: **79054**			PrepDate:	**4/24/2020**		Analyst: **CEI**
Arsenic	7.3	0.081	0.10		µg/L	1	4/29/2020 10:59 AM
Manganese	27	0.26	0.50		µg/L	1	4/29/2020 10:59 AM
Molybdenum	78	1.1	2.5		µg/L	5	4/29/2020 11:12 AM
Selenium	ND	1.8	2.5		µg/L	5	4/29/2020 11:12 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040417
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **MB-79054** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/24/2020** RunNo: **143947**
Client ID: **PBW** Batch ID: **79054** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/29/2020** SeqNo: **3766506**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-79054** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/24/2020** RunNo: **143947**
Client ID: **LCSW** Batch ID: **79054** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/29/2020** SeqNo: **3766507**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.836	0.10	10.00	0	98.4	85	115				
Manganese	98.212	0.50	100.0	0	98.2	85	115				
Molybdenum	9.933	0.50	10.00	0	99.3	85	115				
Selenium	9.417	0.50	10.00	0	94.2	85	115				

Sample ID **N040417-002DMS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/24/2020** RunNo: **143947**
Client ID: **ZZZZZZ** Batch ID: **79054** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/29/2020** SeqNo: **3766514**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.893	0.10	10.00	0.8989	99.9	75	125				
Manganese	93.432	0.50	100.0	1.266	92.2	75	125				
Molybdenum	16.433	0.50	10.00	5.769	107	75	125				
Selenium	13.585	0.50	10.00	4.036	95.5	75	125				

Sample ID **N040417-002DMSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/24/2020** RunNo: **143947**
Client ID: **ZZZZZZ** Batch ID: **79054** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/29/2020** SeqNo: **3766515**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.887	0.10	10.00	0.8989	99.9	75	125	10.89	0.0497	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040417
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	N040417-002DMSD	SampType:	MSD	TestCode:	6020_DIS	Units:	µg/L	Prep Date:	4/24/2020	RunNo:	143947
Client ID:	ZZZZZZ	Batch ID:	79054	TestNo:	EPA 6020		EPA 3010A	Analysis Date:	4/29/2020	SeqNo:	3766515

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	93.267	0.50	100.0	1.266	92.0	75	125	93.43	0.177	20	
Molybdenum	16.233	0.50	10.00	5.769	105	75	125	16.43	1.22	20	
Selenium	13.841	0.50	10.00	4.036	98.1	75	125	13.58	1.87	20	

Qualifiers:

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

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis
Address: 1410 Rocky Ridge Dr # 330
Address: Roseville, CA 95661
Phone: 916-786-3302 Fax:
Submitted By: Spencer Doolittle
Title: Technicion
Signature: SD Date: 4/23/20
I hereby authorize ASSET Labs to perform the tests indicated below.
Project Name: PG&E Topock - GMP
Project Number: RC000753.801D

Report to: Dan Bush
Company: Arcadis
Email: dan.bush@arcadis.com
daniel.moore@critigen.com
Address: 1410 Rocky Ridge Dr # 330
Roseville, CA 95661
Phone: 916-786-3302 Fax:
Sampled By: Spencer Doolittle
I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.
Signature: SD Date: 4/23/20

Bill to: Marty Bloes
Address:
Address:
Email to: mbloes@pivox.com
P.O.# SWA-ASSET-C9817-057
Phone: 949-727-1400, ext 200
Fax:

EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓
Specify: RWQCB
Global ID:

QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory
Specify State:

Sample Receipt Condition (Y / N):
1. Chilled ✓
2. Headspace
3. Container Intact ✓
4. Seal Present
5. IR number 2
6. Method of Cooling: ICE
Sample Temp: 3.4°C / 4.9°C
Courier:
Tracking No.:

Matrix: Ground x; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Oxygen and Deuterium isotopes (CFIRM), Ice 250 mL poly	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 2x250 mL poly	Alkalinity, Total as CaCO3 (SM2320B) 1 liter poly	Bromide, Sulfate, Chloride (EPA 300.0) 1 liter poly	Fluoride (EPA 300.0) 1 liter poly	Specific Conductance (EPA 120.1) 1 liter poly	Total Dissolved Solids (SM92540) 1 liter poly	Nitrate/Nitrite (SM4500N03) Nitrate; H2SO4 125 mL poly	Total Organic Carbon (SM5310C); H2SO4 3x40 mL poly	Dissolved metals (SW 6020), HNO3 Cr, Mo, Se 500 mL poly	Dissolved Metals (SW 6010B); HNO3 As, Cr, Mn, Mo, Se 500 mL poly	Dissolved metals (SW 6020), HNO3 Ag, As, Ba, Be, Cd, Co, Cr, Mg, Mn, Mo, Pb, Sb, Se, Tl, V, Zn 500 mL poly	Dissolved Metals (SW 6010B); HNO3 B, Ca, Cu, Fe, Na, Ni, 500 mL poly	Metals Dissolved (EPA7470A FF) Hg; HNO3 500 mL poly	Dissolved Metals (SW 6010B); HNO3 Potassium 500 mL poly	Total metals, Chromium (non-filter) (EPA 200.8), HNO3 500 mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1																											
2	N040417-01	MW-10-Q220	4/23/2020	12:12		X						X		X		X							E	4	P	BNS	
3	-02	MW-11-Q220	4/23/2020	12:52		X						X		X			X						E	4	P	BNS	MS/MSD
4	-03	MW-38S-Q220	4/23/2020	13:33		X						X		X			X						E	4	P	BNS	
5	-04	MW-910-Q220	4/23/2020	13:43		X						X		X			X						E	4	P	BNS	
6	-05	MW-38D-Q220	4/23/2020	14:53		X						X		X			X						E	4	P	BNS	
7																											
8																											
9																											
10																											
11																											
12																											

Reliquished by (Signature and Printed Name): SD Spencer Doolittle Date/Time: 4/23/20 1545
Received by (Signature and Printed Name): M. Bundalian Date/Time: 4/23/20 1545
Reliquished by (Signature and Printed Name): M. Bundalian Date/Time: 4/23/20 1800
Received by (Signature and Printed Name): M. Bundalian Date/Time: 4/23/20 1800
Reliquished by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)
- [ ] A < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

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

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

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

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

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

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

Cooler Received/Opened On:	4/23/2020	Workorder:	N040417
Rep sample Temp (Deg C):	3.4/4.9	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

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

Comments:

Checklist Completed By: MPB For: YRJ 4/27/2020

Reviewed By: MBC 4/29/2020

ASSET Laboratories

WORK ORDER Summary

26-Apr-20

WorkOrder: N040417

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 4/23/2020

Comments: Title 22 Metals :Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, N

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N040417-001A	MW-10-Q220	4/23/2020 12:12:00 PM	5/7/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040417-001B			5/7/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040417-001C			5/7/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040417-001D			5/7/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040417-002A	MW-11-Q220	4/23/2020 12:52:00 PM	5/7/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N040417-002B			5/7/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☑	☐	LSR
N040417-002C			5/7/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☑	☐	WW
N040417-002D			5/7/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			5/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			5/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N040417-003A	MW-38S-Q220	4/23/2020 1:33:00 PM	5/7/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040417-003B			5/7/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040417-003C			5/7/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040417-003D			5/7/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040417-004A	MW-910-Q220	4/23/2020 1:43:00 PM	5/7/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040417-004B			5/7/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040417-004C			5/7/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

26-Apr-20

WorkOrder: N040417

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 4/23/2020

Comments: Title 22 Metals :Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, N

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N040417-004D	MW-910-Q220	4/23/2020 1:43:00 PM	5/7/2020	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040417-005A	MW-38D-Q220	4/23/2020 2:53:00 PM	5/7/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040417-005B			5/7/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040417-005C			5/7/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040417-005D			5/7/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/7/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040417-006A	FOLDER	5/7/2020	5/7/2020		EDD	RWQCB	☐	☐	☐	LAB
			5/7/2020		Folder	Folder	☐	☐	☐	LAB
			5/7/2020		Folder	Level IV Report	☐	☐	☐	LAB
			5/7/2020		Folder	Folder	☐	☐	☐	LAB

May 07, 2020

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

TEL: (916) 786-3302
FAX: Workorder No.: N040428

RE: PG&E Topock - GMP, RC000753.801D

Attention: Dan Bush

Enclosed are the results for sample(s) received on April 24, 2020 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

Nancy Litucao for

Puri Romualdo
Laboratory Director

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

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N040428

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N040428-001D-MS and N040428-001D-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *07-May-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N040428
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N040428-001A	MW-09-Q220	Groundwater	4/24/2020 7:40:00 AM	4/24/2020	5/7/2020
N040428-001B	MW-09-Q220	Groundwater	4/24/2020 7:40:00 AM	4/24/2020	5/7/2020
N040428-001C	MW-09-Q220	Groundwater	4/24/2020 7:40:00 AM	4/24/2020	5/7/2020
N040428-001D	MW-09-Q220	Groundwater	4/24/2020 7:40:00 AM	4/24/2020	5/7/2020
N040428-002A	MW-20-100-Q220	Groundwater	4/24/2020 8:47:00 AM	4/24/2020	5/7/2020
N040428-002B	MW-20-100-Q220	Groundwater	4/24/2020 8:47:00 AM	4/24/2020	5/7/2020
N040428-002C	MW-20-100-Q220	Groundwater	4/24/2020 8:47:00 AM	4/24/2020	5/7/2020
N040428-002D	MW-20-100-Q220	Groundwater	4/24/2020 8:47:00 AM	4/24/2020	5/7/2020
N040428-003A	MW-20-070-Q220	Groundwater	4/24/2020 9:43:00 AM	4/24/2020	5/7/2020
N040428-003B	MW-20-070-Q220	Groundwater	4/24/2020 9:43:00 AM	4/24/2020	5/7/2020
N040428-003C	MW-20-070-Q220	Groundwater	4/24/2020 9:43:00 AM	4/24/2020	5/7/2020
N040428-003D	MW-20-070-Q220	Groundwater	4/24/2020 9:43:00 AM	4/24/2020	5/7/2020
N040428-004A	MW-20-130-Q220	Groundwater	4/24/2020 10:26:00 AM	4/24/2020	5/7/2020
N040428-004B	MW-20-130-Q220	Groundwater	4/24/2020 10:26:00 AM	4/24/2020	5/7/2020
N040428-004C	MW-20-130-Q220	Groundwater	4/24/2020 10:26:00 AM	4/24/2020	5/7/2020
N040428-004D	MW-20-130-Q220	Groundwater	4/24/2020 10:26:00 AM	4/24/2020	5/7/2020
N040428-005A	EB-706-Q220	Groundwater	4/24/2020 10:40:00 AM	4/24/2020	5/7/2020

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-09-Q220
Lab Order:	N040428	**Collection Date:**	4/24/2020 7:40:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040428-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200424E**	QC Batch: **R143820**			PrepDate:			Analyst: **LR**
Specific Conductance	2900	0.10	0.10		umhos/cm	1	4/24/2020 04:30 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-Q220
Lab Order:	N040428	**Collection Date:**	4/24/2020 8:47:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040428-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200424E**	QC Batch: **R143820**			PrepDate:			Analyst: **LR**
Specific Conductance	1900	0.10	0.10		umhos/cm	1	4/24/2020 04:30 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-Q220
Lab Order:	N040428	**Collection Date:**	4/24/2020 9:43:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040428-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200424E**	QC Batch: **R143820**			PrepDate:			Analyst: **LR**
Specific Conductance	2000	0.10	0.10		umhos/cm	1	4/24/2020 04:30 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-Q220
Lab Order:	N040428	**Collection Date:**	4/24/2020 10:26:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040428-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200424E**	QC Batch: **R143820**			PrepDate:			Analyst: **LR**
Specific Conductance	11000	0.10	0.10		umhos/cm	1	4/24/2020 04:30 PM

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040428
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N040428-001BDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **143820**
Client ID: **ZZZZZZ** Batch ID: **R143820** TestNo: **EPA 120.1** Analysis Date: **4/24/2020** SeqNo: **3759433**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	2930.000	0.10						2900	1.03	2	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-09-Q220
Lab Order:	N040428	**Collection Date:**	4/24/2020 7:40:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040428-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200427A** QC Batch: **R143896** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	130	0.66	4.0		µg/L	20	4/27/2020 01:25 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200430B** QC Batch: **79079** PrepDate: **4/28/2020** Analyst: **CEI**							
Chromium	130	0.13	1.0		µg/L	1	4/30/2020 11:22 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-Q220
Lab Order:	N040428	**Collection Date:**	4/24/2020 8:47:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040428-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200427A** QC Batch: **R143896** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	750	3.3	20		µg/L	100	4/27/2020 12:01 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200430B** QC Batch: **79079** PrepDate: **4/28/2020** Analyst: **CEI**							
Chromium	760	0.65	5.0		µg/L	5	4/30/2020 12:38 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-Q220
Lab Order:	N040428	**Collection Date:**	4/24/2020 9:43:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040428-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200427A** QC Batch: **R143896** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	2500	17	100		µg/L	500	4/27/2020 12:11 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200430B** QC Batch: **79079** PrepDate: **4/28/2020** Analyst: **CEI**							
Chromium	2500	3.2	25		µg/L	25	4/30/2020 01:10 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-Q220
Lab Order:	N040428	**Collection Date:**	4/24/2020 10:26:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040428-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200427A** QC Batch: **R143896** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	5900	33	200		µg/L	1000	4/27/2020 12:20 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200430B** QC Batch: **79079** PrepDate: **4/28/2020** Analyst: **CEI**							
Chromium	6100	6.5	50		µg/L	50	4/30/2020 02:47 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-706-Q220
Lab Order:	N040428	**Collection Date:**	4/24/2020 10:40:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040428-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200427A** QC Batch: **R143896** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	4/27/2020 01:53 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040428
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R143896** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143896**
Client ID: **PBW** Batch ID: **R143896** TestNo: **EPA 218.6** Analysis Date: **4/27/2020** SeqNo: **3764318**

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

Sample ID **LCS-R143896** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143896**
Client ID: **LCSW** Batch ID: **R143896** TestNo: **EPA 218.6** Analysis Date: **4/27/2020** SeqNo: **3764319**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.896	0.20	5.000	0	97.9	90	110				

Sample ID **N040428-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143896**
Client ID: **ZZZZZZ** Batch ID: **R143896** TestNo: **EPA 218.6** Analysis Date: **4/27/2020** SeqNo: **3764323**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1249.250	20	500.0	749.8	99.9	90	110				

Sample ID **N040428-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143896**
Client ID: **ZZZZZZ** Batch ID: **R143896** TestNo: **EPA 218.6** Analysis Date: **4/27/2020** SeqNo: **3764324**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4976.450	100	2500	2502	99.0	90	110				

Sample ID **N040428-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143896**
Client ID: **ZZZZZZ** Batch ID: **R143896** TestNo: **EPA 218.6** Analysis Date: **4/27/2020** SeqNo: **3764327**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10903.900	200	5000	5874	101	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040428
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N040428-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143896**
Client ID: **ZZZZZZ** Batch ID: **R143896** TestNo: **EPA 218.6** Analysis Date: **4/27/2020** SeqNo: **3764329**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	232.640	4.0	100.0	131.8	101	90	110				

Sample ID **N040428-001AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143896**
Client ID: **ZZZZZZ** Batch ID: **R143896** TestNo: **EPA 218.6** Analysis Date: **4/27/2020** SeqNo: **3764330**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	231.542	4.0	100.0	131.8	99.8	90	110	232.6	0.473	20	

Sample ID **N040428-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143896**
Client ID: **ZZZZZZ** Batch ID: **R143896** TestNo: **EPA 218.6** Analysis Date: **4/27/2020** SeqNo: **3764332**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.023	0.20	1.000	0	102	90	110				

Sample ID **N040429-002ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143896**
Client ID: **ZZZZZZ** Batch ID: **R143896** TestNo: **EPA 218.6** Analysis Date: **4/27/2020** SeqNo: **3764346**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.899	0.20						0.8969	0.234	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040428
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	MB-79079	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	4/28/2020	RunNo:	143976
Client ID:	PBW	Batch ID:	79079	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/30/2020	SeqNo:	3767280

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

Sample ID	LCS-79079	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	4/28/2020	RunNo:	143976
Client ID:	LCSW	Batch ID:	79079	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/30/2020	SeqNo:	3767281

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.839	1.0	10.00	0	98.4	85	115				

Sample ID	N040428-001D-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	4/28/2020	RunNo:	143976
Client ID:	ZZZZZZ	Batch ID:	79079	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/30/2020	SeqNo:	3767290

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	141.463	1.0	10.00	126.1	154	75	125				S

Sample ID	N040428-001D-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	4/28/2020	RunNo:	143976
Client ID:	ZZZZZZ	Batch ID:	79079	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/30/2020	SeqNo:	3767292

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	139.933	1.0	10.00	126.1	139	75	125	141.5	1.09	20	S

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040428
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	**N040428-001D-PS**	SampType:	**PS**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:			RunNo:	**143976**
Client ID:	**ZZZZZZ**	Batch ID:	**79079**	TestNo:	**EPA 6020**		**EPA 3010A**	Analysis Date:	**4/30/2020**		SeqNo:	**3767288**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	138.889	1.0	10.00	126.1	128	80	120				S

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-09-Q220
Lab Order:	N040428	**Collection Date:**	4/24/2020 7:40:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040428-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200501H** QC Batch: **R144010** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	11	0.32	0.50		mg/L	10	5/1/2020 05:33 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-Q220
Lab Order:	N040428	**Collection Date:**	4/24/2020 8:47:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040428-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200501H** QC Batch: **R144010** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	7.5	0.32	0.50		mg/L	10	5/1/2020 05:37 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-Q220
Lab Order:	N040428	**Collection Date:**	4/24/2020 9:43:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040428-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200501H** QC Batch: **R144010** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	13	0.32	0.50		mg/L	10	5/1/2020 05:40 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-Q220
Lab Order:	N040428	**Collection Date:**	4/24/2020 10:26:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040428-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200501H** QC Batch: **R144010** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	11	0.32	0.50		mg/L	10	5/1/2020 05:43 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040428
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID **MB-R144010** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144010**
Client ID: **PBW** Batch ID: **R144010** TestNo: **SM4500-NO3** Analysis Date: **5/1/2020** SeqNo: **3769116**

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

Sample ID **LCS-R144010** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144010**
Client ID: **LCSW** Batch ID: **R144010** TestNo: **SM4500-NO3** Analysis Date: **5/1/2020** SeqNo: **3769117**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.994	0.050	1.000	0	99.4	85	115				

Sample ID **N040416-001BMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144010**
Client ID: **ZZZZZZ** Batch ID: **R144010** TestNo: **SM4500-NO3** Analysis Date: **5/1/2020** SeqNo: **3769119**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	16.755	0.50	10.00	6.318	104	75	125				

Sample ID **N040416-001BMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144010**
Client ID: **ZZZZZZ** Batch ID: **R144010** TestNo: **SM4500-NO3** Analysis Date: **5/1/2020** SeqNo: **3769120**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	17.186	0.50	10.00	6.318	109	75	125	16.76	2.54	20	

Sample ID **N040416-002BDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144010**
Client ID: **ZZZZZZ** Batch ID: **R144010** TestNo: **SM4500-NO3** Analysis Date: **5/1/2020** SeqNo: **3769122**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.271	0.050						1.464	14.2	20	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-09-Q220
Lab Order:	N040428	**Collection Date:**	4/24/2020 7:40:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040428-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200430C**	QC Batch: **79079**				PrepDate:	**4/28/2020**	Analyst: **CEI**
Arsenic	1.1	0.081	0.10		µg/L	1	4/30/2020 11:22 AM
Manganese	2.1	0.26	0.50		µg/L	1	4/30/2020 11:22 AM
Molybdenum	6.8	0.21	0.50		µg/L	1	4/30/2020 11:22 AM
Selenium	5.3	0.36	0.50		µg/L	1	4/30/2020 11:22 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-Q220
Lab Order:	N040428	**Collection Date:**	4/24/2020 8:47:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040428-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200430C**	QC Batch: **79079**			PrepDate:		**4/28/2020**	Analyst: **CEI**
Arsenic	1.3	0.081	0.10		µg/L	1	4/30/2020 12:33 PM
Manganese	1.1	0.26	0.50		µg/L	1	4/30/2020 12:33 PM
Molybdenum	4.8	0.21	0.50		µg/L	1	4/30/2020 12:33 PM
Selenium	5.4	0.36	0.50		µg/L	1	4/30/2020 12:33 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-Q220
Lab Order:	N040428	**Collection Date:**	4/24/2020 9:43:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040428-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200430C**	QC Batch: **79079**			PrepDate:		**4/28/2020**	Analyst: **CEI**
Arsenic	2.2	0.081	0.10		µg/L	1	4/30/2020 12:43 PM
Manganese	2.2	0.26	0.50		µg/L	1	4/30/2020 12:43 PM
Molybdenum	29	0.21	0.50		µg/L	1	4/30/2020 12:43 PM
Selenium	7.7	0.36	0.50		µg/L	1	4/30/2020 12:43 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *07-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-Q220
Lab Order:	N040428	**Collection Date:**	4/24/2020 10:26:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040428-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200430C**	QC Batch: **79079**				PrepDate:	**4/28/2020**	Analyst: **CEI**
Arsenic	0.97	0.081	0.10		µg/L	1	4/30/2020 01:15 PM
Manganese	0.84	0.26	0.50		µg/L	1	4/30/2020 01:15 PM
Molybdenum	42	0.21	0.50		µg/L	1	4/30/2020 01:15 PM
Selenium	22	0.36	0.50		µg/L	1	4/30/2020 01:15 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040428
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **MB-79079** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/28/2020** RunNo: **143977**
Client ID: **PBW** Batch ID: **79079** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767432**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-79079** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/28/2020** RunNo: **143977**
Client ID: **LCSW** Batch ID: **79079** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767433**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.250	0.10	10.00	0	102	85	115				
Manganese	100.961	0.50	100.0	0	101	85	115				
Molybdenum	10.073	0.50	10.00	0	101	85	115				
Selenium	9.512	0.50	10.00	0	95.1	85	115				

Sample ID **N040428-001D-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/28/2020** RunNo: **143977**
Client ID: **ZZZZZZ** Batch ID: **79079** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767442**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.830	0.10	10.00	1.080	108	75	125				
Manganese	96.771	0.50	100.0	2.099	94.7	75	125				
Molybdenum	17.688	0.50	10.00	6.771	109	75	125				
Selenium	14.957	0.50	10.00	5.278	96.8	75	125				

Sample ID **N040428-001D-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/28/2020** RunNo: **143977**
Client ID: **ZZZZZZ** Batch ID: **79079** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767444**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.600	0.10	10.00	1.080	105	75	125	11.83	1.96	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040428
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N040428-001D-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/28/2020** RunNo: **143977**
Client ID: **ZZZZZZ** Batch ID: **79079** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767444**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	96.966	0.50	100.0	2.099	94.9	75	125	96.77	0.202	20	
Molybdenum	18.135	0.50	10.00	6.771	114	75	125	17.69	2.49	20	
Selenium	15.051	0.50	10.00	5.278	97.7	75	125	14.96	0.623	20	

Qualifiers:

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

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD / Geotracker / Labspec / Others ✓
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com, daniel.moore@critigen.com	Address:	Specify: RWQCB
Phone: 916-786-3302 / Fax:	Address: 1410 Rocky Ridge Dr # 330, Roseville, CA 95661	Email to: mbloes@pivox.com	P.O.# SWA-ASSET-C9817-057
Submitted By: Spencer Doolittle		Phone: 949-727-1400, ext 200	Fax:
Title: Technician	Phone: 916-786-3302 / Fax:		
Signature: SD Date: 4/24/2020	Sampled By: Spencer Doolittle		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.		
Project Name: PG&E Topock - GMP	Signature: / Date: 4/24/2020		
Project Number: RC000753.801D			

QA/QC	
RTNE	
RWQCB	✓
CalTrans	
LEVEL III	
LEVEL IV	
Regulatory	
Specify State:	
Global ID:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		
5. IR number 2		
6. Method of Cooling: ICE		
Sample Temp: 3.32		
Courier:		
Tracking No.:		

Matrix: Ground x; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Oxygen and Deuterium Isotopes (CFIRM), Ice (250 mL poly)	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (2x250 mL poly)	Alkalinity, Total as CaCO3 (SM2320B) (1 liter poly)	Bromide, Sulfate, Chloride (EPA 300.0) (1 liter poly)	Fluoride (EPA 300.0) (1 liter poly)	Specific Conductance (EPA 120.1) (1 liter poly)	Total Dissolved Solids (SM92540) (1 liter poly)	Nitrate/Nitrite (SM4500N03) Nitrate; H2SO4 (125 mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL poly)	Dissolved metals (SW 6020), HNO3 Cr, Mo, Se (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 As, Cr, Mn, Mo, Se (500 mL poly)	Dissolved metals (SW 6020), HNO3 Ag, As, Ba, Be, Cd, Co, Cr, Mg, Mn, Mo, Pb, Sb, Se, Tl, V, Zn (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 B, Ca, Cu, Fe, Na, Ni, (500 mL poly)	Metals Dissolved (EPA7470A FF) Hg; HNO3 (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 Potassium (500 mL poly)	Total metals, Chromium (non-filter) (EPA 200.8), HNO3 (500 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N040428-01	MW-09-Q220	4/24/2020	7:40		X						X		X			X										
2	-02	MW-20-100-Q220	4/24/2020	8:47		X						X		X		X									E	4	P	BNS	
3	-03	MW-20-070-Q220	4/24/2020	9:43		X						X		X		X									E	4	P	BNS	
4	-04	MW-20-130-Q220	4/24/2020	10:26		X						X		X			X								E	4	P	BNS	
5	-05	EB-706-Q220	4/24/2020	10:40		X																			E	1	P	BNS	
6																													
7																													
8																													
9																													
10																													
11																													
12																													

Relinquished by (Signature and Printed Name)	Date/Time	Received by (Signature and Printed Name)	Date/Time
SD Spencer Doolittle	4/24/2020 1213	K M. Bundalian	4/24/2020 1213
K M. Bundalian	4/24/20 1458	K M. Bundalian	4/24/20 1458

Turn Around Time (TAT)

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

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

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

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

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy Yellow=Customer's Copy

ASSET Laboratories

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

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

Cooler Received/Opened On:	4/24/2020	Workorder:	N040428
Rep sample Temp (Deg C):	3.3	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

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

Comments:

For:

Checklist Completed By: MPB YRJ 4/27/2020

Reviewed By: MBC 4/30/2020

ASSET Laboratories

WORK ORDER Summary

26-Apr-20

WorkOrder: N040428

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 4/24/2020

Comments: Title 22 Metals :Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, N

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N040428-001A	MW-09-Q220	4/24/2020 7:40:00 AM	5/8/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040428-001B			5/8/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040428-001C			5/8/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040428-001D			5/8/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/8/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/8/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040428-002A	MW-20-100-Q220	4/24/2020 8:47:00 AM	5/8/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040428-002B			5/8/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040428-002C			5/8/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040428-002D			5/8/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/8/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/8/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040428-003A	MW-20-070-Q220	4/24/2020 9:43:00 AM	5/8/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040428-003B			5/8/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040428-003C			5/8/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040428-003D			5/8/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/8/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/8/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040428-004A	MW-20-130-Q220	4/24/2020 10:26:00 AM	5/8/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040428-004B			5/8/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040428-004C			5/8/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

26-Apr-20

WorkOrder: N040428

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 4/24/2020

Comments: Title 22 Metals :Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, N

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N040428-004D	MW-20-130-Q220	4/24/2020 10:26:00 AM	5/8/2020	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/8/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/8/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040428-005A	EB-706-Q220	4/24/2020 10:40:00 AM	5/8/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040428-006A	FOLDER	5/8/2020	5/8/2020		EDD	RWQCB	☐	☐	☐	LAB
			5/8/2020		Folder	Folder	☐	☐	☐	LAB
			5/8/2020		Folder	Level IV Report	☐	☐	☐	LAB
			5/8/2020		Folder	Folder	☐	☐	☐	LAB

May 11, 2020

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

TEL: (916) 786-3302
FAX:

Workorder No.: N040448

RE: PG&E Topock - GMP, RC000753.801D

Attention: Dan Bush

Enclosed are the results for sample(s) received on April 27, 2020 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

Nancy Libucao for

Puri Romualdo
Laboratory Director

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

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Because the results for total dissolved chromium (40 ug/L) and hexavalent chromium (32 ug/L) for sample N040448-003 (MW-19-Q220) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (40 ug/L) and hexavalent chromium (32 ug/L) for sample N040448-003 (MW-19-Q220) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 41 and 31 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N040428-001D-MS and N040428-001D-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *11-May-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N040448
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N040448-001A	MW-35-060-Q220	Groundwater	4/27/2020 12:01:00 PM	4/27/2020	5/11/2020
N040448-001B	MW-35-060-Q220	Groundwater	4/27/2020 12:01:00 PM	4/27/2020	5/11/2020
N040448-001C	MW-35-060-Q220	Groundwater	4/27/2020 12:01:00 PM	4/27/2020	5/11/2020
N040448-001D	MW-35-060-Q220	Groundwater	4/27/2020 12:01:00 PM	4/27/2020	5/11/2020
N040448-002A	MW-35-135-Q220	Groundwater	4/27/2020 12:40:00 PM	4/27/2020	5/11/2020
N040448-002B	MW-35-135-Q220	Groundwater	4/27/2020 12:40:00 PM	4/27/2020	5/11/2020
N040448-002C	MW-35-135-Q220	Groundwater	4/27/2020 12:40:00 PM	4/27/2020	5/11/2020
N040448-002D	MW-35-135-Q220	Groundwater	4/27/2020 12:40:00 PM	4/27/2020	5/11/2020
N040448-003A	MW-19-Q220	Groundwater	4/27/2020 1:22:00 PM	4/27/2020	5/11/2020
N040448-003B	MW-19-Q220	Groundwater	4/27/2020 1:22:00 PM	4/27/2020	5/11/2020
N040448-003C	MW-19-Q220	Groundwater	4/27/2020 1:22:00 PM	4/27/2020	5/11/2020
N040448-004A	MW-26-Q220	Groundwater	4/27/2020 1:53:00 PM	4/27/2020	5/11/2020
N040448-004B	MW-26-Q220	Groundwater	4/27/2020 1:53:00 PM	4/27/2020	5/11/2020
N040448-004C	MW-26-Q220	Groundwater	4/27/2020 1:53:00 PM	4/27/2020	5/11/2020
N040448-004D	MW-26-Q220	Groundwater	4/27/2020 1:53:00 PM	4/27/2020	5/11/2020
N040448-005A	MW-51-Q220	Groundwater	4/27/2020 2:26:00 PM	4/27/2020	5/11/2020
N040448-005B	MW-51-Q220	Groundwater	4/27/2020 2:26:00 PM	4/27/2020	5/11/2020
N040448-005C	MW-51-Q220	Groundwater	4/27/2020 2:26:00 PM	4/27/2020	5/11/2020
N040448-005D	MW-51-Q220	Groundwater	4/27/2020 2:26:00 PM	4/27/2020	5/11/2020
N040448-006A	MW-907-Q220	Groundwater	4/27/2020 2:36:00 PM	4/27/2020	5/11/2020
N040448-006B	MW-907-Q220	Groundwater	4/27/2020 2:36:00 PM	4/27/2020	5/11/2020
N040448-006C	MW-907-Q220	Groundwater	4/27/2020 2:36:00 PM	4/27/2020	5/11/2020
N040448-006D	MW-907-Q220	Groundwater	4/27/2020 2:36:00 PM	4/27/2020	5/11/2020
N040448-007A	EB-707-Q220	Groundwater	4/27/2020 2:45:00 PM	4/27/2020	5/11/2020

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-35-060-Q220
Lab Order:	N040448	**Collection Date:**	4/27/2020 12:01:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040448-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200428B**	QC Batch: **R143892**			PrepDate:			Analyst: **LR**
Specific Conductance	3900	0.10	0.10		umhos/cm	1	4/28/2020 11:05 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-35-135-Q220
Lab Order:	N040448	**Collection Date:**	4/27/2020 12:40:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040448-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200428B**	QC Batch: **R143892**			PrepDate:			Analyst: **LR**
Specific Conductance	11000	0.10	0.10		umhos/cm	1	4/28/2020 11:05 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-19-Q220
Lab Order:	N040448	**Collection Date:**	4/27/2020 1:22:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040448-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200428B**	QC Batch: **R143892**			PrepDate:			Analyst: **LR**
Specific Conductance	2000	0.10	0.10		umhos/cm	1	4/28/2020 11:05 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-26-Q220
Lab Order:	N040448	**Collection Date:**	4/27/2020 1:53:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040448-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200428B**	QC Batch: **R143892**			PrepDate:			Analyst: **LR**
Specific Conductance	3600	0.10	0.10		umhos/cm	1	4/28/2020 11:05 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-Q220
Lab Order:	N040448	**Collection Date:**	4/27/2020 2:26:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040448-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200428B**	QC Batch: **R143892**			PrepDate:			Analyst: **LR**
Specific Conductance	12000	0.10	0.10		umhos/cm	1	4/28/2020 11:05 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-907-Q220
Lab Order:	N040448	**Collection Date:**	4/27/2020 2:36:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040448-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200428B**	QC Batch: **R143892**			PrepDate:			Analyst: **LR**
Specific Conductance	13000	0.10	0.10		umhos/cm	1	4/28/2020 11:05 AM

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040448
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **N040447-001ADUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **143892**
Client ID: **ZZZZZZ** Batch ID: **R143892** TestNo: **EPA 120.1** Analysis Date: **4/28/2020** SeqNo: **3763775**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	696.000	0.10						697.0	0.144	2	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-35-060-Q220
Lab Order:	N040448	**Collection Date:**	4/27/2020 12:01:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040448-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200428A** QC Batch: **R143907** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	32	0.17	1.0		µg/L	5	4/28/2020 10:46 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200430B** QC Batch: **79079** PrepDate: **4/28/2020** Analyst: **CEI**							
Chromium	32	0.13	1.0		µg/L	1	4/30/2020 01:29 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-35-135-Q220
Lab Order:	N040448	**Collection Date:**	4/27/2020 12:40:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040448-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200428A** QC Batch: **R143907** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	25	0.17	1.0		µg/L	5	4/28/2020 09:59 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200430B** QC Batch: **79079** PrepDate: **4/28/2020** Analyst: **CEI**							
Chromium	24	0.13	1.0		µg/L	1	4/30/2020 01:38 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-19-Q220
Lab Order:	N040448	**Collection Date:**	4/27/2020 1:22:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040448-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200428A** QC Batch: **R143907** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	32	0.17	1.0		µg/L	5	4/28/2020 11:43 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200430B** QC Batch: **79079** PrepDate: **4/28/2020** Analyst: **CEI**							
Chromium	40	0.13	1.0		µg/L	1	4/30/2020 01:47 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-26-Q220
Lab Order:	N040448	**Collection Date:**	4/27/2020 1:53:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040448-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200428A** QC Batch: **R143907** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	2300	17	100		µg/L	500	4/28/2020 10:36 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200430B** QC Batch: **79079** PrepDate: **4/28/2020** Analyst: **CEI**							
Chromium	2300	3.2	25		µg/L	25	4/30/2020 02:15 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N040448
Project: PG&E Topock - GMP, RC000753.801D
Lab ID: N040448-005

Client Sample ID: MW-51-Q220
Collection Date: 4/27/2020 2:26:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200428A** QC Batch: **R143907** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	3200	17	100		µg/L	500	4/28/2020 10:17 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200430B** QC Batch: **79079** PrepDate: **4/28/2020** Analyst: **CEI**							
Chromium	3200	3.2	25		µg/L	25	4/30/2020 02:29 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-907-Q220
Lab Order:	N040448	**Collection Date:**	4/27/2020 2:36:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040448-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200428A** QC Batch: **R143907** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	3300	17	100		µg/L	500	4/28/2020 10:27 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200430B** QC Batch: **79079** PrepDate: **4/28/2020** Analyst: **CEI**							
Chromium	3200	3.2	25		µg/L	25	4/30/2020 02:42 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-707-Q220
Lab Order:	N040448	**Collection Date:**	4/27/2020 2:45:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040448-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200428A** QC Batch: **R143907** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	4/28/2020 12:39 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040448
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R143907** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143907**
Client ID: **PBW** Batch ID: **R143907** TestNo: **EPA 218.6** Analysis Date: **4/28/2020** SeqNo: **3764896**

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

Sample ID: **LCS-R143907** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143907**
Client ID: **LCSW** Batch ID: **R143907** TestNo: **EPA 218.6** Analysis Date: **4/28/2020** SeqNo: **3764897**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.995	0.20	5.000	0	99.9	90	110				

Sample ID: **N040448-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143907**
Client ID: **ZZZZZZ** Batch ID: **R143907** TestNo: **EPA 218.6** Analysis Date: **4/28/2020** SeqNo: **3764903**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	56.167	1.0	25.00	31.89	97.1	90	110				

Sample ID: **N040448-001AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143907**
Client ID: **ZZZZZZ** Batch ID: **R143907** TestNo: **EPA 218.6** Analysis Date: **4/28/2020** SeqNo: **3764906**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	56.825	1.0	25.00	31.89	99.7	90	110	56.17	1.16	20	

Sample ID: **N040448-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143907**
Client ID: **ZZZZZZ** Batch ID: **R143907** TestNo: **EPA 218.6** Analysis Date: **4/28/2020** SeqNo: **3764907**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	50.371	1.0	25.00	25.49	99.5	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040448
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N040448-003ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143907**
Client ID: **ZZZZZZ** Batch ID: **R143907** TestNo: **EPA 218.6** Analysis Date: **4/28/2020** SeqNo: **3764909**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	32.163	1.0						32.21	0.137	20	

Sample ID: **N040448-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143907**
Client ID: **ZZZZZZ** Batch ID: **R143907** TestNo: **EPA 218.6** Analysis Date: **4/28/2020** SeqNo: **3764910**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	57.206	1.0	25.00	32.21	100	90	110				

Sample ID: **N040448-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143907**
Client ID: **ZZZZZZ** Batch ID: **R143907** TestNo: **EPA 218.6** Analysis Date: **4/28/2020** SeqNo: **3764911**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4834.050	100	2500	2254	103	90	110				

Sample ID: **N040448-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143907**
Client ID: **ZZZZZZ** Batch ID: **R143907** TestNo: **EPA 218.6** Analysis Date: **4/28/2020** SeqNo: **3764912**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5736.650	100	2500	3222	101	90	110				

Sample ID: **N040448-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143907**
Client ID: **ZZZZZZ** Batch ID: **R143907** TestNo: **EPA 218.6** Analysis Date: **4/28/2020** SeqNo: **3764913**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5740.750	100	2500	3263	99.1	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040448
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N040448-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143907**
Client ID: **ZZZZZZ** Batch ID: **R143907** TestNo: **EPA 218.6** Analysis Date: **4/28/2020** SeqNo: **3764915**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.015	0.20	1.000	0	101	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040448
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID: **MB-79079** SampType: **MBLK** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **4/28/2020** RunNo: **143976**
Client ID: **PBW** Batch ID: **79079** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767280**

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

Sample ID: **LCS-79079** SampType: **LCS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **4/28/2020** RunNo: **143976**
Client ID: **LCSW** Batch ID: **79079** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767281**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.839	1.0	10.00	0	98.4	85	115				

Sample ID: **N040428-001D-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **4/28/2020** RunNo: **143976**
Client ID: **ZZZZZZ** Batch ID: **79079** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767290**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	141.463	1.0	10.00	126.1	154	75	125				S

Sample ID: **N040428-001D-MSD** SampType: **MSD** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **4/28/2020** RunNo: **143976**
Client ID: **ZZZZZZ** Batch ID: **79079** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767292**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	139.933	1.0	10.00	126.1	139	75	125	141.5	1.09	20	S

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040448
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID: **N040428-001D-PS** SampType: **PS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **143976**
Client ID: **ZZZZZZ** Batch ID: **79079** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767288**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	138.889	1.0	10.00	126.1	128	80	120				S

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-35-060-Q220
Lab Order:	N040448	**Collection Date:**	4/27/2020 12:01:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040448-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200504E** QC Batch: **R144046** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	2.8	0.16	0.25		mg/L	5	5/4/2020 02:08 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-35-135-Q220
Lab Order:	N040448	**Collection Date:**	4/27/2020 12:40:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040448-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200504E**	QC Batch: **R144046**			PrepDate:			Analyst: **HG**
Nitrate/Nitrite as N	2.6	0.16	0.25		mg/L	5	5/4/2020 02:17 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-26-Q220
Lab Order:	N040448	**Collection Date:**	4/27/2020 1:53:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040448-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200504E** QC Batch: **R144046** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	21	0.63	1.0		mg/L	20	5/4/2020 02:47 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-Q220
Lab Order:	N040448	**Collection Date:**	4/27/2020 2:26:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040448-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200504E** QC Batch: **R144046** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	9.2	0.32	0.50		mg/L	10	5/4/2020 02:50 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-907-Q220
Lab Order:	N040448	**Collection Date:**	4/27/2020 2:36:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040448-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200504E** QC Batch: **R144046** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	9.2	0.32	0.50		mg/L	10	5/4/2020 03:29 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040448
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID: **MB-R144046** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144046**
Client ID: **PBW** Batch ID: **R144046** TestNo: **SM4500-NO3** Analysis Date: **5/4/2020** SeqNo: **3770326**

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

Sample ID: **LCS-R144046** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144046**
Client ID: **LCSW** Batch ID: **R144046** TestNo: **SM4500-NO3** Analysis Date: **5/4/2020** SeqNo: **3770327**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.976	0.050	1.000	0	97.6	85	115				

