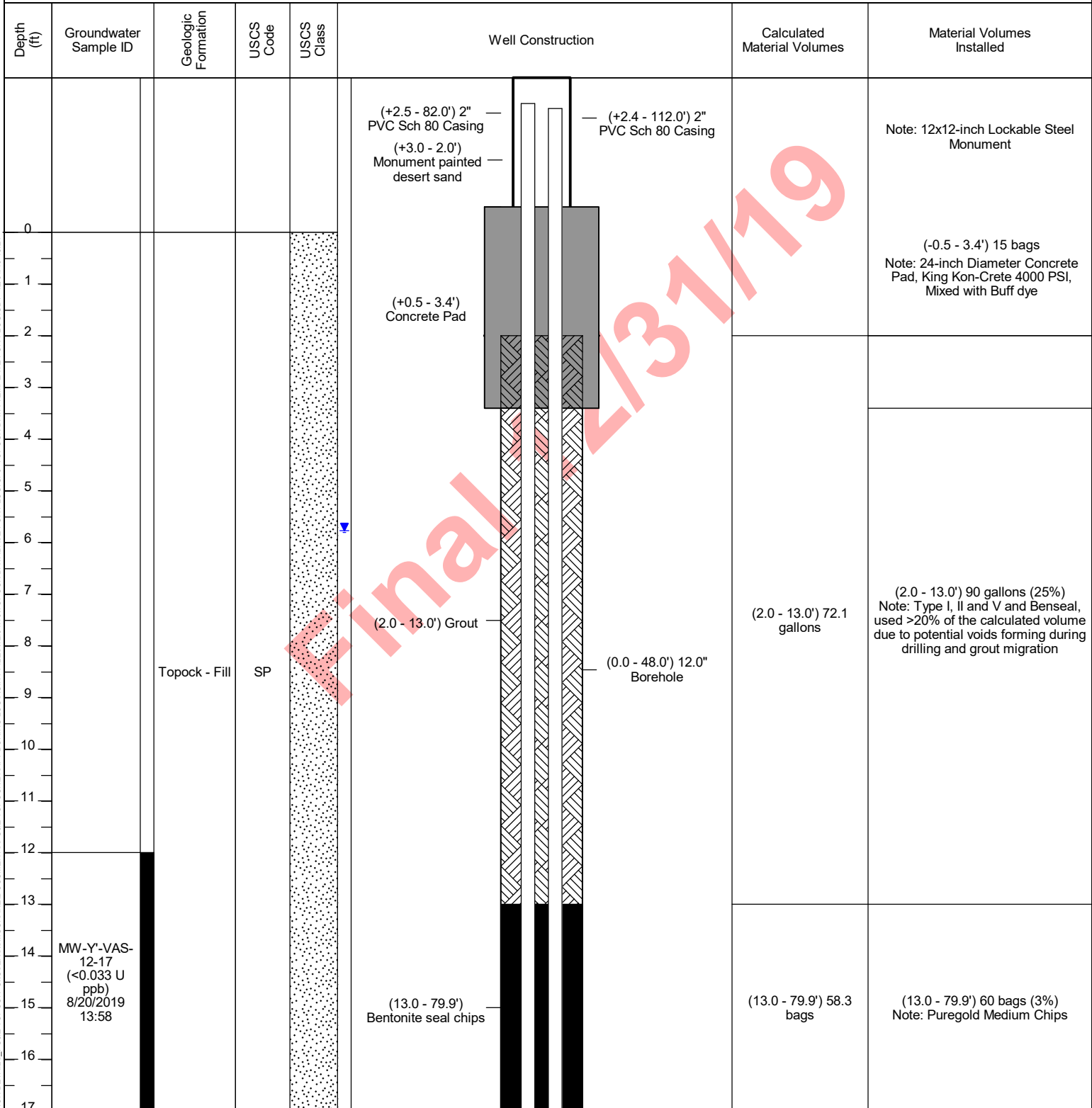


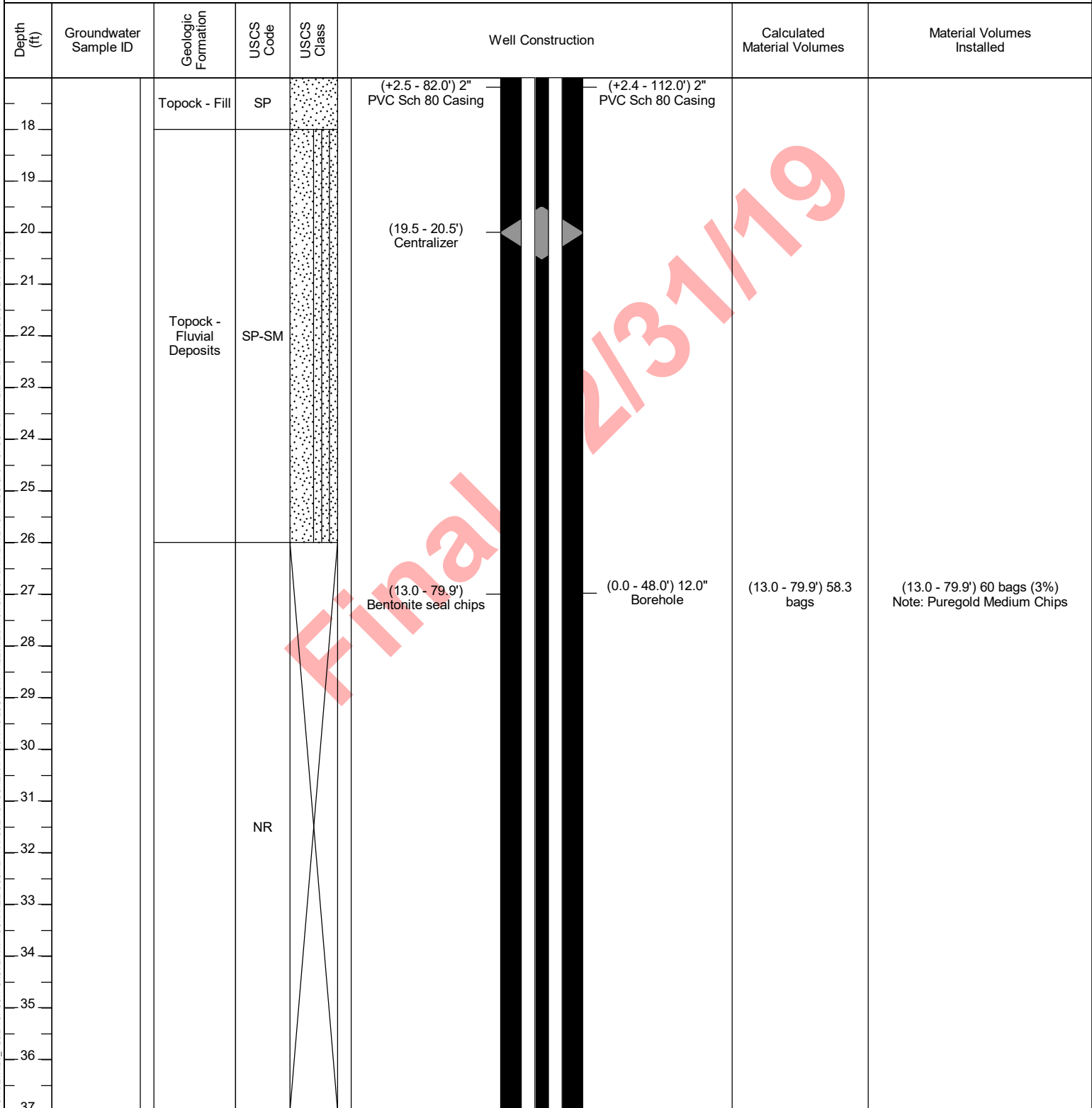
Date Started: 09/06/2019	Surface Elevation: 460.0 ft amsl	Well ID: MW-92-102, MW-92-122
Date Completed: 09/25/2019	Shallow Well Elevation: 462.4 ft amsl	
Drilling Co.: Cascade	Deep Well Elevation: 462.3 ft amsl	Client: PG&E
Drilling Method: Sonic Drilling	Northing (NAD83): 2102813.6	Project: Final GW Remedy Phase 1
Driller Name: J. Khem / S. Vasquez	Easting (NAD83): 7617583.9	Location: PG&E Topock, Needles, California
Drilling Asst: L. Amaya / O. Flores	Borehole Diameter: 6-12 inches	
Logger: G. Willford / D. Cornell	Water Level Start: 5.77 ft bgs	Project Number: RC000753.0051
Editor: Sean McGrane	Development End Date: 10/31/2019	
Total Depth: 137 ft bgs	Well Completion: <input type="checkbox"/> Flush <input checked="" type="checkbox"/> Stick-up	



Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery

WELL CONSTRUCTION DETAILS_PG&E_TOPOCK C:\USERS\SMCGRANE\DOCUMENTS\PG&E_TOPOCK\DATABASE FOR PLOG.GPJ_TOPOCK DATA TEMPLATE FOR PLOG.GDT 12/31/19 15:24

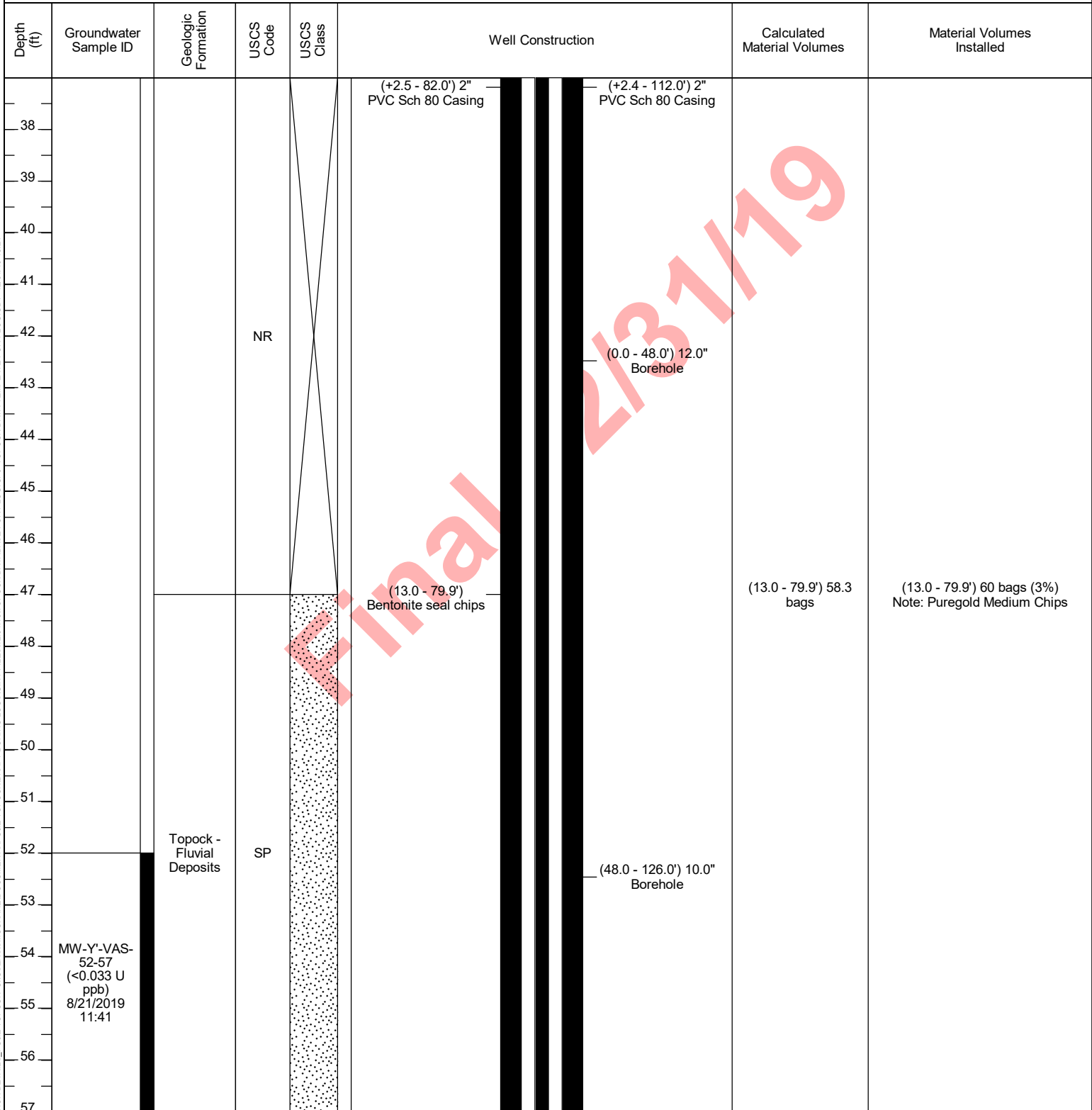
Date Started: 09/06/2019	Surface Elevation: 460.0 ft amsl	Well ID: MW-92-102, MW-92-122
Date Completed: 09/25/2019	Shallow Well Elevation: 462.4 ft amsl	
Drilling Co.: Cascade	Deep Well Elevation: 462.3 ft amsl	Client: PG&E
Drilling Method: Sonic Drilling	Northing (NAD83): 2102813.6	Project: Final GW Remedy Phase 1
Driller Name: J. Khem / S. Vasquez	Easting (NAD83): 7617583.9	Location: PG&E Topock, Needles, California
Drilling Asst: L. Amaya / O. Flores	Borehole Diameter: 6-12 inches	Project Number: RC000753.0051
Logger: G. Willford / D. Cornell	Water Level Start: 5.77 ft bgs	
Editor: Sean McGrane	Development End Date: 10/31/2019	
Total Depth: 137 ft bgs	Well Completion: <input type="checkbox"/> Flush <input checked="" type="checkbox"/> Stick-up	