Sample ID: **N040448-001CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144046**
Client ID: **ZZZZZZ** Batch ID: **R144046** TestNo: **SM4500-NO3** Analysis Date: **5/4/2020** SeqNo: **3770329**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	8.351	0.25	5.000	2.789	111	75	125				

Sample ID: **N040448-001CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144046**
Client ID: **ZZZZZZ** Batch ID: **R144046** TestNo: **SM4500-NO3** Analysis Date: **5/4/2020** SeqNo: **3770330**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	8.326	0.25	5.000	2.789	111	75	125	8.351	0.300	20	

Sample ID: **N040448-002CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144046**
Client ID: **ZZZZZZ** Batch ID: **R144046** TestNo: **SM4500-NO3** Analysis Date: **5/4/2020** SeqNo: **3770332**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	2.423	0.25						2.568	5.83	20	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-35-060-Q220
Lab Order:	N040448	**Collection Date:**	4/27/2020 12:01:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040448-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200430C**	QC Batch: **79079**				PrepDate:	**4/28/2020**	Analyst: **CEI**
Arsenic	0.45	0.081	0.10		µg/L	1	4/30/2020 01:29 PM
Manganese	1.1	0.26	0.50		µg/L	1	4/30/2020 01:29 PM
Molybdenum	15	0.21	0.50		µg/L	1	4/30/2020 01:29 PM
Selenium	1.5	0.36	0.50		µg/L	1	4/30/2020 01:29 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-35-135-Q220
Lab Order:	N040448	**Collection Date:**	4/27/2020 12:40:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040448-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200430C**	QC Batch: **79079**				PrepDate:	**4/28/2020**	Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	4/30/2020 01:38 PM
Manganese	8.4	0.26	0.50		µg/L	1	4/30/2020 01:38 PM
Molybdenum	20	0.21	0.50		µg/L	1	4/30/2020 01:38 PM
Selenium	0.92	0.36	0.50		µg/L	1	4/30/2020 01:38 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-26-Q220
Lab Order:	N040448	**Collection Date:**	4/27/2020 1:53:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040448-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200430C**	QC Batch: **79079**				PrepDate:	**4/28/2020**	Analyst: **CEI**
Arsenic	0.88	0.081	0.10		µg/L	1	4/30/2020 02:06 PM
Manganese	1.5	0.26	0.50		µg/L	1	4/30/2020 02:06 PM
Molybdenum	35	0.21	0.50		µg/L	1	4/30/2020 02:06 PM
Selenium	39	0.36	0.50		µg/L	1	4/30/2020 02:06 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-Q220
Lab Order:	N040448	**Collection Date:**	4/27/2020 2:26:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040448-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200430C**	QC Batch: **79079**				PrepDate:	**4/28/2020**	Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	4/30/2020 02:19 PM
Manganese	ND	0.26	0.50		µg/L	1	4/30/2020 02:19 PM
Molybdenum	40	0.21	0.50		µg/L	1	4/30/2020 02:19 PM
Selenium	19	0.36	0.50		µg/L	1	4/30/2020 02:19 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-907-Q220
Lab Order:	N040448	**Collection Date:**	4/27/2020 2:36:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040448-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200430C**	QC Batch: **79079**				PrepDate:	**4/28/2020**	Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	4/30/2020 02:33 PM
Manganese	ND	0.26	0.50		µg/L	1	4/30/2020 02:33 PM
Molybdenum	42	0.21	0.50		µg/L	1	4/30/2020 02:33 PM
Selenium	20	0.36	0.50		µg/L	1	4/30/2020 02:33 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040448
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **MB-79079** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/28/2020** RunNo: **143977**
Client ID: **PBW** Batch ID: **79079** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767432**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-79079** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/28/2020** RunNo: **143977**
Client ID: **LCSW** Batch ID: **79079** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767433**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.250	0.10	10.00	0	102	85	115				
Manganese	100.961	0.50	100.0	0	101	85	115				
Molybdenum	10.073	0.50	10.00	0	101	85	115				
Selenium	9.512	0.50	10.00	0	95.1	85	115				

Sample ID: **N040428-001D-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/28/2020** RunNo: **143977**
Client ID: **ZZZZZZ** Batch ID: **79079** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767442**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.830	0.10	10.00	1.080	108	75	125				
Manganese	96.771	0.50	100.0	2.099	94.7	75	125				
Molybdenum	17.688	0.50	10.00	6.771	109	75	125				
Selenium	14.957	0.50	10.00	5.278	96.8	75	125				

Sample ID: **N040428-001D-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/28/2020** RunNo: **143977**
Client ID: **ZZZZZZ** Batch ID: **79079** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767444**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.600	0.10	10.00	1.080	105	75	125	11.83	1.96	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040448
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **N040428-001D-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/28/2020** RunNo: **143977**
Client ID: **ZZZZZZ** Batch ID: **79079** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767444**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	96.966	0.50	100.0	2.099	94.9	75	125	96.77	0.202	20	
Molybdenum	18.135	0.50	10.00	6.771	114	75	125	17.69	2.49	20	
Selenium	15.051	0.50	10.00	5.278	97.7	75	125	14.96	0.623	20	

Qualifiers:

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

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com, daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 / Fax:	Address: 1410 Rocky Ridge Dr # 330, Roseville, CA 95661	Email to: mbloes@pivox.com	P.O.# SWA-ASSET-C9817-057
Submitted By: Spencer Doolittle		Phone: 949-727-1400, ext 200	Fax:
Title: Technician	Phone: 916-786-3302 / Fax:		
Signature: SDoo Date: 4/27/2020	Sampled By: Spencer Doolittle		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.		
Project Name: PG&E Topock - GMP	Signature: SDoo	Date: 4/27/2020	
Project Number: RC000753.801D			

EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Excel EDD		RTNE		1. Chilled	✓	
Geotracker		RWQCB	✓	2. Headspace		
Labspec		CalTrans		3. Container Intact	✓	
Others	✓	LEVEL III		4. Seal Present		✓
Specify: RWQCB		LEVEL IV		5. IR number	2	
Global ID:		Regulatory		6. Method of Cooling: ICE		
		Specify State:		Sample Temp: 5.1°C		

Courier:
Tracking No.:

Matrix: Ground x; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Oxygen and Deuterium Isotopes (CFIRM), Ice (250 mL poly)	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (2x250 mL poly)	Alkalinity, Total as CaCO3 (SM2320B) (1 liter poly)	Bromide, Sulfate, Chloride (EPA 300.0) (1 liter poly)	Fluoride (EPA 300.0) (1 liter poly)	Specific Conductance (EPA 120.1) (1 liter poly)	Total Dissolved Solids (SM92540) (1 liter poly)	Nitrate/Nitrite (SM4500N03) Nitrate; H2SO4 (125 mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL poly)	Dissolved metals (SW 6020), HNO3 Cr (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 As, Cr, Mn, Mo, Se (500 mL poly)	Dissolved metals (SW 6020), HNO3 Ag, As, Ba, Be, Cd, Co, Cr, Mg, Mn, Mo, Pb, Sb, Se, Tl, V, Zn (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 B, Ca, Cu, Fe, Na, Ni, (500 mL poly)	Metals Dissolved (EPA7470A FF) Hg; HNO3 (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 Potassium (500 mL poly)	Total metals, Chromium (non-filter) (EPA 200.8), HNO3 (500 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N040448-01	MW-35-60-Q220	4/27/2020	12:01		X						X		X			X						E	4	P	BNS	
2	-02	MW-35-135-Q220	4/27/2020	12:40		X						X		X			X						E	4	P	BNS	
3	-03	MW-19-Q220	4/27/2020	13:22		X						X				X							E	3	P	BNS	
4	-04	MW-26-Q220	4/27/2020	13:53		X						X		X			X						E	4	P	BNS	
5	-05	MW-51-Q220	4/27/2020	14:26		X						X		X			X						E	4	P	BNS	
6	-06	MW-907-Q220	4/27/2020	14:36		X						X		X			X						E	4	P	BNS	
7	-07	EB-707-Q220	4/27/2020	14:45		X																	E	1	P	BNS	
8																											
9																											
10																											
11																											
12																											

Reliquished by (Signature and Printed Name)	Date/Time	Received by (Signature and Printed Name)	Date/Time
SDoo Spencer Doolittle	4/27/2020 1540	J/Gc 4-27-20	4/27/2020 1540
J/Gc 4-27-20	1742	J/Gc 4-27-20	1742

Turn Around Time (TAT)

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

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

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

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

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

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

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

Cooler Received/Opened On:	4/27/2020	Workorder:	N040448
Rep sample Temp (Deg C):	5.1	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

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

Comments: See Correspondence.

Checklist Completed By: YR YRJ 4/28/2020

Reviewed By: NBC 4/30/2020

Mary Ann Balilu (maryann.balilu@assetlaboratoriesph.com)

From: Madsen, Laura <Laura.Madsen@arcadis.com>
Sent: Tuesday, April 28, 2020 9:38 AM
To: Yoandra Rodriguez
Cc: Tina Rice; maryann.balilu@assetlaboratoriesph.com
Subject: RE: PG&E Topock - GMP, RC000753.801D (ASSET Labs No. N040448)

Hi Yoandra,
The ID should be MW-35-060-Q220

Thanks!
Laura

-----Original Message-----
From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Tuesday, April 28, 2020 11:29 AM
To: Madsen, Laura <Laura.Madsen@arcadis.com>
Cc: Tina Rice <Tina.Rice@critigen.com>; maryann.balilu@assetlaboratoriesph.com
Subject: PG&E Topock - GMP, RC000753.801D (ASSET Labs No. N040448)

Hi Laura,

Please advise on the following discrepancy for the attached COC:

Sample 1: ID is MW-35-60-Q220 on COC and MW-35-060-Q220 on labels.

Thanks,

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This email has been checked for viruses by Avast antivirus software.
https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.avast.com%2Fantivirus&data=02%7C01%7CLaura.Madsen%40arcadis.com%7C6fe4918ca69a428d206308d7eb915205%7C7f90057d3ea046feb07ce0568627081b%7C1%7C0%7C637236882003263320&sdata=YfkeRsgBbAjsniSMn%2BFq%2BBIdgwLjK2LKhpTSkAU%2Fzek%3D&reserved=0

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ASSET Laboratories

WORK ORDER Summary

28-Apr-20

WorkOrder: N040448

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 4/27/2020

Comments: Title 22 Metals :Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, N

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N040448-001A	MW-35-060-Q220	4/27/2020 12:01:00 PM	5/11/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040448-001B			5/11/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N040448-001C			5/11/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040448-001D			5/11/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040448-002A	MW-35-135-Q220	4/27/2020 12:40:00 PM	5/11/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040448-002B			5/11/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N040448-002C			5/11/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040448-002D			5/11/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040448-003A	MW-19-Q220	4/27/2020 1:22:00 PM	5/11/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040448-003B			5/11/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N040448-003C			5/11/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040448-004A	MW-26-Q220	4/27/2020 1:53:00 PM	5/11/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040448-004B			5/11/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N040448-004C			5/11/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040448-004D			5/11/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

28-Apr-20

WorkOrder: N040448

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 4/27/2020

Comments: Title 22 Metals :Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, N

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N040448-004D	MW-26-Q220	4/27/2020 1:53:00 PM	5/11/2020	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040448-005A	MW-51-Q220	4/27/2020 2:26:00 PM	5/11/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040448-005B			5/11/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N040448-005C			5/11/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040448-005D			5/11/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040448-006A	MW-907-Q220	4/27/2020 2:36:00 PM	5/11/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040448-006B			5/11/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N040448-006C			5/11/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040448-006D			5/11/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040448-007A	EB-707-Q220	4/27/2020 2:45:00 PM	5/11/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040448-008A	FOLDER	5/11/2020	5/11/2020		EDD	RWQCB	☐	☐	☐	LAB
			5/11/2020		Folder	Folder	☐	☐	☐	LAB
			5/11/2020		Folder	Level IV Report	☐	☐	☐	LAB
			5/11/2020		Folder	Folder	☐	☐	☐	LAB

May 12, 2020

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

TEL: (916) 786-3302
FAX:

Workorder No.: N040461

RE: PG&E Topock - GMP, RC000753.801D

Attention: Dan Bush

Enclosed are the results for sample(s) received on April 28, 2020 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

Nancy Liberacao for

Puri Romualdo
Laboratory Director

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

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for sample N040461-002 due to matrix interference. Sample was analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Sample was reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (2.1 ug/L) and hexavalent chromium (0 ug/L) for sample N040461-002 (MW-72BR-200-Q220) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (2.1 ug/L) and hexavalent chromium (0 ug/L) for sample N040461-002 (MW-72BR-200-Q220) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 2.0 and 1.8 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Dilution was necessary on some analytes for samples N040461-002 and -003 due to associated internal standard not meeting method criteria possibly due to matrix interference. Samples were analyzed with dilution and internal standard met method criteria. Affected analytes for this failed internal standard were reported at dilution that meets internal standard recovery limit.

ASSET Laboratories

Date: *12-May-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N040461
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N040461-001A	MW-62-065-Q220	Groundwater	4/28/2020 11:31:00 AM	4/28/2020	5/12/2020
N040461-001B	MW-62-065-Q220	Groundwater	4/28/2020 11:31:00 AM	4/28/2020	5/12/2020
N040461-001C	MW-62-065-Q220	Groundwater	4/28/2020 11:31:00 AM	4/28/2020	5/12/2020
N040461-001D	MW-62-065-Q220	Groundwater	4/28/2020 11:31:00 AM	4/28/2020	5/12/2020
N040461-002A	MW-72BR-200-Q220	Groundwater	4/28/2020 12:56:00 PM	4/28/2020	5/12/2020
N040461-002B	MW-72BR-200-Q220	Groundwater	4/28/2020 12:56:00 PM	4/28/2020	5/12/2020
N040461-002C	MW-72BR-200-Q220	Groundwater	4/28/2020 12:56:00 PM	4/28/2020	5/12/2020
N040461-002D	MW-72BR-200-Q220	Groundwater	4/28/2020 12:56:00 PM	4/28/2020	5/12/2020
N040461-003A	MW-72-080-Q220	Groundwater	4/28/2020 1:56:00 PM	4/28/2020	5/12/2020
N040461-003B	MW-72-080-Q220	Groundwater	4/28/2020 1:56:00 PM	4/28/2020	5/12/2020
N040461-003C	MW-72-080-Q220	Groundwater	4/28/2020 1:56:00 PM	4/28/2020	5/12/2020
N040461-003D	MW-72-080-Q220	Groundwater	4/28/2020 1:56:00 PM	4/28/2020	5/12/2020
N040461-004A	MW-73-080-Q220	Groundwater	4/28/2020 2:31:00 PM	4/28/2020	5/12/2020
N040461-004B	MW-73-080-Q220	Groundwater	4/28/2020 2:31:00 PM	4/28/2020	5/12/2020
N040461-004C	MW-73-080-Q220	Groundwater	4/28/2020 2:31:00 PM	4/28/2020	5/12/2020
N040461-004D	MW-73-080-Q220	Groundwater	4/28/2020 2:31:00 PM	4/28/2020	5/12/2020
N040461-005A	MW-12-Q220	Groundwater	4/28/2020 3:06:00 PM	4/28/2020	5/12/2020
N040461-005B	MW-12-Q220	Groundwater	4/28/2020 3:06:00 PM	4/28/2020	5/12/2020
N040461-005C	MW-12-Q220	Groundwater	4/28/2020 3:06:00 PM	4/28/2020	5/12/2020
N040461-005D	MW-12-Q220	Groundwater	4/28/2020 3:06:00 PM	4/28/2020	5/12/2020
N040461-006A	EB-709-Q220	Groundwater	4/28/2020 3:20:00 PM	4/28/2020	5/12/2020
N040461-007A	EB-710-Q220	Groundwater	4/28/2020 3:35:00 PM	4/28/2020	5/12/2020

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *12-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-065-Q220
Lab Order:	N040461	**Collection Date:**	4/28/2020 11:31:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040461-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200429B**	QC Batch: **R143930**			PrepDate:			Analyst: **LR**
Specific Conductance	6500	0.10	0.10		umhos/cm	1	4/29/2020 11:10 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *12-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-72BR-200-Q220
Lab Order:	N040461	**Collection Date:**	4/28/2020 12:56:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040461-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200429B**	QC Batch: **R143930**			PrepDate:			Analyst: **LR**
Specific Conductance	16000	0.10	0.10		umhos/cm	1	4/29/2020 11:10 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *12-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-72-080-Q220
Lab Order:	N040461	**Collection Date:**	4/28/2020 1:56:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040461-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200429B**	QC Batch: **R143930**			PrepDate:			Analyst: **LR**
Specific Conductance	16000	0.10	0.10		umhos/cm	1	4/29/2020 11:10 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-73-080-Q220
Lab Order:	N040461	**Collection Date:**	4/28/2020 2:31:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040461-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200429B**	QC Batch: **R143930**			PrepDate:			Analyst: **LR**
Specific Conductance	9500	0.10	0.10		umhos/cm	1	4/29/2020 11:10 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *12-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-12-Q220
Lab Order:	N040461	**Collection Date:**	4/28/2020 3:06:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040461-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200429B**	QC Batch: **R143930**			PrepDate:			Analyst: **LR**
Specific Conductance	7200	0.10	0.10		umhos/cm	1	4/29/2020 11:10 AM

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040461
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N040460-001ADUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **143930**
Client ID: **ZZZZZZ** Batch ID: **R143930** TestNo: **EPA 120.1** Analysis Date: **4/29/2020** SeqNo: **3765794**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	41600.000	0.10						41800	0.480	2	

Sample ID **N040461-001BDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **143930**
Client ID: **ZZZZZZ** Batch ID: **R143930** TestNo: **EPA 120.1** Analysis Date: **4/29/2020** SeqNo: **3765854**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	6490.000	0.10						6480	0.154	2	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *12-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-065-Q220
Lab Order:	N040461	**Collection Date:**	4/28/2020 11:31:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040461-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200429A** QC Batch: **R143953** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	580	3.3	20		µg/L	100	4/29/2020 11:04 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200430B** QC Batch: **79095** PrepDate: **4/29/2020** Analyst: **CEI**							
Chromium	550	0.65	5.0		µg/L	5	4/30/2020 04:42 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *12-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-72BR-200-Q220
Lab Order:	N040461	**Collection Date:**	4/28/2020 12:56:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040461-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200429A** QC Batch: **R143953** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.17	1.0		µg/L	5	4/29/2020 12:40 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200430B** QC Batch: **79095** PrepDate: **4/29/2020** Analyst: **CEI**							
Chromium	2.1	0.13	1.0		µg/L	1	4/30/2020 05:01 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *12-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-72-080-Q220
Lab Order:	N040461	**Collection Date:**	4/28/2020 1:56:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040461-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200429A** QC Batch: **R143953** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	100	0.66	4.0		µg/L	20	4/29/2020 11:24 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200430B** QC Batch: **79095** PrepDate: **4/29/2020** Analyst: **CEI**							
Chromium	95	0.13	1.0		µg/L	1	4/30/2020 05:15 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N040461
Project: PG&E Topock - GMP, RC000753.801D
Lab ID: N040461-004

Client Sample ID: MW-73-080-Q220
Collection Date: 4/28/2020 2:31:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200429A** QC Batch: **R143953** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	26	0.17	1.0		µg/L	5	4/29/2020 11:34 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200430B** QC Batch: **79095** PrepDate: **4/29/2020** Analyst: **CEI**							
Chromium	24	0.13	1.0		µg/L	1	4/30/2020 05:29 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *12-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-12-Q220
Lab Order:	N040461	**Collection Date:**	4/28/2020 3:06:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040461-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200429A** QC Batch: **R143953** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	2700	17	100		µg/L	500	4/29/2020 03:19 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200430B** QC Batch: **79095** PrepDate: **4/29/2020** Analyst: **CEI**							
Chromium	2800	3.2	25		µg/L	25	4/30/2020 06:10 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N040461
Project: PG&E Topock - GMP, RC000753.801D
Lab ID: N040461-006

Client Sample ID: EB-709-Q220
Collection Date: 4/28/2020 3:20:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200429A** QC Batch: **R143953** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	4/29/2020 03:48 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *12-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-710-Q220
Lab Order:	N040461	**Collection Date:**	4/28/2020 3:35:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040461-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200429A** QC Batch: **R143953** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	4/29/2020 04:26 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040461
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R143953** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143953**
Client ID: **PBW** Batch ID: **R143953** TestNo: **EPA 218.6** Analysis Date: **4/29/2020** SeqNo: **3766757**

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

Sample ID **LCS-R143953** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143953**
Client ID: **LCSW** Batch ID: **R143953** TestNo: **EPA 218.6** Analysis Date: **4/29/2020** SeqNo: **3766758**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.995	0.20	5.000	0	99.9	90	110				

Sample ID **N040461-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143953**
Client ID: **ZZZZZZ** Batch ID: **R143953** TestNo: **EPA 218.6** Analysis Date: **4/29/2020** SeqNo: **3766763**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1069.850	20	500.0	581.4	97.7	90	110				

Sample ID **N040461-001AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143953**
Client ID: **ZZZZZZ** Batch ID: **R143953** TestNo: **EPA 218.6** Analysis Date: **4/29/2020** SeqNo: **3766764**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1059.550	20	500.0	581.4	95.6	90	110	1070	0.967	20	

Sample ID **N040461-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143953**
Client ID: **ZZZZZZ** Batch ID: **R143953** TestNo: **EPA 218.6** Analysis Date: **4/29/2020** SeqNo: **3766768**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.981	1.0	5.000	0	99.6	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040461
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N040461-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143953**
Client ID: **ZZZZZZ** Batch ID: **R143953** TestNo: **EPA 218.6** Analysis Date: **4/29/2020** SeqNo: **3766769**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	202.394	4.0	100.0	101.8	101	90	110				

Sample ID **N040461-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143953**
Client ID: **ZZZZZZ** Batch ID: **R143953** TestNo: **EPA 218.6** Analysis Date: **4/29/2020** SeqNo: **3766770**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	50.580	1.0	25.00	25.53	100	90	110				

Sample ID **N040461-005ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143953**
Client ID: **ZZZZZZ** Batch ID: **R143953** TestNo: **EPA 218.6** Analysis Date: **4/29/2020** SeqNo: **3766780**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2712.050	100						2698	0.534	20	

Sample ID **N040461-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143953**
Client ID: **ZZZZZZ** Batch ID: **R143953** TestNo: **EPA 218.6** Analysis Date: **4/29/2020** SeqNo: **3766781**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5200.900	100	2500	2698	100	90	110				

Sample ID **N040461-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143953**
Client ID: **ZZZZZZ** Batch ID: **R143953** TestNo: **EPA 218.6** Analysis Date: **4/29/2020** SeqNo: **3766783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.991	0.20	1.000	0	99.1	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040461
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N040461-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143953**
Client ID: **ZZZZZZ** Batch ID: **R143953** TestNo: **EPA 218.6** Analysis Date: **4/29/2020** SeqNo: **3766787**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.989	0.20	1.000	0	98.9	90	110				

Sample ID **N040370-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143953**
Client ID: **ZZZZZZ** Batch ID: **R143953** TestNo: **EPA 218.6** Analysis Date: **4/29/2020** SeqNo: **3766789**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.058	0.20	1.000	0	106	90	110				

Sample ID **N040370-004AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143953**
Client ID: **ZZZZZZ** Batch ID: **R143953** TestNo: **EPA 218.6** Analysis Date: **4/29/2020** SeqNo: **3766790**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.015	0.20	1.000	0	102	90	110	1.058	4.10	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040461
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **MB-79095** SampType: **MBLK** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **4/29/2020** RunNo: **143976**
Client ID: **PBW** Batch ID: **79095** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767328**

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

Sample ID **LCS-79095** SampType: **LCS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **4/29/2020** RunNo: **143976**
Client ID: **LCSW** Batch ID: **79095** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767329**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.967	1.0	10.00	0	99.7	85	115				

Sample ID **N040416-001D-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **4/29/2020** RunNo: **143976**
Client ID: **ZZZZZZ** Batch ID: **79095** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767335**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	28.374	1.0	10.00	19.17	92.1	75	125				

Sample ID **N040416-001D-MSD** SampType: **MSD** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **4/29/2020** RunNo: **143976**
Client ID: **ZZZZZZ** Batch ID: **79095** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767337**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	28.327	1.0	10.00	19.17	91.6	75	125	28.37	0.164	20	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *12-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-065-Q220
Lab Order:	N040461	**Collection Date:**	4/28/2020 11:31:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040461-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200504E**	QC Batch: **R144046**			PrepDate:			Analyst: **HG**
Nitrate/Nitrite as N	4.6	0.16	0.25		mg/L	5	5/4/2020 03:32 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *12-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-72BR-200-Q220
Lab Order:	N040461	**Collection Date:**	4/28/2020 12:56:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040461-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200504E**	QC Batch: **R144046**			PrepDate:			Analyst: **HG**
Nitrate/Nitrite as N	ND	0.032	0.050		mg/L	1	5/4/2020 03:35 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *12-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-72-080-Q220
Lab Order:	N040461	**Collection Date:**	4/28/2020 1:56:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040461-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200504E** QC Batch: **R144046** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	1.0	0.032	0.050		mg/L	1	5/4/2020 03:38 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-73-080-Q220
Lab Order:	N040461	**Collection Date:**	4/28/2020 2:31:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040461-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200504E**	QC Batch: **R144046**			PrepDate:			Analyst: **HG**
Nitrate/Nitrite as N	3.9	0.16	0.25		mg/L	5	5/4/2020 03:42 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *12-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-12-Q220
Lab Order:	N040461	**Collection Date:**	4/28/2020 3:06:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040461-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200504E** QC Batch: **R144046** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	15	0.32	0.50		mg/L	10	5/4/2020 03:45 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040461
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID **MB-R144046** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144046**
Client ID: **PBW** Batch ID: **R144046** TestNo: **SM4500-NO3** Analysis Date: **5/4/2020** SeqNo: **3770326**

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

Sample ID **LCS-R144046** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144046**
Client ID: **LCSW** Batch ID: **R144046** TestNo: **SM4500-NO3** Analysis Date: **5/4/2020** SeqNo: **3770327**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.976	0.050	1.000	0	97.6	85	115				

Sample ID **N040448-001CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144046**
Client ID: **ZZZZZZ** Batch ID: **R144046** TestNo: **SM4500-NO3** Analysis Date: **5/4/2020** SeqNo: **3770329**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	8.351	0.25	5.000	2.789	111	75	125				

Sample ID **N040448-001CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144046**
Client ID: **ZZZZZZ** Batch ID: **R144046** TestNo: **SM4500-NO3** Analysis Date: **5/4/2020** SeqNo: **3770330**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	8.326	0.25	5.000	2.789	111	75	125	8.351	0.300	20	

Sample ID **N040448-002CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144046**
Client ID: **ZZZZZZ** Batch ID: **R144046** TestNo: **SM4500-NO3** Analysis Date: **5/4/2020** SeqNo: **3770332**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	2.423	0.25						2.568	5.83	20	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *12-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-065-Q220
Lab Order:	N040461	**Collection Date:**	4/28/2020 11:31:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040461-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200501B**	QC Batch: **79095**			PrepDate:		**4/29/2020**	Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	5/1/2020 03:16 PM
Manganese	4.9	0.26	0.50		µg/L	1	4/30/2020 04:38 PM
Molybdenum	15	0.21	0.50		µg/L	1	4/30/2020 04:38 PM
Selenium	3.8	0.36	0.50		µg/L	1	4/30/2020 04:38 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *12-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-72BR-200-Q220
Lab Order:	N040461	**Collection Date:**	4/28/2020 12:56:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040461-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200430C**	QC Batch: **79095**				PrepDate:	**4/29/2020**	Analyst: **CEI**
Arsenic	6.5	0.081	0.10		µg/L	1	4/30/2020 05:01 PM
Manganese	200	1.3	2.5		µg/L	5	4/30/2020 05:06 PM
Molybdenum	73	1.1	2.5		µg/L	5	4/30/2020 05:06 PM
Selenium	ND	0.36	0.50		µg/L	1	4/30/2020 05:01 PM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *12-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-72-080-Q220
Lab Order:	N040461	**Collection Date:**	4/28/2020 1:56:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040461-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200430C**	QC Batch: **79095**			PrepDate:		**4/29/2020**	Analyst: **CEI**
Arsenic	6.5	0.081	0.10		µg/L	1	4/30/2020 05:15 PM
Manganese	89	0.26	0.50		µg/L	1	4/30/2020 05:15 PM
Molybdenum	74	1.1	2.5		µg/L	5	4/30/2020 05:19 PM
Selenium	1.3	0.36	0.50		µg/L	1	4/30/2020 05:15 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *12-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-73-080-Q220
Lab Order:	N040461	**Collection Date:**	4/28/2020 2:31:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040461-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200430C**	QC Batch: **79095**			PrepDate:		**4/29/2020**	Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	4/30/2020 05:29 PM
Manganese	4.5	0.26	0.50		µg/L	1	4/30/2020 05:29 PM
Molybdenum	36	0.21	0.50		µg/L	1	4/30/2020 05:29 PM
Selenium	4.2	0.36	0.50		µg/L	1	4/30/2020 05:29 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *12-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-12-Q220
Lab Order:	N040461	**Collection Date:**	4/28/2020 3:06:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040461-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200430C**	QC Batch: **79095**			PrepDate:		**4/29/2020**	Analyst: **CEI**
Arsenic	45	0.081	0.10		µg/L	1	4/30/2020 05:43 PM
Manganese	1.4	0.26	0.50		µg/L	1	4/30/2020 05:43 PM
Molybdenum	8.8	0.21	0.50		µg/L	1	4/30/2020 05:43 PM
Selenium	13	0.36	0.50		µg/L	1	4/30/2020 05:43 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040461
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **MB-79095** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/29/2020** RunNo: **143977**
Client ID: **PBW** Batch ID: **79095** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767480**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-79095** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/29/2020** RunNo: **143977**
Client ID: **LCSW** Batch ID: **79095** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767481**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.870	0.10	10.00	0	109	85	115				
Manganese	102.460	0.50	100.0	0	102	85	115				
Molybdenum	10.267	0.50	10.00	0	103	85	115				
Selenium	10.156	0.50	10.00	0	102	85	115				

Sample ID **N040416-001D-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/29/2020** RunNo: **143977**
Client ID: **ZZZZZZ** Batch ID: **79095** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767487**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.363	0.10	10.00	0.5442	108	75	125				
Manganese	102.307	0.50	100.0	7.423	94.9	75	125				
Molybdenum	19.085	0.50	10.00	7.831	113	75	125				
Selenium	13.971	0.50	10.00	4.109	98.6	75	125				

Sample ID **N040416-001D-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/29/2020** RunNo: **143977**
Client ID: **ZZZZZZ** Batch ID: **79095** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767489**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.329	0.10	10.00	0.5442	108	75	125	11.36	0.297	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040461
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N040416-001D-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/29/2020** RunNo: **143977**
Client ID: **ZZZZZZ** Batch ID: **79095** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/30/2020** SeqNo: **3767489**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	101.525	0.50	100.0	7.423	94.1	75	125	102.3	0.767	20	
Molybdenum	18.986	0.50	10.00	7.831	112	75	125	19.08	0.520	20	
Selenium	13.878	0.50	10.00	4.109	97.7	75	125	13.97	0.671	20	

Qualifiers:

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

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 / Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com	P.O.# SWA-ASSET-C9817-057
Submitted By: Spencer Doolittle		Phone: 949-727-1400, ext 200	Fax:
Title: Technician	Phone: 916-786-3302 / Fax:		
Signature: SD Date: 4/28/2020	Sampled By: Spencer Doolittle		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.		
Project Name: PG&E Topock - GMP	Signature: SD Date: 4/28/2020		
Project Number: RC000753.801D			

Matrix			
Ground	x	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Excel EDD		RTNE		1. Chilled	X	
Geotracker		RWQCB	✓	2. Headspace		
Labspec		CalTrans		3. Container Intact	X	
Others	✓	LEVEL III		4. Seal Present		
Specify: RWQCB		LEVEL IV		5. IR number 2		
		Regulatory		6. Method of Cooling: ICE		
Global ID:		Specify State:		Sample Temp 4.3 °C		

Courier: ASSET
Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Oxygen and Deuterium Isotopes (CFIRM), Ice (250 mL poly)	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (2x250 mL poly)	Alkalinity, Total as CaCO3 (SM2320B) (1 liter poly)	Bromide, Sulfate, Chloride (EPA 300.0) (1 liter poly)	Fluoride (EPA 300.0) (1 liter poly)	Specific Conductance (EPA 120.1) (1 liter poly)	Total Dissolved Solids (SM92540) (1 liter poly)	Nitrate/Nitrite (SM4500N03) Nitrate, H2SO4 (125 mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL poly)	Dissolved metals (SW 6020), HNO3 Cr, Mo, Se (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 As, Cr, Mn, Mo, Se (500 mL poly)	Dissolved metals (SW 6020), HNO3 Ag, As, Ba, Be, Cd, Co, Cr, Mg, Mn, Mo, Pb, Sb, Se, Tl, V, Zn (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 B, Ca, Cu, Fe, Na, Ni, (500 mL poly)	Metals Dissolved (EPA7470A FF) Hg: HNO3 (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 Potassium (500 mL poly)	Total metals, Chromium (non-filter) (EPA 200.8), HNO3 (500 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N040461-01	MW-62-065-Q220	4/28/2020	11:31		X						X		X			X						E	4	P	BNS	
2	-02	MW-72BR-200-Q220	4/28/2020	12:56		X						X		X			X						E	4	P	BNS	
3	-03	MW-72-080-Q220	4/28/2020	13:56		X						X		X			X						E	3	P	BNS	
4	-04	MW-73-080-Q220	4/28/2020	14:31		X						X		X			X						E	4	P	BNS	
5	-05	MW-12-Q220	4/28/2020	15:06		X						X		X		X							E	4	P	BNS	
6	-06	EB-709-Q220	4/28/2020	15:20		X																	E	1	P	BNS	
7	-07	EB-710-Q220	4/28/2020	15:35		X																	E	1	P	BNS	
8																											
9																											
10																											
11																											
12																											

Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
SD Spencer Doolittle	4/28/2020 1545	MBCARTHW	4/28/2020 1545
SD MBCARTHW	4/28/20 @1753	MBCARTHW	4/28/20 @1753

Turn Around Time (TAT)

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

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

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

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

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

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

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

Cooler Received/Opened On:	4/28/2020	Workorder:	N040461
Rep sample Temp (Deg C):	4.3	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

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

Comments:

For:

Checklist Completed By: MBC YRJ 4/29/2020

Reviewed By: MBC 4/30/2020

ASSET Laboratories

WORK ORDER Summary

29-Apr-20

WorkOrder: N040461

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 4/28/2020

Comments: Title 22 Metals :Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, N

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N040461-001A	MW-62-065-Q220	4/28/2020 11:31:00 AM	5/12/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040461-001B			5/12/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N040461-001C			5/12/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040461-001D			5/12/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/12/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/12/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040461-002A	MW-72BR-200-Q220	4/28/2020 12:56:00 PM	5/12/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040461-002B			5/12/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N040461-002C			5/12/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040461-002D			5/12/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/12/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/12/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040461-003A	MW-72-080-Q220	4/28/2020 1:56:00 PM	5/12/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040461-003B			5/12/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N040461-003C			5/12/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040461-003D			5/12/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/12/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/12/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040461-004A	MW-73-080-Q220	4/28/2020 2:31:00 PM	5/12/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040461-004B			5/12/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N040461-004C			5/12/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

29-Apr-20

WorkOrder: N040461

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 4/28/2020

Comments: Title 22 Metals :Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, N

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N040461-004D	MW-73-080-Q220	4/28/2020 2:31:00 PM	5/12/2020	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/12/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/12/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040461-005A	MW-12-Q220	4/28/2020 3:06:00 PM	5/12/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040461-005B			5/12/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N040461-005C			5/12/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040461-005D			5/12/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/12/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/12/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040461-006A	EB-709-Q220	4/28/2020 3:20:00 PM	5/12/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040461-007A	EB-710-Q220	4/28/2020 3:35:00 PM	5/12/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040461-008A	FOLDER	5/12/2020	5/12/2020		EDD	RWQCB	☐	☐	☐	LAB
			5/12/2020		Folder	Folder	☐	☐	☐	LAB
			5/12/2020		Folder	Level IV Report	☐	☐	☐	LAB
			5/12/2020		Folder	Folder	☐	☐	☐	LAB

May 13, 2020

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

TEL: (916) 786-3302
FAX:

Workorder No.: N040471

RE: PG&E Topock - GMP, RC000753.801D

Attention: Dan Bush

Enclosed are the results for sample(s) received on April 29, 2020 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

Nancy Liberucci for

Puri Romualdo
Laboratory Director

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

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 6020_Dissolved:

Dilution was necessary on some analytes for some samples due to associated internal standard not meeting method criteria possibly due to matrix interference. Samples were analyzed with dilution and internal standard met method criteria. Affected analytes for this failed internal standard were reported at dilution that meets internal standard recovery limit.