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WELL CONSTRUCTION DETAILS_PG&E_TOPOCK C:\USERS\MCGRANE\DOCUMENTS\PG&E_TOPOCK\DATABASE FOR PLOG.GPJ_TOPOCK DATA TEMPLATE FOR PLOG.GDT 12/31/19 15:24

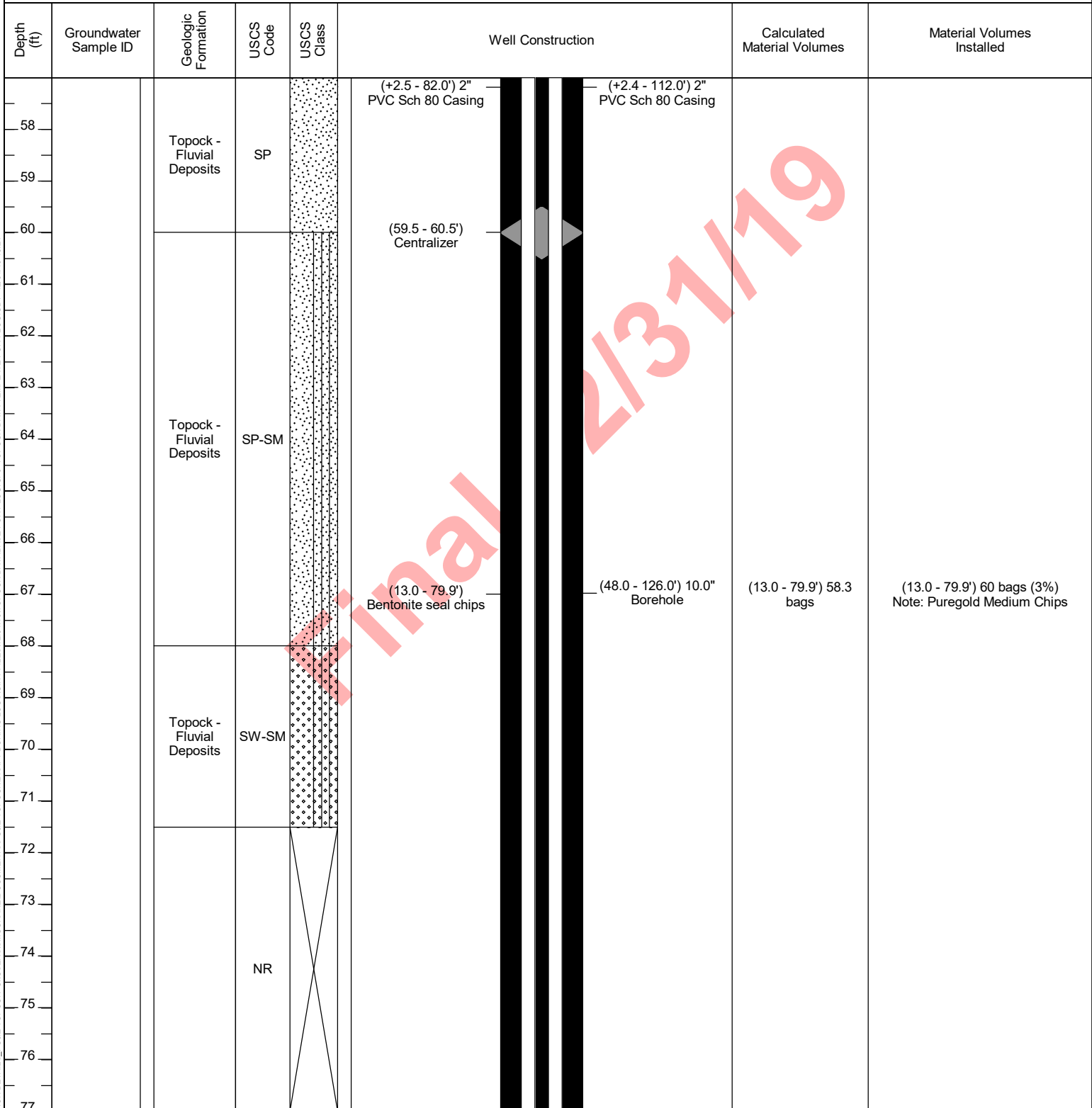
Date Started: 09/06/2019	Surface Elevation: 460.0 ft amsl	Well ID: MW-92-102, MW-92-122
Date Completed: 09/25/2019	Shallow Well Elevation: 462.4 ft amsl	
Drilling Co.: Cascade	Deep Well Elevation: 462.3 ft amsl	Client: PG&E
Drilling Method: Sonic Drilling	Northing (NAD83): 2102813.6	Project: Final GW Remedy Phase 1
Driller Name: J. Khem / S. Vasquez	Easting (NAD83): 7617583.9	Location: PG&E Topock, Needles, California
Drilling Asst: L. Amaya / O. Flores	Borehole Diameter: 6-12 inches	Project Number: RC000753.0051
Logger: G. Willford / D. Cornell	Water Level Start: 5.77 ft bgs	
Editor: Sean McGrane	Development End Date: 10/31/2019	
Total Depth: 137 ft bgs	Well Completion: <input type="checkbox"/> Flush <input checked="" type="checkbox"/> Stick-up	



Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery

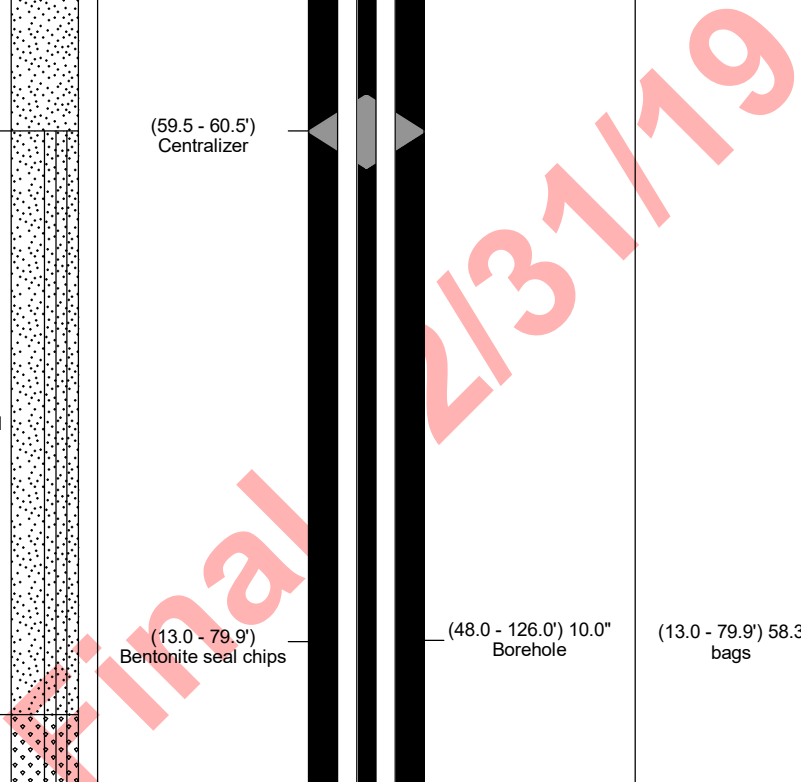
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Date Started: 09/06/2019	Surface Elevation: 460.0 ft amsl	Well ID: MW-92-102, MW-92-122
Date Completed: 09/25/2019	Shallow Well Elevation: 462.4 ft amsl	
Drilling Co.: Cascade	Deep Well Elevation: 462.3 ft amsl	Client: PG&E
Drilling Method: Sonic Drilling	Northing (NAD83): 2102813.6	Project: Final GW Remedy Phase 1
Driller Name: J. Khem / S. Vasquez	Easting (NAD83): 7617583.9	Location: PG&E Topock, Needles, California
Drilling Asst: L. Amaya / O. Flores	Borehole Diameter: 6-12 inches	Project Number: RC000753.0051
Logger: G. Willford / D. Cornell	Water Level Start: 5.77 ft bgs	
Editor: Sean McGrane	Development End Date: 10/31/2019	
Total Depth: 137 ft bgs	Well Completion: <input type="checkbox"/> Flush <input checked="" type="checkbox"/> Stick-up	