ASSET Laboratories

Date: *13-May-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N040471
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N040471-001A	MW-65-160-Q220	Groundwater	4/29/2020 11:07:00 AM	4/29/2020	5/13/2020
N040471-001B	MW-65-160-Q220	Groundwater	4/29/2020 11:07:00 AM	4/29/2020	5/13/2020
N040471-001C	MW-65-160-Q220	Groundwater	4/29/2020 11:07:00 AM	4/29/2020	5/13/2020
N040471-001D	MW-65-160-Q220	Groundwater	4/29/2020 11:07:00 AM	4/29/2020	5/13/2020
N040471-002A	MW-65-225-Q220	Groundwater	4/29/2020 12:05:00 PM	4/29/2020	5/13/2020
N040471-002B	MW-65-225-Q220	Groundwater	4/29/2020 12:05:00 PM	4/29/2020	5/13/2020
N040471-002C	MW-65-225-Q220	Groundwater	4/29/2020 12:05:00 PM	4/29/2020	5/13/2020
N040471-002D	MW-65-225-Q220	Groundwater	4/29/2020 12:05:00 PM	4/29/2020	5/13/2020
N040471-003A	MW-66-165-Q220	Groundwater	4/29/2020 1:11:00 PM	4/29/2020	5/13/2020
N040471-003B	MW-66-165-Q220	Groundwater	4/29/2020 1:11:00 PM	4/29/2020	5/13/2020
N040471-003C	MW-66-165-Q220	Groundwater	4/29/2020 1:11:00 PM	4/29/2020	5/13/2020
N040471-003D	MW-66-165-Q220	Groundwater	4/29/2020 1:11:00 PM	4/29/2020	5/13/2020
N040471-004A	MW-66-230-Q220	Groundwater	4/29/2020 1:50:00 PM	4/29/2020	5/13/2020
N040471-004B	MW-66-230-Q220	Groundwater	4/29/2020 1:50:00 PM	4/29/2020	5/13/2020
N040471-004C	MW-66-230-Q220	Groundwater	4/29/2020 1:50:00 PM	4/29/2020	5/13/2020
N040471-004D	MW-66-230-Q220	Groundwater	4/29/2020 1:50:00 PM	4/29/2020	5/13/2020
N040471-005A	MW-909-Q220	Groundwater	4/29/2020 2:00:00 PM	4/29/2020	5/13/2020
N040471-005B	MW-909-Q220	Groundwater	4/29/2020 2:00:00 PM	4/29/2020	5/13/2020
N040471-005C	MW-909-Q220	Groundwater	4/29/2020 2:00:00 PM	4/29/2020	5/13/2020
N040471-005D	MW-909-Q220	Groundwater	4/29/2020 2:00:00 PM	4/29/2020	5/13/2020
N040471-006A	MW-62-110-Q220	Groundwater	4/29/2020 2:20:00 PM	4/29/2020	5/13/2020
N040471-006B	MW-62-110-Q220	Groundwater	4/29/2020 2:20:00 PM	4/29/2020	5/13/2020
N040471-006C	MW-62-110-Q220	Groundwater	4/29/2020 2:20:00 PM	4/29/2020	5/13/2020
N040471-006D	MW-62-110-Q220	Groundwater	4/29/2020 2:20:00 PM	4/29/2020	5/13/2020
N040471-007A	MW-62-190-Q220	Groundwater	4/29/2020 2:30:00 PM	4/29/2020	5/13/2020
N040471-007B	MW-62-190-Q220	Groundwater	4/29/2020 2:30:00 PM	4/29/2020	5/13/2020
N040471-007C	MW-62-190-Q220	Groundwater	4/29/2020 2:30:00 PM	4/29/2020	5/13/2020
N040471-007D	MW-62-190-Q220	Groundwater	4/29/2020 2:30:00 PM	4/29/2020	5/13/2020
N040471-008A	MW-908-Q220	Groundwater	4/29/2020 2:40:00 PM	4/29/2020	5/13/2020

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N040471
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N040471-008B	MW-908-Q220	Groundwater	4/29/2020 2:40:00 PM	4/29/2020	5/13/2020
N040471-008C	MW-908-Q220	Groundwater	4/29/2020 2:40:00 PM	4/29/2020	5/13/2020
N040471-008D	MW-908-Q220	Groundwater	4/29/2020 2:40:00 PM	4/29/2020	5/13/2020
N040471-009A	EB-711-Q220	Groundwater	4/29/2020 3:00:00 PM	4/29/2020	5/13/2020
N040471-010A	EB-712-Q220	Groundwater	4/29/2020 3:00:00 PM	4/29/2020	5/13/2020

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-160-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 11:07:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200430B**	QC Batch: **R143956**			PrepDate:			Analyst: **LR**
Specific Conductance	3100	0.10	0.10		umhos/cm	1	4/30/2020 10:40 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-225-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 12:05:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200430B**	QC Batch: **R143956**			PrepDate:			Analyst: **LR**
Specific Conductance	14000	0.10	0.10		umhos/cm	1	4/30/2020 10:40 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N040471
Project: PG&E Topock - GMP, RC000753.801D
Lab ID: N040471-003

Client Sample ID: MW-66-165-Q220
Collection Date: 4/29/2020 1:11:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
EPA 120.1							
RunID: **NV00922-WC_200430B** QC Batch: **R143956** PrepDate: Analyst: **LR**							
Specific Conductance	4200	0.10	0.10		umhos/cm	1	4/30/2020 10:40 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66-230-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 1:50:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200430B**	QC Batch: **R143956**			PrepDate:			Analyst: **LR**
Specific Conductance	19000	0.10	0.10		umhos/cm	1	4/30/2020 10:40 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-909-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 2:00:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200430B**	QC Batch: **R143956**			PrepDate:			Analyst: **LR**
Specific Conductance	19000	0.10	0.10		umhos/cm	1	4/30/2020 10:40 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-110-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 2:20:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200430B**	QC Batch: **R143956**			PrepDate:			Analyst: **LR**
Specific Conductance	14000	0.10	0.10		umhos/cm	1	4/30/2020 10:40 AM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-190-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 2:30:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200430B**	QC Batch: **R143956**			PrepDate:			Analyst: **LR**
Specific Conductance	19000	0.10	0.10		umhos/cm	1	4/30/2020 10:40 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-908-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 2:40:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200430B**	QC Batch: **R143956**			PrepDate:			Analyst: **LR**
Specific Conductance	19000	0.10	0.10		umhos/cm	1	4/30/2020 10:40 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040471
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **N040471-004BDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **143956**
Client ID: **ZZZZZZ** Batch ID: **R143956** TestNo: **EPA 120.1** Analysis Date: **4/30/2020** SeqNo: **3766872**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	18650.000	0.10						18680	0.161	2	

Sample ID: **N040472-008DDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **143956**
Client ID: **ZZZZZZ** Batch ID: **R143956** TestNo: **EPA 120.1** Analysis Date: **4/30/2020** SeqNo: **3766885**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	923.000	0.10						919.0	0.434	2	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-160-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 11:07:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200430A** QC Batch: **R143986** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	190	1.7	10		µg/L	50	4/30/2020 09:54 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200501E** QC Batch: **79109** PrepDate: **4/30/2020** Analyst: **CEI**							
Chromium	210	0.65	5.0		µg/L	5	5/1/2020 11:11 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-225-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 12:05:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200430A** QC Batch: **R143986** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	280	1.7	10		µg/L	50	4/30/2020 10:05 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200501E** QC Batch: **79109** PrepDate: **4/30/2020** Analyst: **CEI**							
Chromium	260	0.65	5.0		µg/L	5	5/1/2020 11:34 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66-165-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 1:11:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200430A** QC Batch: **R143986** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	530	3.3	20		µg/L	100	4/30/2020 10:15 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200501E** QC Batch: **79109** PrepDate: **4/30/2020** Analyst: **CEI**							
Chromium	520	0.65	5.0		µg/L	5	5/1/2020 11:48 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66-230-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 1:50:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200430A** QC Batch: **R143986** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	6700	33	200		µg/L	1000	4/30/2020 10:24 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200501E** QC Batch: **79109** PrepDate: **4/30/2020** Analyst: **CEI**							
Chromium	6300	13	100		µg/L	100	5/2/2020 12:06 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N040471
Project: PG&E Topock - GMP, RC000753.801D
Lab ID: N040471-005

Client Sample ID: MW-909-Q220
Collection Date: 4/29/2020 2:00:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200430A** QC Batch: **R143986** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	6600	33	200		µg/L	1000	4/30/2020 10:34 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200501E** QC Batch: **79109** PrepDate: **4/30/2020** Analyst: **CEI**							
Chromium	6600	13	100		µg/L	100	5/2/2020 12:11 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-110-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 2:20:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200430A** QC Batch: **R143986** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.17	1.0		µg/L	5	4/30/2020 04:13 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200501E** QC Batch: **79109** PrepDate: **4/30/2020** Analyst: **CEI**							
Chromium	ND	0.13	1.0		µg/L	1	5/2/2020 12:39 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-190-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 2:30:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200430A** QC Batch: **R143986** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.17	1.0		µg/L	5	4/30/2020 04:32 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200501E** QC Batch: **79109** PrepDate: **4/30/2020** Analyst: **CEI**							
Chromium	ND	0.13	1.0		µg/L	1	5/2/2020 12:53 AM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-908-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 2:40:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200430A** QC Batch: **R143986** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.17	1.0		µg/L	5	4/30/2020 04:51 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200501E** QC Batch: **79109** PrepDate: **4/30/2020** Analyst: **CEI**							
Chromium	ND	0.13	1.0		µg/L	1	5/2/2020 01:06 AM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-711-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 3:00:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200430A** QC Batch: **R143986** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	4/30/2020 05:29 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-712-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 3:00:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200430A** QC Batch: **R143986** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	4/30/2020 05:48 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040471
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R143986** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143986**
Client ID: **PBW** Batch ID: **R143986** TestNo: **EPA 218.6** Analysis Date: **4/30/2020** SeqNo: **3768022**

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

Sample ID: **LCS-R143986** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143986**
Client ID: **LCSW** Batch ID: **R143986** TestNo: **EPA 218.6** Analysis Date: **4/30/2020** SeqNo: **3768023**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.003	0.20	5.000	0	100	90	110				

Sample ID: **N040471-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143986**
Client ID: **ZZZZZZ** Batch ID: **R143986** TestNo: **EPA 218.6** Analysis Date: **4/30/2020** SeqNo: **3768037**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	527.970	10	250.0	278.4	99.8	90	110				

Sample ID: **N040471-002AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143986**
Client ID: **ZZZZZZ** Batch ID: **R143986** TestNo: **EPA 218.6** Analysis Date: **4/30/2020** SeqNo: **3768038**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	531.125	10	250.0	278.4	101	90	110	528.0	0.596	20	

Sample ID: **N040471-001ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143986**
Client ID: **ZZZZZZ** Batch ID: **R143986** TestNo: **EPA 218.6** Analysis Date: **4/30/2020** SeqNo: **3768039**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	189.200	10						192.5	1.73	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040471
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N040471-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143986**
Client ID: **ZZZZZZ** Batch ID: **R143986** TestNo: **EPA 218.6** Analysis Date: **4/30/2020** SeqNo: **3768053**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	439.545	10	250.0	192.5	98.8	90	110				

Sample ID: **N040471-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143986**
Client ID: **ZZZZZZ** Batch ID: **R143986** TestNo: **EPA 218.6** Analysis Date: **4/30/2020** SeqNo: **3768054**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1036.970	20	500.0	532.0	101	90	110				

Sample ID: **N040471-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143986**
Client ID: **ZZZZZZ** Batch ID: **R143986** TestNo: **EPA 218.6** Analysis Date: **4/30/2020** SeqNo: **3768055**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11715.000	200	5000	6710	100	90	110				

Sample ID: **N040471-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143986**
Client ID: **ZZZZZZ** Batch ID: **R143986** TestNo: **EPA 218.6** Analysis Date: **4/30/2020** SeqNo: **3768056**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11659.900	200	5000	6582	102	90	110				

Sample ID: **N040471-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143986**
Client ID: **ZZZZZZ** Batch ID: **R143986** TestNo: **EPA 218.6** Analysis Date: **4/30/2020** SeqNo: **3768058**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.028	1.0	5.000	0	101	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040471
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N040471-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143986**
Client ID: **ZZZZZZ** Batch ID: **R143986** TestNo: **EPA 218.6** Analysis Date: **4/30/2020** SeqNo: **3768060**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.939	1.0	5.000	0.7025	105	90	110				

Sample ID: **N040471-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143986**
Client ID: **ZZZZZZ** Batch ID: **R143986** TestNo: **EPA 218.6** Analysis Date: **4/30/2020** SeqNo: **3768062**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.603	1.0	5.000	0.6015	100	90	110				

Sample ID: **N040471-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143986**
Client ID: **ZZZZZZ** Batch ID: **R143986** TestNo: **EPA 218.6** Analysis Date: **4/30/2020** SeqNo: **3768066**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.006	0.20	1.000	0	101	90	110				

Sample ID: **N040471-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143986**
Client ID: **ZZZZZZ** Batch ID: **R143986** TestNo: **EPA 218.6** Analysis Date: **4/30/2020** SeqNo: **3768068**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.997	0.20	1.000	0	99.7	90	110				

Sample ID: **N040472-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143986**
Client ID: **ZZZZZZ** Batch ID: **R143986** TestNo: **EPA 218.6** Analysis Date: **4/30/2020** SeqNo: **3768070**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.042	0.20	1.000	0	104	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040471
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N040472-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143986**
Client ID: **ZZZZZZ** Batch ID: **R143986** TestNo: **EPA 218.6** Analysis Date: **4/30/2020** SeqNo: **3768072**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.066	0.20	1.000	0	107	90	110				

Sample ID: **N040472-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143986**
Client ID: **ZZZZZZ** Batch ID: **R143986** TestNo: **EPA 218.6** Analysis Date: **4/30/2020** SeqNo: **3768074**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.062	0.20	1.000	0	106	90	110				

Sample ID: **N040472-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143986**
Client ID: **ZZZZZZ** Batch ID: **R143986** TestNo: **EPA 218.6** Analysis Date: **4/30/2020** SeqNo: **3768078**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.056	0.20	1.000	0	106	90	110				

Sample ID: **N040472-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143986**
Client ID: **ZZZZZZ** Batch ID: **R143986** TestNo: **EPA 218.6** Analysis Date: **4/30/2020** SeqNo: **3768080**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.075	0.20	1.000	0	107	90	110				

Sample ID: **N040472-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143986**
Client ID: **ZZZZZZ** Batch ID: **R143986** TestNo: **EPA 218.6** Analysis Date: **4/30/2020** SeqNo: **3768082**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.065	0.20	1.000	0	107	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040471
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N040472-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **143986**
Client ID: **ZZZZZZ** Batch ID: **R143986** TestNo: **EPA 218.6** Analysis Date: **4/30/2020** SeqNo: **3768084**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.035	0.20	1.000	0	103	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040471
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID: **MB-79109** SampType: **MBLK** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **4/30/2020** RunNo: **144013**
Client ID: **PBW** Batch ID: **79109** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/1/2020** SeqNo: **3769336**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.136	1.0									

Sample ID: **LCS-79109** SampType: **LCS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **4/30/2020** RunNo: **144013**
Client ID: **LCSW** Batch ID: **79109** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/1/2020** SeqNo: **3769337**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.991	1.0	10.00	0	99.9	85	115				

Sample ID: **N040472-001B-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **4/30/2020** RunNo: **144013**
Client ID: **ZZZZZZ** Batch ID: **79109** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/2/2020** SeqNo: **3769375**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.486	1.0	10.00	0.1531	93.3	75	125				

Sample ID: **N040472-001B-MSD** SampType: **MSD** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **4/30/2020** RunNo: **144013**
Client ID: **ZZZZZZ** Batch ID: **79109** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/2/2020** SeqNo: **3769377**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.483	1.0	10.00	0.1531	93.3	75	125	9.486	0.0266	20	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-160-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 11:07:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200505C** QC Batch: **R144064** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	10	0.63	1.0		mg/L	20	5/5/2020 01:42 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-225-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 12:05:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200505C** QC Batch: **R144064** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	4.9	0.32	0.50		mg/L	10	5/5/2020 01:52 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N040471
Project: PG&E Topock - GMP, RC000753.801D
Lab ID: N040471-003

Client Sample ID: MW-66-165-Q220
Collection Date: 4/29/2020 1:11:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200505C** QC Batch: **R144064** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	29	0.63	1.0		mg/L	20	5/5/2020 02:21 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66-230-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 1:50:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200505C**	QC Batch: **R144064**			PrepDate:			Analyst: **HG**
Nitrate/Nitrite as N	23	0.63	1.0		mg/L	20	5/5/2020 02:24 PM

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

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ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-909-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 2:00:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200505C** QC Batch: **R144064** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	23	0.63	1.0		mg/L	20	5/5/2020 03:03 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-110-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 2:20:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200507H**	QC Batch: **R144236**			PrepDate:			Analyst: **HG**
Nitrate/Nitrite as N	3.3	0.16	0.25		mg/L	5	5/7/2020 04:56 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-190-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 2:30:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200505C**	QC Batch: **R144064**			PrepDate:			Analyst: **HG**
Nitrate/Nitrite as N	ND	0.032	0.050		mg/L	1	5/5/2020 03:10 PM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-908-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 2:40:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200505C**	QC Batch: **R144064**			PrepDate:			Analyst: **HG**
Nitrate/Nitrite as N	ND	0.032	0.050		mg/L	1	5/5/2020 03:13 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040471
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID: **MB-R144064** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144064**
Client ID: **PBW** Batch ID: **R144064** TestNo: **SM4500-NO3** Analysis Date: **5/5/2020** SeqNo: **3771039**

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

Sample ID: **LCS-R144064** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144064**
Client ID: **LCSW** Batch ID: **R144064** TestNo: **SM4500-NO3** Analysis Date: **5/5/2020** SeqNo: **3771040**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.019	0.050	1.000	0	102	85	115				

Sample ID: **N040471-001CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144064**
Client ID: **ZZZZZZ** Batch ID: **R144064** TestNo: **SM4500-NO3** Analysis Date: **5/5/2020** SeqNo: **3771042**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	31.612	1.0	20.00	10.18	107	75	125				

Sample ID: **N040471-001CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144064**
Client ID: **ZZZZZZ** Batch ID: **R144064** TestNo: **SM4500-NO3** Analysis Date: **5/5/2020** SeqNo: **3771043**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	31.588	1.0	20.00	10.18	107	75	125	31.61	0.0759	20	

Sample ID: **N040471-002CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144064**
Client ID: **ZZZZZZ** Batch ID: **R144064** TestNo: **SM4500-NO3** Analysis Date: **5/5/2020** SeqNo: **3771045**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	4.690	0.50						4.915	4.69	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040471
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID: **MB-R144236** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144236**
Client ID: **PBW** Batch ID: **R144236** TestNo: **SM4500-NO3** Analysis Date: **5/7/2020** SeqNo: **3776505**

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

Sample ID: **LCS-R144236** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144236**
Client ID: **LCSW** Batch ID: **R144236** TestNo: **SM4500-NO3** Analysis Date: **5/7/2020** SeqNo: **3776506**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.004	0.050	1.000	0	100	85	115				

Sample ID: **N040472-001EMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144236**
Client ID: **ZZZZZZ** Batch ID: **R144236** TestNo: **SM4500-NO3** Analysis Date: **5/7/2020** SeqNo: **3776508**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.480	0.050	1.000	0.4239	106	75	125				

Sample ID: **N040472-001EMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144236**
Client ID: **ZZZZZZ** Batch ID: **R144236** TestNo: **SM4500-NO3** Analysis Date: **5/7/2020** SeqNo: **3776509**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.442	0.050	1.000	0.4239	102	75	125	1.480	2.64	20	

Sample ID: **N040472-002EDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144236**
Client ID: **ZZZZZZ** Batch ID: **R144236** TestNo: **SM4500-NO3** Analysis Date: **5/7/2020** SeqNo: **3776511**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.398	0.050						0.4264	6.99	20	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-160-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 11:07:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200501F**	QC Batch: **79109**				PrepDate:	**4/30/2020**	Analyst: **CEI**
Arsenic	0.63	0.081	0.10		µg/L	1	5/2/2020 05:09 AM
Manganese	52	0.26	0.50		µg/L	1	5/1/2020 11:06 PM
Molybdenum	40	0.21	0.50		µg/L	1	5/1/2020 11:06 PM
Selenium	7.2	0.36	0.50		µg/L	1	5/1/2020 11:06 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-225-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 12:05:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200501F**	QC Batch: **79109**				PrepDate:	**4/30/2020**	Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	5/1/2020 11:30 PM
Manganese	92	0.26	0.50		µg/L	1	5/1/2020 11:30 PM
Molybdenum	43	1.1	2.5		µg/L	5	5/1/2020 11:34 PM
Selenium	3.7	0.36	0.50		µg/L	1	5/1/2020 11:30 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66-165-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 1:11:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200501F**	QC Batch: **79109**				PrepDate:	**4/30/2020**	Analyst: **CEI**
Arsenic	0.39	0.081	0.10		µg/L	1	5/1/2020 11:43 PM
Manganese	7.7	0.26	0.50		µg/L	1	5/1/2020 11:43 PM
Molybdenum	6.2	0.21	0.50		µg/L	1	5/1/2020 11:43 PM
Selenium	29	0.36	0.50		µg/L	1	5/1/2020 11:43 PM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66-230-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 1:50:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200501F**	QC Batch: **79109**			PrepDate:	**4/30/2020**		Analyst: **CEI**
Arsenic	8.4	0.081	0.10		µg/L	1	5/1/2020 11:57 PM
Manganese	2.3	0.26	0.50		µg/L	1	5/1/2020 11:57 PM
Molybdenum	79	1.1	2.5		µg/L	5	5/2/2020 12:02 AM
Selenium	17	1.8	2.5		µg/L	5	5/2/2020 12:02 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-909-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 2:00:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200501F**	QC Batch: **79109**			PrepDate:	**4/30/2020**		Analyst: **CEI**
Arsenic	8.7	0.081	0.10		µg/L	1	5/2/2020 05:28 AM
Manganese	2.3	0.26	0.50		µg/L	1	5/2/2020 12:25 AM
Molybdenum	81	1.1	2.5		µg/L	5	5/2/2020 12:29 AM
Selenium	17	1.8	2.5		µg/L	5	5/2/2020 12:29 AM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-110-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 2:20:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200501F**	QC Batch: **79109**			PrepDate:		**4/30/2020**	Analyst: **CEI**
Arsenic	2.9	0.081	0.10		µg/L	1	5/2/2020 12:39 AM
Manganese	130	0.26	0.50		µg/L	1	5/2/2020 12:39 AM
Molybdenum	71	1.1	2.5		µg/L	5	5/2/2020 12:43 AM
Selenium	ND	0.36	0.50		µg/L	1	5/2/2020 12:39 AM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-190-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 2:30:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200501F**	QC Batch: **79109**				PrepDate:	**4/30/2020**	Analyst: **CEI**
Arsenic	ND	0.41	0.50		µg/L	5	5/2/2020 12:57 AM
Manganese	700	1.3	2.5		µg/L	5	5/2/2020 12:57 AM
Molybdenum	41	1.1	2.5		µg/L	5	5/2/2020 12:57 AM
Selenium	ND	1.8	2.5		µg/L	5	5/2/2020 12:57 AM

Qualifiers:

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

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ANALYTICAL RESULTS

Print Date: *13-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-908-Q220
Lab Order:	N040471	**Collection Date:**	4/29/2020 2:40:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040471-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200501F**	QC Batch: **79109**				PrepDate: **4/30/2020**		Analyst: **CEI**
Arsenic	ND	0.41	0.50		µg/L	5	5/2/2020 01:29 AM
Manganese	720	1.3	2.5		µg/L	5	5/2/2020 01:29 AM
Molybdenum	40	1.1	2.5		µg/L	5	5/2/2020 01:29 AM
Selenium	ND	1.8	2.5		µg/L	5	5/2/2020 01:29 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040471
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **MB-79109** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/30/2020** RunNo: **144014**
Client ID: **PBW** Batch ID: **79109** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/1/2020** SeqNo: **3769473**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-79109** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/30/2020** RunNo: **144014**
Client ID: **LCSW** Batch ID: **79109** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/1/2020** SeqNo: **3769474**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.459	0.10	10.00	0	105	85	115				
Manganese	103.965	0.50	100.0	0	104	85	115				
Molybdenum	10.127	0.50	10.00	0	101	85	115				
Selenium	10.464	0.50	10.00	0	105	85	115				

Sample ID: **N040472-001B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/30/2020** RunNo: **144014**
Client ID: **ZZZZZZ** Batch ID: **79109** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/2/2020** SeqNo: **3769512**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.593	0.10	10.00	2.198	104	75	125				
Manganese	98.734	0.50	100.0	1.434	97.3	75	125				
Molybdenum	15.525	0.50	10.00	4.436	111	75	125				
Selenium	11.549	0.50	10.00	1.620	99.3	75	125				

Sample ID: **N040472-001B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/30/2020** RunNo: **144014**
Client ID: **ZZZZZZ** Batch ID: **79109** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/2/2020** SeqNo: **3769514**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.531	0.10	10.00	2.198	103	75	125	12.59	0.494	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040471
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **N040472-001B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/30/2020** RunNo: **144014**
Client ID: **ZZZZZZ** Batch ID: **79109** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/2/2020** SeqNo: **3769514**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	98.374	0.50	100.0	1.434	96.9	75	125	98.73	0.365	20	
Molybdenum	15.448	0.50	10.00	4.436	110	75	125	15.52	0.494	20	
Selenium	11.509	0.50	10.00	1.620	98.9	75	125	11.55	0.346	20	

Qualifiers:

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

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com, daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 / Fax:	Address: 1410 Rocky Ridge Dr # 330, Roseville, CA 95661	Email to: mbloes@pivox.com	P.O.# SWA-ASSET-C9817-057
Submitted By: Spencer Doolittle		Phone: 949-727-1400, ext 200	Fax:
Title: Technician	Phone: 916-786-3302 / Fax:		
Signature: SDoolittle Date: 4/29/20	Sampled By: Spencer Doolittle		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.		
Project Name: PG&E Topock - GMP	Signature: SDoolittle	Date: 4/29/20	
Project Number: RC000753.801D			

EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Excel EDD		RTNE		1. Chilled	✓	
Geotracker		RWQCB	✓	2. Headspace		
Labspec		CalTrans		3. Container Intact	✓	
Others	✓	LEVEL III		4. Seal Present		
Specify: RWQCB		LEVEL IV		5. IR number 2		
Global ID:		Regulatory		6. Method of Cooling: ICE		
		Specify State:		Sample Temp: 5.02		

Courier:

Tracking No.:

Matrix			
Ground	x	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Oxygen and Deuterium Isotopes (CFIRM), Ice (250 mL poly)	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (2x250 mL poly)	Alkalinity, Total as CaCO3 (SM2320B) (1 liter poly)	Bromide, Sulfate, Chloride (EPA 300.0) (1 liter poly)	Fluoride (EPA 300.0) (1 liter poly)	Specific Conductance (EPA 120.1) (1 liter poly)	Total Dissolved Solids (SM92540) (1 liter poly)	Nitrate/Nitrite (SM4500N03) Nitrate, H2SO4 (125 mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL poly)	Dissolved metals (SW 6020), HNO3 Cr, Mo, Se (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 As, Cr, Mn, Mo, Se (500 mL poly)	Dissolved metals (SW 6020), HNO3 Ag, As, Ba, Be, Cd, Co, Cr, Mg, Mn, Mo, Pb, Sb, Se, Tl, V, Zn (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 B, Ca, Cu, Fe, Na, Ni, (500 mL poly)	Metals Dissolved (EPA7470A FF) Hg; HNO3 (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 Potassium (500 mL poly)	Total metals, Chromium (non-filter) (EPA 200.8), HNO3 (500 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N040471-01	MW-65-160-Q220	4/29/2020	11:07		X						X		X			X						E	4	P	BNS	
2	-02	MW-65-225-Q220	4/29/2020	12:05		X						X		X			X						E	4	P	BNS	
3	-03	MW-66-165-Q220	4/29/2020	13:11		X						X		X			X						E	4	P	BNS	
4	-04	MW-66-230-Q220	4/29/2020	13:50		X						X		X			X						E	4	P	BNS	
5	-05	MW-909-Q220	4/29/2020	13:50		X						X		X			X						E	4	P	BNS	
6	-06	MW-62-110-Q220	4/29/2020	14:20		X						X		X			X						E	4	P	BNS	
7	-07	MW-62-190-Q220	4/29/2020	14:30		X						X		X			X						E	4	P	BNS	
8	-08	MW-908-Q220	4/29/2020	14:40		X						X		X			X						E	4	P	BNS	
9	-09	EB-711-Q220	4/29/2020	15:00		X																	E	1	P	BNS	
10	-10	EB-712-Q220	4/29/2020	15:00		X																	E	1	P	BNS	
11																											
12																											

Reliquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
SDoolittle Spencer Doolittle	4/29/20 1540	K M- Burdalian	4/29/20 1540
K M- Burdalian	4/29/20 1805	K M- Burdalian	4/29/20. 1805

Turn Around Time (TAT)

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

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

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

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

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

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

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

Cooler Received/Opened On:	4/29/1930	Workorder:	N040471
Rep sample Temp (Deg C):	5.0	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

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

Comments: See Correspondence.

For:

Checklist Completed By: MPB YRJ 4/30/2020

Reviewed By: MBC 5/4/2020

Subject: Re: PG&E Topock - GMP, RC000753.801D (ASSET Labs No. N040471)
From: "Madsen, Laura" <Laura.Madsen@arcadis.com>
Date: 4/30/2020, 11:02 AM
To: Yoandra Rodriguez <yoandra@assetlaboratories.com>
CC: Tina Rice <Tina.Rice@critigen.com>, "maryann.balilu@assetlaboratoriesph.com" <maryann.balilu@assetlaboratoriesph.com>

Please use 14:00

Thanks
Laura

Sent from my iPhone

> On Apr 30, 2020, at 12:39 PM, Yoandra Rodriguez <yoandra@assetlaboratories.com> wrote:
>
> Hi Laura,
>
> Please advise on the following discrepancy for the attached COC:
>
> - Sample 5 (MW-909-Q220): Collection time is 13:50 on COC and 14:00 on labels.
>
> Thanks,
>
> --
> This email has been checked for viruses by Avast antivirus software.
> https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.avast.com%2Fantivirus&data=02%7C01%7CLaura.Madsen%40arcadis.com%7Cd0148e6467e84f608cc208d7ed2d5f81%7C7f90057d3ea046feb07ce0568627081b%7C1%7C0%7C637238651740802138&sdata=C4DlfdWT8Wqetg5OioCwa8F3qWoHyD1C%2FODmk3bEMLY%3D&reserved=0
> <N040471_COC.pdf>

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ASSET Laboratories

WORK ORDER Summary

30-Apr-20

WorkOrder: N040471

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 4/29/2020

Comments: Title 22 Metals :Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, N

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N040471-001A	MW-65-160-Q220	4/29/2020 11:07:00 AM	5/11/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040471-001B			5/11/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040471-001C			5/11/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040471-001D			5/11/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040471-002A	MW-65-225-Q220	4/29/2020 12:05:00 PM	5/11/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040471-002B			5/11/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040471-002C			5/11/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040471-002D			5/11/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040471-003A	MW-66-165-Q220	4/29/2020 1:11:00 PM	5/11/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040471-003B			5/11/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040471-003C			5/11/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040471-003D			5/11/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040471-004A	MW-66-230-Q220	4/29/2020 1:50:00 PM	5/11/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040471-004B			5/11/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040471-004C			5/11/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

30-Apr-20

WorkOrder: N040471

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 4/29/2020

Comments: Title 22 Metals :Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, N

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N040471-004D	MW-66-230-Q220	4/29/2020 1:50:00 PM	5/11/2020	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040471-005A	MW-909-Q220	4/29/2020 2:00:00 PM	5/11/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040471-005B			5/11/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040471-005C			5/11/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040471-005D			5/11/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040471-006A	MW-62-110-Q220	4/29/2020 2:20:00 PM	5/11/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040471-006B			5/11/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040471-006C			5/11/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040471-006D			5/11/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040471-007A	MW-62-190-Q220	4/29/2020 2:30:00 PM	5/11/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040471-007B			5/11/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040471-007C			5/11/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040471-007D			5/11/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

30-Apr-20

WorkOrder: N040471

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 4/29/2020

Comments: Title 22 Metals :Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, N

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N040471-008A	MW-908-Q220	4/29/2020 2:40:00 PM	5/11/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040471-008B			5/11/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040471-008C			5/11/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040471-008D			5/11/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/11/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040471-009A	EB-711-Q220	4/29/2020 3:00:00 PM	5/11/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040471-010A	EB-712-Q220		5/11/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040471-011A	FOLDER	5/13/2020	5/11/2020		EDD	RWQCB	☐	☐	☐	LAB
			5/11/2020		Folder	Level IV Report	☐	☐	☐	LAB
			5/11/2020		Folder	Folder	☐	☐	☐	LAB
			5/13/2020		Folder	Folder	☐	☐	☐	LAB

May 14, 2020

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

TEL: (916) 786-3302
FAX:

Workorder No.: N040479

RE: PG&E Topock - GMP, RC000753.801D

Attention: Dan Bush

Enclosed are the results for sample(s) received on April 30, 2020 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

Nancy Liberman for

Puri Romualdo
Laboratory Director

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

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for sample N040479-004 due to matrix interference. Sample was analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Sample was reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (1.5 ug/L) and hexavalent chromium (0 ug/L) for sample N040479-007 (MW-74-240-Q220) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (1.5 ug/L) and hexavalent chromium (0 ug/L) for sample N040479-007 (MW-74-240-Q220) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 1.1 and 0.29 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Dilution was necessary on some analytes for some samples due to associated internal standard not meeting method criteria possibly due to matrix interference. Samples were analyzed with dilution and internal standard met method criteria. Affected analytes for this failed internal standard were reported at dilution that meets internal standard recovery limit.

ASSET Laboratories

Date: *14-May-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N040479
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N040479-001A	MW-67-260-Q220	Groundwater	4/30/2020 9:04:00 AM	4/30/2020	5/14/2020
N040479-001B	MW-67-260-Q220	Groundwater	4/30/2020 9:04:00 AM	4/30/2020	5/14/2020
N040479-001C	MW-67-260-Q220	Groundwater	4/30/2020 9:04:00 AM	4/30/2020	5/14/2020
N040479-001D	MW-67-260-Q220	Groundwater	4/30/2020 9:04:00 AM	4/30/2020	5/14/2020
N040479-002A	MW-67-185-Q220	Groundwater	4/30/2020 10:09:00 AM	4/30/2020	5/14/2020
N040479-002B	MW-67-185-Q220	Groundwater	4/30/2020 10:09:00 AM	4/30/2020	5/14/2020
N040479-002C	MW-67-185-Q220	Groundwater	4/30/2020 10:09:00 AM	4/30/2020	5/14/2020
N040479-002D	MW-67-185-Q220	Groundwater	4/30/2020 10:09:00 AM	4/30/2020	5/14/2020
N040479-003A	MW-67-225-Q220	Groundwater	4/30/2020 11:15:00 AM	4/30/2020	5/14/2020
N040479-003B	MW-67-225-Q220	Groundwater	4/30/2020 11:15:00 AM	4/30/2020	5/14/2020
N040479-003C	MW-67-225-Q220	Groundwater	4/30/2020 11:15:00 AM	4/30/2020	5/14/2020
N040479-003D	MW-67-225-Q220	Groundwater	4/30/2020 11:15:00 AM	4/30/2020	5/14/2020
N040479-004A	MW-68BR-280-Q220	Groundwater	4/30/2020 12:56:00 PM	4/30/2020	5/14/2020
N040479-004B	MW-68BR-280-Q220	Groundwater	4/30/2020 12:56:00 PM	4/30/2020	5/14/2020
N040479-004C	MW-68BR-280-Q220	Groundwater	4/30/2020 12:56:00 PM	4/30/2020	5/14/2020
N040479-004D	MW-68BR-280-Q220	Groundwater	4/30/2020 12:56:00 PM	4/30/2020	5/14/2020
N040479-005A	MW-68-180-Q220	Groundwater	4/30/2020 1:33:00 PM	4/30/2020	5/14/2020
N040479-005B	MW-68-180-Q220	Groundwater	4/30/2020 1:33:00 PM	4/30/2020	5/14/2020
N040479-005C	MW-68-180-Q220	Groundwater	4/30/2020 1:33:00 PM	4/30/2020	5/14/2020
N040479-005D	MW-68-180-Q220	Groundwater	4/30/2020 1:33:00 PM	4/30/2020	5/14/2020
N040479-006A	MW-68-240-Q220	Groundwater	4/30/2020 2:21:00 PM	4/30/2020	5/14/2020
N040479-006B	MW-68-240-Q220	Groundwater	4/30/2020 2:21:00 PM	4/30/2020	5/14/2020
N040479-006C	MW-68-240-Q220	Groundwater	4/30/2020 2:21:00 PM	4/30/2020	5/14/2020
N040479-006D	MW-68-240-Q220	Groundwater	4/30/2020 2:21:00 PM	4/30/2020	5/14/2020
N040479-007A	MW-74-240-Q220	Groundwater	4/30/2020 3:00:00 PM	4/30/2020	5/14/2020
N040479-007B	MW-74-240-Q220	Groundwater	4/30/2020 3:00:00 PM	4/30/2020	5/14/2020
N040479-007C	MW-74-240-Q220	Groundwater	4/30/2020 3:00:00 PM	4/30/2020	5/14/2020
N040479-007D	MW-74-240-Q220	Groundwater	4/30/2020 3:00:00 PM	4/30/2020	5/14/2020
N040479-008A	MW-21-Q220	Groundwater	4/30/2020 3:00:00 PM	4/30/2020	5/14/2020

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N040479
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N040479-008B	MW-21-Q220	Groundwater	4/30/2020 3:00:00 PM	4/30/2020	5/14/2020
N040479-008C	MW-21-Q220	Groundwater	4/30/2020 3:00:00 PM	4/30/2020	5/14/2020
N040479-008D	MW-21-Q220	Groundwater	4/30/2020 3:00:00 PM	4/30/2020	5/14/2020
N040479-009A	MW-21-EB-Q220	Groundwater	4/30/2020 3:10:00 PM	4/30/2020	5/14/2020
N040479-010A	EB-713-Q220	Groundwater	4/30/2020 3:40:00 PM	4/30/2020	5/14/2020

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-260-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 9:04:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200501C**	QC Batch: **R143989**			PrepDate:			Analyst: **LR**
Specific Conductance	19000	0.10	0.10		umhos/cm	1	5/1/2020 10:30 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-185-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 10:09:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200501C**	QC Batch: **R143989**			PrepDate:			Analyst: **LR**
Specific Conductance	7600	0.10	0.10		umhos/cm	1	5/1/2020 10:30 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-225-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 11:15:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200501C**	QC Batch: **R143989**			PrepDate:			Analyst: **LR**
Specific Conductance	7500	0.10	0.10		umhos/cm	1	5/1/2020 10:30 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68BR-280-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 12:56:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200501C**	QC Batch: **R143989**			PrepDate:			Analyst: **LR**
Specific Conductance	22000	0.10	0.10		umhos/cm	1	5/1/2020 10:30 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-180-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 1:33:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200501C**	QC Batch: **R143989**			PrepDate:			Analyst: **LR**
Specific Conductance	5500	0.10	0.10		umhos/cm	1	5/1/2020 10:30 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-240-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 2:21:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200501C**	QC Batch: **R143989**			PrepDate:			Analyst: **LR**
Specific Conductance	17000	0.10	0.10		umhos/cm	1	5/1/2020 10:30 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-74-240-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 3:00:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200501C**	QC Batch: **R143989**			PrepDate:			Analyst: **LR**
Specific Conductance	700	0.10	0.10		umhos/cm	1	5/1/2020 10:30 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 3:00:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200501C**	QC Batch: **R143989**			PrepDate:			Analyst: **LR**
Specific Conductance	11000	0.10	0.10		umhos/cm	1	5/1/2020 10:30 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040479
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID	**N040479-001BDUP**	SampType:	**DUP**	TestCode:	**120.1_WPGE**	Units:	**umhos/cm**	Prep Date:				RunNo:	**143989**
Client ID:	**ZZZZZZ**	Batch ID:	**R143989**	TestNo:	**EPA 120.1**			Analysis Date:	**5/1/2020**			SeqNo:	**3768195**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	18620.000	0.10						18640	0.107	2	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-260-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 9:04:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200501A** QC Batch: **R144024** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	1100	3.3	20		µg/L	100	5/1/2020 11:40 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200501E** QC Batch: **79121** PrepDate: **5/1/2020** Analyst: **CEI**							
Chromium	1100	3.2	25		µg/L	25	5/2/2020 04:46 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-185-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 10:09:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200501A** QC Batch: **R144024** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	2000	6.6	40		µg/L	200	5/1/2020 11:49 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200501E** QC Batch: **79121** PrepDate: **5/1/2020** Analyst: **CEI**							
Chromium	2000	3.2	25		µg/L	25	5/2/2020 04:51 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-225-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 11:15:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200501A** QC Batch: **R144024** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	3000	17	100		µg/L	500	5/1/2020 12:18 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200501E** QC Batch: **79121** PrepDate: **5/1/2020** Analyst: **CEI**							
Chromium	3200	3.2	25		µg/L	25	5/2/2020 04:55 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68BR-280-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 12:56:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200501A** QC Batch: **R144024** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.17	1.0		µg/L	5	5/1/2020 02:32 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200501E** QC Batch: **79121** PrepDate: **5/1/2020** Analyst: **CEI**							
Chromium	ND	0.13	1.0		µg/L	1	5/1/2020 09:48 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-180-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 1:33:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200501A** QC Batch: **R144024** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	41000	170	1000		µg/L	5000	5/1/2020 12:37 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200501E** QC Batch: **79121** PrepDate: **5/1/2020** Analyst: **CEI**							
Chromium	43000	65	500		µg/L	500	5/2/2020 05:00 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-240-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 2:21:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200501A** QC Batch: **R144024** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	2000	6.6	40		µg/L	200	5/1/2020 12:27 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200501E** QC Batch: **79121** PrepDate: **5/1/2020** Analyst: **CEI**							
Chromium	2000	3.2	25		µg/L	25	5/2/2020 05:05 AM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-74-240-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 3:00:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200501A** QC Batch: **R144024** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	5/1/2020 11:21 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200501E** QC Batch: **79121** PrepDate: **5/1/2020** Analyst: **CEI**							
Chromium	1.5	0.13	1.0		µg/L	1	5/1/2020 10:39 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 3:00:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200501A** QC Batch: **R144024** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	4.6	0.033	0.20		µg/L	1	5/1/2020 11:02 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200501E** QC Batch: **79121** PrepDate: **5/1/2020** Analyst: **CEI**							
Chromium	5.4	0.13	1.0		µg/L	1	5/1/2020 10:48 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-EB-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 3:10:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200501A** QC Batch: **R144024** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	5/1/2020 03:11 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-713-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 3:40:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200501A** QC Batch: **R144024** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	5/1/2020 03:30 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040479
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R144024** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144024**
Client ID: **PBW** Batch ID: **R144024** TestNo: **EPA 218.6** Analysis Date: **5/1/2020** SeqNo: **3769906**

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

Sample ID **LCS-R144024** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144024**
Client ID: **LCSW** Batch ID: **R144024** TestNo: **EPA 218.6** Analysis Date: **5/1/2020** SeqNo: **3769907**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.968	0.20	5.000	0	99.4	90	110				

Sample ID **N040479-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144024**
Client ID: **ZZZZZZ** Batch ID: **R144024** TestNo: **EPA 218.6** Analysis Date: **5/1/2020** SeqNo: **3769910**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.010	0.20	1.000	0	101	90	110				

Sample ID **N040479-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144024**
Client ID: **ZZZZZZ** Batch ID: **R144024** TestNo: **EPA 218.6** Analysis Date: **5/1/2020** SeqNo: **3769918**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1606.970	20	500.0	1100	101	90	110				

Sample ID **N040479-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144024**
Client ID: **ZZZZZZ** Batch ID: **R144024** TestNo: **EPA 218.6** Analysis Date: **5/1/2020** SeqNo: **3769919**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3055.120	40	1000	2035	102	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040479
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N040479-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144024**
Client ID: **ZZZZZZ** Batch ID: **R144024** TestNo: **EPA 218.6** Analysis Date: **5/1/2020** SeqNo: **3769920**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5516.100	100	2500	2996	101	90	110				

Sample ID **N040479-003AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144024**
Client ID: **ZZZZZZ** Batch ID: **R144024** TestNo: **EPA 218.6** Analysis Date: **5/1/2020** SeqNo: **3769921**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5508.600	100	2500	2996	101	90	110	5516	0.136	20	

Sample ID **N040479-006ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144024**
Client ID: **ZZZZZZ** Batch ID: **R144024** TestNo: **EPA 218.6** Analysis Date: **5/1/2020** SeqNo: **3769922**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1981.500	40						2004	1.13	20	

Sample ID **N040479-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144024**
Client ID: **ZZZZZZ** Batch ID: **R144024** TestNo: **EPA 218.6** Analysis Date: **5/1/2020** SeqNo: **3769923**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3000.460	40	1000	2004	99.6	90	110				

Sample ID **N040479-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144024**
Client ID: **ZZZZZZ** Batch ID: **R144024** TestNo: **EPA 218.6** Analysis Date: **5/1/2020** SeqNo: **3769924**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	66904.500	1000	25000	41230	103	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040479
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N040479-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144024**
Client ID: **ZZZZZZ** Batch ID: **R144024** TestNo: **EPA 218.6** Analysis Date: **5/1/2020** SeqNo: **3769928**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.899	1.0	5.000	0	98.0	90	110				

Sample ID **N040479-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144024**
Client ID: **ZZZZZZ** Batch ID: **R144024** TestNo: **EPA 218.6** Analysis Date: **5/1/2020** SeqNo: **3769930**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.983	0.20	1.000	0	98.3	90	110				

Sample ID **N040479-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144024**
Client ID: **ZZZZZZ** Batch ID: **R144024** TestNo: **EPA 218.6** Analysis Date: **5/1/2020** SeqNo: **3769932**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.979	0.20	1.000	0	97.9	90	110				

Sample ID **N040472-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144024**
Client ID: **ZZZZZZ** Batch ID: **R144024** TestNo: **EPA 218.6** Analysis Date: **5/1/2020** SeqNo: **3769934**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.048	0.20	1.000	0	105	90	110				