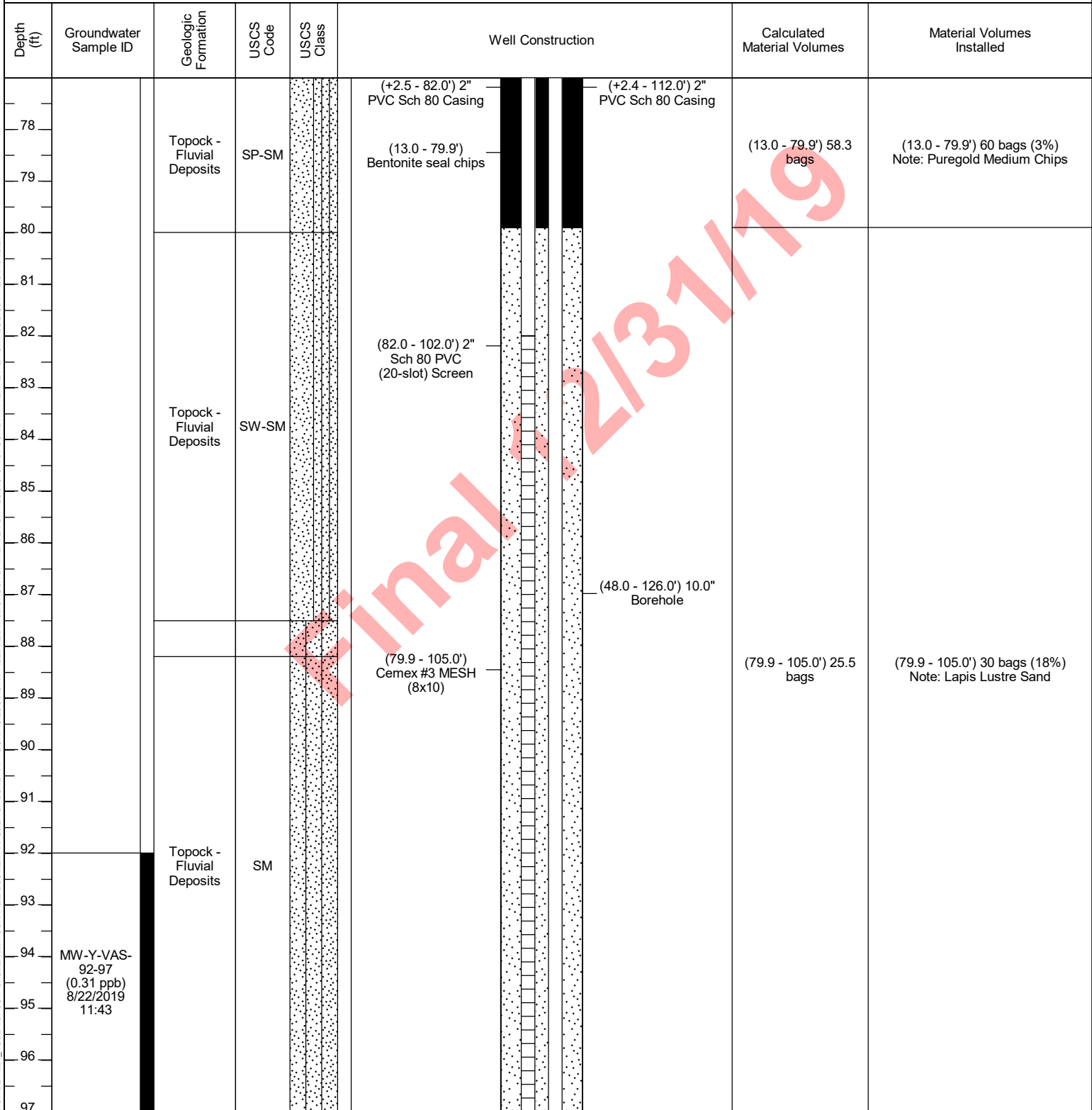


Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery

WELL CONSTRUCTION DETAILS_PG&E_TOPOCK C:\USERS\MCGRANE\DOCUMENTS\PG&E_TOPOCK\DATABASE FOR PLOG.GPJ_TOPOCK DATA TEMPLATE FOR PLOG.GDT 12/31/19 15:24



Date Started: 09/06/2019	Surface Elevation: 460.0 ft amsl	Well ID: MW-92-102, MW-92-122
Date Completed: 09/25/2019	Shallow Well Elevation: 462.4 ft amsl	
Drilling Co.: Cascade	Deep Well Elevation: 462.3 ft amsl	Client: PG&E
Drilling Method: Sonic Drilling	Northing (NAD83): 2102813.6	Project: Final GW Remedy Phase 1
Driller Name: J. Khem / S. Vasquez	Easting (NAD83): 7617583.9	Location: PG&E Topock, Needles, California
Drilling Asst: L. Amaya / O. Flores	Borehole Diameter: 6-12 inches	Project Number: RC000753.0051
Logger: G. Willford / D. Cornell	Water Level Start: 5.77 ft bgs	
Editor: Sean McGrane	Development End Date: 10/31/2019	
Total Depth: 137 ft bgs	Well Completion: <input type="checkbox"/> Flush <input checked="" type="checkbox"/> Stick-up	



Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery

WELL CONSTRUCTION DETAILS_PG&E_TOPOCK C:\USERS\SMCGRANE\DOCUMENTS\PG&E_TOPOCK\DATABASE FOR PLOG.GPJ_TOPOCK DATA TEMPLATE FOR PLOG.GDT 12/31/19 15:24

Date Started: 09/06/2019	Surface Elevation: 460.0 ft amsl	Well ID: MW-92-102, MW-92-122
Date Completed: 09/25/2019	Shallow Well Elevation: 462.4 ft amsl	
Drilling Co.: Cascade	Deep Well Elevation: 462.3 ft amsl	Client: PG&E
Drilling Method: Sonic Drilling	Northing (NAD83): 2102813.6	Project: Final GW Remedy Phase 1
Driller Name: J. Khem / S. Vasquez	Easting (NAD83): 7617583.9	Location: PG&E Topock, Needles, California
Drilling Asst: L. Amaya / O. Flores	Borehole Diameter: 6-12 inches	
Logger: G. Willford / D. Cornell	Water Level Start: 5.77 ft bgs	Project Number: RC000753.0051
Editor: Sean McGrane	Development End Date: 10/31/2019	
Total Depth: 137 ft bgs	Well Completion: <input type="checkbox"/> Flush <input checked="" type="checkbox"/> Stick-up	

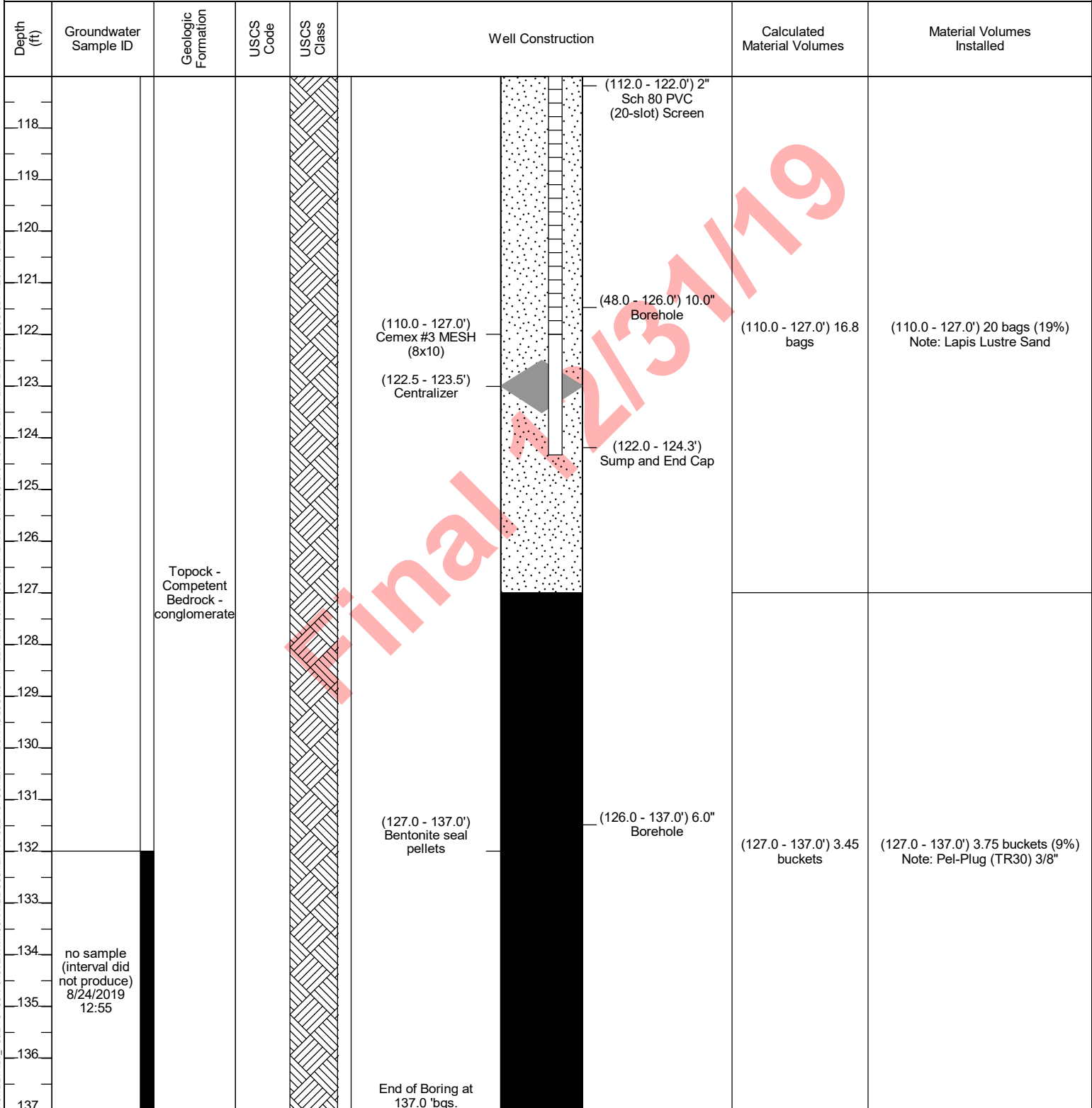
Depth (ft)	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Well Construction	Calculated Material Volumes	Material Volumes Installed		
98		Topock - Fluvial Deposits	SM		(82.0 - 102.0') 2" Sch 80 PVC (20-slot) Screen				
99									
100	MW-Y'-VAS-98-103 (<0.033 U ppb) 8/23/2019 21:24								
101					(79.9 - 105.0') Cemex #3 MESH (8x10)	(79.9 - 105.0') 25.5 bags	(79.9 - 105.0') 30 bags (18%) Note: Lapis Lustre Sand		
102					(102.5 - 103.5') Centralizer				
103					(102.0 - 104.3') Sump and End Cap				
104									
105		Topock - Competent Bedrock - conglomerate			(105.0 - 110.0') Bentonite seal pellets				
106									
107									
108					(48.0 - 126.0') 10.0" Borehole	(105.0 - 110.0') 4.8 buckets	(105.0 - 110.0') 4 buckets (-17%) Note: Pel-Plug (TR30) 3/8"		
109									
110									
111									
112					(112.0 - 122.0') 2" Sch 80 PVC (20-slot) Screen				
113									
114	MW-Y'-VAS-112-117 (<0.033 U ppb) 8/23/2019 15:11				(110.0 - 127.0') Cemex #3 MESH (8x10)	(110.0 - 127.0') 16.8 bags	(110.0 - 127.0') 20 bags (19%) Note: Lapis Lustre Sand		
115									
116									
117									