Sample ID **N040472-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144024**
Client ID: **ZZZZZZ** Batch ID: **R144024** TestNo: **EPA 218.6** Analysis Date: **5/1/2020** SeqNo: **3769938**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.013	0.20	1.000	0	101	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040479
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N040472-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144024**
Client ID: **ZZZZZZ** Batch ID: **R144024** TestNo: **EPA 218.6** Analysis Date: **5/1/2020** SeqNo: **3769940**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.006	0.20	1.000	0	101	90	110				

Sample ID **N040472-012AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144024**
Client ID: **ZZZZZZ** Batch ID: **R144024** TestNo: **EPA 218.6** Analysis Date: **5/1/2020** SeqNo: **3769944**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.045	0.20	1.000	0	104	90	110				

Sample ID **N040480-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144024**
Client ID: **ZZZZZZ** Batch ID: **R144024** TestNo: **EPA 218.6** Analysis Date: **5/1/2020** SeqNo: **3769946**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.059	0.20	1.000	0	106	90	110				

Sample ID **N040480-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144024**
Client ID: **ZZZZZZ** Batch ID: **R144024** TestNo: **EPA 218.6** Analysis Date: **5/1/2020** SeqNo: **3769950**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.051	0.20	1.000	0	105	90	110				

Sample ID **N040480-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144024**
Client ID: **ZZZZZZ** Batch ID: **R144024** TestNo: **EPA 218.6** Analysis Date: **5/1/2020** SeqNo: **3769952**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.048	0.20	1.000	0	105	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040479
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N040480-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	144024
Client ID:	ZZZZZZ	Batch ID:	R144024	TestNo:	EPA 218.6			Analysis Date:	5/1/2020	SeqNo:	3769954

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.062	0.20	1.000	0	106	90	110				

Sample ID	N040447-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	144024
Client ID:	ZZZZZZ	Batch ID:	R144024	TestNo:	EPA 218.6			Analysis Date:	5/1/2020	SeqNo:	3769956

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.983	0.20	1.000	0	98.3	90	110				

Sample ID	N040479-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	144024
Client ID:	ZZZZZZ	Batch ID:	R144024	TestNo:	EPA 218.6			Analysis Date:	5/1/2020	SeqNo:	3769957

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.780	0.20	5.000	4.578	104	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040479
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **MB-79121** SampType: **MBLK** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **5/1/2020** RunNo: **144013**
Client ID: **PBW** Batch ID: **79121** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/1/2020** SeqNo: **3769300**

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

Sample ID **LCS-79121** SampType: **LCS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **5/1/2020** RunNo: **144013**
Client ID: **LCSW** Batch ID: **79121** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/1/2020** SeqNo: **3769301**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.069	1.0	10.00	0	101	85	115				

Sample ID **N040370-004BMS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **5/1/2020** RunNo: **144013**
Client ID: **ZZZZZZ** Batch ID: **79121** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/1/2020** SeqNo: **3769309**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.400	1.0	10.00	0.2539	91.5	75	125				

Sample ID **N040370-004BMSD** SampType: **MSD** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **5/1/2020** RunNo: **144013**
Client ID: **ZZZZZZ** Batch ID: **79121** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/1/2020** SeqNo: **3769311**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.308	1.0	10.00	0.2539	90.5	75	125	9.400	0.984	20	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-260-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 9:04:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200511C** QC Batch: **R144248** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	0.62	0.032	0.050		mg/L	1	5/11/2020 01:13 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-185-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 10:09:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200511C** QC Batch: **R144248** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	91	3.2	5.0		mg/L	100	5/11/2020 01:23 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-225-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 11:15:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200511C** QC Batch: **R144248** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	27	0.63	1.0		mg/L	20	5/11/2020 01:49 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68BR-280-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 12:56:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200511C** QC Batch: **R144248** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	ND	0.032	0.050		mg/L	1	5/11/2020 01:55 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-180-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 1:33:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200511C** QC Batch: **R144248** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	36	1.6	2.5		mg/L	50	5/11/2020 02:34 PM

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-240-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 2:21:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200511C** QC Batch: **R144248** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	4.1	0.16	0.25		mg/L	5	5/11/2020 02:37 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-74-240-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 3:00:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200511C**	QC Batch: **R144248**			PrepDate:			Analyst: **HG**
Nitrate/Nitrite as N	ND	0.032	0.050		mg/L	1	5/11/2020 02:41 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 3:00:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200514A** QC Batch: **R144325** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	2.8	0.16	0.25		mg/L	5	5/14/2020 01:47 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040479
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID **MB-R144248** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144248**
Client ID: **PBW** Batch ID: **R144248** TestNo: **SM4500-NO3** Analysis Date: **5/11/2020** SeqNo: **3776782**

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

Sample ID **LCS-R144248** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144248**
Client ID: **LCSW** Batch ID: **R144248** TestNo: **SM4500-NO3** Analysis Date: **5/11/2020** SeqNo: **3776783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.963	0.050	1.000	0	96.2	85	115				

Sample ID **N040479-001CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144248**
Client ID: **ZZZZZZ** Batch ID: **R144248** TestNo: **SM4500-NO3** Analysis Date: **5/11/2020** SeqNo: **3776785**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.681	0.050	1.000	0.6197	106	75	125				

Sample ID **N040479-001CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144248**
Client ID: **ZZZZZZ** Batch ID: **R144248** TestNo: **SM4500-NO3** Analysis Date: **5/11/2020** SeqNo: **3776786**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.708	0.050	1.000	0.6197	109	75	125	1.681	1.62	20	

Sample ID **N040479-003CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144248**
Client ID: **ZZZZZZ** Batch ID: **R144248** TestNo: **SM4500-NO3** Analysis Date: **5/11/2020** SeqNo: **3776789**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	25.490	1.0						26.77	4.91	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040479
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID **MB-R144325** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144325**
Client ID: **PBW** Batch ID: **R144325** TestNo: **SM4500-NO3** Analysis Date: **5/14/2020** SeqNo: **3778141**

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

Sample ID **LCS-R144325** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144325**
Client ID: **LCSW** Batch ID: **R144325** TestNo: **SM4500-NO3** Analysis Date: **5/14/2020** SeqNo: **3778142**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.044	0.050	1.000	0	104	85	115				

Sample ID **N040479-008CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144325**
Client ID: **ZZZZZZ** Batch ID: **R144325** TestNo: **SM4500-NO3** Analysis Date: **5/14/2020** SeqNo: **3778144**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	8.502	0.25	5.000	2.850	113	75	125				

Sample ID **N040479-008CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144325**
Client ID: **ZZZZZZ** Batch ID: **R144325** TestNo: **SM4500-NO3** Analysis Date: **5/14/2020** SeqNo: **3778145**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	8.537	0.25	5.000	2.850	114	75	125	8.502	0.405	20	

Sample ID **N040490-001CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144325**
Client ID: **ZZZZZZ** Batch ID: **R144325** TestNo: **SM4500-NO3** Analysis Date: **5/14/2020** SeqNo: **3778147**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	10.298	0.50						10.63	3.17	20	

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-260-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 9:04:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200501F**	QC Batch: **79121**				PrepDate:	**5/1/2020**	Analyst: **CEI**
Arsenic	11	0.081	0.10		µg/L	1	5/1/2020 09:11 PM
Manganese	120	0.26	0.50		µg/L	1	5/1/2020 09:11 PM
Molybdenum	67	1.1	2.5		µg/L	5	5/1/2020 09:16 PM
Selenium	ND	1.8	2.5		µg/L	5	5/1/2020 09:16 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-185-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 10:09:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200501F**	QC Batch: **79121**				PrepDate:	**5/1/2020**	Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	5/1/2020 09:30 PM
Manganese	ND	0.26	0.50		µg/L	1	5/1/2020 09:30 PM
Molybdenum	5.1	0.21	0.50		µg/L	1	5/1/2020 09:30 PM
Selenium	380	1.8	2.5		µg/L	5	5/1/2020 09:34 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-225-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 11:15:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200501F**	QC Batch: **79121**				PrepDate:	**5/1/2020**	Analyst: **CEI**
Arsenic	1.3	0.081	0.10		µg/L	1	5/1/2020 09:39 PM
Manganese	5.2	0.26	0.50		µg/L	1	5/1/2020 09:39 PM
Molybdenum	48	0.21	0.50		µg/L	1	5/1/2020 09:39 PM
Selenium	87	0.36	0.50		µg/L	1	5/1/2020 09:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68BR-280-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 12:56:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200501F**	QC Batch: **79121**			PrepDate:		**5/1/2020**	Analyst: **CEI**
Arsenic	0.36	0.081	0.10		µg/L	1	5/1/2020 09:48 PM
Manganese	110	0.26	0.50		µg/L	1	5/1/2020 09:48 PM
Molybdenum	13	1.1	2.5		µg/L	5	5/1/2020 09:53 PM
Selenium	ND	1.8	2.5		µg/L	5	5/1/2020 09:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-180-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 1:33:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200501F**	QC Batch: **79121**			PrepDate:		**5/1/2020**	Analyst: **CEI**
Arsenic	1.8	0.081	0.10		µg/L	1	5/1/2020 09:57 PM
Manganese	9.6	0.26	0.50		µg/L	1	5/1/2020 09:57 PM
Molybdenum	53	0.21	0.50		µg/L	1	5/1/2020 09:57 PM
Selenium	21	0.36	0.50		µg/L	1	5/1/2020 09:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-240-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 2:21:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200501F**	QC Batch: **79121**			PrepDate:		**5/1/2020**	Analyst: **CEI**
Arsenic	ND	0.41	0.50		µg/L	5	5/1/2020 10:34 PM
Manganese	17	0.26	0.50		µg/L	1	5/1/2020 10:11 PM
Molybdenum	22	1.1	2.5		µg/L	5	5/1/2020 10:34 PM
Selenium	3.7	1.8	2.5		µg/L	5	5/1/2020 10:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N040479
Project: PG&E Topock - GMP, RC000753.801D
Lab ID: N040479-007

Client Sample ID: MW-74-240-Q220
Collection Date: 4/30/2020 3:00:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200501F**	QC Batch: **79121**				PrepDate:	**5/1/2020**	Analyst: **CEI**
Arsenic	11	0.081	0.10		µg/L	1	5/1/2020 10:39 PM
Manganese	17	0.26	0.50		µg/L	1	5/1/2020 10:39 PM
Molybdenum	20	0.21	0.50		µg/L	1	5/1/2020 10:39 PM
Selenium	ND	0.36	0.50		µg/L	1	5/1/2020 10:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *14-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-Q220
Lab Order:	N040479	**Collection Date:**	4/30/2020 3:00:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040479-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200501F**	QC Batch: **79121**				PrepDate:	**5/1/2020**	Analyst: **CEI**
Molybdenum	46	1.1	2.5		µg/L	5	5/1/2020 10:53 PM
Selenium	42	0.36	0.50		µg/L	1	5/1/2020 10:48 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040479
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **MB-79121** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **5/1/2020** RunNo: **144014**
Client ID: **PBW** Batch ID: **79121** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/1/2020** SeqNo: **3769437**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-79121** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **5/1/2020** RunNo: **144014**
Client ID: **LCSW** Batch ID: **79121** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/1/2020** SeqNo: **3769438**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.623	0.10	10.00	0	106	85	115				
Manganese	104.464	0.50	100.0	0	104	85	115				
Molybdenum	10.124	0.50	10.00	0	101	85	115				
Selenium	10.446	0.50	10.00	0	104	85	115				

Sample ID **N040370-004BMS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **5/1/2020** RunNo: **144014**
Client ID: **ZZZZZZ** Batch ID: **79121** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/1/2020** SeqNo: **3769446**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.926	0.10	10.00	2.625	103	75	125				
Molybdenum	15.344	0.50	10.00	4.944	104	75	125				
Selenium	9.981	0.50	10.00	0	99.8	75	125				

Sample ID **N040370-004BMS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **5/1/2020** RunNo: **144014**
Client ID: **ZZZZZZ** Batch ID: **79121** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/1/2020** SeqNo: **3769447**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	212.515	2.5	100.0	111.1	101	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040479
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N040370-004BMSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **5/1/2020** RunNo: **144014**
Client ID: **ZZZZZZ** Batch ID: **79121** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/1/2020** SeqNo: **3769448**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.637	0.10	10.00	2.625	100	75	125	12.93	2.27	20	
Molybdenum	15.514	0.50	10.00	4.944	106	75	125	15.34	1.10	20	
Selenium	9.767	0.50	10.00	0	97.7	75	125	9.981	2.16	20	

Sample ID **N040370-004BMSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **5/1/2020** RunNo: **144014**
Client ID: **ZZZZZZ** Batch ID: **79121** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/1/2020** SeqNo: **3769449**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	211.949	2.5	100.0	111.1	101	75	125	212.5	0.267	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD / Geotracker / Labspec / Others ✓
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com, daniel.moore@critigen.com	Address:	Specify: RWQCB
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com	P.O.# SWA-ASSET-C9817-057
Submitted By: Spencer Doolittle		Phone: 949-727-1400, ext 200	Fax:
Title: Technician	Phone: 916-786-3302 Fax:		Global ID:

QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:

Sample Receipt Condition (Y / N):
1. Chilled ✓
2. Headspace
3. Container Intact ✓
4. Seal Present ✓
5. IR number 2
6. Method of Cooling: ice
Sample Temp: 3.3c

Signature: Date: 4/30/2020
I hereby authorize ASSET Labs to perform the tests indicated below.

Sampled By: Spencer Doolittle
I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.
Signature: Date: 4/30/2020

Project Name: PG&E Topock - GMP
Project Number: RC000753.801D

Courier:
Tracking No.:

Matrix: Ground x Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Oxygen and Deuterium Isotopes (CFIRM), Ice (250 mL poly)	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (2x250 mL poly)	Alkalinity, Total as CaCO3 (SM2320B) (1 liter poly)	Bromide, Sulfate, Chloride (EPA 300.0) (1 liter poly)	Fluoride (EPA 300.0) (1 liter poly)	Specific Conductance (EPA 120.1) (1 liter poly)	Total Dissolved Solids (SM92540) (1 liter poly)	Nitrate/Nitrite (SM4500N03) Nitrate; H2SO4 (125 mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL poly)	Dissolved metals (SW 6020), HNO3 Cr, Mo, Se (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 As, Cr, Mn, Mo, Se (500 mL poly)	Dissolved metals (SW 6020), HNO3 Ag, As, Ba, Be, Cd, Co, Cr, Mg, Mn, Mo, Pb, Sb, Se, Tl, V, Zn (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 B, Ca, Cu, Fe, Na, Ni, (500 mL poly)	Metals Dissolved (EPA7470A FF) Hg; HNO3 (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 Potassium (500 mL poly)	Total metals, Chromium (non-filter) (EPA 200.8), HNO3 (500 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N040479-01	MW-67-260-Q220	4/30/2020	9:04		X						X		X			X						E	4	P	BNS	
2	-02	MW-67-185-Q220	4/30/2020	10:09		X						X		X			X						E	4	P	BNS	
3	-03	MW-67-225-Q220	4/30/2020	11:15		X						X		X			X						E	4	P	BNS	
4	-04	MW-68BR-280-Q220	4/30/2020	12:56		X						X		X			X						E	4	P	BNS	
5	-05	MW-68-180-Q220	4/30/2020	13:33		X						X		X			X						E	4	P	BNS	
6	-06	MW-68-240-Q220	4/30/2020	14:21		X						X		X			X						E	4	P	BNS	
7	-07	MW-74-240-Q220	4/30/2020	15:00		X						X		X			X						E	4	P	BNS	
8	-08	MW-21-Q220	4/30/2020	15:00				X				X		X		X							E	5	P	BNS	
9	-09	MW-21-EB-Q220	4/30/2020	15:10		X																	E	1	P	BNS	
10	-10	EB-713-Q220	4/30/2020	15:40		X																	E	1	P	BNS	
11																											
12																											

Reliquished by (Signature and Printed Name)	Date/Time	Received by (Signature and Printed Name)	Date/Time
Spencer Doolittle	4/30/20 @ 1545	JLG	4-30-20 1600 4/30/20 @ 1545
JLG	4-30-20 1800	JLG	4-30-20 1800

Turn Around Time (TAT)
- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	4/30/2020	Workorder:	N040479
Rep sample Temp (Deg C):	3.3	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 5/1/2020

Reviewed By: NBC 5/5/2020

ASSET Laboratories

WORK ORDER Summary

01-May-20

WorkOrder: N040479

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 4/30/2020

Comments: Title 22 Metals :Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, N

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N040479-001A	MW-67-260-Q220	4/30/2020 9:04:00 AM	5/14/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040479-001B			5/14/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N040479-001C			5/14/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040479-001D			5/14/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/14/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/14/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040479-002A	MW-67-185-Q220	4/30/2020 10:09:00 AM	5/14/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040479-002B			5/14/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N040479-002C			5/14/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040479-002D			5/14/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/14/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/14/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040479-003A	MW-67-225-Q220	4/30/2020 11:15:00 AM	5/14/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040479-003B			5/14/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N040479-003C			5/14/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040479-003D			5/14/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/14/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/14/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040479-004A	MW-68BR-280-Q220	4/30/2020 12:56:00 PM	5/14/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040479-004B			5/14/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N040479-004C			5/14/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

01-May-20

WorkOrder: N040479

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 4/30/2020

Comments: Title 22 Metals :Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, N

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N040479-004D	MW-68BR-280-Q220	4/30/2020 12:56:00 PM	5/14/2020	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/14/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/14/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040479-005A	MW-68-180-Q220	4/30/2020 1:33:00 PM	5/14/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040479-005B			5/14/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N040479-005C			5/14/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040479-005D			5/14/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/14/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/14/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040479-006A	MW-68-240-Q220	4/30/2020 2:21:00 PM	5/14/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040479-006B			5/14/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N040479-006C			5/14/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040479-006D			5/14/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/14/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/14/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040479-007A	MW-74-240-Q220	4/30/2020 3:00:00 PM	5/14/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040479-007B			5/14/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N040479-007C			5/14/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040479-007D			5/14/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/14/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/14/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

01-May-20

WorkOrder: N040479

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 4/30/2020

Comments: Title 22 Metals :Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, N

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N040479-008A	MW-21-Q220	4/30/2020 3:00:00 PM	5/14/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040479-008B			5/14/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N040479-008C			5/14/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040479-008D			5/14/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/14/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/14/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040479-009A	MW-21-EB-Q220	4/30/2020 3:10:00 PM	5/14/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040479-010A	EB-713-Q220	4/30/2020 3:40:00 PM	5/14/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040479-011A	FOLDER	5/14/2020	5/14/2020		EDD	RWQCB	☐	☐	☐	LAB
			5/14/2020		Folder	Folder	☐	☐	☐	LAB
			5/14/2020		Folder	Level IV Report	☐	☐	☐	LAB
			5/14/2020		Folder	Folder	☐	☐	☐	LAB

May 15, 2020

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N040490

RE: PG&E Topock - GMP, RC000753.801D

Attention: Dan Bush

Enclosed are the results for sample(s) received on May 01, 2020 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Lebucao for

Puri Romualdo
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (1.8 ug/L) and hexavalent chromium (0 ug/L) for sample N040490-004 (MW-64BR-Q220) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (2.9 ug/L) and hexavalent chromium (0 ug/L) for sample N040490-005 (MW-24A-Q220) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (1.8 ug/L) and hexavalent chromium (0 ug/L) for sample N040490-004 (MW-64BR-Q220) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 2.0 and 1.8 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (2.9 ug/L) and hexavalent chromium (0 ug/L) for sample N040490-005 (MW-24A-Q220) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 2.8 and 1.3 ug/L, respectively. Since these data confirmed the

original result for total dissolved chromium, the original result is reported.

Dilution was necessary on some analytes for some samples due to associated internal standard not meeting method criteria possibly due to matrix interference. Samples were analyzed with dilution and internal standard met method criteria. Affected analytes for this failed internal standard were reported at dilution that meets internal standard recovery limit.

ASSET Laboratories

Date: *15-May-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N040490
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N040490-001A	MW-69-195-Q220	Groundwater	5/1/2020 8:22:00 AM	5/1/2020	5/15/2020
N040490-001B	MW-69-195-Q220	Groundwater	5/1/2020 8:22:00 AM	5/1/2020	5/15/2020
N040490-001C	MW-69-195-Q220	Groundwater	5/1/2020 8:22:00 AM	5/1/2020	5/15/2020
N040490-001D	MW-69-195-Q220	Groundwater	5/1/2020 8:22:00 AM	5/1/2020	5/15/2020
N040490-002A	MW-913-Q220	Groundwater	5/1/2020 8:32:00 AM	5/1/2020	5/15/2020
N040490-002B	MW-913-Q220	Groundwater	5/1/2020 8:32:00 AM	5/1/2020	5/15/2020
N040490-002C	MW-913-Q220	Groundwater	5/1/2020 8:32:00 AM	5/1/2020	5/15/2020
N040490-002D	MW-913-Q220	Groundwater	5/1/2020 8:32:00 AM	5/1/2020	5/15/2020
N040490-003A	MW-58BR-Q220	Groundwater	5/1/2020 8:13:00 AM	5/1/2020	5/15/2020
N040490-003B	MW-58BR-Q220	Groundwater	5/1/2020 8:13:00 AM	5/1/2020	5/15/2020
N040490-003C	MW-58BR-Q220	Groundwater	5/1/2020 8:13:00 AM	5/1/2020	5/15/2020
N040490-003D	MW-58BR-Q220	Groundwater	5/1/2020 8:13:00 AM	5/1/2020	5/15/2020
N040490-004A	MW-64BR-Q220	Groundwater	5/1/2020 9:46:00 AM	5/1/2020	5/15/2020
N040490-004B	MW-64BR-Q220	Groundwater	5/1/2020 9:46:00 AM	5/1/2020	5/15/2020
N040490-004C	MW-64BR-Q220	Groundwater	5/1/2020 9:46:00 AM	5/1/2020	5/15/2020
N040490-004D	MW-64BR-Q220	Groundwater	5/1/2020 9:46:00 AM	5/1/2020	5/15/2020
N040490-005A	MW-24A-Q220	Groundwater	5/1/2020 9:51:00 AM	5/1/2020	5/15/2020
N040490-005B	MW-24A-Q220	Groundwater	5/1/2020 9:51:00 AM	5/1/2020	5/15/2020
N040490-005C	MW-24A-Q220	Groundwater	5/1/2020 9:51:00 AM	5/1/2020	5/15/2020
N040490-005D	MW-24A-Q220	Groundwater	5/1/2020 9:51:00 AM	5/1/2020	5/15/2020
N040490-006A	MW-24B-Q220	Groundwater	5/1/2020 10:36:00 AM	5/1/2020	5/15/2020
N040490-006B	MW-24B-Q220	Groundwater	5/1/2020 10:36:00 AM	5/1/2020	5/15/2020
N040490-006C	MW-24B-Q220	Groundwater	5/1/2020 10:36:00 AM	5/1/2020	5/15/2020
N040490-006D	MW-24B-Q220	Groundwater	5/1/2020 10:36:00 AM	5/1/2020	5/15/2020
N040490-007A	MW-48-Q220	Groundwater	5/1/2020 11:15:00 AM	5/1/2020	5/15/2020
N040490-007B	MW-48-Q220	Groundwater	5/1/2020 11:15:00 AM	5/1/2020	5/15/2020
N040490-007C	MW-48-Q220	Groundwater	5/1/2020 11:15:00 AM	5/1/2020	5/15/2020
N040490-008A	EB-714-Q220	Groundwater	5/1/2020 11:30:00 AM	5/1/2020	5/15/2020
N040490-009A	MW-71-035-Q220	Groundwater	5/1/2020 11:15:00 AM	5/1/2020	5/15/2020

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N040490
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N040490-009B	MW-71-035-Q220	Groundwater	5/1/2020 11:15:00 AM	5/1/2020	5/15/2020
N040490-009C	MW-71-035-Q220	Groundwater	5/1/2020 11:15:00 AM	5/1/2020	5/15/2020
N040490-009D	MW-71-035-Q220	Groundwater	5/1/2020 11:15:00 AM	5/1/2020	5/15/2020
N040490-010A	EB-715-Q220	Groundwater	5/1/2020 11:25:00 AM	5/1/2020	5/15/2020

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-69-195-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 8:22:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200501G**	QC Batch: **R144007**			PrepDate:			Analyst: **LR**
Specific Conductance	2800	0.10	0.10		umhos/cm	1	5/1/2020 03:30 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-913-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 8:32:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200501G**	QC Batch: **R144007**			PrepDate:			Analyst: **LR**
Specific Conductance	2800	0.10	0.10		umhos/cm	1	5/1/2020 03:30 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-58BR-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 8:13:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200501G**	QC Batch: **R144007**			PrepDate:			Analyst: **LR**
Specific Conductance	4700	0.10	0.10		umhos/cm	1	5/1/2020 03:30 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N040490
Project: PG&E Topock - GMP, RC000753.801D
Lab ID: N040490-004

Client Sample ID: MW-64BR-Q220
Collection Date: 5/1/2020 9:46:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
EPA 120.1							
RunID: **NV00922-WC_200501G** QC Batch: **R144007** PrepDate: Analyst: **LR**							
Specific Conductance	740	0.10	0.10		umhos/cm	1	5/1/2020 03:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-24A-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 9:51:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200501G**	QC Batch: **R144007**			PrepDate:			Analyst: **LR**
Specific Conductance	1900	0.10	0.10		umhos/cm	1	5/1/2020 03:30 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-24B-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 10:36:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200501G**	QC Batch: **R144007**			PrepDate:			Analyst: **LR**
Specific Conductance	20000	0.10	0.10		umhos/cm	1	5/1/2020 03:30 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-48-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 11:15:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200501G**	QC Batch: **R144007**			PrepDate:			Analyst: **LR**
Specific Conductance	18000	0.10	0.10		umhos/cm	1	5/1/2020 03:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 11:15:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200501G**	QC Batch: **R144007**			PrepDate:			Analyst: **LR**
Specific Conductance	13000	0.10	0.10		umhos/cm	1	5/1/2020 03:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040490
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N040490-001BDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **144007**
Client ID: **ZZZZZZ** Batch ID: **R144007** TestNo: **EPA 120.1** Analysis Date: **5/1/2020** SeqNo: **3768953**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	2760.000	0.10						2750	0.363	2	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-69-195-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 8:22:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200504A** QC Batch: **R144061** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	170	0.66	4.0		µg/L	20	5/4/2020 11:19 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200504E** QC Batch: **79139** PrepDate: **5/4/2020** Analyst: **CEI**							
Chromium	170	0.13	1.0		µg/L	1	5/4/2020 06:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-913-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 8:32:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200504A** QC Batch: **R144061** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	180	0.66	4.0		µg/L	20	5/4/2020 11:47 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200504E** QC Batch: **79139** PrepDate: **5/4/2020** Analyst: **CEI**							
Chromium	170	0.13	1.0		µg/L	1	5/4/2020 07:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-58BR-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 8:13:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200504A** QC Batch: **R144061** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	43	0.33	2.0		µg/L	10	5/4/2020 01:41 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200504E** QC Batch: **79139** PrepDate: **5/4/2020** Analyst: **CEI**							
Chromium	41	0.13	1.0		µg/L	1	5/4/2020 07:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-64BR-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 9:46:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200504A** QC Batch: **R144061** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	5/4/2020 11:57 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200504E** QC Batch: **79139** PrepDate: **5/4/2020** Analyst: **CEI**							
Chromium	1.8	0.13	1.0		µg/L	1	5/4/2020 07:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-24A-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 9:51:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200504A** QC Batch: **R144061** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	5/4/2020 11:00 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200504E** QC Batch: **79139** PrepDate: **5/4/2020** Analyst: **CEI**							
Chromium	2.9	0.13	1.0		µg/L	1	5/4/2020 07:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-24B-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 10:36:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200504A** QC Batch: **R144061** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	120	0.66	4.0		µg/L	20	5/4/2020 08:44 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200504E** QC Batch: **79139** PrepDate: **5/4/2020** Analyst: **CEI**							
Chromium	140	0.13	1.0		µg/L	1	5/4/2020 07:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-48-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 11:15:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200504A** QC Batch: **R144061** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.17	1.0		µg/L	5	5/4/2020 03:57 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200504E** QC Batch: **79139** PrepDate: **5/4/2020** Analyst: **CEI**							
Chromium	ND	0.13	1.0		µg/L	1	5/4/2020 08:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-714-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 11:30:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200504A** QC Batch: **R144061** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	5/4/2020 04:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 11:15:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200504A** QC Batch: **R144061** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.17	1.0		µg/L	5	5/4/2020 03:38 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200504E** QC Batch: **79139** PrepDate: **5/4/2020** Analyst: **CEI**							
Chromium	ND	0.13	1.0		µg/L	1	5/4/2020 08:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-715-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 11:25:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200504A** QC Batch: **R144061** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	5/4/2020 04:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040490
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R144061** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144061**
Client ID: **PBW** Batch ID: **R144061** TestNo: **EPA 218.6** Analysis Date: **5/4/2020** SeqNo: **3770972**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **LCS-R144061** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144061**
Client ID: **LCSW** Batch ID: **R144061** TestNo: **EPA 218.6** Analysis Date: **5/4/2020** SeqNo: **3770973**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.936	0.20	5.000	0	98.7	90	110				

Sample ID **N040490-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144061**
Client ID: **ZZZZZZ** Batch ID: **R144061** TestNo: **EPA 218.6** Analysis Date: **5/4/2020** SeqNo: **3770975**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.113	0.20	1.000	0.1461	96.7	90	110				

Sample ID **N040490-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144061**
Client ID: **ZZZZZZ** Batch ID: **R144061** TestNo: **EPA 218.6** Analysis Date: **5/4/2020** SeqNo: **3770979**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.130	0.20	1.000	0.1169	101	90	110				

Sample ID **N040480-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144061**
Client ID: **ZZZZZZ** Batch ID: **R144061** TestNo: **EPA 218.6** Analysis Date: **5/4/2020** SeqNo: **3770983**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.003	0.20	1.000	0	100	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040490
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N040480-008AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144061**
Client ID: **ZZZZZZ** Batch ID: **R144061** TestNo: **EPA 218.6** Analysis Date: **5/4/2020** SeqNo: **3770984**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.047	0.20	1.000	0	105	90	110	1.003	4.29	20	

Sample ID **N040490-003ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144061**
Client ID: **ZZZZZZ** Batch ID: **R144061** TestNo: **EPA 218.6** Analysis Date: **5/4/2020** SeqNo: **3770986**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	44.618	2.0						43.42	2.73	20	

Sample ID **N040490-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144061**
Client ID: **ZZZZZZ** Batch ID: **R144061** TestNo: **EPA 218.6** Analysis Date: **5/4/2020** SeqNo: **3770987**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	93.380	2.0	50.00	43.42	99.9	90	110				

Sample ID **N040490-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144061**
Client ID: **ZZZZZZ** Batch ID: **R144061** TestNo: **EPA 218.6** Analysis Date: **5/4/2020** SeqNo: **3770990**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	278.028	4.0	100.0	174.4	104	90	110				

Sample ID **N040490-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144061**
Client ID: **ZZZZZZ** Batch ID: **R144061** TestNo: **EPA 218.6** Analysis Date: **5/4/2020** SeqNo: **3770991**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	278.210	4.0	100.0	178.1	100	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040490
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N040490-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144061**
Client ID: **ZZZZZZ** Batch ID: **R144061** TestNo: **EPA 218.6** Analysis Date: **5/4/2020** SeqNo: **3770993**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.066	1.0	5.000	0	101	90	110				

Sample ID **N040490-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144061**
Client ID: **ZZZZZZ** Batch ID: **R144061** TestNo: **EPA 218.6** Analysis Date: **5/4/2020** SeqNo: **3770995**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.205	1.0	5.000	0	104	90	110				

Sample ID **N040490-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144061**
Client ID: **ZZZZZZ** Batch ID: **R144061** TestNo: **EPA 218.6** Analysis Date: **5/4/2020** SeqNo: **3770999**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.986	0.20	1.000	0	98.6	90	110				

Sample ID **N040490-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144061**
Client ID: **ZZZZZZ** Batch ID: **R144061** TestNo: **EPA 218.6** Analysis Date: **5/4/2020** SeqNo: **3771001**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.031	0.20	1.000	0	103	90	110				

Sample ID **N040480-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144061**
Client ID: **ZZZZZZ** Batch ID: **R144061** TestNo: **EPA 218.6** Analysis Date: **5/4/2020** SeqNo: **3771003**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.040	0.20	1.000	0	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040490
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N040480-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144061**
Client ID: **ZZZZZZ** Batch ID: **R144061** TestNo: **EPA 218.6** Analysis Date: **5/4/2020** SeqNo: **3771005**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.029	0.20	1.000	0	103	90	110				

Sample ID **N040480-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144061**
Client ID: **ZZZZZZ** Batch ID: **R144061** TestNo: **EPA 218.6** Analysis Date: **5/4/2020** SeqNo: **3771007**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.037	0.20	1.000	0	104	90	110				

Sample ID **N040480-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144061**
Client ID: **ZZZZZZ** Batch ID: **R144061** TestNo: **EPA 218.6** Analysis Date: **5/4/2020** SeqNo: **3771011**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.045	0.20	1.000	0	105	90	110				

Sample ID **N040480-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144061**
Client ID: **ZZZZZZ** Batch ID: **R144061** TestNo: **EPA 218.6** Analysis Date: **5/4/2020** SeqNo: **3771013**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.036	0.20	1.000	0	104	90	110				

Sample ID **N040480-013AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144061**
Client ID: **ZZZZZZ** Batch ID: **R144061** TestNo: **EPA 218.6** Analysis Date: **5/4/2020** SeqNo: **3771015**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.041	0.20	1.000	0	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040490
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N040480-014AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	144061
Client ID:	ZZZZZZ	Batch ID:	R144061	TestNo:	EPA 218.6			Analysis Date:	5/4/2020	SeqNo:	3771017

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.061	0.20	1.000	0	106	90	110				

Sample ID	N040480-015AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	144061
Client ID:	ZZZZZZ	Batch ID:	R144061	TestNo:	EPA 218.6			Analysis Date:	5/4/2020	SeqNo:	3771021

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.058	0.20	1.000	0	106	90	110				

Sample ID	N040490-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	144061
Client ID:	ZZZZZZ	Batch ID:	R144061	TestNo:	EPA 218.6			Analysis Date:	5/4/2020	SeqNo:	3771023

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	217.660	4.0	100.0	116.2	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040490
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **MB-79139** SampType: **MBLK** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **5/4/2020** RunNo: **144052**
Client ID: **PBW** Batch ID: **79139** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/4/2020** SeqNo: **3770681**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **LCS-79139** SampType: **LCS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **5/4/2020** RunNo: **144052**
Client ID: **LCSW** Batch ID: **79139** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/4/2020** SeqNo: **3770682**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.577	1.0	10.00	0	95.8	85	115				

Sample ID **N040490-001D-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **5/4/2020** RunNo: **144052**
Client ID: **ZZZZZZ** Batch ID: **79139** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/4/2020** SeqNo: **3770690**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	179.036	1.0	10.00	168.6	104	75	125				

Sample ID **N040490-001D-MSD** SampType: **MSD** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **5/4/2020** RunNo: **144052**
Client ID: **ZZZZZZ** Batch ID: **79139** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/4/2020** SeqNo: **3770692**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	177.482	1.0	10.00	168.6	88.5	75	125	179.0	0.872	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-69-195-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 8:22:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200514A** QC Batch: **R144325** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	11	0.32	0.50		mg/L	10	5/14/2020 01:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-913-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 8:32:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200514A** QC Batch: **R144325** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	9.6	0.32	0.50		mg/L	10	5/14/2020 02:26 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-58BR-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 8:13:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200514A** QC Batch: **R144325** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	0.77	0.032	0.050		mg/L	1	5/14/2020 02:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-64BR-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 9:46:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200514A** QC Batch: **R144325** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	0.056	0.032	0.050		mg/L	1	5/14/2020 03:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-24A-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 9:51:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200514A** QC Batch: **R144325** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	ND	0.032	0.050		mg/L	1	5/14/2020 03:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-24B-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 10:36:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200514A** QC Batch: **R144325** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	0.87	0.032	0.050		mg/L	1	5/14/2020 03:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 11:15:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200514A** QC Batch: **R144325** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	0.19	0.032	0.050		mg/L	1	5/14/2020 03:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040490
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID **MB-R144325** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144325**
Client ID: **PBW** Batch ID: **R144325** TestNo: **SM4500-NO3** Analysis Date: **5/14/2020** SeqNo: **3778141**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **LCS-R144325** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144325**
Client ID: **LCSW** Batch ID: **R144325** TestNo: **SM4500-NO3** Analysis Date: **5/14/2020** SeqNo: **3778142**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.044	0.050	1.000	0	104	85	115				

Sample ID **N040479-008CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144325**
Client ID: **ZZZZZZ** Batch ID: **R144325** TestNo: **SM4500-NO3** Analysis Date: **5/14/2020** SeqNo: **3778144**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	8.502	0.25	5.000	2.850	113	75	125				

Sample ID **N040479-008CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144325**
Client ID: **ZZZZZZ** Batch ID: **R144325** TestNo: **SM4500-NO3** Analysis Date: **5/14/2020** SeqNo: **3778145**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	8.537	0.25	5.000	2.850	114	75	125	8.502	0.405	20	

Sample ID **N040490-001CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144325**
Client ID: **ZZZZZZ** Batch ID: **R144325** TestNo: **SM4500-NO3** Analysis Date: **5/14/2020** SeqNo: **3778147**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	10.298	0.50						10.63	3.17	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-69-195-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 8:22:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200504E**	QC Batch: **79139**			PrepDate:		**5/4/2020**	Analyst: **CEI**
Arsenic	1.6	0.081	0.10		µg/L	1	5/4/2020 06:16 PM
Manganese	12	0.26	0.50		µg/L	1	5/4/2020 06:16 PM
Molybdenum	53	0.21	0.50		µg/L	1	5/4/2020 06:16 PM
Selenium	7.0	0.36	0.50		µg/L	1	5/4/2020 06:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-913-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 8:32:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200504E**	QC Batch: **79139**			PrepDate:		**5/4/2020**	Analyst: **CEI**
Arsenic	1.6	0.081	0.10		µg/L	1	5/4/2020 07:06 PM
Manganese	9.2	0.26	0.50		µg/L	1	5/4/2020 07:06 PM
Molybdenum	52	0.21	0.50		µg/L	1	5/4/2020 07:06 PM
Selenium	7.2	0.36	0.50		µg/L	1	5/4/2020 07:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-58BR-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 8:13:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200504E**	QC Batch: **79139**				PrepDate:	**5/4/2020**	Analyst: **CEI**
Arsenic	1.9	0.081	0.10		µg/L	1	5/4/2020 07:16 PM
Manganese	140	0.26	0.50		µg/L	1	5/4/2020 07:16 PM
Molybdenum	24	0.21	0.50		µg/L	1	5/4/2020 07:16 PM
Selenium	1.9	0.36	0.50		µg/L	1	5/4/2020 07:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-64BR-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 9:46:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200504E**	QC Batch: **79139**			PrepDate:		**5/4/2020**	Analyst: **CEI**
Arsenic	0.77	0.081	0.10		µg/L	1	5/4/2020 07:25 PM
Manganese	160	0.26	0.50		µg/L	1	5/4/2020 07:25 PM
Molybdenum	37	0.21	0.50		µg/L	1	5/4/2020 07:25 PM
Selenium	ND	0.36	0.50		µg/L	1	5/4/2020 07:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-24A-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 9:51:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200504E**	QC Batch: **79139**				PrepDate:	**5/4/2020**	Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	5/4/2020 07:43 PM
Manganese	17	0.26	0.50		µg/L	1	5/4/2020 07:43 PM
Molybdenum	100	0.21	0.50		µg/L	1	5/4/2020 07:43 PM
Selenium	ND	0.36	0.50		µg/L	1	5/4/2020 07:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-24B-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 10:36:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200504E**	QC Batch: **79139**				PrepDate:	**5/4/2020**	Analyst: **CEI**
Arsenic	ND	0.41	0.50		µg/L	5	5/4/2020 07:57 PM
Manganese	96	0.26	0.50		µg/L	1	5/4/2020 07:53 PM
Molybdenum	56	1.1	2.5		µg/L	5	5/4/2020 07:57 PM
Selenium	ND	1.8	2.5		µg/L	5	5/4/2020 07:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-Q220
Lab Order:	N040490	**Collection Date:**	5/1/2020 11:15:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040490-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200504E**	QC Batch: **79139**				PrepDate:	**5/4/2020**	Analyst: **CEI**
Arsenic	2.2	0.081	0.10		µg/L	1	5/4/2020 08:11 PM
Manganese	66	0.26	0.50		µg/L	1	5/4/2020 08:11 PM
Molybdenum	15	1.1	2.5		µg/L	5	5/4/2020 08:16 PM
Selenium	ND	0.36	0.50		µg/L	1	5/4/2020 08:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040490
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **MB-79139** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **5/4/2020** RunNo: **144052**
Client ID: **PBW** Batch ID: **79139** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/4/2020** SeqNo: **3770774**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-79139** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **5/4/2020** RunNo: **144052**
Client ID: **LCSW** Batch ID: **79139** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/4/2020** SeqNo: **3770775**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.985	0.10	10.00	0	99.9	85	115				
Manganese	97.870	0.50	100.0	0	97.9	85	115				
Molybdenum	9.724	0.50	10.00	0	97.2	85	115				
Selenium	9.428	0.50	10.00	0	94.3	85	115				

Sample ID **N040490-001D-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **5/4/2020** RunNo: **144052**
Client ID: **ZZZZZZ** Batch ID: **79139** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/4/2020** SeqNo: **3770783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.963	0.10	10.00	1.579	104	75	125				
Manganese	101.868	0.50	100.0	12.15	89.7	75	125				
Molybdenum	64.436	0.50	10.00	52.92	115	75	125				
Selenium	16.904	0.50	10.00	7.044	98.6	75	125				

Sample ID **N040490-001D-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **5/4/2020** RunNo: **144052**
Client ID: **ZZZZZZ** Batch ID: **79139** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/4/2020** SeqNo: **3770785**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.886	0.10	10.00	1.579	103	75	125	11.96	0.646	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040490
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N040490-001D-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **5/4/2020** RunNo: **144052**
Client ID: **ZZZZZZ** Batch ID: **79139** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/4/2020** SeqNo: **3770785**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	101.644	0.50	100.0	12.15	89.5	75	125	101.9	0.221	20	
Molybdenum	64.187	0.50	10.00	52.92	113	75	125	64.44	0.387	20	
Selenium	16.880	0.50	10.00	7.044	98.4	75	125	16.90	0.147	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com, daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 / Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com	P.O.#: SWA-ASSET-C9817-057
Submitted By: Spencer Doolittle		Phone: 949-727-1400, ext 200	Fax:
Title: Technician	Phone: 916-786-3302 / Fax:		
Signature: SD Date: 5/1/2020	Sampled By: Spencer Doolittle		
I hereby authorize ASSET Labs to perform the tests indicated below.	*I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.*		
Project Name: PG&E Topock - GMP	Signature: SD	Date: 5/1/2020	
Project Number: RC000753.801D			

EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Excel EDD		RTNE		1. Chilled	✓	
Geotracker		RWQCB	✓	2. Headspace		
Labspec		CalTrans		3. Container Intact	✓	
Others	✓	LEVEL III		4. Seal Present	✓	
Specify: RWQCB		LEVEL IV		5. IR number	2	
		Regulatory		6. Method of Cooling: Ice		
Global ID:		Specify State:		Sample Temp: 5.3°C / 5.6°C		
				Courier: ASSET		
				Tracking No.:		

Matrix: Ground x; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Oxygen and Deuterium isotopes (CFIRM), Ice 250 mL poly	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 2x250 mL poly	Alkalinity, Total as CaCO3 (SM2320B) 1 liter poly	Bromide, Sulfate, Chloride (EPA 300.0) 1 liter poly	Fluoride (EPA 300.0) 1 liter poly	Specific Conductance (EPA 120.1) 1 liter poly	Total Dissolved Solids (SM92540) 1 liter poly	Nitrate/Nitrite (SM4500N03) Nitrate; H2SO4 125 mL poly	Total Organic Carbon (SM5310C); H2SO4 3x40 mL poly	Dissolved metals (SW 6020); HNO3 Cr 500 mL poly	Dissolved Metals (SW 6010B); HNO3 As, Cr, Mn, Mo, Se 500 mL poly	Dissolved metals (SW 6020), HNO3 Ag, As, Ba, Be, Cd, Co, Cr, Mg, Mn, Mo, Pb, Sb, Se, Tl, V, Zn 500 mL poly	Dissolved Metals (SW 6010B); HNO3 B, Ca, Cu, Fe, Na, Ni, 500 mL poly	Metals Dissolved (EPA7470A FF) Hg; HNO3 500 mL poly	Dissolved Metals (SW 6010B); HNO3 Potassium 500 mL poly	Total metals, Chromium (post-filter) (EPA 200.8), HNO3 500 mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N040490-01	MW-69-195-Q220	5/1/2020	8:22		X						X		X			X						E	4	P	BNS	
2	-02	MW-913-Q220	5/1/2020	8:32		X						X		X			X						E	4	P	BNS	
3	-03	MW-58BR-Q220	5/1/2020	8:13		X						X		X			X						E	4	P	BNS	
4	-04	MW-64BR-Q220	5/1/2020	9:46		X						X		X			X						E	4	P	BNS	
5	-05	MW-24A-Q220	5/1/2020	9:51		X						X		X			X						E	4	P	BNS	
6	-06	MW-24B-Q220	5/1/2020	10:36		X						X		X			X						E	4	P	BNS	
7	-07	MW-48-Q220	5/1/2020	11:15		X						X				X							E	3	P	BNS	
8	-08	EB-714-Q220	5/1/2020	11:30		X																	E	1	P	BNS	
9	-09	MW-71-035-Q220	5/1/20	11:15		X						X		X			X						E	1	P	BNS	4
10	-10	EB-715-Q220	5/1/20	11:25		X																	E	1	P	BNS	
11																											
12																											

Relinquished by (Signature and Printed Name)	Date/Time	Received by (Signature and Printed Name)	Date/Time
SD Spencer Doolittle	5/1/2020 1215	Vigo 5-1-20	5/1/2020 1215
Vigo 5/1/20	1500	Yoandra Rodriguez	5/1/20 1500

Turn Around Time (TAT)

- A < 24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis.
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	5/1/2020	Workorder:	N040490
Rep sample Temp (Deg C):	5.3/5.6	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 5/1/2020

Reviewed By: MBC 5/5/2020

ASSET Laboratories

WORK ORDER Summary

01-May-20

WorkOrder: N040490

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 5/1/2020

Comments: Title 22 Metals :Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, N

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N040490-001A	MW-69-195-Q220	5/1/2020 8:22:00 AM	5/15/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040490-001B			5/15/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040490-001C			5/15/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040490-001D			5/15/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/15/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/15/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040490-002A	MW-913-Q220	5/1/2020 8:32:00 AM	5/15/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040490-002B			5/15/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040490-002C			5/15/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040490-002D			5/15/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/15/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/15/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040490-003A	MW-58BR-Q220	5/1/2020 8:13:00 AM	5/15/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040490-003B			5/15/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040490-003C			5/15/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040490-003D			5/15/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/15/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/15/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040490-004A	MW-64BR-Q220	5/1/2020 9:46:00 AM	5/15/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040490-004B			5/15/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040490-004C			5/15/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

01-May-20

WorkOrder: N040490

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 5/1/2020

Comments: Title 22 Metals :Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, N

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N040490-004D	MW-64BR-Q220	5/1/2020 9:46:00 AM	5/15/2020	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/15/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/15/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040490-005A	MW-24A-Q220	5/1/2020 9:51:00 AM	5/15/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040490-005B			5/15/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040490-005C			5/15/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040490-005D			5/15/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/15/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/15/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040490-006A	MW-24B-Q220	5/1/2020 10:36:00 AM	5/15/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040490-006B			5/15/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040490-006C			5/15/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040490-006D			5/15/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/15/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/15/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040490-007A	MW-48-Q220	5/1/2020 11:15:00 AM	5/15/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040490-007B			5/15/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040490-007C			5/15/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/15/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040490-008A	EB-714-Q220	5/1/2020 11:30:00 AM	5/15/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040490-009A	MW-71-035-Q220	5/1/2020 11:15:00 AM	5/15/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

01-May-20

WorkOrder: N040490

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 5/1/2020

Comments: Title 22 Metals :Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, N

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N040490-009B	MW-71-035-Q220	5/1/2020 11:15:00 AM	5/15/2020	Groundwater	EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N040490-009C			5/15/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040490-009D			5/15/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/15/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/15/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040490-010A	EB-715-Q220	5/1/2020 11:25:00 AM	5/15/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040490-011A	FOLDER	5/15/2020	5/15/2020		EDD	RWQCB	☐	☐	☐	LAB
			5/15/2020		Folder	Folder	☐	☐	☐	LAB
			5/15/2020		Folder	Level IV Report	☐	☐	☐	LAB
			5/15/2020		Folder	Folder	☐	☐	☐	LAB

May 15, 2020

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N040511

RE: PG&E Topock - PMP, RC000753.801D

Attention: Dan Bush

Enclosed are the results for sample(s) received on May 05, 2020 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Litucao for

Puri Romualdo
Laboratory Director

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CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time except for pH. pH testing is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

Analytical Comments for EPA 200.7_Dissolved:

Matrix Spike (MS) is outside recovery criteria for Calcium in QC sample N040512-001C-MS1 since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) passed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Sodium in QC samples N040511-001B-MS2 and N040511-001B-MSD2 since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

RPD for Matrix Spike (MS) and Matrix Spike Duplicate(MSD) is outside criteria for Sodium ; however, the associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 200.8_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N040512-001C-MS and N040512-001C-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

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Date: *15-May-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PMP, RC000753.801D
Lab Order: N040511
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N040511-001A	TW-03D-0520	Groundwater	5/5/2020 10:30:00 AM	5/5/2020	5/15/2020
N040511-001B	TW-03D-0520	Groundwater	5/5/2020 10:30:00 AM	5/5/2020	5/15/2020
N040511-001C	TW-03D-0520	Groundwater	5/5/2020 10:30:00 AM	5/5/2020	5/15/2020
N040511-001D	TW-03D-0520	Groundwater	5/5/2020 10:30:00 AM	5/5/2020	5/15/2020

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ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-0520
Lab Order:	N040511	**Collection Date:**	5/5/2020 10:30:00 AM
Project:	PG&E Topock - PMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040511-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200506A**	QC Batch: **R144079**			PrepDate:			Analyst: **LR**
Specific Conductance	7600	0.10	0.10		umhos/cm	1	5/6/2020 10:50 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040511
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N040511-001CDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **144079**
Client ID: **ZZZZZZ** Batch ID: **R144079** TestNo: **EPA 120.1** Analysis Date: **5/6/2020** SeqNo: **3771560**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	7630.000	0.10						7600	0.394	2	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-0520
Lab Order:	N040511	**Collection Date:**	5/5/2020 10:30:00 AM
Project:	PG&E Topock - PMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040511-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **NV00922-WC_200506B**	QC Batch: **R144080**			PrepDate:			Analyst: **LR**
pH	7.2	0.10	0.10	H	pH Units	1	5/6/2020 10:20 AM
Temp. at time of pH Analysis	25	0.10	0.10	H	°C	1	5/6/2020 10:20 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040511
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 150.1_4500H+B_W

Sample ID	**N040518-001EDUP**	SampType:	**DUP**	TestCode:	**150.1_4500H**	Units:	**pH Units**	Prep Date:			RunNo:	**144080**	
Client ID:	**ZZZZZZ**	Batch ID:	**R144080**	TestNo:	**SM4500-H+B**			Analysis Date:	**5/6/2020**		SeqNo:	**3771565**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.360	0.10						7.350	0.136	10	H
Temp. at time of pH Analysis	25.000	0.10						25.00	0	10	H

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-0520
Lab Order:	N040511	**Collection Date:**	5/5/2020 10:30:00 AM
Project:	PG&E Topock - PMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040511-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
SM2540C							
RunID: **NV00922-WC_200506F** QC Batch: **79183** PrepDate: **5/6/2020** Analyst: **LR**							
Total Dissolved Solids (Residue, Filterable)	4700	50	50		mg/L	1	5/6/2020 01:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040511
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID	LCS-79183	SampType:	LCS	TestCode:	160.1_2540C	Units:	mg/L	Prep Date:	5/6/2020	RunNo:	144102
Client ID:	LCSW	Batch ID:	79183	TestNo:	SM2540C			Analysis Date:	5/6/2020	SeqNo:	3772031

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	981.000	10	1000	0	98.1	80	120				

Sample ID	MB-79183	SampType:	MBLK	TestCode:	160.1_2540C	Units:	mg/L	Prep Date:	5/6/2020	RunNo:	144102
Client ID:	PBW	Batch ID:	79183	TestNo:	SM2540C			Analysis Date:	5/6/2020	SeqNo:	3772032

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

Sample ID	N040512-001ADUP	SampType:	DUP	TestCode:	160.1_2540C	Units:	mg/L	Prep Date:	5/6/2020	RunNo:	144102
Client ID:	ZZZZZZ	Batch ID:	79183	TestNo:	SM2540C			Analysis Date:	5/6/2020	SeqNo:	3772035

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	4545.000	50						4615	1.53	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N040511
Project: PG&E Topock - PMP, RC000753.801D
Lab ID: N040511-001

Client Sample ID: TW-03D-0520
Collection Date: 5/5/2020 10:30:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_200507D**	QC Batch: **79171**			PrepDate:	**5/6/2020**		Analyst: **DJ**
Calcium	200000	85	500		µg/L	1	5/7/2020 09:55 PM
Iron	ND	18	20		µg/L	1	5/7/2020 09:55 PM
Magnesium	27000	48	100		µg/L	1	5/7/2020 09:55 PM
Sodium	1400000	9600	50000		µg/L	100	5/12/2020 01:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040511
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WDPGEPPB

Sample ID **MB-79171** SampType: **MBLK** TestCode: **200.7_WDPG** Units: **µg/L** Prep Date: **5/6/2020** RunNo: **144130**
Client ID: **PBW** Batch ID: **79171** TestNo: **EPA 200.7** Analysis Date: **5/7/2020** SeqNo: **3773359**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	500									
Iron	ND	20									
Magnesium	ND	100									

Sample ID **N040512-001C-MS1** SampType: **MS** TestCode: **200.7_WDPG** Units: **µg/L** Prep Date: **5/6/2020** RunNo: **144130**
Client ID: **ZZZZZZ** Batch ID: **79171** TestNo: **EPA 200.7** Analysis Date: **5/7/2020** SeqNo: **3773365**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	219444.685	500	10000	205600	138	75	125				S
Iron	95.003	20	100.0	0	95.0	75	125				
Magnesium	38555.022	100	10000	28030	105	75	125				

Sample ID **N040512-001C-MSD** SampType: **MSD** TestCode: **200.7_WDPG** Units: **µg/L** Prep Date: **5/6/2020** RunNo: **144130**
Client ID: **ZZZZZZ** Batch ID: **79171** TestNo: **EPA 200.7** Analysis Date: **5/7/2020** SeqNo: **3773366**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	216433.797	500	10000	205600	108	75	125	219400	1.38	20	
Iron	89.483	20	100.0	0	89.5	75	125	95.00	5.98	20	
Magnesium	38535.204	100	10000	28030	105	75	125	38560	0.0514	20	

Sample ID **LCS1-79171** SampType: **LCS** TestCode: **200.7_WDPG** Units: **µg/L** Prep Date: **5/6/2020** RunNo: **144130**
Client ID: **LCSW** Batch ID: **79171** TestNo: **EPA 200.7** Analysis Date: **5/7/2020** SeqNo: **3773381**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10604.199	500	10000	0	106	85	115				
Iron	91.085	20	100.0	0	91.1	85	115				
Magnesium	10802.985	100	10000	0	108	85	115				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040511
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WDPGEPPB

Sample ID	MB-79171	SampType:	MBLK	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	5/6/2020	RunNo:	144275
Client ID:	PBW	Batch ID:	79171	TestNo:	EPA 200.7			Analysis Date:	5/12/2020	SeqNo:	3777283

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	ND	500									

Sample ID	LCS2-79171	SampType:	LCS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	5/6/2020	RunNo:	144275
Client ID:	LCSW	Batch ID:	79171	TestNo:	EPA 200.7			Analysis Date:	5/12/2020	SeqNo:	3777284

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	19729.562	500	20000	0	98.6	85	115				

Sample ID	N040511-001B-MS2	SampType:	MS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	5/6/2020	RunNo:	144275
Client ID:	ZZZZZZ	Batch ID:	79171	TestNo:	EPA 200.7			Analysis Date:	5/12/2020	SeqNo:	3777289

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	1910178.415	50000	20000	1420000	2450	75	125				S

Sample ID	N040511-001B-MSD	SampType:	MSD	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	5/6/2020	RunNo:	144275
Client ID:	ZZZZZZ	Batch ID:	79171	TestNo:	EPA 200.7			Analysis Date:	5/12/2020	SeqNo:	3777291

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	1195148.472	50000	20000	1420000	-1120	75	125	1910000	46.1	20	SR

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040511
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WDPGEPPB

Sample ID **N040512-001C-PS** SampType: **PS** TestCode: **200.7_WDPG** Units: **µg/L** Prep Date: RunNo: **144130**
Client ID: **ZZZZZZ** Batch ID: **79171** TestNo: **EPA 200.7** Analysis Date: **5/7/2020** SeqNo: **3773364**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	215270.422	500	10000	205600	96.7	80	120				
Iron	97.413	20	100.0	0	97.4	80	120				
Magnesium	38247.570	100	10000	28030	102	80	120				

Sample ID **N040511-001B-PS** SampType: **PS** TestCode: **200.7_WDPG** Units: **µg/L** Prep Date: RunNo: **144275**
Client ID: **ZZZZZZ** Batch ID: **79171** TestNo: **EPA 200.7** Analysis Date: **5/12/2020** SeqNo: **3777288**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	1507470.269	50000	20000	1420000	437	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-0520
Lab Order:	N040511	**Collection Date:**	5/5/2020 10:30:00 AM
Project:	PG&E Topock - PMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040511-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICPMS							
EPA 200.8							
RunID: **NV00922-ICP8_200507F** QC Batch: **79174** PrepDate: **5/6/2020** Analyst: **CEI**							
Manganese	19	0.26	0.50		µg/L	1	5/8/2020 02:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040511
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID **MB-79174** SampType: **MBLK** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **5/6/2020** RunNo: **144235**
Client ID: **PBW** Batch ID: **79174** TestNo: **EPA 200.8** Analysis Date: **5/8/2020** SeqNo: **3776236**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID **LCS-79174** SampType: **LCS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **5/6/2020** RunNo: **144235**
Client ID: **LCSW** Batch ID: **79174** TestNo: **EPA 200.8** Analysis Date: **5/8/2020** SeqNo: **3776237**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	98.894	0.50	100.0	0	98.9	85	115				

Sample ID **N040512-001C-MS** SampType: **MS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **5/6/2020** RunNo: **144235**
Client ID: **ZZZZZZ** Batch ID: **79174** TestNo: **EPA 200.8** Analysis Date: **5/8/2020** SeqNo: **3776249**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	102.039	0.50	100.0	14.22	87.8	75	125				

Sample ID **N040512-001C-MSD** SampType: **MSD** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **5/6/2020** RunNo: **144235**
Client ID: **ZZZZZZ** Batch ID: **79174** TestNo: **EPA 200.8** Analysis Date: **5/8/2020** SeqNo: **3776251**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	103.164	0.50	100.0	14.22	88.9	75	125	102.0	1.10	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-0520
Lab Order:	N040511	**Collection Date:**	5/5/2020 10:30:00 AM
Project:	PG&E Topock - PMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040511-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200506A** QC Batch: **R144113** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	450	3.3	20		µg/L	100	5/6/2020 04:15 PM
DISSOLVED METALS BY ICP-MS							
EPA 200.8							
RunID: **NV00922-ICP8_200507F** QC Batch: **79174** PrepDate: **5/6/2020** Analyst: **CEI**							
Chromium	410	0.65	5.0		µg/L	5	5/8/2020 02:13 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040511
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8DIS_CrPGE

Sample ID **MB-79174** SampType: **MBLK** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: **5/6/2020** RunNo: **144235**
Client ID: **PBW** Batch ID: **79174** TestNo: **EPA 200.8** Analysis Date: **5/8/2020** SeqNo: **3776134**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **LCS-79174** SampType: **LCS** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: **5/6/2020** RunNo: **144235**
Client ID: **LCSW** Batch ID: **79174** TestNo: **EPA 200.8** Analysis Date: **5/8/2020** SeqNo: **3776135**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.688	1.0	10.00	0	96.9	85	115				

Sample ID **N040512-001C-MS** SampType: **MS** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: **5/6/2020** RunNo: **144235**
Client ID: **ZZZZZZ** Batch ID: **79174** TestNo: **EPA 200.8** Analysis Date: **5/8/2020** SeqNo: **3776148**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	433.719	5.0	10.00	428.7	50.1	75	125				S

Sample ID **N040512-001C-MSD** SampType: **MSD** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: **5/6/2020** RunNo: **144235**
Client ID: **ZZZZZZ** Batch ID: **79174** TestNo: **EPA 200.8** Analysis Date: **5/8/2020** SeqNo: **3776152**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	431.749	5.0	10.00	428.7	30.4	75	125	433.7	0.455	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040511
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R144113** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144113**
Client ID: **PBW** Batch ID: **R144113** TestNo: **EPA 218.6** Analysis Date: **5/6/2020** SeqNo: **3772211**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **LCS-R144113** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144113**
Client ID: **LCSW** Batch ID: **R144113** TestNo: **EPA 218.6** Analysis Date: **5/6/2020** SeqNo: **3772212**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.044	0.20	5.000	0	101	90	110				

Sample ID **N040520-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144113**
Client ID: **ZZZZZZ** Batch ID: **R144113** TestNo: **EPA 218.6** Analysis Date: **5/6/2020** SeqNo: **3772219**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.661	0.20	5.000	5.513	103	90	110				

Sample ID **N040520-004AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144113**
Client ID: **ZZZZZZ** Batch ID: **R144113** TestNo: **EPA 218.6** Analysis Date: **5/6/2020** SeqNo: **3772220**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.670	0.20	5.000	5.513	103	90	110	10.66	0.0844	20	

Sample ID **N040519-003ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **144113**
Client ID: **ZZZZZZ** Batch ID: **R144113** TestNo: **EPA 218.6** Analysis Date: **5/6/2020** SeqNo: **3772223**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.306	0.20						3.268	1.18	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040511
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	**N040511-001AMS**	SampType:	**MS**	TestCode:	**218.6_WPGE**	Units:	**µg/L**	Prep Date:				RunNo:	**144113**
Client ID:	**ZZZZZZ**	Batch ID:	**R144113**	TestNo:	**EPA 218.6**			Analysis Date:	**5/6/2020**			SeqNo:	**3772225**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	948.310	20	500.0	446.4	100	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040511
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8DIS_CrPGE

Sample ID	**N040512-001C-PS**	SampType:	**PS**	TestCode:	**200.8DIS_Cr**	Units:	**µg/L**	Prep Date:			RunNo:	**144235**
Client ID:	**ZZZZZZ**	Batch ID:	**79174**	TestNo:	**EPA 200.8**			Analysis Date:	**5/8/2020**		SeqNo:	**3776146**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	435.018	5.0	10.00	428.7	63.1	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-0520
Lab Order:	N040511	**Collection Date:**	5/5/2020 10:30:00 AM
Project:	PG&E Topock - PMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040511-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_200511E**	QC Batch: **R144250**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	160	1.2	5.0		mg/L	1	5/11/2020 01:50 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040511
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID **LCS-R144250** SampType: **LCS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **144250**
Client ID: **LCSW** Batch ID: **R144250** TestNo: **SM 2320 B** Analysis Date: **5/11/2020** SeqNo: **3776859**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	99.794	5.0	100.0	0	99.8	85	115				

Sample ID **MB-R144250** SampType: **MBLK** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **144250**
Client ID: **PBW** Batch ID: **R144250** TestNo: **SM 2320 B** Analysis Date: **5/11/2020** SeqNo: **3776860**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID **N040511-001CDUP** SampType: **DUP** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **144250**
Client ID: **ZZZZZZ** Batch ID: **R144250** TestNo: **SM 2320 B** Analysis Date: **5/11/2020** SeqNo: **3776862**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	160.494	5.0						159.5	0.643	30	

Sample ID **N040511-001CMS** SampType: **MS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **144250**
Client ID: **ZZZZZZ** Batch ID: **R144250** TestNo: **SM 2320 B** Analysis Date: **5/11/2020** SeqNo: **3776863**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	255.144	5.0	100.0	159.5	95.7	75	125				

Sample ID **N040511-001CMSD** SampType: **MSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **144250**
Client ID: **ZZZZZZ** Batch ID: **R144250** TestNo: **SM 2320 B** Analysis Date: **5/11/2020** SeqNo: **3776864**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	255.144	5.0	100.0	159.5	95.7	75	125	255.1	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-0520
Lab Order:	N040511	**Collection Date:**	5/5/2020 10:30:00 AM
Project:	PG&E Topock - PMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040511-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_200507A** QC Batch: **R144127** PrepDate: Analyst: **RAB**							
Chloride	2300	17	250		mg/L	500	5/7/2020 06:33 AM
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_200506A** QC Batch: **R144086** PrepDate: Analyst: **RAB**							
Sulfate	500	2.0	25		mg/L	50	5/6/2020 01:18 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040511
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID **MB-R144127_CL** SampType: **MBLK** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **144127**
Client ID: **PBW** Batch ID: **R144127** TestNo: **EPA 300.0** Analysis Date: **5/7/2020** SeqNo: **3773079**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.148	0.50									

Sample ID **LCS-R144127_CL** SampType: **LCS** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **144127**
Client ID: **LCSW** Batch ID: **R144127** TestNo: **EPA 300.0** Analysis Date: **5/7/2020** SeqNo: **3773080**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.163	0.50	2.000	0	108	90	110				

Sample ID **N040511-001CMS** SampType: **MS** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **144127**
Client ID: **ZZZZZZ** Batch ID: **R144127** TestNo: **EPA 300.0** Analysis Date: **5/7/2020** SeqNo: **3773082**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3139.650	250	1000	2278	86.1	80	120				

Sample ID **N040511-001CMSD** SampType: **MSD** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **144127**
Client ID: **ZZZZZZ** Batch ID: **R144127** TestNo: **EPA 300.0** Analysis Date: **5/7/2020** SeqNo: **3773083**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3128.550	250	1000	2278	85.0	80	120	3140	0.354	20	

Sample ID **N040511-001CDUP** SampType: **DUP** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **144127**
Client ID: **ZZZZZZ** Batch ID: **R144127** TestNo: **EPA 300.0** Analysis Date: **5/7/2020** SeqNo: **3773088**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2134.850	250						2278	6.51	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040511
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID **MB-R144086_SO4** SampType: **MBLK** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **144086**
Client ID: **PBW** Batch ID: **R144086** TestNo: **EPA 300.0** Analysis Date: **5/6/2020** SeqNo: **3771905**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID **LCS-R144086_SO4** SampType: **LCS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **144086**
Client ID: **LCSW** Batch ID: **R144086** TestNo: **EPA 300.0** Analysis Date: **5/6/2020** SeqNo: **3771906**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.098	0.50	4.000	0	102	90	110				

Sample ID **N040511-001CDUP** SampType: **DUP** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **144086**
Client ID: **ZZZZZZ** Batch ID: **R144086** TestNo: **EPA 300.0** Analysis Date: **5/6/2020** SeqNo: **3771911**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	511.465	25						502.1	1.85	20	

Sample ID **N040512-002BMS** SampType: **MS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **144086**
Client ID: **ZZZZZZ** Batch ID: **R144086** TestNo: **EPA 300.0** Analysis Date: **5/6/2020** SeqNo: **3771914**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	699.165	25	200.0	485.5	107	80	120				

Sample ID **N040512-002BMSD** SampType: **MSD** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **144086**
Client ID: **ZZZZZZ** Batch ID: **R144086** TestNo: **EPA 300.0** Analysis Date: **5/6/2020** SeqNo: **3771915**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	701.815	25	200.0	485.5	108	80	120	699.2	0.378	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *15-May-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-0520
Lab Order:	N040511	**Collection Date:**	5/5/2020 10:30:00 AM
Project:	PG&E Topock - PMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N040511-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200514A** QC Batch: **R144325** PrepDate: Analyst: **HG**							
Nitrate/Nitrite as N	3.4	0.16	0.25		mg/L	5	5/14/2020 03:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N040511
Project: PG&E Topock - PMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID **MB-R144325** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144325**
Client ID: **PBW** Batch ID: **R144325** TestNo: **SM4500-NO3** Analysis Date: **5/14/2020** SeqNo: **3778141**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **LCS-R144325** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144325**
Client ID: **LCSW** Batch ID: **R144325** TestNo: **SM4500-NO3** Analysis Date: **5/14/2020** SeqNo: **3778142**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.044	0.050	1.000	0	104	85	115				

Sample ID **N040479-008CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144325**
Client ID: **ZZZZZZ** Batch ID: **R144325** TestNo: **SM4500-NO3** Analysis Date: **5/14/2020** SeqNo: **3778144**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	8.502	0.25	5.000	2.850	113	75	125				

Sample ID **N040479-008CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144325**
Client ID: **ZZZZZZ** Batch ID: **R144325** TestNo: **SM4500-NO3** Analysis Date: **5/14/2020** SeqNo: **3778145**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	8.537	0.25	5.000	2.850	114	75	125	8.502	0.405	20	

Sample ID **N040490-001CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **144325**
Client ID: **ZZZZZZ** Batch ID: **R144325** TestNo: **SM4500-NO3** Analysis Date: **5/14/2020** SeqNo: **3778147**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	10.298	0.50						10.63	3.17	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com, daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 / Fax:	Address: 1410 Rocky Ridge Dr # 330, Roseville, CA 95661	Email to: mbloes@pivox.com	P.O.# SWA-ASSET-C9617-051
Submitted By: Nara Tay		Phone: 949-727-1400, ext 200	Fax:
Title: Project Manager	Phone: 916-786-3302 / Fax:		
Signature: Date: 5/5/20	Sampled By: Nara Tay		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - PMP	Signature: Date: 5/5/20		
Project Number: RC000753.801D			

EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Excel EDD		RTNE		1. Chilled	✓	
Geotracker		RWQCB	✓	2. Headspace		
Labspec		CalTrans		3. Container Intact	✓	
Others	✓	LEVEL III		4. Seal Present		
Specify: RWQCB		LEVEL IV		5. IR number 2		
Global ID:		Regulatory		6. Method of Cooling: ICE		
		Specify State:		Sample Temp: 1.8°C		

Courier:

Tracking No.:

Matrix			
Ground	x	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)		Dissolved metals (EPA 200.8) FF; HNO3, 500 mL poly Cr, Mn (1 L poly)	Dissolved metals (EPA200.7) FF; HNO3 Ca, Mg, Fe, Na, (1 L poly)	Dissolved metals (SW6010B/SW6020A/ds) FF; HNO3 As, Mn, Fe, Se, Mo, Ba (1 L poly)	Total metals (SW6010B); HNO3 Fe (500 mL poly)	Anions (E300.0); Cl, SO4 (1 liter poly)	Specific Conductance (E120.1) (1 liter poly)	pH (SM4500HB) (1 liter poly)	TDS (SM2540C) (1 liter poly)	Alkalinity (Total, reported as CaCO3) (SM2320B) (1 liter poly)	TSS (SM2540) (1 liter poly)	Nitrate/Nitrite (SM4500NO3) Nitrate; H2SO4 (125 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N040511-01	TW-03D-0520	5/5/20	1030		X		X	X			X	X	X	X	X		X	E	4	P	BN
2		~~PE-01-0520~~				~~X~~		~~X~~	~~X~~			~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		~~X~~	~~E~~	~~4~~	~~P~~	~~BN~~
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Nara Tay	5/5/20 1230	K. M. Budalian	5/5/20 1230
K. M. Budalian	5/5/20 1541	K. M. Budalian	5/5/20 1541

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	5/5/2020	Workorder:	N040511
Rep sample Temp (Deg C):	1.8	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☐	No ☑	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments: Sample for pH received past holding time.

For:

Checklist Completed By: MPB YRJ 5/6/2020

Reviewed By: MBC 5/7/2020

ASSET Laboratories

WORK ORDER Summary

06-May-20

WorkOrder: N040511

Client ID: ARCUS02

Project: PG&E Topock - PMP, RC000753.801D **QC Level:** Level IV **Date Received:** 5/5/2020

Comments: Title 22 Metals :Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N040511-001A	TW-03D-0520	5/5/2020 10:30:00 AM	5/19/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N040511-001B			5/19/2020			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2020		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/19/2020			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2020		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW
			5/19/2020		EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N040511-001C			5/19/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			5/19/2020		SM4500-H+B	pH	☐	☐	☐	LSR
			5/19/2020		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			5/19/2020			Total Dissolved Solids Prep	☐	☐	☐	LSR
			5/19/2020		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	LSR
			5/19/2020		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			5/19/2020		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			5/19/2020		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	LSR
N040511-001D			5/19/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N040511-002A	FOLDER	5/19/2020	5/19/2020		EDD	RWQCB	☐	☐	☐	LAB
			5/19/2020		Folder	Folder	☐	☐	☐	LAB
			5/19/2020		Folder	Level IV Report	☐	☐	☐	LAB
			5/19/2020		Folder	Folder	☐	☐	☐	LAB

June 29, 2020

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N041005

RE: PG&E Topock - GMP, RC000753.801D

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 16, 2020 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Litucas for

Puri Romualdo
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041005

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for samples N041005-003, 004, 005 & 006 due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

ASSET Laboratories

Date: *29-Jun-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041005
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N041005-001A	MW-22-Q220	Groundwater	6/16/2020 9:54:00 AM	6/16/2020	6/29/2020
N041005-001B	MW-22-Q220	Groundwater	6/16/2020 9:54:00 AM	6/16/2020	6/29/2020
N041005-001C	MW-22-Q220	Groundwater	6/16/2020 9:54:00 AM	6/16/2020	6/29/2020
N041005-002A	MW-52S-Q220	Groundwater	6/16/2020 11:03:00 AM	6/16/2020	6/29/2020
N041005-002B	MW-52S-Q220	Groundwater	6/16/2020 11:03:00 AM	6/16/2020	6/29/2020
N041005-002C	MW-52S-Q220	Groundwater	6/16/2020 11:03:00 AM	6/16/2020	6/29/2020
N041005-003A	MW-52D-Q220	Groundwater	6/16/2020 11:31:00 AM	6/16/2020	6/29/2020
N041005-003B	MW-52D-Q220	Groundwater	6/16/2020 11:31:00 AM	6/16/2020	6/29/2020
N041005-003C	MW-52D-Q220	Groundwater	6/16/2020 11:31:00 AM	6/16/2020	6/29/2020
N041005-004A	MW-52M-Q220	Groundwater	6/16/2020 12:03:00 PM	6/16/2020	6/29/2020
N041005-004B	MW-52M-Q220	Groundwater	6/16/2020 12:03:00 PM	6/16/2020	6/29/2020
N041005-004C	MW-52M-Q220	Groundwater	6/16/2020 12:03:00 PM	6/16/2020	6/29/2020
N041005-005A	MW-53M-Q220	Groundwater	6/16/2020 12:38:00 PM	6/16/2020	6/29/2020
N041005-005B	MW-53M-Q220	Groundwater	6/16/2020 12:38:00 PM	6/16/2020	6/29/2020
N041005-005C	MW-53M-Q220	Groundwater	6/16/2020 12:38:00 PM	6/16/2020	6/29/2020
N041005-006A	MW-53D-Q220	Groundwater	6/16/2020 1:05:00 PM	6/16/2020	6/29/2020
N041005-006B	MW-53D-Q220	Groundwater	6/16/2020 1:05:00 PM	6/16/2020	6/29/2020
N041005-006C	MW-53D-Q220	Groundwater	6/16/2020 1:05:00 PM	6/16/2020	6/29/2020
N041005-007A	MW-36-090-Q220	Groundwater	6/16/2020 2:08:00 PM	6/16/2020	6/29/2020
N041005-007B	MW-36-090-Q220	Groundwater	6/16/2020 2:08:00 PM	6/16/2020	6/29/2020
N041005-007C	MW-36-090-Q220	Groundwater	6/16/2020 2:08:00 PM	6/16/2020	6/29/2020
N041005-008A	MW-36-100-Q220	Groundwater	6/16/2020 2:40:00 PM	6/16/2020	6/29/2020
N041005-008B	MW-36-100-Q220	Groundwater	6/16/2020 2:40:00 PM	6/16/2020	6/29/2020
N041005-008C	MW-36-100-Q220	Groundwater	6/16/2020 2:40:00 PM	6/16/2020	6/29/2020
N041005-008D	MW-36-100-Q220	Groundwater	6/16/2020 2:40:00 PM	6/16/2020	6/29/2020
N041005-009A	EB-703-0620	Groundwater	6/16/2020 2:50:00 PM	6/16/2020	6/29/2020

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *29-Jun-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-22-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 9:54:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200617F**	QC Batch: **R145130**			PrepDate			Analyst: **LR**
Specific Conductance	11000	0.10	0.10		umhos/cm	1	6/17/2020 11:15 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *29-Jun-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52S-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 11:03:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200617F**	QC Batch: **R145130**			PrepDate			Analyst: **LR**
Specific Conductance	8800	0.10	0.10		umhos/cm	1	6/17/2020 11:15 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *29-Jun-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52D-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 11:31:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200617F**	QC Batch: **R145130**			PrepDate			Analyst: **LR**
Specific Conductance	20000	0.10	0.10		umhos/cm	1	6/17/2020 11:15 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *29-Jun-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52M-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 12:03:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200617F**	QC Batch: **R145130**			PrepDate			Analyst: **LR**
Specific Conductance	15000	0.10	0.10		umhos/cm	1	6/17/2020 11:15 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *29-Jun-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53M-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 12:38:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200617F**	QC Batch: **R145130**			PrepDate			Analyst: **LR**
Specific Conductance	17000	0.10	0.10		umhos/cm	1	6/17/2020 11:15 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53D-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 1:05:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200617F**	QC Batch: **R145130**			PrepDate			Analyst: **LR**
Specific Conductance	24000	0.10	0.10		umhos/cm	1	6/17/2020 11:15 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *29-Jun-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-090-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 2:08:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200617F**	QC Batch: **R145130**			PrepDate			Analyst: **LR**
Specific Conductance	4800	0.10	0.10		umhos/cm	1	6/17/2020 11:15 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *29-Jun-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 2:40:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200617F**	QC Batch: **R145130**			PrepDate			Analyst: **LR**
Specific Conductance	6500	0.10	0.10		umhos/cm	1	6/17/2020 11:15 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041005
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID	**N041005-002BDUP**	SampType:	**DUP**	TestCode:	**120.1_WPGE**	Units:	**umhos/cm**	Prep Date:				RunNo:	**145130**
Client ID:	**ZZZZZZ**	Batch ID:	**R145130**	TestNo:	**EPA 120.1**			Analysis Date:	**6/17/2020**			SeqNo:	**3819665**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	8770.000	0.10						8800	0.341	2	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *29-Jun-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-22-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 9:54:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200617A** QC Batch: **R145159** PrepDate Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/17/2020 06:34 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200618D** QC Batch: **79755** PrepDate **6/18/2020** Analyst: **CEI**							
Chromium	ND	0.13	1.0		µg/L	1	6/19/2020 01:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52S-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 11:03:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200617A** QC Batch: **R145159**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/17/2020 12:34 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200618D** QC Batch: **79755**				PrepDate		**6/18/2020**	Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	6/19/2020 02:13 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *29-Jun-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52D-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 11:31:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_200617A**	QC Batch: **R145159**			PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.17	1.0		µg/L	5	6/17/2020 04:56 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200618D**	QC Batch: **79755**			PrepDate		**6/18/2020**	Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	6/19/2020 02:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *29-Jun-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52M-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 12:03:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_200617A** QC Batch: **R145159**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.17	1.0		µg/L	5	6/17/2020 05:34 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_200618D** QC Batch: **79755**				PrepDate		**6/18/2020**	Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	6/19/2020 02:22 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *29-Jun-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53M-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 12:38:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200617A** QC Batch: **R145159**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.17	1.0		µg/L	5	6/17/2020 05:56 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200618D** QC Batch: **79755**				PrepDate		**6/18/2020**	Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	6/19/2020 02:36 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53D-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 1:05:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_200617A**	QC Batch: **R145159**			PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.17	1.0		µg/L	5	6/17/2020 06:15 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200618D**	QC Batch: **79755**			PrepDate		**6/18/2020**	Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	6/19/2020 02:41 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *29-Jun-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-090-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 2:08:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200617A** QC Batch: **R145159**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/17/2020 12:15 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200618D** QC Batch: **79755**				PrepDate		**6/18/2020**	Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	6/19/2020 02:45 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *29-Jun-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 2:40:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200617A** QC Batch: **R145159** PrepDate							Analyst: **RAB**
Hexavalent Chromium	12	0.033	0.20		µg/L	1	6/17/2020 12:04 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200618D** QC Batch: **79755** PrepDate **6/18/2020**							Analyst: **CEI**
Chromium	11	0.13	1.0		µg/L	1	6/19/2020 02:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *29-Jun-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-703-0620
Lab Order:	N041005	**Collection Date:**	6/16/2020 2:50:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200617A** QC Batch: **R145159** PrepDate Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/17/2020 04:18 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041005
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R145159** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145159**
Client ID: **PBW** Batch ID: **R145159** TestNo: **EPA 218.6** Analysis Date: **6/17/2020** SeqNo: **3821116**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **LCS-R145159** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145159**
Client ID: **LCSW** Batch ID: **R145159** TestNo: **EPA 218.6** Analysis Date: **6/17/2020** SeqNo: **3821117**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.960	0.20	5.000	0	99.2	90	110				

Sample ID **N041003-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145159**
Client ID: **ZZZZZZ** Batch ID: **R145159** TestNo: **EPA 218.6** Analysis Date: **6/17/2020** SeqNo: **3821119**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.939	0.20	1.000	0	93.9	90	110				

Sample ID **N041003-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145159**
Client ID: **ZZZZZZ** Batch ID: **R145159** TestNo: **EPA 218.6** Analysis Date: **6/17/2020** SeqNo: **3821121**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1725.060	40	1000	714.7	101	90	110				

Sample ID **N041003-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145159**
Client ID: **ZZZZZZ** Batch ID: **R145159** TestNo: **EPA 218.6** Analysis Date: **6/17/2020** SeqNo: **3821123**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.920	1.0	5.000	0	98.4	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041005
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041003-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145159**
Client ID: **ZZZZZZ** Batch ID: **R145159** TestNo: **EPA 218.6** Analysis Date: **6/17/2020** SeqNo: **3821127**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.902	1.0	5.000	0	98.0	90	110				

Sample ID **N041003-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145159**
Client ID: **ZZZZZZ** Batch ID: **R145159** TestNo: **EPA 218.6** Analysis Date: **6/17/2020** SeqNo: **3821129**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.896	1.0	5.000	0	97.9	90	110				

Sample ID **N041003-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145159**
Client ID: **ZZZZZZ** Batch ID: **R145159** TestNo: **EPA 218.6** Analysis Date: **6/17/2020** SeqNo: **3821131**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.730	1.0	5.000	4.795	98.7	90	110				

Sample ID **N041003-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145159**
Client ID: **ZZZZZZ** Batch ID: **R145159** TestNo: **EPA 218.6** Analysis Date: **6/17/2020** SeqNo: **3821133**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.330	1.0	5.000	5.484	96.9	90	110				

Sample ID **N041003-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145159**
Client ID: **ZZZZZZ** Batch ID: **R145159** TestNo: **EPA 218.6** Analysis Date: **6/17/2020** SeqNo: **3821135**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.133	1.0	5.000	0	103	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041005
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041003-006AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145159**
Client ID: **ZZZZZZ** Batch ID: **R145159** TestNo: **EPA 218.6** Analysis Date: **6/17/2020** SeqNo: **3821138**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1709.460	40	1000	714.7	99.5	90	110	1725	0.908	20	

Sample ID **N041005-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145159**
Client ID: **ZZZZZZ** Batch ID: **R145159** TestNo: **EPA 218.6** Analysis Date: **6/17/2020** SeqNo: **3821141**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.032	0.20	1.000	0	103	90	110				

Sample ID **N041005-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145159**
Client ID: **ZZZZZZ** Batch ID: **R145159** TestNo: **EPA 218.6** Analysis Date: **6/17/2020** SeqNo: **3821143**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.021	0.20	1.000	0	102	90	110				

Sample ID **N041003-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145159**
Client ID: **ZZZZZZ** Batch ID: **R145159** TestNo: **EPA 218.6** Analysis Date: **6/17/2020** SeqNo: **3821145**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.261	1.0	5.000	0	105	90	110				

Sample ID **N041005-008ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145159**
Client ID: **ZZZZZZ** Batch ID: **R145159** TestNo: **EPA 218.6** Analysis Date: **6/17/2020** SeqNo: **3821150**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.607	0.20						11.54	0.593	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041005
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041005-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145159**
Client ID: **ZZZZZZ** Batch ID: **R145159** TestNo: **EPA 218.6** Analysis Date: **6/17/2020** SeqNo: **3821151**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	16.659	0.20	5.000	11.54	102	90	110				

Sample ID **N041005-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145159**
Client ID: **ZZZZZZ** Batch ID: **R145159** TestNo: **EPA 218.6** Analysis Date: **6/17/2020** SeqNo: **3821153**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.986	0.20	1.000	0	98.6	90	110				

Sample ID **N041005-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145159**
Client ID: **ZZZZZZ** Batch ID: **R145159** TestNo: **EPA 218.6** Analysis Date: **6/17/2020** SeqNo: **3821155**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.030	1.0	5.000	0	101	90	110				

Sample ID **N041005-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145159**
Client ID: **ZZZZZZ** Batch ID: **R145159** TestNo: **EPA 218.6** Analysis Date: **6/17/2020** SeqNo: **3821159**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.027	1.0	5.000	0	101	90	110				

Sample ID **N041005-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145159**
Client ID: **ZZZZZZ** Batch ID: **R145159** TestNo: **EPA 218.6** Analysis Date: **6/17/2020** SeqNo: **3821161**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.966	1.0	5.000	0	99.3	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041005
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041005-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145159**
Client ID: **ZZZZZZ** Batch ID: **R145159** TestNo: **EPA 218.6** Analysis Date: **6/17/2020** SeqNo: **3821163**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.779	1.0	5.000	0	95.6	90	110				

Sample ID **N041005-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145159**
Client ID: **ZZZZZZ** Batch ID: **R145159** TestNo: **EPA 218.6** Analysis Date: **6/17/2020** SeqNo: **3821165**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.957	0.20	1.000	0	95.7	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041005
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **MB-79755** SampType: **MBLK** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/18/2020** RunNo: **145187**
Client ID: **PBW** Batch ID: **79755** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2020** SeqNo: **3822368**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **LCS-79755** SampType: **LCS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/18/2020** RunNo: **145187**
Client ID: **LCSW** Batch ID: **79755** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2020** SeqNo: **3822369**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.273	1.0	10.00	0	103	85	115				

Sample ID **N041005-001C-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/18/2020** RunNo: **145187**
Client ID: **ZZZZZZ** Batch ID: **79755** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2020** SeqNo: **3822373**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.646	1.0	10.00	0.3409	93.1	75	125				

Sample ID **N041005-001C-MSD** SampType: **MSD** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/18/2020** RunNo: **145187**
Client ID: **ZZZZZZ** Batch ID: **79755** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2020** SeqNo: **3822374**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.658	1.0	10.00	0.3409	93.2	75	125	9.646	0.127	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *29-Jun-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 2:40:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_200619C**	QC Batch: **R145194**			PrepDate			Analyst: **JBB**
Nitrate/Nitrite as N	ND	0.032	0.050		mg/L	1	6/19/2020 01:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041005
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID **MB-R145194** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145194**
Client ID: **PBW** Batch ID: **R145194** TestNo: **SM4500-NO3** Analysis Date: **6/19/2020** SeqNo: **3823053**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **LCS-R145194** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145194**
Client ID: **LCSW** Batch ID: **R145194** TestNo: **SM4500-NO3** Analysis Date: **6/19/2020** SeqNo: **3823054**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.481	0.050	0.5000	0	96.1	85	115				

Sample ID **N041004-008BMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145194**
Client ID: **ZZZZZZ** Batch ID: **R145194** TestNo: **SM4500-NO3** Analysis Date: **6/19/2020** SeqNo: **3823056**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.114	0.050	0.5000	0.6029	102	75	125				

Sample ID **N041004-008BMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145194**
Client ID: **ZZZZZZ** Batch ID: **R145194** TestNo: **SM4500-NO3** Analysis Date: **6/19/2020** SeqNo: **3823057**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.149	0.050	0.5000	0.6029	109	75	125	1.114	3.17	20	

Sample ID **N041004-007BDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145194**
Client ID: **ZZZZZZ** Batch ID: **R145194** TestNo: **SM4500-NO3** Analysis Date: **6/19/2020** SeqNo: **3823059**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.279	0.050						1.226	4.22	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *29-Jun-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-22-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 9:54:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200618E**	QC Batch: **79755**			PrepDate	**6/18/2020**		Analyst: **CEI**
Arsenic	3.2	0.081	0.10		µg/L	1	6/19/2020 01:50 AM
Manganese	1600	6.4	12		µg/L	25	6/22/2020 01:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *29-Jun-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52S-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 11:03:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200618E**	QC Batch: **79755**			PrepDate	**6/18/2020**		Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/19/2020 02:13 AM
Manganese	1300	6.4	12		µg/L	25	6/22/2020 02:11 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *29-Jun-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52D-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 11:31:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200618E**	QC Batch: **79755**			PrepDate	**6/18/2020**		Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/19/2020 02:18 AM
Manganese	250	1.3	2.5		µg/L	5	6/22/2020 02:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *29-Jun-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52M-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 12:03:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200618E**	QC Batch: **79755**			PrepDate	**6/18/2020**		Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/19/2020 02:22 AM
Manganese	150	0.26	0.50		µg/L	1	6/19/2020 02:22 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *29-Jun-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53M-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 12:38:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200618E**	QC Batch: **79755**			PrepDate	**6/18/2020**		Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/19/2020 02:36 AM
Manganese	450	1.3	2.5		µg/L	5	6/22/2020 02:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *29-Jun-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53D-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 1:05:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200618E**	QC Batch: **79755**			PrepDate	**6/18/2020**		Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/19/2020 02:41 AM
Manganese	1100	6.4	12		µg/L	25	6/22/2020 02:42 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *29-Jun-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-090-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 2:08:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200618E**	QC Batch: **79755**			PrepDate	**6/18/2020**		Analyst: **CEI**
Arsenic	1.3	0.081	0.10		µg/L	1	6/19/2020 02:45 AM
Manganese	51	0.26	0.50		µg/L	1	6/19/2020 02:45 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *29-Jun-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-Q220
Lab Order:	N041005	**Collection Date:**	6/16/2020 2:40:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041005-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200622B**	QC Batch: **79755**			PrepDate	**6/18/2020**		Analyst: **CEI**
Arsenic	1.5	0.081	0.10		µg/L	1	6/22/2020 02:46 PM
Manganese	240	1.3	2.5		µg/L	5	6/22/2020 02:51 PM
Molybdenum	20	0.21	0.50		µg/L	1	6/19/2020 02:50 AM
Selenium	ND	0.36	0.50		µg/L	1	6/19/2020 02:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041005
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-79755** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/18/2020** RunNo: **145189**
Client ID: **PBW** Batch ID: **79755** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2020** SeqNo: **3822559**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-79755** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/18/2020** RunNo: **145189**
Client ID: **LCSW** Batch ID: **79755** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2020** SeqNo: **3822560**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.391	0.10	10.00	0	104	85	115				
Manganese	103.392	0.50	100.0	0	103	85	115				
Molybdenum	10.270	0.50	10.00	0	103	85	115				
Selenium	10.149	0.50	10.00	0	101	85	115				

Sample ID **N041005-001C-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/18/2020** RunNo: **145189**
Client ID: **ZZZZZZ** Batch ID: **79755** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2020** SeqNo: **3822564**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	13.918	0.10	10.00	3.179	107	75	125				
Molybdenum	48.393	0.50	10.00	38.30	101	75	125				
Selenium	10.670	0.50	10.00	0.4266	102	75	125				

Sample ID **N041005-001C-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/18/2020** RunNo: **145189**
Client ID: **ZZZZZZ** Batch ID: **79755** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2020** SeqNo: **3822565**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	14.242	0.10	10.00	3.179	111	75	125	13.92	2.30	20	
Molybdenum	48.702	0.50	10.00	38.30	104	75	125	48.39	0.635	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041005
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	N041005-001C-MSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/18/2020	RunNo:	145189
Client ID:	ZZZZZZ	Batch ID:	79755	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/19/2020	SeqNo:	3822565

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	11.033	0.50	10.00	0.4266	106	75	125	10.67	3.35	20	

Sample ID	N041005-001C-MS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/18/2020	RunNo:	145290
Client ID:	ZZZZZZ	Batch ID:	79755	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/22/2020	SeqNo:	3827774

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	1667.281	12	100.0	1564	104	75	125				

Sample ID	N041005-001C-MSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/18/2020	RunNo:	145290
Client ID:	ZZZZZZ	Batch ID:	79755	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/22/2020	SeqNo:	3827775

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	1663.884	12	100.0	1564	100	75	125	1667	0.204	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis
Address: 1410 Rocky Ridge Dr # 330
Address: Roseville, CA 95661
Phone: 916-786-3302 Fax: Ringie Tep
Submitted By: ~~Spencer Doolittle~~
Title: Field Tech
Signature: Date: 6/16/20
I hereby authorize ASSET Labs to perform the tests indicated below.
Project Name: PG&E Topock - GMP
Project Number: RC000753.801D

Report to: Dan Bush
Company: Arcadis
Email: dan.bush@arcadis.com
daniel.moore@critigen.com
Address: 1410 Rocky Ridge Dr # 330
Roseville, CA 95661
Phone: 916-786-3302 Fax:
Sampled By: Ringie Tep
I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.
Signature: Date: 6/16/20

Bill to: Marty Bloes
Address:
Address:
Email to: mbloes@pivox.com
P.O.#: SWA-ASSET-C9817-057
Phone: 949-727-1400, ext 200
Fax:

EDD Requirement	
Excel EDD	
Geotracker	
Labspec	
Others	✓
Specify: RWQCB	
Global ID:	

QA/QC	
RTNE	
RWQCB	✓
CalTrans	
LEVEL III	
LEVEL IV	
Regulatory	
Specify State:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		✓
3. Container Intact	✓	
4. Seal Present		✓
5. IR number	4	
6. Method of Cooling:	ice	
Sample Temp:	1.6	

Courier:
Tracking No.:

Matrix			
Ground	x	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	Oxygen and Deuterium Isotopes (CFIRM), Ice	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	Alkalinity, Total as CaCO3 (SM2320B)	Bromide, Sulfate, Chloride (EPA 300.0)	Fluoride (EPA 300.0)	Specific Conductance (EPA 120.1)	Total Dissolved Solids (SM92540)	Nitrate/Nitrite (SM4500N03) Nitrate; H2SO4	Total Organic Carbon (SM5310C); H2SO4	Dissolved metals (SW 6020), HNO3 As, Cr, Mn	Dissolved Metals (SW 6010B); HNO3 As, Cr, Mn, Mo, Se	Dissolved metals (SW 6020), HNO3 Ag, As, Ba, Be, Cd, Co, Cr, Mg, Mn, Mo, Pb, Sb, Se, Tl, V, Zn	Dissolved Metals (SW 6010B); HNO3 B, Ca, Cu, Fe, Na, Ni,	Metals Dissolved (EPA7470A FF) Hg; HNO3	Dissolved Metals (SW 6010B); HNO3 Potassium	Total metals, Chromium (non-filter) (EPA 200.8), HNO3	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
						250 mL poly	250 mL poly	2x250 mL poly	1 liter poly	1 liter poly	1 liter poly	1 liter poly	1 liter poly	125 mL poly	3x40 mL poly	500 mL poly	500 mL poly	500 mL poly	500 mL poly	500 mL poly	500 mL poly	500 mL poly					
1	N041005-01	MW-22-Q220	6/16/2020	9:54		X						X				X							E	3	P	BNS	
2	-02	MW-52S-Q220	6/16/2020	11:03		~~X~~		X				X				X							E	~~3~~	P	BNS	4
3	-03	MW-52D-Q220	6/16/2020	11:31		~~X~~		X				X				X							E	~~3~~	P	BNS	4
4	-04	MW-52M-Q220	6/16/2020	12:03		~~X~~		X				X				X							E	~~3~~	P	BNS	4
5	-05	MW-53M-Q220	6/16/2020	12:38		~~X~~		X				X				X							E	~~3~~	P	BNS	4
6	-06	MW-53D-Q220	6/16/2020	13:05		~~X~~		X				X				X							E	~~3~~	P	BNS	4
7	-07	MW-36-090-Q220	6/16/2020	14:08		X						X				X							E	3	P	BNS	
8	-08	MW-36-100-Q220	6/16/2020	14:40		X						X		X			X						E	4	P	BNS	
9	-09	EB-703-Q220	6/16/2020	14:50		X																	E	1	P	BNS	
10																											
11																											
12																											

Reliquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Ringie Tep	6/16/20 1600		6/16/20 1600
	6/16/20 1918		6/16/20 1918

Turn Around Time (TAT)

- [ ] A < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis.
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.Terms
5. Trip Blanks and Equipment Blanks are billable sample
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.

Preservatives:

H=HCL	N=$HNO_{3N=HNO3}$	S=$H_2SO_{4S=H2}SO_4$	C=4°CC=4°
Z=$Zn(AC)_{2Z=Zn(AC)2}$	O=NaOH	T=$Na_2S_2O_{3T=Na2}S_2$	
Other/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/16/2020	Workorder:	N041005
Rep sample Temp (Deg C):	1.6	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 6/18/2020

Reviewed By: MBC MBC 6/21/2020

Subject: RE: Topock - Sample ID Update
From: Tina Rice <Tina.Rice@critigen.com>
Date: 6/18/2020, 5:40 PM
To: Yoandra Rodriguez <yoandra@assetlaboratories.com>
CC: "Madsen, Laura" <Laura.Madsen@arcadis.com>, Nancy Sibucao <nancy@assetlaboratories.com>, "maryann.balilu@assetlaboratoriesph.com" <maryann.balilu@assetlaboratoriesph.com>

Hi Yoandra,

Working on another login and these need to be updated as well : (This should be all of them!

WorkOrder	ClientSampID	CorrectedClientSampID	DateCollected
N040987	EB-701-Q620	EB-701-0620	6/15/2020 2:25:00 PM
N040987	EB-702-Q620	EB-702-0620	6/15/2020 2:50:00 PM
N041003	EB-704-Q220	EB-704-0620	6/16/2020 2:40:00 PM
N041005	EB-703-Q220	EB-703-0620	6/16/2020 2:50:00 PM
N041020	EB-706-Q220	EB-706-0620	6/17/2020 1:30:00 PM
N041022	EB-705-Q220	EB-705-0620	6/17/2020 3:10:00 PM

Thanks again,

Tina

From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Thursday, June 18, 2020 5:23 PM
To: Tina Rice <Tina.Rice@critigen.com>
Cc: Madsen, Laura <Laura.Madsen@arcadis.com>; Nancy Sibucao <nancy@assetlaboratories.com>; maryann.balilu@assetlaboratoriesph.com
Subject: Re: Topock - Sample ID Update

Hi Tina,

Noted. No problem.

I revised the ID, but you will receive the revised Summaries tomorrow.

Thanks!

On 6/18/2020 5:01 PM, Tina Rice wrote:

Hi Yoandra,

I apologize but could you rename this same (again) as follows per the highlighted column? The sample needs to be renamed to avoid duplication:

ClientSampID	CorrectedClientSampID	WorkOrder
MW-901-Q220	MW-901-0620	N041003
MW-901-Q220	MW-901-0620	N041004

Thank you,

Tina

Tina Rice

Database Analyst

CRITIGEN

Tina.Rice@critigen.com

1 360 600 3562 Direct

1 360 600 3562 Mobile

critigen.com

ASSET Laboratories

WORK ORDER Summary

18-Jun-20

WorkOrder: N041005

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/16/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041005-001A	MW-22-Q220	6/16/2020 9:54:00 AM	6/26/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041005-001B			6/26/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041005-001C			6/26/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/26/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/26/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041005-002A	MW-52S-Q220	6/16/2020 11:03:00 AM	6/26/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041005-002B			6/26/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041005-002C			6/26/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/26/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/26/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041005-003A	MW-52D-Q220	6/16/2020 11:31:00 AM	6/26/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041005-003B			6/26/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041005-003C			6/26/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/26/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/26/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041005-004A	MW-52M-Q220	6/16/2020 12:03:00 PM	6/26/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041005-004B			6/26/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041005-004C			6/26/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/26/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/26/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041005-005A	MW-53M-Q220	6/16/2020 12:38:00 PM	6/26/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041005-005B			6/26/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

18-Jun-20

WorkOrder: N041005

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/16/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041005-005C	MW-53M-Q220	6/16/2020 12:38:00 PM	6/26/2020	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/26/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/26/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041005-006A	MW-53D-Q220	6/16/2020 1:05:00 PM	6/26/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041005-006B			6/26/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041005-006C			6/26/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/26/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/26/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041005-007A	MW-36-090-Q220	6/16/2020 2:08:00 PM	6/26/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041005-007B			6/26/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041005-007C			6/26/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/26/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/26/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041005-008A	MW-36-100-Q220	6/16/2020 2:40:00 PM	6/26/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041005-008B			6/26/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041005-008C			6/26/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041005-008D			6/26/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/26/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/26/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041005-009A	EB-703-0620	6/16/2020 2:50:00 PM	6/26/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041005-010A	FOLDER	6/30/2020	6/26/2020		EDD	RWQCB	☐	☐	☐	LAB
			6/26/2020		Folder	Level IV Report	☐	☐	☐	LAB

ASSET Laboratories

WORK ORDER Summary

18-Jun-20

WorkOrder: N041005

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/16/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041005-010A	FOLDER	6/30/2020	6/26/2020		Folder	Folder	☐	☐	☐	LAB
			6/30/2020		Folder	Folder	☐	☐	☐	LAB

July 01, 2020

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N041022

RE: PG&E Topock - GMP, RC000753.801D

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 17, 2020 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Libucao for

Puri Romualdo
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (28 ug/L) and hexavalent chromium (18 ug/L) for sample N041022-002 (MW-40S-Q220) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (11 ug/L) and hexavalent chromium (4.9 ug/L) for sample N041022-003 (MW-33-150-Q220) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (15 ug/L) and hexavalent chromium (7.2 ug/L) for sample N041022-004 (MW-33-210-Q220) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (6.3 ug/L) and hexavalent chromium (3.3 ug/L) for sample N041022-007 (MW-33-090-Q220) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (28 ug/L) and hexavalent chromium (18 ug/L) for sample N041022-002 (MW-40S-Q220) are discrepant, sample from both the total dissolved chromium

and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 33 and 43 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (11 ug/L) and hexavalent chromium (4.9 ug/L) for sample N041022-003 (MW-33-150-Q220) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 10 and 6.0 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (15 ug/L) and hexavalent chromium (7.2 ug/L) for sample N041022-004 (MW-33-210-Q220) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 14 and 9.1 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (6.3 ug/L) and hexavalent chromium (3.3 ug/L) for sample N041022-007 (MW-33-090-Q220) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 6.6 and 5.0 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

ASSET Laboratories

Date: *01-Jul-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041022
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N041022-001A	MW-40D-Q220	Groundwater	6/17/2020 9:48:00 AM	6/17/2020	7/1/2020
N041022-001B	MW-40D-Q220	Groundwater	6/17/2020 9:48:00 AM	6/17/2020	7/1/2020
N041022-001C	MW-40D-Q220	Groundwater	6/17/2020 9:48:00 AM	6/17/2020	7/1/2020
N041022-001D	MW-40D-Q220	Groundwater	6/17/2020 9:48:00 AM	6/17/2020	7/1/2020
N041022-002A	MW-40S-Q220	Groundwater	6/17/2020 10:10:00 AM	6/17/2020	7/1/2020
N041022-002B	MW-40S-Q220	Groundwater	6/17/2020 10:10:00 AM	6/17/2020	7/1/2020
N041022-002C	MW-40S-Q220	Groundwater	6/17/2020 10:10:00 AM	6/17/2020	7/1/2020
N041022-002D	MW-40S-Q220	Groundwater	6/17/2020 10:10:00 AM	6/17/2020	7/1/2020
N041022-003A	MW-33-150-Q220	Groundwater	6/17/2020 12:38:00 PM	6/17/2020	7/1/2020
N041022-003B	MW-33-150-Q220	Groundwater	6/17/2020 12:38:00 PM	6/17/2020	7/1/2020
N041022-003C	MW-33-150-Q220	Groundwater	6/17/2020 12:38:00 PM	6/17/2020	7/1/2020
N041022-003D	MW-33-150-Q220	Groundwater	6/17/2020 12:38:00 PM	6/17/2020	7/1/2020
N041022-004A	MW-33-210-Q220	Groundwater	6/17/2020 1:30:00 PM	6/17/2020	7/1/2020
N041022-004B	MW-33-210-Q220	Groundwater	6/17/2020 1:30:00 PM	6/17/2020	7/1/2020
N041022-004C	MW-33-210-Q220	Groundwater	6/17/2020 1:30:00 PM	6/17/2020	7/1/2020
N041022-004D	MW-33-210-Q220	Groundwater	6/17/2020 1:30:00 PM	6/17/2020	7/1/2020
N041022-005A	MW-33-040-EB-Q220	Groundwater	6/17/2020 2:35:00 PM	6/17/2020	7/1/2020
N041022-006A	MW-33-040-Q220	Groundwater	6/17/2020 3:01:00 PM	6/17/2020	7/1/2020
N041022-006B	MW-33-040-Q220	Groundwater	6/17/2020 3:01:00 PM	6/17/2020	7/1/2020
N041022-006C	MW-33-040-Q220	Groundwater	6/17/2020 3:01:00 PM	6/17/2020	7/1/2020
N041022-006D	MW-33-040-Q220	Groundwater	6/17/2020 3:01:00 PM	6/17/2020	7/1/2020
N041022-007A	MW-33-090-Q220	Groundwater	6/17/2020 2:19:00 PM	6/17/2020	7/1/2020
N041022-007B	MW-33-090-Q220	Groundwater	6/17/2020 2:19:00 PM	6/17/2020	7/1/2020
N041022-007C	MW-33-090-Q220	Groundwater	6/17/2020 2:19:00 PM	6/17/2020	7/1/2020
N041022-007D	MW-33-090-Q220	Groundwater	6/17/2020 2:19:00 PM	6/17/2020	7/1/2020
N041022-008A	EB-705-0620	Groundwater	6/17/2020 3:10:00 PM	6/17/2020	7/1/2020

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-40D-Q220
Lab Order:	N041022	**Collection Date:**	6/17/2020 9:48:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200618D**	QC Batch: **R145163**			PrepDate:			Analyst: **LR**
Specific Conductance	14000	0.10	0.10		umhos/cm	1	6/18/2020 11:10 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-40S-Q220
Lab Order:	N041022	**Collection Date:**	6/17/2020 10:10:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200618D**	QC Batch: **R145163**			PrepDate:			Analyst: **LR**
Specific Conductance	1700	0.10	0.10		umhos/cm	1	6/18/2020 11:10 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-150-Q220
Lab Order:	N041022	**Collection Date:**	6/17/2020 12:38:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200618D**	QC Batch: **R145163**			PrepDate:			Analyst: **LR**
Specific Conductance	14000	0.10	0.10		umhos/cm	1	6/18/2020 11:10 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-210-Q220
Lab Order:	N041022	**Collection Date:**	6/17/2020 1:30:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200618D**	QC Batch: **R145163**			PrepDate:			Analyst: **LR**
Specific Conductance	17000	0.10	0.10		umhos/cm	1	6/18/2020 11:10 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-040-Q220
Lab Order:	N041022	**Collection Date:**	6/17/2020 3:01:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200618D**	QC Batch: **R145163**			PrepDate:			Analyst: **LR**
Specific Conductance	8200	0.10	0.10		umhos/cm	1	6/18/2020 11:10 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-090-Q220
Lab Order:	N041022	**Collection Date:**	6/17/2020 2:19:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200618D**	QC Batch: **R145163**			PrepDate:			Analyst: **LR**
Specific Conductance	8900	0.10	0.10		umhos/cm	1	6/18/2020 11:10 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041022
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N041022-001BDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **145163**
Client ID: **ZZZZZZ** Batch ID: **R145163** TestNo: **EPA 120.1** Analysis Date: **6/18/2020** SeqNo: **3821234**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	14180.000	0.10						14190	0.0705	2	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-40D-Q220
Lab Order:	N041022	**Collection Date:**	6/17/2020 9:48:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200618A** QC Batch: **R145202** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	12	0.17	1.0		µg/L	5	6/18/2020 06:32 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200618D** QC Batch: **79755** PrepDate: **6/18/2020** Analyst: **CEI**							
Chromium	11	0.13	1.0		µg/L	1	6/19/2020 02:59 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-40S-Q220
Lab Order:	N041022	**Collection Date:**	6/17/2020 10:10:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200618A** QC Batch: **R145202** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	18	0.17	1.0		µg/L	5	6/18/2020 12:44 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200618D** QC Batch: **79755** PrepDate: **6/18/2020** Analyst: **CEI**							
Chromium	28	0.13	1.0		µg/L	1	6/19/2020 03:04 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-150-Q220
Lab Order:	N041022	**Collection Date:**	6/17/2020 12:38:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200618A** QC Batch: **R145202** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	4.9	0.17	1.0		µg/L	5	6/18/2020 04:34 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200618D** QC Batch: **79755** PrepDate: **6/18/2020** Analyst: **CEI**							
Chromium	11	0.13	1.0		µg/L	1	6/19/2020 03:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-210-Q220
Lab Order:	N041022	**Collection Date:**	6/17/2020 1:30:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200622A** QC Batch: **R145242** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	7.2	0.17	1.0		µg/L	5	6/22/2020 11:41 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200618D** QC Batch: **79755** PrepDate: **6/18/2020** Analyst: **CEI**							
Chromium	15	0.13	1.0		µg/L	1	6/19/2020 03:13 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-040-EB-Q220
Lab Order:	N041022	**Collection Date:**	6/17/2020 2:35:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200618A** QC Batch: **R145202** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/18/2020 05:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-040-Q220
Lab Order:	N041022	**Collection Date:**	6/17/2020 3:01:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200618A** QC Batch: **R145202** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/18/2020 01:50 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200618D** QC Batch: **79755** PrepDate: **6/18/2020** Analyst: **CEI**							
Chromium	ND	0.13	1.0		µg/L	1	6/19/2020 03:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N041022
Project: PG&E Topock - GMP, RC000753.801D
Lab ID: N041022-007

Client Sample ID: MW-33-090-Q220
Collection Date: 6/17/2020 2:19:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200618A** QC Batch: **R145202** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	3.3	0.033	0.20		µg/L	1	6/18/2020 01:22 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200618D** QC Batch: **79755** PrepDate: **6/18/2020** Analyst: **CEI**							
Chromium	6.3	0.13	1.0		µg/L	1	6/19/2020 03:31 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-705-0620
Lab Order:	N041022	**Collection Date:**	6/17/2020 3:10:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200618A** QC Batch: **R145202** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/18/2020 06:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041022
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R145202** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145202**
Client ID: **PBW** Batch ID: **R145202** TestNo: **EPA 218.6** Analysis Date: **6/18/2020** SeqNo: **3823338**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **LCS-R145202** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145202**
Client ID: **LCSW** Batch ID: **R145202** TestNo: **EPA 218.6** Analysis Date: **6/18/2020** SeqNo: **3823339**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.097	0.20	5.000	0	102	90	110				

Sample ID **N041018-001BMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145202**
Client ID: **ZZZZZZ** Batch ID: **R145202** TestNo: **EPA 218.6** Analysis Date: **6/18/2020** SeqNo: **3823343**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.890	0.20	1.000	2.915	97.6	90	110				

Sample ID **N041019-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145202**
Client ID: **ZZZZZZ** Batch ID: **R145202** TestNo: **EPA 218.6** Analysis Date: **6/18/2020** SeqNo: **3823344**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.108	0.20	1.000	0.1559	95.2	90	110				

Sample ID **N041020-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145202**
Client ID: **ZZZZZZ** Batch ID: **R145202** TestNo: **EPA 218.6** Analysis Date: **6/18/2020** SeqNo: **3823345**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.901	0.20	1.000	0.8592	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041022
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041018-001BDUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145202**
Client ID: **ZZZZZZ** Batch ID: **R145202** TestNo: **EPA 218.6** Analysis Date: **6/18/2020** SeqNo: **3823346**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.919	0.20						2.915	0.141	20	

Sample ID **N041020-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145202**
Client ID: **ZZZZZZ** Batch ID: **R145202** TestNo: **EPA 218.6** Analysis Date: **6/18/2020** SeqNo: **3823351**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	89.904	2.0	50.00	40.11	99.6	90	110				

Sample ID **N041020-003AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145202**
Client ID: **ZZZZZZ** Batch ID: **R145202** TestNo: **EPA 218.6** Analysis Date: **6/18/2020** SeqNo: **3823352**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	90.947	2.0	50.00	40.11	102	90	110	89.90	1.15	20	

Sample ID **N041022-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145202**
Client ID: **ZZZZZZ** Batch ID: **R145202** TestNo: **EPA 218.6** Analysis Date: **6/18/2020** SeqNo: **3823361**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.022	0.20	1.000	0	102	90	110				

Sample ID **N041020-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145202**
Client ID: **ZZZZZZ** Batch ID: **R145202** TestNo: **EPA 218.6** Analysis Date: **6/18/2020** SeqNo: **3823362**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.554	0.20	1.000	0.5398	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041022
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041020-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145202**
Client ID: **ZZZZZZ** Batch ID: **R145202** TestNo: **EPA 218.6** Analysis Date: **6/18/2020** SeqNo: **3823363**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.545	0.20	1.000	0.5330	101	90	110				

Sample ID **N041020-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145202**
Client ID: **ZZZZZZ** Batch ID: **R145202** TestNo: **EPA 218.6** Analysis Date: **6/18/2020** SeqNo: **3823364**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.675	0.20	1.000	1.709	96.6	90	110				

Sample ID **N041020-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145202**
Client ID: **ZZZZZZ** Batch ID: **R145202** TestNo: **EPA 218.6** Analysis Date: **6/18/2020** SeqNo: **3823367**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	50.880	1.0	25.00	26.05	99.3	90	110				

Sample ID **N041022-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145202**
Client ID: **ZZZZZZ** Batch ID: **R145202** TestNo: **EPA 218.6** Analysis Date: **6/18/2020** SeqNo: **3823368**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	42.605	1.0	25.00	18.19	97.6	90	110				

Sample ID **N041022-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145202**
Client ID: **ZZZZZZ** Batch ID: **R145202** TestNo: **EPA 218.6** Analysis Date: **6/18/2020** SeqNo: **3823369**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.388	0.20	5.000	3.288	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041022
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041022-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145202**
Client ID: **ZZZZZZ** Batch ID: **R145202** TestNo: **EPA 218.6** Analysis Date: **6/18/2020** SeqNo: **3823371**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.006	1.0	5.000	4.910	102	90	110				

Sample ID **N041020-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145202**
Client ID: **ZZZZZZ** Batch ID: **R145202** TestNo: **EPA 218.6** Analysis Date: **6/18/2020** SeqNo: **3823375**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.038	0.20	1.000	0	104	90	110				

Sample ID **N041022-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145202**
Client ID: **ZZZZZZ** Batch ID: **R145202** TestNo: **EPA 218.6** Analysis Date: **6/18/2020** SeqNo: **3823377**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.011	0.20	1.000	0	101	90	110				

Sample ID **N041022-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145202**
Client ID: **ZZZZZZ** Batch ID: **R145202** TestNo: **EPA 218.6** Analysis Date: **6/18/2020** SeqNo: **3823379**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.985	0.20	1.000	0	98.5	90	110				

Sample ID **N041022-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145202**
Client ID: **ZZZZZZ** Batch ID: **R145202** TestNo: **EPA 218.6** Analysis Date: **6/18/2020** SeqNo: **3823381**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	36.798	1.0	25.00	11.53	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041022
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R145242** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145242**
Client ID: **PBW** Batch ID: **R145242** TestNo: **EPA 218.6** Analysis Date: **6/22/2020** SeqNo: **3826202**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **LCS-R145242** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145242**
Client ID: **LCSW** Batch ID: **R145242** TestNo: **EPA 218.6** Analysis Date: **6/22/2020** SeqNo: **3826203**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.669	0.20	5.000	0	93.4	90	110				

Sample ID **N041022-004ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145242**
Client ID: **ZZZZZZ** Batch ID: **R145242** TestNo: **EPA 218.6** Analysis Date: **6/22/2020** SeqNo: **3826205**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.313	1.0						7.241	0.989	20	

Sample ID **N041022-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145242**
Client ID: **ZZZZZZ** Batch ID: **R145242** TestNo: **EPA 218.6** Analysis Date: **6/22/2020** SeqNo: **3826206**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	12.288	1.0	5.000	7.241	101	90	110				

Sample ID **N041022-004AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145242**
Client ID: **ZZZZZZ** Batch ID: **R145242** TestNo: **EPA 218.6** Analysis Date: **6/22/2020** SeqNo: **3826207**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	12.397	1.0	5.000	7.241	103	90	110	12.29	0.883	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041022
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	**N041053-002BMS**	SampType:	**MS**	TestCode:	**218.6_WPGE**	Units:	**µg/L**	Prep Date:			RunNo:	**145242**
Client ID:	**ZZZZZZ**	Batch ID:	**R145242**	TestNo:	**EPA 218.6**			Analysis Date:	**6/22/2020**		SeqNo:	**3826209**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.039	0.20	1.000	0	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041022
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **MB-79755** SampType: **MBLK** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/18/2020** RunNo: **145187**
Client ID: **PBW** Batch ID: **79755** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2020** SeqNo: **3822368**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **LCS-79755** SampType: **LCS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/18/2020** RunNo: **145187**
Client ID: **LCSW** Batch ID: **79755** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2020** SeqNo: **3822369**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.273	1.0	10.00	0	103	85	115				

Sample ID **N041005-001C-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/18/2020** RunNo: **145187**
Client ID: **ZZZZZZ** Batch ID: **79755** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2020** SeqNo: **3822373**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.646	1.0	10.00	0.3409	93.1	75	125				

Sample ID **N041005-001C-MSD** SampType: **MSD** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/18/2020** RunNo: **145187**
Client ID: **ZZZZZZ** Batch ID: **79755** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2020** SeqNo: **3822374**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.658	1.0	10.00	0.3409	93.2	75	125	9.646	0.127	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-40D-Q220
Lab Order:	N041022	**Collection Date:**	6/17/2020 9:48:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200624B** QC Batch: **R145297** PrepDate: Analyst: **JBB**							
Nitrate/Nitrite as N	0.57	0.032	0.050		mg/L	1	6/24/2020 02:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-40S-Q220
Lab Order:	N041022	**Collection Date:**	6/17/2020 10:10:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200619G** QC Batch: **R145203** PrepDate: Analyst: **JBB**							
Nitrate/Nitrite as N	10	0.32	0.50		mg/L	10	6/19/2020 04:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-150-Q220
Lab Order:	N041022	**Collection Date:**	6/17/2020 12:38:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200619G** QC Batch: **R145203** PrepDate: Analyst: **JBB**							
Nitrate/Nitrite as N	1.4	0.16	0.25		mg/L	5	6/19/2020 04:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-210-Q220
Lab Order:	N041022	**Collection Date:**	6/17/2020 1:30:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200619G** QC Batch: **R145203** PrepDate: Analyst: **JBB**							
Nitrate/Nitrite as N	1.7	0.063	0.10		mg/L	2	6/19/2020 04:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-040-Q220
Lab Order:	N041022	**Collection Date:**	6/17/2020 3:01:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200619G** QC Batch: **R145203** PrepDate: Analyst: **JBB**							
Nitrate/Nitrite as N	0.077	0.032	0.050		mg/L	1	6/19/2020 04:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-090-Q220
Lab Order:	N041022	**Collection Date:**	6/17/2020 2:19:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200619G** QC Batch: **R145203** PrepDate: Analyst: **JBB**							
Nitrate/Nitrite as N	1.1	0.032	0.050		mg/L	1	6/19/2020 04:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041022
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID **MB-R145203** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145203**
Client ID: **PBW** Batch ID: **R145203** TestNo: **SM4500-NO3** Analysis Date: **6/19/2020** SeqNo: **3823387**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **LCS-R145203** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145203**
Client ID: **LCSW** Batch ID: **R145203** TestNo: **SM4500-NO3** Analysis Date: **6/19/2020** SeqNo: **3823388**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.458	0.050	0.5000	0	91.5	85	115				

Sample ID **N041022-006CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145203**
Client ID: **ZZZZZZ** Batch ID: **R145203** TestNo: **SM4500-NO3** Analysis Date: **6/19/2020** SeqNo: **3823390**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.516	0.050	0.5000	0.07680	87.9	75	125				

Sample ID **N041022-006CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145203**
Client ID: **ZZZZZZ** Batch ID: **R145203** TestNo: **SM4500-NO3** Analysis Date: **6/19/2020** SeqNo: **3823391**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.570	0.050	0.5000	0.07680	98.6	75	125	0.5162	9.84	20	

Sample ID **N041022-007CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145203**
Client ID: **ZZZZZZ** Batch ID: **R145203** TestNo: **SM4500-NO3** Analysis Date: **6/19/2020** SeqNo: **3823393**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.107	0.050						1.089	1.61	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041022
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID **MB-R145297** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145297**
Client ID: **PBW** Batch ID: **R145297** TestNo: **SM4500-NO3** Analysis Date: **6/24/2020** SeqNo: **3828131**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **LCS-R145297** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145297**
Client ID: **LCSW** Batch ID: **R145297** TestNo: **SM4500-NO3** Analysis Date: **6/24/2020** SeqNo: **3828132**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.488	0.050	0.5000	0	97.5	85	115				

Sample ID **N041043-002CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145297**
Client ID: **ZZZZZZ** Batch ID: **R145297** TestNo: **SM4500-NO3** Analysis Date: **6/24/2020** SeqNo: **3828134**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.515	0.050	0.5000	0.06040	90.9	75	125				

Sample ID **N041043-002CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145297**
Client ID: **ZZZZZZ** Batch ID: **R145297** TestNo: **SM4500-NO3** Analysis Date: **6/24/2020** SeqNo: **3828135**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.549	0.050	0.5000	0.06040	97.7	75	125	0.5151	6.32	20	

Sample ID **N041022-001CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145297**
Client ID: **ZZZZZZ** Batch ID: **R145297** TestNo: **SM4500-NO3** Analysis Date: **6/24/2020** SeqNo: **3828137**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.617	0.050						0.5719	7.54	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-40D-Q220
Lab Order:	N041022	**Collection Date:**	6/17/2020 9:48:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200618E**	QC Batch: **79755**				PrepDate:	**6/18/2020**	Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/19/2020 02:59 AM
Manganese	13	0.26	0.50		µg/L	1	6/19/2020 02:59 AM
Molybdenum	41	0.21	0.50		µg/L	1	6/19/2020 02:59 AM
Selenium	0.78	0.36	0.50		µg/L	1	6/19/2020 02:59 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-40S-Q220
Lab Order:	N041022	**Collection Date:**	6/17/2020 10:10:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200618E**	QC Batch: **79755**			PrepDate:		**6/18/2020**	Analyst: **CEI**
Arsenic	3.2	0.081	0.10		µg/L	1	6/19/2020 03:04 AM
Manganese	5.8	0.26	0.50		µg/L	1	6/19/2020 03:04 AM
Molybdenum	30	0.21	0.50		µg/L	1	6/19/2020 03:04 AM
Selenium	6.1	0.36	0.50		µg/L	1	6/19/2020 03:04 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-150-Q220
Lab Order:	N041022	**Collection Date:**	6/17/2020 12:38:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200618E**	QC Batch: **79755**				PrepDate:	**6/18/2020**	Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/19/2020 03:08 AM
Manganese	8.3	0.26	0.50		µg/L	1	6/19/2020 03:08 AM
Molybdenum	48	0.21	0.50		µg/L	1	6/19/2020 03:08 AM
Selenium	0.83	0.36	0.50		µg/L	1	6/22/2020 02:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N041022
Project: PG&E Topock - GMP, RC000753.801D
Lab ID: N041022-004

Client Sample ID: MW-33-210-Q220
Collection Date: 6/17/2020 1:30:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200618E**	QC Batch: **79755**				PrepDate:	**6/18/2020**	Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/19/2020 03:13 AM
Manganese	7.2	0.26	0.50		µg/L	1	6/19/2020 03:13 AM
Molybdenum	22	0.21	0.50		µg/L	1	6/19/2020 03:13 AM
Selenium	ND	0.36	0.50		µg/L	1	6/19/2020 03:13 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-040-Q220
Lab Order:	N041022	**Collection Date:**	6/17/2020 3:01:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200618E**	QC Batch: **79755**			PrepDate:		**6/18/2020**	Analyst: **CEI**
Arsenic	5.5	0.081	0.10		µg/L	1	6/19/2020 03:18 AM
Manganese	54	0.26	0.50		µg/L	1	6/19/2020 03:18 AM
Molybdenum	120	0.21	0.50		µg/L	1	6/19/2020 03:18 AM
Selenium	ND	0.36	0.50		µg/L	1	6/19/2020 03:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-090-Q220
Lab Order:	N041022	**Collection Date:**	6/17/2020 2:19:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041022-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200618E**	QC Batch: **79755**				PrepDate:	**6/18/2020**	Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/19/2020 03:31 AM
Manganese	11	0.26	0.50		µg/L	1	6/19/2020 03:31 AM
Molybdenum	8.2	0.21	0.50		µg/L	1	6/19/2020 03:31 AM
Selenium	ND	0.36	0.50		µg/L	1	6/19/2020 03:31 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041022
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-79755** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/18/2020** RunNo: **145189**
Client ID: **PBW** Batch ID: **79755** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2020** SeqNo: **3822559**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-79755** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/18/2020** RunNo: **145189**
Client ID: **LCSW** Batch ID: **79755** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2020** SeqNo: **3822560**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.391	0.10	10.00	0	104	85	115				
Manganese	103.392	0.50	100.0	0	103	85	115				
Molybdenum	10.270	0.50	10.00	0	103	85	115				
Selenium	10.149	0.50	10.00	0	101	85	115				

Sample ID **N041005-001C-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/18/2020** RunNo: **145189**
Client ID: **ZZZZZZ** Batch ID: **79755** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2020** SeqNo: **3822564**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	13.918	0.10	10.00	3.179	107	75	125				
Molybdenum	48.393	0.50	10.00	38.30	101	75	125				
Selenium	10.670	0.50	10.00	0.4266	102	75	125				

Sample ID **N041005-001C-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/18/2020** RunNo: **145189**
Client ID: **ZZZZZZ** Batch ID: **79755** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2020** SeqNo: **3822565**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	14.242	0.10	10.00	3.179	111	75	125	13.92	2.30	20	
Molybdenum	48.702	0.50	10.00	38.30	104	75	125	48.39	0.635	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041022
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	N041005-001C-MSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/18/2020	RunNo:	145189
Client ID:	ZZZZZZ	Batch ID:	79755	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/19/2020	SeqNo:	3822565

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	11.033	0.50	10.00	0.4266	106	75	125	10.67	3.35	20	

Sample ID	N041005-001C-MS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/18/2020	RunNo:	145290
Client ID:	ZZZZZZ	Batch ID:	79755	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/22/2020	SeqNo:	3827774

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	1667.281	12	100.0	1564	104	75	125				

Sample ID	N041005-001C-MSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/18/2020	RunNo:	145290
Client ID:	ZZZZZZ	Batch ID:	79755	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/22/2020	SeqNo:	3827775

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	1663.884	12	100.0	1564	100	75	125	1667	0.204	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others Ü; Specify: RWQCB; Global ID:
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB Ü; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Sample Receipt Condition (Y / N): 1. Chilled ✓; 2. Headspace; 3. Container Intact ✓; 4. Seal Present ✓; 5. IR number Z; 6. Method of Cooling: ICE
Phone: 916-786-3302 Fax: Riggie Tep	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com	P.O.# SWA-ASSET-C9817-057
Submitted By: ~~Spencer Boolittle~~		Phone: 949-727-1400, ext 200	Fax:
Title: Field Tech	Phone: 916-786-3302 Fax:		
Signature: RG Date: 6/17/20	Sampled By: Riggie Tep		Sample Temp: ~~3.3/3.1~~ 2.6
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.		Courier:
Project Name: PG&E Topock - GMP	Signature: RG Date: 6/17/20		Tracking No.:
Project Number: RC000753.801D			

Matrix: Ground x; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Oxygen and Deuterium Isotopes (CFIRM), Ice (250 mL poly)	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (2x250 mL poly)	Alkalinity, Total as CaCO3 (SM2320B) (1 liter poly)	Bromide, Sulfate, Chloride (EPA 300.0) (1 liter poly)	Fluoride (EPA 300.0) (1 liter poly)	Specific Conductance (EPA 120.1) (1 liter poly)	Total Dissolved Solids (SM92540) (1 liter poly)	Nitrate/Nitrite (SM4500N03) Nitrate; H2SO4 (125 mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL poly)	Dissolved metals (SW 6020), HNO3 As, Cr, Mn (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 As, Cr, Mn, Mo, Se (500 mL poly)	Dissolved metals (SW 6020), HNO3 Ag, As, Ba, Be, Cd, Co, Cr, Mg, Mn, Mo, Pb, Sb, Se, Tl, V, Zn (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 B, Ca, Cu, Fe, Na, Ni, (500 mL poly)	Metals Dissolved (EPA7470A FF) Hg: HNO3 (500 mL poly)	Dissolved Metals (SW 6010B); HNO3 Potassium (500 mL poly)	Total metals, Chromium (non-chromium) (EPA 200.8), HNO3 (500 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N041022-01	MW-40D-Q220	6/17/2020	9:48		X						X		X			X						E	4	P	BNS	
2	-02	MW-40S-Q220	6/17/2020	10:10		X						X		X			X						E	4	P	BNS	
3	-03	MW-33-150-Q220	6/17/2020	12:38		X						X		X			X						E	4	P	BNS	
4	-04	MW-33-210-Q220	6/17/2020	13:30		X						X		X			X						E	4	P	BNS	
5	-05	MW-33-040-EB-Q220	6/17/2020	14:35		X																	E	4	P	BNS	
6	-06	MW-33-040-Q220	6/17/2020	15:01				X				X		X			X						E	5	P	BNS	
7	-07	MW-33-090-Q220	6/17/2020	14:19		X						X		X			X						E	4	P	BNS	
8	-08	EB-705-Q220	6/17/2020	15:10		X																	E	1	P	BNS	
9																											
10																											
11																											
12																											

Reliquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
RG Riggie Tep	6/17/20 1610	J Jiménez	6/17/20 1610
J Jiménez	6/17/20 1845	Joanna Rodriguez	6/17/20 1845

Turn Around Time (TAT)
- A < 24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.Terms
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.5. Trip Blanks and Equipment Blanks are billable sample.
9. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed

Preservatives:

H=HCL	N=$HNO_{3N=HNO3}$	S=$H_2SO_{4S=H2}$ SO_4	C=4°CC=4°
Z=$Zn(AC)_{2Z=Zn(AC)2}$	O=NaOH	T=$Na_2S_2O_{3T=Na2}$ S_2	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 6/17/2020 Workorder: N041022

Rep sample Temp (Deg C): 2.6 IR Gun ID: 2

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 6/22/2020

Reviewed By: MBC MBC 6/24/2020

Subject: RE: Topock - Sample ID Update
From: Tina Rice <Tina.Rice@critigen.com>
Date: 6/18/2020, 5:40 PM
To: Yoandra Rodriguez <yoandra@assetlaboratories.com>
CC: "Madsen, Laura" <Laura.Madsen@arcadis.com>, Nancy Sibucao <nancy@assetlaboratories.com>, "maryann.balilu@assetlaboratoriesph.com" <maryann.balilu@assetlaboratoriesph.com>

Hi Yoandra,

Working on another login and these need to be updated as well : (This should be all of them!

WorkOrder	ClientSampID	CorrectedClientSampID	DateCollected
N040987	EB-701-Q620	EB-701-0620	6/15/2020 2:25:00 PM
N040987	EB-702-Q620	EB-702-0620	6/15/2020 2:50:00 PM
N041003	EB-704-Q220	EB-704-0620	6/16/2020 2:40:00 PM
N041005	EB-703-Q220	EB-703-0620	6/16/2020 2:50:00 PM
N041020	EB-706-Q220	EB-706-0620	6/17/2020 1:30:00 PM
N041022	EB-705-Q220	EB-705-0620	6/17/2020 3:10:00 PM

Thanks again,

Tina

From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Thursday, June 18, 2020 5:23 PM
To: Tina Rice <Tina.Rice@critigen.com>
Cc: Madsen, Laura <Laura.Madsen@arcadis.com>; Nancy Sibucao <nancy@assetlaboratories.com>; maryann.balilu@assetlaboratoriesph.com
Subject: Re: Topock - Sample ID Update

Hi Tina,

Noted. No problem.

I revised the ID, but you will receive the revised Summaries tomorrow.

Thanks!

On 6/18/2020 5:01 PM, Tina Rice wrote:

Hi Yoandra,

I apologize but could you rename this same (again) as follows per the highlighted column? The sample needs to be renamed to avoid duplication:

ClientSampID	CorrectedClientSampID	WorkOrder
MW-901-Q220	MW-901-0620	N041003
MW-901-Q220	MW-901-0620	N041004

Thank you,

Tina

Tina Rice

Database Analyst

CRITIGEN

Tina.Rice@critigen.com

1 360 600 3562 Direct

1 360 600 3562 Mobile

critigen.com

ASSET Laboratories

WORK ORDER Summary

18-Jun-20

WorkOrder: N041022

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/17/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041022-001A	MW-40D-Q220	6/17/2020 9:48:00 AM	6/29/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041022-001B			6/29/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041022-001C			6/29/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041022-001D			6/29/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/29/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041022-002A	MW-40S-Q220	6/17/2020 10:10:00 AM	6/29/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041022-002B			6/29/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041022-002C			6/29/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041022-002D			6/29/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/29/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041022-003A	MW-33-150-Q220	6/17/2020 12:38:00 PM	6/29/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041022-003B			6/29/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041022-003C			6/29/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041022-003D			6/29/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/29/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041022-004A	MW-33-210-Q220	6/17/2020 1:30:00 PM	6/29/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041022-004B			6/29/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041022-004C			6/29/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

18-Jun-20

WorkOrder: N041022

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/17/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041022-004D	MW-33-210-Q220	6/17/2020 1:30:00 PM	6/29/2020	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/29/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041022-005A	MW-33-040-EB-Q220	6/17/2020 2:35:00 PM	6/29/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041022-006A	MW-33-040-Q220	6/17/2020 3:01:00 PM	6/29/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041022-006B			6/29/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041022-006C			6/29/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041022-006D			6/29/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/29/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041022-007A	MW-33-090-Q220	6/17/2020 2:19:00 PM	6/29/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041022-007B			6/29/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
N041022-007C			6/29/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041022-007D			6/29/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/29/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041022-008A	EB-705-0620	6/17/2020 3:10:00 PM	6/29/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041022-009A	FOLDER	7/1/2020	6/29/2020		EDD	RWQCB	☐	☐	☐	LAB
			6/29/2020		Folder	Level IV Report	☐	☐	☐	LAB
			6/29/2020		Folder	Folder	☐	☐	☐	LAB
			7/1/2020		Folder	Folder	☐	☐	☐	LAB

July 01, 2020

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N041043

RE: PG&E Topock - GMP, RC000753.801D

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 18, 2020 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Litucao for

Puri Romualdo
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for sample N041043-013 due to matrix interference. Sample was analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Sample was reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N041043-014CMS and N041043-014CMSD possibly due to matrix interference. Post Spike (PS) passed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *01-Jul-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041043
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N041043-001A	MW-27-085-EB-Q220	Groundwater	6/18/2020 9:22:00 AM	6/18/2020	7/1/2020
N041043-002A	MW-27-085-Q220	Groundwater	6/18/2020 9:48:00 AM	6/18/2020	7/1/2020
N041043-002B	MW-27-085-Q220	Groundwater	6/18/2020 9:48:00 AM	6/18/2020	7/1/2020
N041043-002C	MW-27-085-Q220	Groundwater	6/18/2020 9:48:00 AM	6/18/2020	7/1/2020
N041043-002D	MW-27-085-Q220	Groundwater	6/18/2020 9:48:00 AM	6/18/2020	7/1/2020
N041043-003A	MW-34-100-Q220	Groundwater	6/18/2020 10:41:00 AM	6/18/2020	7/1/2020
N041043-003B	MW-34-100-Q220	Groundwater	6/18/2020 10:41:00 AM	6/18/2020	7/1/2020
N041043-003C	MW-34-100-Q220	Groundwater	6/18/2020 10:41:00 AM	6/18/2020	7/1/2020
N041043-003D	MW-34-100-Q220	Groundwater	6/18/2020 10:41:00 AM	6/18/2020	7/1/2020
N041043-004A	MW-34-080-EB-Q220	Groundwater	6/18/2020 10:59:00 AM	6/18/2020	7/1/2020
N041043-005A	MW-34-080-Q220	Groundwater	6/18/2020 11:24:00 AM	6/18/2020	7/1/2020
N041043-005B	MW-34-080-Q220	Groundwater	6/18/2020 11:24:00 AM	6/18/2020	7/1/2020
N041043-005C	MW-34-080-Q220	Groundwater	6/18/2020 11:24:00 AM	6/18/2020	7/1/2020
N041043-005D	MW-34-080-Q220	Groundwater	6/18/2020 11:24:00 AM	6/18/2020	7/1/2020
N041043-006A	MW-42-065-EB-Q220	Groundwater	6/18/2020 12:04:00 PM	6/18/2020	7/1/2020
N041043-007A	MW-42-065-Q220	Groundwater	6/18/2020 12:30:00 PM	6/18/2020	7/1/2020
N041043-007B	MW-42-065-Q220	Groundwater	6/18/2020 12:30:00 PM	6/18/2020	7/1/2020
N041043-007C	MW-42-065-Q220	Groundwater	6/18/2020 12:30:00 PM	6/18/2020	7/1/2020
N041043-008A	MW-42-055-EB-Q220	Groundwater	6/18/2020 12:41:00 PM	6/18/2020	7/1/2020
N041043-009A	MW-42-055-Q220	Groundwater	6/18/2020 1:07:00 PM	6/18/2020	7/1/2020
N041043-009B	MW-42-055-Q220	Groundwater	6/18/2020 1:07:00 PM	6/18/2020	7/1/2020
N041043-009C	MW-42-055-Q220	Groundwater	6/18/2020 1:07:00 PM	6/18/2020	7/1/2020
N041043-010A	MW-32-035-EB-Q220	Groundwater	6/18/2020 1:31:00 PM	6/18/2020	7/1/2020
N041043-011A	MW-32-035-Q220	Groundwater	6/18/2020 1:57:00 PM	6/18/2020	7/1/2020
N041043-011B	MW-32-035-Q220	Groundwater	6/18/2020 1:57:00 PM	6/18/2020	7/1/2020
N041043-011C	MW-32-035-Q220	Groundwater	6/18/2020 1:57:00 PM	6/18/2020	7/1/2020
N041043-012A	EB-707-Q220	Groundwater	6/18/2020 3:20:00 PM	6/18/2020	7/1/2020
N041043-013A	MW-23-080-Q220	Groundwater	6/18/2020 2:27:00 PM	6/18/2020	7/1/2020
N041043-013B	MW-23-080-Q220	Groundwater	6/18/2020 2:27:00 PM	6/18/2020	7/1/2020

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041043
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N041043-013C	MW-23-080-Q220	Groundwater	6/18/2020 2:27:00 PM	6/18/2020	7/1/2020
N041043-014A	MW-23-060-Q220	Groundwater	6/18/2020 3:36:00 PM	6/18/2020	7/1/2020
N041043-014B	MW-23-060-Q220	Groundwater	6/18/2020 3:36:00 PM	6/18/2020	7/1/2020
N041043-014C	MW-23-060-Q220	Groundwater	6/18/2020 3:36:00 PM	6/18/2020	7/1/2020
N041043-015A	MW-39-100-Q220	Groundwater	6/18/2020 2:46:00 PM	6/18/2020	7/1/2020
N041043-015B	MW-39-100-Q220	Groundwater	6/18/2020 2:46:00 PM	6/18/2020	7/1/2020
N041043-015C	MW-39-100-Q220	Groundwater	6/18/2020 2:46:00 PM	6/18/2020	7/1/2020
N041043-015D	MW-39-100-Q220	Groundwater	6/18/2020 2:46:00 PM	6/18/2020	7/1/2020
N041043-016A	EB-708-0620	Groundwater	6/18/2020 3:55:00 PM	6/18/2020	7/1/2020

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-085-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 9:48:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200619B**	QC Batch: **R145188**			PrepDate:			Analyst: **LR**
Specific Conductance	11000	0.10	0.10		umhos/cm	1	6/19/2020 10:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-100-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 10:41:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200619B**	QC Batch: **R145188**			PrepDate:			Analyst: **LR**
Specific Conductance	11000	0.10	0.10		umhos/cm	1	6/19/2020 10:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 11:24:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200619B**	QC Batch: **R145188**			PrepDate:			Analyst: **LR**
Specific Conductance	8400	0.10	0.10		umhos/cm	1	6/19/2020 10:50 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-065-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 12:30:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200619B**	QC Batch: **R145188**			PrepDate:			Analyst: **LR**
Specific Conductance	2600	0.10	0.10		umhos/cm	1	6/19/2020 10:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-055-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 1:07:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200619B**	QC Batch: **R145188**			PrepDate:			Analyst: **LR**
Specific Conductance	1000	0.10	0.10		umhos/cm	1	6/19/2020 10:50 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-035-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 1:57:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200619B**	QC Batch: **R145188**			PrepDate:			Analyst: **LR**
Specific Conductance	7800	0.10	0.10		umhos/cm	1	6/19/2020 10:50 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-23-080-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 2:27:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200619B**	QC Batch: **R145188**			PrepDate:			Analyst: **LR**
Specific Conductance	16000	0.10	0.10		umhos/cm	1	6/19/2020 10:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-23-060-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 3:36:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200619B**	QC Batch: **R145188**			PrepDate:			Analyst: **LR**
Specific Conductance	15000	0.10	0.10		umhos/cm	1	6/19/2020 10:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-100-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 2:46:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200619B**	QC Batch: **R145188**			PrepDate:			Analyst: **LR**
Specific Conductance	13000	0.10	0.10		umhos/cm	1	6/19/2020 10:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N041043-011BDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **145188**
Client ID: **ZZZZZZ** Batch ID: **R145188** TestNo: **EPA 120.1** Analysis Date: **6/19/2020** SeqNo: **3822410**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	7830.000	0.10						7820	0.128	2	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-085-EB-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 9:22:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 06:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-085-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 9:48:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 11:12 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200620C** QC Batch: **79769** PrepDate: **6/19/2020** Analyst: **CEI**							
Chromium	ND	0.13	1.0		µg/L	1	6/20/2020 08:30 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-100-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 10:41:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 04:23 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200620C** QC Batch: **79769** PrepDate: **6/19/2020** Analyst: **CEI**							
Chromium	ND	0.13	1.0		µg/L	1	6/20/2020 08:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-EB-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 10:59:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 06:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 11:24:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 04:33 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200620C** QC Batch: **79769** PrepDate: **6/19/2020** Analyst: **CEI**							
Chromium	ND	0.13	1.0		µg/L	1	6/20/2020 09:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-065-EB-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 12:04:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 07:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-065-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 12:30:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 04:42 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200620C** QC Batch: **79769** PrepDate: **6/19/2020** Analyst: **CEI**							
Chromium	ND	0.13	1.0		µg/L	1	6/20/2020 09:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-055-EB-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 12:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 07:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-055-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 1:07:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 04:51 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200620C** QC Batch: **79769** PrepDate: **6/19/2020** Analyst: **CEI**							
Chromium	ND	0.13	1.0		µg/L	1	6/20/2020 09:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-035-EB-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 1:31:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 08:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-035-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 1:57:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 05:01 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200620C** QC Batch: **79769** PrepDate: **6/19/2020** Analyst: **CEI**							
Chromium	ND	0.13	1.0		µg/L	1	6/20/2020 09:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-707-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 3:20:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 08:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-23-080-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 2:27:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.17	1.0		µg/L	5	6/19/2020 05:58 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200620C** QC Batch: **79769** PrepDate: **6/19/2020** Analyst: **CEI**							
Chromium	ND	0.13	1.0		µg/L	1	6/20/2020 09:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N041043
Project: PG&E Topock - GMP, RC000753.801D
Lab ID: N041043-014

Client Sample ID: MW-23-060-Q220
Collection Date: 6/18/2020 3:36:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	40	0.17	1.0		µg/L	5	6/19/2020 11:22 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200620C** QC Batch: **79769** PrepDate: **6/19/2020** Analyst: **CEI**							
Chromium	37	0.13	1.0		µg/L	1	6/20/2020 09:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-100-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 2:46:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	93	0.33	2.0		µg/L	10	6/19/2020 11:50 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200620C** QC Batch: **79769** PrepDate: **6/19/2020** Analyst: **CEI**							
Chromium	91	0.13	1.0		µg/L	1	6/20/2020 10:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-708-0620
Lab Order:	N041043	**Collection Date:**	6/18/2020 3:55:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 08:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R145240** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **PBW** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826125**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **LCS-R145240** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **LCSW** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826126**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.828	0.20	5.000	0	96.6	90	110				

Sample ID **N041040-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826137**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.258	0.20	1.000	2.210	105	90	110				

Sample ID **N041040-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826138**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.258	0.20	1.000	0.3191	93.9	90	110				

Sample ID **N041042-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826139**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.018	0.20	1.000	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041042-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826140**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.873	0.20	1.000	0.9182	95.4	90	110				

Sample ID **N041039-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826141**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.988	0.20	1.000	0	98.8	90	110				

Sample ID **N041043-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826142**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.021	0.20	1.000	0	102	90	110				

Sample ID **N041043-002AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826143**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.012	0.20	1.000	0	101	90	110	1.021	0.915	20	

Sample ID **N041040-001ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826144**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.255	0.20						2.210	2.02	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041043-014AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826147**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	66.019	1.0	25.00	40.02	104	90	110				

Sample ID **N041043-014AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826148**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	66.009	1.0	25.00	40.02	104	90	110	66.02	0.0151	20	

Sample ID **N041043-015AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826149**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	143.966	2.0	50.00	92.91	102	90	110				

Sample ID **N041043-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826150**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.009	0.20	1.000	0	101	90	110				

Sample ID **N041043-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826151**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.047	0.20	1.000	0	105	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041043-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826152**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.055	0.20	1.000	0	105	90	110				

Sample ID **N041043-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826153**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.030	0.20	1.000	0	103	90	110				

Sample ID **N041043-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826154**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.061	0.20	1.000	0	106	90	110				

Sample ID **N041040-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826158**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.789	1.0	5.000	0	95.8	90	110				

Sample ID **N041043-013AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826170**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.265	1.0	5.000	0	105	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041043-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826172**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.000	0.20	1.000	0	100	90	110				

Sample ID **N041043-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826174**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.964	0.20	1.000	0	96.4	90	110				

Sample ID **N041043-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826178**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.995	0.20	1.000	0	99.5	90	110				

Sample ID **N041043-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826180**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.030	0.20	1.000	0	103	90	110				

Sample ID **N041043-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826182**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.004	0.20	1.000	0	100	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041043-012AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826184**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.026	0.20	1.000	0	103	90	110				

Sample ID **N041043-016AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826186**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.015	0.20	1.000	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **MB-79769** SampType: **MBLK** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145229**
Client ID: **PBW** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825332**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **LCS-79769** SampType: **LCS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145229**
Client ID: **LCSW** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825333**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.047	1.0	10.00	0	100	85	115				

Sample ID **N041043-002DMS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145229**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825338**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.313	1.0	10.00	0	93.1	75	125				

Sample ID **N041043-002DMSD** SampType: **MSD** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145229**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825339**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.401	1.0	10.00	0	94.0	75	125	9.313	0.947	20	

Sample ID **N041043-014CMS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145229**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825351**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	47.596	1.0	10.00	37.19	104	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	**N041043-014CMSD**	SampType:	**MSD**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**		Prep Date:	**6/19/2020**		RunNo:	**145229**		
Client ID:	**ZZZZZZ**	Batch ID:	**79769**	TestNo:	**EPA 6020**		**EPA 3010A**		Analysis Date:	**6/20/2020**		SeqNo:	**3825352**		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual			
Chromium		46.942	1.0	10.00	37.19	97.5	75	125	47.60	1.39	20				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-085-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 9:48:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200624B** QC Batch: **R145297** PrepDate: Analyst: **JBB**							
Nitrate/Nitrite as N	ND	0.032	0.050		mg/L	1	6/24/2020 03:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-100-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 10:41:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200624B** QC Batch: **R145297** PrepDate: Analyst: **JBB**							
Nitrate/Nitrite as N	0.18	0.032	0.050		mg/L	1	6/24/2020 03:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 11:24:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200624B** QC Batch: **R145297** PrepDate: Analyst: **JBB**							
Nitrate/Nitrite as N	ND	0.032	0.050		mg/L	1	6/24/2020 02:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-100-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 2:46:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200624B** QC Batch: **R145297** PrepDate: Analyst: **JBB**							
Nitrate/Nitrite as N	0.083	0.032	0.050		mg/L	1	6/24/2020 03:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID **MB-R145297** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145297**
Client ID: **PBW** Batch ID: **R145297** TestNo: **SM4500-NO3** Analysis Date: **6/24/2020** SeqNo: **3828131**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **LCS-R145297** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145297**
Client ID: **LCSW** Batch ID: **R145297** TestNo: **SM4500-NO3** Analysis Date: **6/24/2020** SeqNo: **3828132**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.488	0.050	0.5000	0	97.5	85	115				

Sample ID **N041043-002CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145297**
Client ID: **ZZZZZZ** Batch ID: **R145297** TestNo: **SM4500-NO3** Analysis Date: **6/24/2020** SeqNo: **3828134**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.515	0.050	0.5000	0.06040	90.9	75	125				

Sample ID **N041043-002CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145297**
Client ID: **ZZZZZZ** Batch ID: **R145297** TestNo: **SM4500-NO3** Analysis Date: **6/24/2020** SeqNo: **3828135**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.549	0.050	0.5000	0.06040	97.7	75	125	0.5151	6.32	20	

Sample ID **N041022-001CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145297**
Client ID: **ZZZZZZ** Batch ID: **R145297** TestNo: **SM4500-NO3** Analysis Date: **6/24/2020** SeqNo: **3828137**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.617	0.050						0.5719	7.54	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-085-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 9:48:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200622B**	QC Batch: **79769**			PrepDate:	**6/19/2020**		Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/22/2020 03:09 PM
Manganese	110	1.3	2.5		µg/L	5	6/22/2020 03:23 PM
Molybdenum	16	0.21	0.50		µg/L	1	6/20/2020 08:30 PM
Selenium	ND	0.36	0.50		µg/L	1	6/20/2020 08:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-100-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 10:41:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200622B**	QC Batch: **79769**			PrepDate:	**6/19/2020**		Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/22/2020 03:42 PM
Manganese	110	0.26	0.50		µg/L	1	6/20/2020 08:53 PM
Molybdenum	64	0.21	0.50		µg/L	1	6/20/2020 08:53 PM
Selenium	ND	0.36	0.50		µg/L	1	6/20/2020 08:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 11:24:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200622B**	QC Batch: **79769**			PrepDate:	**6/19/2020**		Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/22/2020 03:46 PM
Manganese	66	0.26	0.50		µg/L	1	6/20/2020 09:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-065-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 12:30:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200622B**	QC Batch: **79769**			PrepDate:		**6/19/2020**	Analyst: **CEI**
Arsenic	5.9	0.081	0.10		µg/L	1	6/22/2020 03:51 PM
Manganese	650	1.3	2.5		µg/L	5	6/22/2020 05:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-055-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 1:07:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200622B**	QC Batch: **79769**			PrepDate:		**6/19/2020**	Analyst: **CEI**
Arsenic	12	0.081	0.10		µg/L	1	6/22/2020 03:56 PM
Manganese	150	0.26	0.50		µg/L	1	6/20/2020 09:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-035-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 1:57:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200622B**	QC Batch: **79769**			PrepDate:		**6/19/2020**	Analyst: **CEI**
Arsenic	26	0.081	0.10		µg/L	1	6/22/2020 04:00 PM
Manganese	610	1.3	2.5		µg/L	5	6/22/2020 05:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-23-080-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 2:27:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200622B**	QC Batch: **79769**				PrepDate:	**6/19/2020**	Analyst: **CEI**
Arsenic	4.9	0.081	0.10		µg/L	1	6/22/2020 04:05 PM
Manganese	1.2	0.26	0.50		µg/L	1	6/20/2020 09:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-23-060-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 3:36:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200622B**	QC Batch: **79769**			PrepDate:		**6/19/2020**	Analyst: **CEI**
Arsenic	0.86	0.081	0.10		µg/L	1	6/22/2020 05:23 PM
Manganese	1.0	0.26	0.50		µg/L	1	6/20/2020 09:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-100-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 2:46:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200622B**	QC Batch: **79769**			PrepDate:	**6/19/2020**		Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/22/2020 05:33 PM
Manganese	4.2	0.26	0.50		µg/L	1	6/20/2020 10:02 PM
Molybdenum	7.5	0.21	0.50		µg/L	1	6/20/2020 10:02 PM
Selenium	ND	0.36	0.50		µg/L	1	6/20/2020 10:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-79769** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145229**
Client ID: **PBW** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825494**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-79769** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145229**
Client ID: **LCSW** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825495**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	102.590	0.50	100.0	0	103	85	115				
Molybdenum	10.006	0.50	10.00	0	100	85	115				
Selenium	10.857	0.50	10.00	0	109	85	115				

Sample ID **N041043-002DMS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145229**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825500**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	27.998	0.50	10.00	16.41	116	75	125				
Selenium	9.721	0.50	10.00	0	97.2	75	125				

Sample ID **N041043-002DMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145229**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825501**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	27.617	0.50	10.00	16.41	112	75	125	28.00	1.37	20	
Selenium	10.198	0.50	10.00	0	102	75	125	9.721	4.79	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N041043-014CMS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145229**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825513**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	93.953	0.50	100.0	1.030	92.9	75	125				
Molybdenum	33.743	0.50	10.00	21.37	124	75	125				
Selenium	15.132	0.50	10.00	5.428	97.0	75	125				

Sample ID **N041043-014CMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145229**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825514**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	93.499	0.50	100.0	1.030	92.5	75	125	93.95	0.485	20	
Molybdenum	33.895	0.50	10.00	21.37	125	75	125	33.74	0.448	20	S
Selenium	15.271	0.50	10.00	5.428	98.4	75	125	15.13	0.911	20	

Sample ID **MB-79769** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145290**
Client ID: **PBW** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/22/2020** SeqNo: **3827787**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									

Sample ID **LCS-79769** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145290**
Client ID: **LCSW** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/22/2020** SeqNo: **3827788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.223	0.10	10.00	0	102	85	115				

Sample ID **N041043-002DMS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145290**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/22/2020** SeqNo: **3827794**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.631	0.10	10.00	0	96.3	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N041043-002DMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145290**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/22/2020** SeqNo: **3827795**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.656	0.10	10.00	0	96.6	75	125	9.631	0.250	20	

Sample ID **N041043-014CMS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145290**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/22/2020** SeqNo: **3827807**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	14.983	0.10	10.00	0.8610	141	75	125				S

Sample ID **N041043-014CMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145290**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/22/2020** SeqNo: **3827808**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	15.301	0.10	10.00	0.8610	144	75	125	14.98	2.10	20	S

Sample ID **N041043-002DMS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145290**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/22/2020** SeqNo: **3827812**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	202.392	2.5	100.0	107.0	95.4	75	125				

Sample ID **N041043-002DMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145290**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/22/2020** SeqNo: **3827813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	202.819	2.5	100.0	107.0	95.8	75	125	202.4	0.211	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N041043-002D-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **145229**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825499**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	28.017	0.50	10.00	16.41	116	80	120				
Selenium	10.283	0.50	10.00	0	103	80	120				

Sample ID **N041043-014C-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **145229**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825512**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	92.482	0.50	100.0	1.030	91.5	80	120				
Molybdenum	32.712	0.50	10.00	21.37	113	80	120				
Selenium	15.339	0.50	10.00	5.428	99.1	80	120				

Sample ID **N041043-002D-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **145290**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/22/2020** SeqNo: **3827793**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.675	0.10	10.00	0	96.7	80	120				

Sample ID **N041043-014C-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **145290**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/22/2020** SeqNo: **3827806**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.368	0.10	10.00	0.8610	105	80	120				

Sample ID **N041043-002D-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **145290**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/22/2020** SeqNo: **3827811**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	200.778	2.5	100.0	107.0	93.8	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com, daniel.moore@critigen.com	Address:	Geotracker
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com	P.O.# SWA-ASSET-C9817-057
Submitted By: Spencer Doolittle		Phone: 949-727-1400, ext 200	Fax:
Title: Riggie Tap Field Tech	Phone: 916-786-3302 Fax:		
Signature: RT Date: 6/18/20	Sampled By: Riggie Tap		
Project Name: PG&E Topock - GMP	Signature: RT Date: 6/18/20		
Project Number: RC000753.801D			

I hereby authorize ASSET Labs to perform the tests indicated below.

I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Matrix			
Ground	x	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

EDD Requirement		QA/QC	
Excel EDD		RTNE	
Geotracker		RWQCB	✓
Labspec		CalTrans	
Others	✓	LEVEL III	
Specify: RWQCB		LEVEL IV	
Global ID:		Regulatory	
		Specify State:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	–	
4. Seal Present		✓
5. IR number	2	
6. Method of Cooling: ICE		
Sample Temp: 2.6°		

Courier:

Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	Oxygen and Deuterium Isotopes (CFIRM), Ice	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	Alkalinity, Total as CaCO3 (SM2320B)	Bromide, Sulfate, Chloride (EPA 300.0)	Fluoride (EPA 300.0)	Specific Conductance (EPA 120.1)	Total Dissolved Solids (SM92540)	Nitrate/Nitrite (SM4500N03) Nitrate; H2SO4	Total Organic Carbon (SM5310C); H2SO4	Dissolved metals (SW 6020), HNO3 As, Cr, Mn	Dissolved Metals (SW 6010B); HNO3 As, Cr, Mn, Mo, Se	Dissolved metals (SW 6020), HNO3 Ag, As, Ba, Be, Cd, Co, Cr, Mg, Mn, Mo, Pb, Sb, Se, Tl, V, Zn	Dissolved Metals (SW 6010B); HNO3 B, Ca, Cu, Fe, Na, Ni,	Metals Dissolved (EPA7470A FF) Hg; HNO3	Dissolved Metals (SW 6010B); HNO3 Potassium	Total metals, Chromium (non-filter) (EPA 200.8), HNO3	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
						250 mL poly	250 mL poly	2x250 mL poly	1 liter poly	1 liter poly	1 liter poly	1 liter poly	1 liter poly	125 mL poly	3x40 mL poly	500 mL poly	500 mL poly	500 mL poly	500 mL poly	500 mL poly	500 mL poly	500 mL poly					
1	N041043-01	MW-27-085-EB-Q220	6/18/2020	9:22		X																	E	1	P	BNS	
2	-02	MW-27-085-Q220	6/18/2020	9:48				X				X		X			X						E	~~4~~ 3	P	BNS	MS/MSD
3	-03	MW-34-100-Q220	6/18/2020	10:41		X						X		X			X						E	4	P	BNS	
4	-04	MW-34-080-EB-Q220	6/18/2020	10:59		X																	E	1	P	BNS	
5	-05	MW-34-080-Q220	6/18/2020	11:24				X				X		X		X							E	~~4~~ 3	P	BNS	
6	-06	MW-42-065-EB-Q220	6/18/2020	12:04		X																	E	1	P	BNS	
7	-07	MW-42-065-Q220	6/18/2020	12:30				X				X				X							E	~~4~~ 3	P	BNS	
8	-08	MW-42-055-EB-Q220	6/18/2020	12:41		X																	E	1	P	BNS	
9	-09	MW-42-055-Q220	6/18/2020	13:07				X				X				X							E	~~4~~ 3	P	BNS	
10	-10	MW-32-035-EB-Q220	6/18/2020	13:31		X																	E	1	P	BNS	
11	-11	MW-32-035-Q220	6/18/2020	13:57				X				X				X							E	~~4~~ 3	P	BNS	
12	-12	EB-707-Q220	6/18/2020	15:20		X																	E	1	P	BNS	

Reliquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
RT Riggie Tap	6/18/20 1640	JLGO	6/18/20 1640
JLGO	6/18/20 1850	JLGO	6/18/20 1850

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs =200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary 5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.

Preservatives:				Container Type:		
H=HCL	N=$HNO_{3(1:1HNO3)}$	S=$H_2SO_{4(S:H2SO4)}$	C=4°CC=4°	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_{2(Z:Zn(AC)2)}$	O=NaOH	T=$Na_2S_2O_{3(T:Na2S2O3)}$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis
Address: 1410 Rocky Ridge Dr # 330
Address: Roseville, CA 95661
Phone: 916-786-3302 Fax:
Submitted By: Spencer Doolittle
Title: Field Technician
Signature: Date: 06-18-20
I hereby authorize ASSET Labs to perform the tests indicated below.
Project Name: PG&E Topock - GMP
Project Number: RC000753.801D

Report to: Dan Bush
Company: Arcadis
Email: dan.bush@arcadis.com
daniel.moore@critigen.com
Address: 1410 Rocky Ridge Dr # 330
Roseville, CA 95661
Phone: 916-786-3302 Fax:
Sampled By: Jeffrey D. Bagl
I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.
Signature: Date: 6-18-20

Bill to: Marty Bloes
Address:
Address:
Email to: mbloes@pivox.com
P.O.# SWA-ASSET-C9817-057
Phone: 949-727-1400, ext 200
Fax:

EDD Requirement	
Excel EDD	
Geotracker	
Labspec	
Others	✓
Specify:	RWQCB
Global ID:	

QA/QC	
RTNE	
RWQCB	✓
CalTrans	
LEVEL III	
LEVEL IV	
Regulatory	
Specify State:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		✓
5. IR number	2	
6. Method of Cooling:	ICE	
Sample Temp:	2.6°C	

Courier:
Tracking No.:

Matrix			
Ground	x	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Oxygen and Deuterium Isotopes (CFIRM), Ice 250 mL poly	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 2x250 mL poly	Alkalinity, Total as CaCO3 (SM2320B) 1 liter poly	Bromide, Sulfate, Chloride (EPA 300.0) 1 liter poly	Fluoride (EPA 300.0) 1 liter poly	Specific Conductance (EPA 120.1) 1 liter poly	Total Dissolved Solids (SM92540) 1 liter poly	Nitrate/Nitrite (SM4500N03) Nitrate; H2SO4 125 mL poly	Total Organic Carbon (SM5310C); H2SO4 3x40 mL poly	Dissolved metals (SW 6020), HNO3 As, Cr, Mn 500 mL poly	Dissolved Metals (SW 6010B); HNO3 As, Cr, Mn, Mo, Se 500 mL poly	Dissolved metals (SW 6020), HNO3 Ag, As, Ba, Be, Cd, Co, Cr, Mg, Mn, Mo, Pb, Sb, Se, Tl, V, Zn 500 mL poly	Dissolved Metals (SW 6010B); HNO3 B, Ca, Cu, Fe, Na, Ni, 500 mL poly	Metals Dissolved (EPA7470A FF) Hg; HNO3 500 mL poly	Dissolved Metals (SW 6010B); HNO3 Potassium 500 mL poly	Total metals, Chromium (non-filter) (EPA 200.8), HNO3 500 mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N041043-13	MW-23-080-Q220	6/18/2020	14:27		X						X				X						E	3	P	BNS	
2	-14	MW-23-060-Q220	6/18/2020	1536		X						X				X						E	3	P	BNS	MS/MSD
3	-15	MW-39-100-Q220	6/18/2020	14:46		X						X		X			X					E	4	P	BNS	
4	-16	EB-708-Q220	6/18/2020	1555		X																E	1	P	BNS	
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Reliquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
	6/18/2020		6/18/20 1840
Reliquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
	6/18/20 1850		6/18/20 1850
Reliquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis.
Less than 24 Hrs =200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.

Preservatives:

H=HCL	N=$HNO_{3N+HNO3}$	S=$H_2SO_{4S+HO}SO_4$	C=4°CC=4°
Z=$Zn(AC)_{2Z+Zn(AC)2}$	O=NaOH	T=$Na_2S_2O_{3T+Na2}S_2$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/18/2020	Workorder:	N041043
Rep sample Temp (Deg C):	2.6	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☐	No ☑	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☑	No ☐	NA ☐
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☐	No ☐	NA ☑
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☑	No ☐	NA ☐

Comments: See Correspondence.

Checklist Completed By: YR YRJ 6/23/2020

Reviewed By: MBC MBC 6/26/2020

Subject: RE: PG&E Topock - GMP, RC000753.801D (ASSET Labs No. N041043)
From: Tina Rice <Tina.Rice@critigen.com>
Date: 6/23/2020, 9:05 AM
To: "Madsen, Laura" <Laura.Madsen@arcadis.com>, Yoandra Rodriguez <yoandra@assetlaboratories.com>
CC: "maryann.balilu@assetlaboratoriesph.com" <maryann.balilu@assetlaboratoriesph.com>

Sorry for the delay - please use EB-708-0620.

-----Original Message-----
From: Madsen, Laura <Laura.Madsen@arcadis.com>
Sent: Monday, June 22, 2020 8:34 AM
To: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Cc: Tina Rice <Tina.Rice@critigen.com>; maryann.balilu@assetlaboratoriesph.com
Subject: RE: PG&E Topock - GMP, RC000753.801D (ASSET Labs No. N041043)

Hi Tina
Can you confirm what the EB ID should be for the sample below? I don't want poor Yoandra to have to fix it twice if I give her the wrong advice.

Thanks!
Laura

-----Original Message-----
From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Friday, June 19, 2020 6:42 PM
To: Madsen, Laura <Laura.Madsen@arcadis.com>
Cc: Tina Rice <Tina.Rice@critigen.com>; maryann.balilu@assetlaboratoriesph.com
Subject: PG&E Topock - GMP, RC000753.801D (ASSET Labs No. N041043)

Hi Laura,

Please kindly advise on the following discrepancy for the attached COC:

- Sample 16: ID is EB-708-Q220 on COC and EB-708-0620 on label.

Thanks,

--
This email has been checked for viruses by Avast antivirus software.
https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.avast.com%2Fantivirus&data=02%7C01%7CTina.Rice%40critigen.com%7C130f9c708f9f4f696f3708d816c1a5de%7C462394cb00e547d1bbdc205amp;sdata=lV5QF%2FtxOImJwd1uKB6FHx0DcL86IsKZp91OqncMlMc%3D&reserved=0
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ASSET Laboratories

WORK ORDER Summary

23-Jun-20

WorkOrder: N041043

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/18/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041043-001A	MW-27-085-EB-Q220	6/18/2020 9:22:00 AM	6/30/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-002A	MW-27-085-Q220	6/18/2020 9:48:00 AM	6/30/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N041043-002B			6/30/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☑	☐	LSR
N041043-002C			6/30/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☑	☐	WW
N041043-002D			6/30/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			6/30/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			6/30/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N041043-003A	MW-34-100-Q220	6/18/2020 10:41:00 AM	6/30/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-003B			6/30/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041043-003C			6/30/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041043-003D			6/30/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/30/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041043-004A	MW-34-080-EB-Q220	6/18/2020 10:59:00 AM	6/30/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-005A	MW-34-080-Q220	6/18/2020 11:24:00 AM	6/30/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-005B			6/30/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041043-005C			6/30/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041043-005D			6/30/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/30/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041043-006A	MW-42-065-EB-Q220	6/18/2020 12:04:00 PM	6/30/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

23-Jun-20

WorkOrder: N041043

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/18/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041043-007A	MW-42-065-Q220	6/18/2020 12:30:00 PM	6/30/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-007B			6/30/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041043-007C			6/30/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/30/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041043-008A	MW-42-055-EB-Q220	6/18/2020 12:41:00 PM	6/30/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-009A	MW-42-055-Q220	6/18/2020 1:07:00 PM	6/30/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-009B			6/30/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041043-009C			6/30/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/30/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041043-010A	MW-32-035-EB-Q220	6/18/2020 1:31:00 PM	6/30/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-011A	MW-32-035-Q220	6/18/2020 1:57:00 PM	6/30/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-011B			6/30/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041043-011C			6/30/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/30/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041043-012A	EB-707-Q220	6/18/2020 3:20:00 PM	6/30/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-013A	MW-23-080-Q220	6/18/2020 2:27:00 PM	6/30/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-013B			6/30/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041043-013C			6/30/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

23-Jun-20

WorkOrder: N041043

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/18/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041043-013C	MW-23-080-Q220	6/18/2020 2:27:00 PM	6/30/2020	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041043-014A	MW-23-060-Q220	6/18/2020 3:36:00 PM	6/30/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N041043-014B			6/30/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☑	☐	LSR
N041043-014C			6/30/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			6/30/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			6/30/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N041043-015A	MW-39-100-Q220	6/18/2020 2:46:00 PM	6/30/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-015B			6/30/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
N041043-015C			6/30/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041043-015D			6/30/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/30/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041043-016A	EB-708-0620	6/18/2020 3:55:00 PM	6/30/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-017A	FOLDER	7/2/2020	6/30/2020		EDD	RWQCB	☐	☐	☐	LAB
			6/30/2020		Folder	Level IV Report	☐	☐	☐	LAB
			6/30/2020		Folder	Folder	☐	☐	☐	LAB
			7/2/2020		Folder	Folder	☐	☐	☐	LAB

July 22, 2020

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N041043

RE: PG&E Topock - GMP, RC000753.801D

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 18, 2020 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an amended report. Please disregard all previous documentation that corresponds to the page(s) enclosed.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

ASSET Laboratories **Date:** *22-Jul-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041043

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for sample N041043-013 due to matrix interference. Sample was analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Sample was reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

The report was amended as the ID for sample N041043-012 was updated. Please see attached correspondence.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N041043-014CMS and N041043-014CMSD possibly due to matrix interference. Post Spike (PS) passed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *22-Jul-20*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041043
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N041043-001A	MW-27-085-EB-Q220	Groundwater	6/18/2020 9:22:00 AM	6/18/2020	7/1/2020
N041043-002A	MW-27-085-Q220	Groundwater	6/18/2020 9:48:00 AM	6/18/2020	7/1/2020
N041043-002B	MW-27-085-Q220	Groundwater	6/18/2020 9:48:00 AM	6/18/2020	7/1/2020
N041043-002C	MW-27-085-Q220	Groundwater	6/18/2020 9:48:00 AM	6/18/2020	7/1/2020
N041043-002D	MW-27-085-Q220	Groundwater	6/18/2020 9:48:00 AM	6/18/2020	7/1/2020
N041043-003A	MW-34-100-Q220	Groundwater	6/18/2020 10:41:00 AM	6/18/2020	7/1/2020
N041043-003B	MW-34-100-Q220	Groundwater	6/18/2020 10:41:00 AM	6/18/2020	7/1/2020
N041043-003C	MW-34-100-Q220	Groundwater	6/18/2020 10:41:00 AM	6/18/2020	7/1/2020
N041043-003D	MW-34-100-Q220	Groundwater	6/18/2020 10:41:00 AM	6/18/2020	7/1/2020
N041043-004A	MW-34-080-EB-Q220	Groundwater	6/18/2020 10:59:00 AM	6/18/2020	7/1/2020
N041043-005A	MW-34-080-Q220	Groundwater	6/18/2020 11:24:00 AM	6/18/2020	7/1/2020
N041043-005B	MW-34-080-Q220	Groundwater	6/18/2020 11:24:00 AM	6/18/2020	7/1/2020
N041043-005C	MW-34-080-Q220	Groundwater	6/18/2020 11:24:00 AM	6/18/2020	7/1/2020
N041043-005D	MW-34-080-Q220	Groundwater	6/18/2020 11:24:00 AM	6/18/2020	7/1/2020
N041043-006A	MW-42-065-EB-Q220	Groundwater	6/18/2020 12:04:00 PM	6/18/2020	7/1/2020
N041043-007A	MW-42-065-Q220	Groundwater	6/18/2020 12:30:00 PM	6/18/2020	7/1/2020
N041043-007B	MW-42-065-Q220	Groundwater	6/18/2020 12:30:00 PM	6/18/2020	7/1/2020
N041043-007C	MW-42-065-Q220	Groundwater	6/18/2020 12:30:00 PM	6/18/2020	7/1/2020
N041043-008A	MW-42-055-EB-Q220	Groundwater	6/18/2020 12:41:00 PM	6/18/2020	7/1/2020
N041043-009A	MW-42-055-Q220	Groundwater	6/18/2020 1:07:00 PM	6/18/2020	7/1/2020
N041043-009B	MW-42-055-Q220	Groundwater	6/18/2020 1:07:00 PM	6/18/2020	7/1/2020
N041043-009C	MW-42-055-Q220	Groundwater	6/18/2020 1:07:00 PM	6/18/2020	7/1/2020
N041043-010A	MW-32-035-EB-Q220	Groundwater	6/18/2020 1:31:00 PM	6/18/2020	7/1/2020
N041043-011A	MW-32-035-Q220	Groundwater	6/18/2020 1:57:00 PM	6/18/2020	7/1/2020
N041043-011B	MW-32-035-Q220	Groundwater	6/18/2020 1:57:00 PM	6/18/2020	7/1/2020
N041043-011C	MW-32-035-Q220	Groundwater	6/18/2020 1:57:00 PM	6/18/2020	7/1/2020
N041043-012A	EB-707-0620	Groundwater	6/18/2020 3:20:00 PM	6/18/2020	7/1/2020
N041043-013A	MW-23-080-Q220	Groundwater	6/18/2020 2:27:00 PM	6/18/2020	7/1/2020
N041043-013B	MW-23-080-Q220	Groundwater	6/18/2020 2:27:00 PM	6/18/2020	7/1/2020

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.801D
Lab Order: N041043
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N041043-013C	MW-23-080-Q220	Groundwater	6/18/2020 2:27:00 PM	6/18/2020	7/1/2020
N041043-014A	MW-23-060-Q220	Groundwater	6/18/2020 3:36:00 PM	6/18/2020	7/1/2020
N041043-014B	MW-23-060-Q220	Groundwater	6/18/2020 3:36:00 PM	6/18/2020	7/1/2020
N041043-014C	MW-23-060-Q220	Groundwater	6/18/2020 3:36:00 PM	6/18/2020	7/1/2020
N041043-015A	MW-39-100-Q220	Groundwater	6/18/2020 2:46:00 PM	6/18/2020	7/1/2020
N041043-015B	MW-39-100-Q220	Groundwater	6/18/2020 2:46:00 PM	6/18/2020	7/1/2020
N041043-015C	MW-39-100-Q220	Groundwater	6/18/2020 2:46:00 PM	6/18/2020	7/1/2020
N041043-015D	MW-39-100-Q220	Groundwater	6/18/2020 2:46:00 PM	6/18/2020	7/1/2020
N041043-016A	EB-708-0620	Groundwater	6/18/2020 3:55:00 PM	6/18/2020	7/1/2020

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-085-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 9:48:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200619B**	QC Batch: **R145188**			PrepDate:			Analyst: **LR**
Specific Conductance	11000	0.10	0.10		umhos/cm	1	6/19/2020 10:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-100-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 10:41:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200619B**	QC Batch: **R145188**			PrepDate:			Analyst: **LR**
Specific Conductance	11000	0.10	0.10		umhos/cm	1	6/19/2020 10:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 11:24:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200619B**	QC Batch: **R145188**			PrepDate:			Analyst: **LR**
Specific Conductance	8400	0.10	0.10		umhos/cm	1	6/19/2020 10:50 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-065-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 12:30:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200619B**	QC Batch: **R145188**			PrepDate:			Analyst: **LR**
Specific Conductance	2600	0.10	0.10		umhos/cm	1	6/19/2020 10:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-055-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 1:07:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200619B**	QC Batch: **R145188**			PrepDate:			Analyst: **LR**
Specific Conductance	1000	0.10	0.10		umhos/cm	1	6/19/2020 10:50 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-035-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 1:57:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200619B**	QC Batch: **R145188**			PrepDate:			Analyst: **LR**
Specific Conductance	7800	0.10	0.10		umhos/cm	1	6/19/2020 10:50 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-23-080-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 2:27:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200619B**	QC Batch: **R145188**			PrepDate:			Analyst: **LR**
Specific Conductance	16000	0.10	0.10		umhos/cm	1	6/19/2020 10:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-23-060-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 3:36:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200619B**	QC Batch: **R145188**			PrepDate:			Analyst: **LR**
Specific Conductance	15000	0.10	0.10		umhos/cm	1	6/19/2020 10:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-100-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 2:46:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_200619B**	QC Batch: **R145188**			PrepDate:			Analyst: **LR**
Specific Conductance	13000	0.10	0.10		umhos/cm	1	6/19/2020 10:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N041043-011BDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **145188**
Client ID: **ZZZZZZ** Batch ID: **R145188** TestNo: **EPA 120.1** Analysis Date: **6/19/2020** SeqNo: **3822410**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	7830.000	0.10						7820	0.128	2	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-085-EB-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 9:22:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 06:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-085-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 9:48:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 11:12 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200620C** QC Batch: **79769** PrepDate: **6/19/2020** Analyst: **CEI**							
Chromium	ND	0.13	1.0		µg/L	1	6/20/2020 08:30 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-100-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 10:41:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 04:23 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200620C** QC Batch: **79769** PrepDate: **6/19/2020** Analyst: **CEI**							
Chromium	ND	0.13	1.0		µg/L	1	6/20/2020 08:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-EB-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 10:59:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 06:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 11:24:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 04:33 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200620C** QC Batch: **79769** PrepDate: **6/19/2020** Analyst: **CEI**							
Chromium	ND	0.13	1.0		µg/L	1	6/20/2020 09:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-065-EB-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 12:04:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 07:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-065-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 12:30:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 04:42 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200620C** QC Batch: **79769** PrepDate: **6/19/2020** Analyst: **CEI**							
Chromium	ND	0.13	1.0		µg/L	1	6/20/2020 09:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-055-EB-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 12:41:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 07:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-055-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 1:07:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 04:51 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200620C** QC Batch: **79769** PrepDate: **6/19/2020** Analyst: **CEI**							
Chromium	ND	0.13	1.0		µg/L	1	6/20/2020 09:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-035-EB-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 1:31:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 08:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-035-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 1:57:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 05:01 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200620C** QC Batch: **79769** PrepDate: **6/19/2020** Analyst: **CEI**							
Chromium	ND	0.13	1.0		µg/L	1	6/20/2020 09:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *22-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-707-0620
Lab Order:	N041043	**Collection Date:**	6/18/2020 3:20:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 08:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-23-080-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 2:27:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.17	1.0		µg/L	5	6/19/2020 05:58 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200620C** QC Batch: **79769** PrepDate: **6/19/2020** Analyst: **CEI**							
Chromium	ND	0.13	1.0		µg/L	1	6/20/2020 09:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N041043
Project: PG&E Topock - GMP, RC000753.801D
Lab ID: N041043-014

Client Sample ID: MW-23-060-Q220
Collection Date: 6/18/2020 3:36:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	40	0.17	1.0		µg/L	5	6/19/2020 11:22 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200620C** QC Batch: **79769** PrepDate: **6/19/2020** Analyst: **CEI**							
Chromium	37	0.13	1.0		µg/L	1	6/20/2020 09:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-100-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 2:46:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	93	0.33	2.0		µg/L	10	6/19/2020 11:50 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_200620C** QC Batch: **79769** PrepDate: **6/19/2020** Analyst: **CEI**							
Chromium	91	0.13	1.0		µg/L	1	6/20/2020 10:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-708-0620
Lab Order:	N041043	**Collection Date:**	6/18/2020 3:55:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_200619A** QC Batch: **R145240** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	6/19/2020 08:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R145240** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **PBW** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826125**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **LCS-R145240** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **LCSW** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826126**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.828	0.20	5.000	0	96.6	90	110				

Sample ID **N041040-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826137**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.258	0.20	1.000	2.210	105	90	110				

Sample ID **N041040-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826138**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.258	0.20	1.000	0.3191	93.9	90	110				

Sample ID **N041042-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826139**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.018	0.20	1.000	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041042-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826140**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.873	0.20	1.000	0.9182	95.4	90	110				

Sample ID **N041039-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826141**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.988	0.20	1.000	0	98.8	90	110				

Sample ID **N041043-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826142**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.021	0.20	1.000	0	102	90	110				

Sample ID **N041043-002AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826143**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.012	0.20	1.000	0	101	90	110	1.021	0.915	20	

Sample ID **N041040-001ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826144**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.255	0.20						2.210	2.02	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041043-014AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826147**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	66.019	1.0	25.00	40.02	104	90	110				

Sample ID **N041043-014AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826148**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	66.009	1.0	25.00	40.02	104	90	110	66.02	0.0151	20	

Sample ID **N041043-015AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826149**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	143.966	2.0	50.00	92.91	102	90	110				

Sample ID **N041043-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826150**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.009	0.20	1.000	0	101	90	110				

Sample ID **N041043-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826151**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.047	0.20	1.000	0	105	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041043-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826152**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.055	0.20	1.000	0	105	90	110				

Sample ID **N041043-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826153**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.030	0.20	1.000	0	103	90	110				

Sample ID **N041043-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826154**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.061	0.20	1.000	0	106	90	110				

Sample ID **N041040-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826158**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.789	1.0	5.000	0	95.8	90	110				

Sample ID **N041043-013AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826170**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.265	1.0	5.000	0	105	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041043-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826172**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.000	0.20	1.000	0	100	90	110				

Sample ID **N041043-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826174**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.964	0.20	1.000	0	96.4	90	110				

Sample ID **N041043-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826178**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.995	0.20	1.000	0	99.5	90	110				

Sample ID **N041043-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826180**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.030	0.20	1.000	0	103	90	110				

Sample ID **N041043-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826182**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.004	0.20	1.000	0	100	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N041043-012AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826184**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.026	0.20	1.000	0	103	90	110				

Sample ID **N041043-016AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **145240**
Client ID: **ZZZZZZ** Batch ID: **R145240** TestNo: **EPA 218.6** Analysis Date: **6/19/2020** SeqNo: **3826186**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.015	0.20	1.000	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **MB-79769** SampType: **MBLK** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145229**
Client ID: **PBW** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825332**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **LCS-79769** SampType: **LCS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145229**
Client ID: **LCSW** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825333**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.047	1.0	10.00	0	100	85	115				

Sample ID **N041043-002DMS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145229**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825338**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.313	1.0	10.00	0	93.1	75	125				

Sample ID **N041043-002DMSD** SampType: **MSD** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145229**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825339**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.401	1.0	10.00	0	94.0	75	125	9.313	0.947	20	

Sample ID **N041043-014CMS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145229**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825351**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	47.596	1.0	10.00	37.19	104	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	**N041043-014CMSD**	SampType:	**MSD**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**		Prep Date:	**6/19/2020**		RunNo:	**145229**		
Client ID:	**ZZZZZZ**	Batch ID:	**79769**	TestNo:	**EPA 6020**		**EPA 3010A**		Analysis Date:	**6/20/2020**		SeqNo:	**3825352**		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual			
Chromium		46.942	1.0	10.00	37.19	97.5	75	125	47.60	1.39	20				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-085-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 9:48:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200624B** QC Batch: **R145297** PrepDate: Analyst: **JBB**							
Nitrate/Nitrite as N	ND	0.032	0.050		mg/L	1	6/24/2020 03:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-100-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 10:41:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200624B** QC Batch: **R145297** PrepDate: Analyst: **JBB**							
Nitrate/Nitrite as N	0.18	0.032	0.050		mg/L	1	6/24/2020 03:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 11:24:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200624B** QC Batch: **R145297** PrepDate: Analyst: **JBB**							
Nitrate/Nitrite as N	ND	0.032	0.050		mg/L	1	6/24/2020 02:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-100-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 2:46:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **NV00922-WC_200624B** QC Batch: **R145297** PrepDate: Analyst: **JBB**							
Nitrate/Nitrite as N	0.083	0.032	0.050		mg/L	1	6/24/2020 03:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID **MB-R145297** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145297**
Client ID: **PBW** Batch ID: **R145297** TestNo: **SM4500-NO3** Analysis Date: **6/24/2020** SeqNo: **3828131**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **LCS-R145297** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145297**
Client ID: **LCSW** Batch ID: **R145297** TestNo: **SM4500-NO3** Analysis Date: **6/24/2020** SeqNo: **3828132**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.488	0.050	0.5000	0	97.5	85	115				

Sample ID **N041043-002CMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145297**
Client ID: **ZZZZZZ** Batch ID: **R145297** TestNo: **SM4500-NO3** Analysis Date: **6/24/2020** SeqNo: **3828134**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.515	0.050	0.5000	0.06040	90.9	75	125				

Sample ID **N041043-002CMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145297**
Client ID: **ZZZZZZ** Batch ID: **R145297** TestNo: **SM4500-NO3** Analysis Date: **6/24/2020** SeqNo: **3828135**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.549	0.050	0.5000	0.06040	97.7	75	125	0.5151	6.32	20	

Sample ID **N041022-001CDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **145297**
Client ID: **ZZZZZZ** Batch ID: **R145297** TestNo: **SM4500-NO3** Analysis Date: **6/24/2020** SeqNo: **3828137**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.617	0.050						0.5719	7.54	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-085-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 9:48:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200622B**	QC Batch: **79769**			PrepDate:	**6/19/2020**		Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/22/2020 03:09 PM
Manganese	110	1.3	2.5		µg/L	5	6/22/2020 03:23 PM
Molybdenum	16	0.21	0.50		µg/L	1	6/20/2020 08:30 PM
Selenium	ND	0.36	0.50		µg/L	1	6/20/2020 08:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-100-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 10:41:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200622B**	QC Batch: **79769**			PrepDate:	**6/19/2020**		Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/22/2020 03:42 PM
Manganese	110	0.26	0.50		µg/L	1	6/20/2020 08:53 PM
Molybdenum	64	0.21	0.50		µg/L	1	6/20/2020 08:53 PM
Selenium	ND	0.36	0.50		µg/L	1	6/20/2020 08:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 11:24:00 AM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200622B**	QC Batch: **79769**			PrepDate:	**6/19/2020**		Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/22/2020 03:46 PM
Manganese	66	0.26	0.50		µg/L	1	6/20/2020 09:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-065-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 12:30:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200622B**	QC Batch: **79769**			PrepDate:		**6/19/2020**	Analyst: **CEI**
Arsenic	5.9	0.081	0.10		µg/L	1	6/22/2020 03:51 PM
Manganese	650	1.3	2.5		µg/L	5	6/22/2020 05:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-055-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 1:07:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200622B**	QC Batch: **79769**			PrepDate:		**6/19/2020**	Analyst: **CEI**
Arsenic	12	0.081	0.10		µg/L	1	6/22/2020 03:56 PM
Manganese	150	0.26	0.50		µg/L	1	6/20/2020 09:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-035-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 1:57:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200622B**	QC Batch: **79769**			PrepDate:		**6/19/2020**	Analyst: **CEI**
Arsenic	26	0.081	0.10		µg/L	1	6/22/2020 04:00 PM
Manganese	610	1.3	2.5		µg/L	5	6/22/2020 05:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-23-080-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 2:27:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200622B**	QC Batch: **79769**				PrepDate:	**6/19/2020**	Analyst: **CEI**
Arsenic	4.9	0.081	0.10		µg/L	1	6/22/2020 04:05 PM
Manganese	1.2	0.26	0.50		µg/L	1	6/20/2020 09:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-23-060-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 3:36:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_200622B**	QC Batch: **79769**			PrepDate:		**6/19/2020**	Analyst: **CEI**
Arsenic	0.86	0.081	0.10		µg/L	1	6/22/2020 05:23 PM
Manganese	1.0	0.26	0.50		µg/L	1	6/20/2020 09:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Jul-20*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-100-Q220
Lab Order:	N041043	**Collection Date:**	6/18/2020 2:46:00 PM
Project:	PG&E Topock - GMP, RC000753.801D	**Matrix:**	GROUNDWATER
Lab ID:	N041043-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_200622B**	QC Batch: **79769**			PrepDate:	**6/19/2020**		Analyst: **CEI**
Arsenic	ND	0.081	0.10		µg/L	1	6/22/2020 05:33 PM
Manganese	4.2	0.26	0.50		µg/L	1	6/20/2020 10:02 PM
Molybdenum	7.5	0.21	0.50		µg/L	1	6/20/2020 10:02 PM
Selenium	ND	0.36	0.50		µg/L	1	6/20/2020 10:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-79769** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145229**
Client ID: **PBW** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825494**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-79769** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145229**
Client ID: **LCSW** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825495**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	102.590	0.50	100.0	0	103	85	115				
Molybdenum	10.006	0.50	10.00	0	100	85	115				
Selenium	10.857	0.50	10.00	0	109	85	115				

Sample ID **N041043-002DMS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145229**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825500**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	27.998	0.50	10.00	16.41	116	75	125				
Selenium	9.721	0.50	10.00	0	97.2	75	125				

Sample ID **N041043-002DMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145229**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825501**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	27.617	0.50	10.00	16.41	112	75	125	28.00	1.37	20	
Selenium	10.198	0.50	10.00	0	102	75	125	9.721	4.79	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N041043-014CMS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145229**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825513**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	93.953	0.50	100.0	1.030	92.9	75	125				
Molybdenum	33.743	0.50	10.00	21.37	124	75	125				
Selenium	15.132	0.50	10.00	5.428	97.0	75	125				

Sample ID **N041043-014CMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145229**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825514**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	93.499	0.50	100.0	1.030	92.5	75	125	93.95	0.485	20	
Molybdenum	33.895	0.50	10.00	21.37	125	75	125	33.74	0.448	20	S
Selenium	15.271	0.50	10.00	5.428	98.4	75	125	15.13	0.911	20	

Sample ID **MB-79769** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145290**
Client ID: **PBW** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/22/2020** SeqNo: **3827787**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									

Sample ID **LCS-79769** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145290**
Client ID: **LCSW** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/22/2020** SeqNo: **3827788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.223	0.10	10.00	0	102	85	115				

Sample ID **N041043-002DMS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145290**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/22/2020** SeqNo: **3827794**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.631	0.10	10.00	0	96.3	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N041043-002DMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145290**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/22/2020** SeqNo: **3827795**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.656	0.10	10.00	0	96.6	75	125	9.631	0.250	20	

Sample ID **N041043-014CMS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145290**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/22/2020** SeqNo: **3827807**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	14.983	0.10	10.00	0.8610	141	75	125				S

Sample ID **N041043-014CMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145290**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/22/2020** SeqNo: **3827808**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	15.301	0.10	10.00	0.8610	144	75	125	14.98	2.10	20	S

Sample ID **N041043-002DMS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145290**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/22/2020** SeqNo: **3827812**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	202.392	2.5	100.0	107.0	95.4	75	125				

Sample ID **N041043-002DMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/19/2020** RunNo: **145290**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/22/2020** SeqNo: **3827813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	202.819	2.5	100.0	107.0	95.8	75	125	202.4	0.211	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N041043
Project: PG&E Topock - GMP, RC000753.801D

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N041043-002D-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **145229**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825499**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	28.017	0.50	10.00	16.41	116	80	120				
Selenium	10.283	0.50	10.00	0	103	80	120				

Sample ID **N041043-014C-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **145229**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2020** SeqNo: **3825512**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	92.482	0.50	100.0	1.030	91.5	80	120				
Molybdenum	32.712	0.50	10.00	21.37	113	80	120				
Selenium	15.339	0.50	10.00	5.428	99.1	80	120				

Sample ID **N041043-002D-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **145290**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/22/2020** SeqNo: **3827793**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.675	0.10	10.00	0	96.7	80	120				

Sample ID **N041043-014C-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **145290**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/22/2020** SeqNo: **3827806**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.368	0.10	10.00	0.8610	105	80	120				

Sample ID **N041043-002D-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **145290**
Client ID: **ZZZZZZ** Batch ID: **79769** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/22/2020** SeqNo: **3827811**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	200.778	2.5	100.0	107.0	93.8	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com, daniel.moore@critigen.com	Address:	Geotracker
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com	P.O.# SWA-ASSET-C9817-057
Submitted By: Spencer Doolittle		Phone: 949-727-1400, ext 200	Fax:
Title: Riggie Tap Field Tech	Phone: 916-786-3302 Fax:		
Signature: RT Date: 6/18/20	Sampled By: Riggie Tap		
Project Name: PG&E Topock - GMP	Signature: RT Date: 6/18/20		
Project Number: RC000753.801D			

I hereby authorize ASSET Labs to perform the tests indicated below.

I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Matrix			
Ground	x	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

EDD Requirement		QA/QC	
Excel EDD		RTNE	
Geotracker		RWQCB	✓
Labspec		CalTrans	
Others	✓	LEVEL III	
Specify: RWQCB		LEVEL IV	
Global ID:		Regulatory	
		Specify State:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	–	
4. Seal Present		✓
5. IR number	2	
6. Method of Cooling: ICE		
Sample Temp: 2.6°		

Courier:

Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	Oxygen and Deuterium Isotopes (CFIRM), Ice	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	Alkalinity, Total as CaCO3 (SM2320B)	Bromide, Sulfate, Chloride (EPA 300.0)	Fluoride (EPA 300.0)	Specific Conductance (EPA 120.1)	Total Dissolved Solids (SM92540)	Nitrate/Nitrite (SM4500N03) Nitrate; H2SO4	Total Organic Carbon (SM5310C); H2SO4	Dissolved metals (SW 6020), HNO3 As, Cr, Mn	Dissolved Metals (SW 6010B); HNO3 As, Cr, Mn, Mo, Se	Dissolved metals (SW 6020), HNO3 Ag, As, Ba, Be, Cd, Co, Cr, Mg, Mn, Mo, Pb, Sb, Se, Tl, V, Zn	Dissolved Metals (SW 6010B); HNO3 B, Ca, Cu, Fe, Na, Ni,	Metals Dissolved (EPA7470A FF) Hg; HNO3	Dissolved Metals (SW 6010B); HNO3 Potassium	Total metals, Chromium (non-filter) (EPA 200.8), HNO3	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
						250 mL poly	250 mL poly	2x250 mL poly	1 liter poly	1 liter poly	1 liter poly	1 liter poly	1 liter poly	125 mL poly	3x40 mL poly	500 mL poly	500 mL poly	500 mL poly	500 mL poly	500 mL poly	500 mL poly	500 mL poly					
1	N041043-01	MW-27-085-EB-Q220	6/18/2020	9:22		X																	E	1	P	BNS	
2	-02	MW-27-085-Q220	6/18/2020	9:48				X				X		X			X						E	~~4~~ 3	P	BNS	MS/MSD
3	-03	MW-34-100-Q220	6/18/2020	10:41		X						X		X			X						E	4	P	BNS	
4	-04	MW-34-080-EB-Q220	6/18/2020	10:59		X																	E	1	P	BNS	
5	-05	MW-34-080-Q220	6/18/2020	11:24				X				X		X		X							E	~~4~~ 3	P	BNS	
6	-06	MW-42-065-EB-Q220	6/18/2020	12:04		X																	E	1	P	BNS	
7	-07	MW-42-065-Q220	6/18/2020	12:30				X				X				X							E	~~4~~ 3	P	BNS	
8	-08	MW-42-055-EB-Q220	6/18/2020	12:41		X																	E	1	P	BNS	
9	-09	MW-42-055-Q220	6/18/2020	13:07				X				X				X							E	~~4~~ 3	P	BNS	
10	-10	MW-32-035-EB-Q220	6/18/2020	13:31		X																	E	1	P	BNS	
11	-11	MW-32-035-Q220	6/18/2020	13:57				X				X				X							E	~~4~~ 3	P	BNS	
12	-12	EB-707-Q220	6/18/2020	15:20		X																	E	1	P	BNS	

Reliquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
RT Riggie Tap	6/18/20 1640	JLGO	6/18/20 1640
JLGO	6/18/20 1850	JLGO	6/18/20 1850

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs =200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary 5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.

Preservatives:				Container Type:		
H=HCL	N=$HNO_{3(1:1HNO3)}$	S=$H_2SO_{4(S:H2SO4)}$	C=4°CC=4°	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_{2(Z:Zn(AC)2)}$	O=NaOH	T=$Na_2S_2O_{3(T:Na2S2O3)}$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis
Address: 1410 Rocky Ridge Dr # 330
Address: Roseville, CA 95661
Phone: 916-786-3302 Fax:
Submitted By: Spencer Doolittle
Title: Field Technician
Signature: Date: 06-18-20
I hereby authorize ASSET Labs to perform the tests indicated below.
Project Name: PG&E Topock - GMP
Project Number: RC000753.801D

Report to: Dan Bush
Company: Arcadis
Email: dan.bush@arcadis.com
daniel.moore@critigen.com
Address: 1410 Rocky Ridge Dr # 330
Roseville, CA 95661
Phone: 916-786-3302 Fax:
Sampled By: Jeffrey D. Bagl
I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.
Signature: Date: 6-18-20

Bill to: Marty Bloes
Address:
Address:
Email to: mbloes@pivox.com
P.O.# SWA-ASSET-C9817-057
Phone: 949-727-1400, ext 200
Fax:

EDD Requirement	
Excel EDD	
Geotracker	
Labspec	
Others	✓
Specify:	RWQCB
Global ID:	

QA/QC	
RTNE	
RWQCB	✓
CalTrans	
LEVEL III	
LEVEL IV	
Regulatory	
Specify State:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		✓
5. IR number	2	
6. Method of Cooling:	ICE	
Sample Temp:	2.6°C	

Courier:
Tracking No.:

Matrix			
Ground	x	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Oxygen and Deuterium Isotopes (CFIRM), Ice 250 mL poly	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 2x250 mL poly	Alkalinity, Total as CaCO3 (SM2320B) 1 liter poly	Bromide, Sulfate, Chloride (EPA 300.0) 1 liter poly	Fluoride (EPA 300.0) 1 liter poly	Specific Conductance (EPA 120.1) 1 liter poly	Total Dissolved Solids (SM92540) 1 liter poly	Nitrate/Nitrite (SM4500N03) Nitrate; H2SO4 125 mL poly	Total Organic Carbon (SM5310C); H2SO4 3x40 mL poly	Dissolved metals (SW 6020), HNO3 As, Cr, Mn 500 mL poly	Dissolved Metals (SW 6010B); HNO3 As, Cr, Mn, Mo, Se 500 mL poly	Dissolved metals (SW 6020), HNO3 Ag, As, Ba, Be, Cd, Co, Cr, Mg, Mn, Mo, Pb, Sb, Se, Tl, V, Zn 500 mL poly	Dissolved Metals (SW 6010B); HNO3 B, Ca, Cu, Fe, Na, Ni, 500 mL poly	Metals Dissolved (EPA7470A FF) Hg; HNO3 500 mL poly	Dissolved Metals (SW 6010B); HNO3 Potassium 500 mL poly	Total metals, Chromium (non-filter) (EPA 200.8), HNO3 500 mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N041043-13	MW-23-080-Q220	6/18/2020	14:27		X						X				X						E	3	P	BNS	
2	-14	MW-23-060-Q220	6/18/2020	1536		X						X				X						E	3	P	BNS	MS/MSD
3	-15	MW-39-100-Q220	6/18/2020	14:46		X						X		X			X					E	4	P	BNS	
4	-16	EB-708-Q220	6/18/2020	1555		X																E	1	P	BNS	
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Reliquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
	6/18/2020		6/18/20 1840
Reliquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
	6/18/20 1850		6/18/20 1850
Reliquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
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Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis.
Less than 24 Hrs =200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
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9. For subcontract analysis, TAT and Surcharges will vary.5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.

Preservatives:

H=HCL	N=$HNO_{3N+HNO3}$	S=$H_2SO_{4S+HO}SO_4$	C=4°CC=4°
Z=$Zn(AC)_{2Z+Zn(AC)2}$	O=NaOH	T=$Na_2S_2O_{3T+Na2}S_2$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/18/2020	Workorder:	N041043
Rep sample Temp (Deg C):	2.6	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☐	No ☑	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☑	No ☐	NA ☐
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☐	No ☐	NA ☑
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☑	No ☐	NA ☐

Comments: See Correspondence.

Checklist Completed By: YR YRJ 6/23/2020

Reviewed By: MBC MBC 6/26/2020

Subject: RE: PG&E Topock - GMP, RC000753.801D (ASSET Labs No. N041043)
From: Tina Rice <Tina.Rice@critigen.com>
Date: 6/23/2020, 9:05 AM
To: "Madsen, Laura" <Laura.Madsen@arcadis.com>, Yoandra Rodriguez <yoandra@assetlaboratories.com>
CC: "maryann.balilu@assetlaboratoriesph.com" <maryann.balilu@assetlaboratoriesph.com>

Sorry for the delay - please use EB-708-0620.

-----Original Message-----
From: Madsen, Laura <Laura.Madsen@arcadis.com>
Sent: Monday, June 22, 2020 8:34 AM
To: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Cc: Tina Rice <Tina.Rice@critigen.com>; maryann.balilu@assetlaboratoriesph.com
Subject: RE: PG&E Topock - GMP, RC000753.801D (ASSET Labs No. N041043)

Hi Tina
Can you confirm what the EB ID should be for the sample below? I don't want poor Yoandra to have to fix it twice if I give her the wrong advice.

Thanks!
Laura

-----Original Message-----
From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Friday, June 19, 2020 6:42 PM
To: Madsen, Laura <Laura.Madsen@arcadis.com>
Cc: Tina Rice <Tina.Rice@critigen.com>; maryann.balilu@assetlaboratoriesph.com
Subject: PG&E Topock - GMP, RC000753.801D (ASSET Labs No. N041043)

Hi Laura,

Please kindly advise on the following discrepancy for the attached COC:

- Sample 16: ID is EB-708-Q220 on COC and EB-708-0620 on label.

Thanks,

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This email has been checked for viruses by Avast antivirus software.
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Mary Ann Balilu (maryann.balilu@assetlaboratoriesph.com)

From: Nancy Sibucao <nancy@assetlaboratories.com>
Sent: Wednesday, July 22, 2020 3:16 PM
To: Tina Rice; Dan Moore; Marlon Cartin; Yoandra Rodriguez; maryann.balilu@assetlaboratoriesph.com
Subject: URGENT EDD Issues

Noted Tina. We will update the report except for N041020 as that one has been corrected.

Yoandra/Maryann, please update the IDs for the other work orders asap.

Thanks,
Nancy

From: Tina Rice [mailto:Tina.Rice@critigen.com]

Sent: Wednesday, July 22, 2020, 1:28 PM

To: Nancy Sibucao; Dan Moore; Marlon Cartin

Subject: EDD Issues

Please note that there were duplicate samples taken (I believe I emailed the corrected ID's as they were caught in the login process) and that is causing the EDDs listed below to fail when loading. I have fixed the EDDs and reloaded but the lab reports will need to be updated for the samples in the SDGs, below. Note that they currently end in -Q220 in the EDD/lab reports but since the sample IDs were already used this quarter, they need to be updated to -0620 per below:

sys_loc_code	ClientSampID	WorkOrder
EB-706	EB-706-0620	N041020
EB-707	EB-707-0620	N041043
EB-708	EB-708-0620	N041043
EB-709	EB-709-0620	N041072
EB-710	EB-710-0620	N041093
EB-711	EB-711-0620	N041093
EB-712	EB-712-0620	N041109
EB-713	EB-713-0620	N041109
EB-714	EB-714-0620	N041126
EB-715	EB-715-0620	N041126

From: Nancy Sibucao <nancy@assetlaboratories.com>
Sent: Wednesday, July 22, 2020 12:28 PM
To: Dan Moore <Daniel.Moore@critigen.com>; Marlon Cartin <marlon@assetlaboratories.com>; Tina Rice <Tina.Rice@critigen.com>
Subject: Re: EDD Issues

ASSET Laboratories

WORK ORDER Summary

22-Jul-20

WorkOrder: N041043

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/18/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041043-001A	MW-27-085-EB-Q220	6/18/2020 9:22:00 AM	7/2/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-002A	MW-27-085-Q220	6/18/2020 9:48:00 AM	7/2/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N041043-002B			7/2/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☑	☐	ww
N041043-002C			7/2/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☑	☐	WW
N041043-002D			7/2/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			7/2/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			7/2/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N041043-003A	MW-34-100-Q220	6/18/2020 10:41:00 AM	7/2/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-003B			7/2/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	ww
N041043-003C			7/2/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041043-003D			7/2/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/2/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/2/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041043-004A	MW-34-080-EB-Q220	6/18/2020 10:59:00 AM	7/2/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-005A	MW-34-080-Q220	6/18/2020 11:24:00 AM	7/2/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-005B			7/2/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	ww
N041043-005C			7/2/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041043-005D			7/2/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/2/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/2/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041043-006A	MW-42-065-EB-Q220	6/18/2020 12:04:00 PM	7/2/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

22-Jul-20

WorkOrder: N041043

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/18/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041043-007A	MW-42-065-Q220	6/18/2020 12:30:00 PM	7/2/2020	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-007B			7/2/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	ww
N041043-007C			7/2/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/2/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/2/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041043-008A	MW-42-055-EB-Q220	6/18/2020 12:41:00 PM	7/2/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-009A	MW-42-055-Q220	6/18/2020 1:07:00 PM	7/2/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-009B			7/2/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	ww
N041043-009C			7/2/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/2/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/2/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041043-010A	MW-32-035-EB-Q220	6/18/2020 1:31:00 PM	7/2/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-011A	MW-32-035-Q220	6/18/2020 1:57:00 PM	7/2/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-011B			7/2/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	ww
N041043-011C			7/2/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/2/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/2/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041043-012A	EB-707-0620	6/18/2020 3:20:00 PM	7/2/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-013A	MW-23-080-Q220	6/18/2020 2:27:00 PM	7/2/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-013B			7/2/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	ww
N041043-013C			7/2/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/2/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

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WORK ORDER Summary

22-Jul-20

WorkOrder: N041043

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.801D **QC Level:** Level IV **Date Received:** 6/18/2020

Comments: Title 22 Metals Dissolved- Al, Sb, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041043-013C	MW-23-080-Q220	6/18/2020 2:27:00 PM	7/2/2020	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041043-014A	MW-23-060-Q220	6/18/2020 3:36:00 PM	7/2/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N041043-014B			7/2/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☑	☐	ww
N041043-014C			7/2/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			7/2/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			7/2/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N041043-015A	MW-39-100-Q220	6/18/2020 2:46:00 PM	7/2/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-015B			7/2/2020		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	ww
N041043-015C			7/2/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N041043-015D			7/2/2020		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/2/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/2/2020		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N041043-016A	EB-708-0620	6/18/2020 3:55:00 PM	7/2/2020		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N041043-017A	FOLDER	7/2/2020	7/2/2020		EDD	RWQCB	☐	☐	☐	LAB
			7/2/2020		Folder	Folder	☐	☐	☐	LAB
			7/2/2020		Folder	Level IV Report	☐	☐	☐	LAB
			7/2/2020		Folder	Folder	☐	☐	☐	LAB