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WELL CONSTRUCTION DETAILS_PG&E_TOPOCK C:\USERS\SMCGRANE\DOCUMENTS\PG&E_TOPOCK\DRIFT BORING LOGS\GINT FILES\123119\TOPOCK DATABASE FOR PLOG.GPJ_TOPOCK DATA TEMPLATE FOR PLOG.GDT 12/31/19 15:24

Date Started: 09/06/2019	Surface Elevation: 460.0 ft amsl	Well ID: MW-92-102, MW-92-122
Date Completed: 09/25/2019	Shallow Well Elevation: 462.4 ft amsl	
Drilling Co.: Cascade	Deep Well Elevation: 462.3 ft amsl	Client: PG&E
Drilling Method: Sonic Drilling	Northing (NAD83): 2102813.6	Project: Final GW Remedy Phase 1
Driller Name: J. Khem / S. Vasquez	Easting (NAD83): 7617583.9	Location: PG&E Topock, Needles, California
Drilling Asst: L. Amaya / O. Flores	Borehole Diameter: 6-12 inches	
Logger: G. Willford / D. Cornell	Water Level Start: 5.77 ft bgs	Project Number: RC000753.0051
Editor: Sean McGrane	Development End Date: 10/31/2019	
Total Depth: 137 ft bgs	Well Completion: <input type="checkbox"/> Flush <input checked="" type="checkbox"/> Stick-up	

WELL CONSTRUCTION DETAILS_PG&E_TOPOCK C:\USERS\SMCGRANE\DOCUMENTS\PG&E_TOPOCK\DATABASE FOR PLOG.GPJ_TOPOCK DATA TEMPLATE FOR PLOG.GDT 12/31/19 15:24



Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery

Date Started:	08/20/2019	Surface Elevation:	460.0 ft amsl	Boring No.: MW-92d	
Date Completed:	09/05/2019	Northing (NAD83):	2102813.6		
Drilling Co.:	Cascade	Easting (NAD83):	7617583.9	Client:	PG&E
Drilling Method:	Sonic Drilling	Total Depth:	137 ft bgs	Project:	Final GW Remedy Phase 1
Drill Rig Type:	Pro-Sonic Truck Mounted	Borehole Diameter:	6-12 inches	Location:	PG&E Topock, Needles, California
Driller Name:	J. Khem / S. Vasquez	Depth to First Water:	4.6 ft bgs		
Drilling Asst:	L. Amaya / O. Flores	Sampling Method:	4 inch x 10 ft. Core Barrel	Project Number:	RC000753.0051
Logger:	G. Willford / D. Cornell	Sampling Interval:	Continuous		
Editor:	Sean McGrane	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Recovery (in)	Sieve Sample ID	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Soil Description	Drilling Notes	Drilling Fluid
1							(0.0 - 18.0') Topock - Fill; Poorly graded sand (SP); pale yellow (2.5Y 7/3); very fine grained to fine grained, subangular to subround; trace silt; some organics; dry; homogeneous	(0.0 - 3.0') Area around borehole subsided overnight after advancing the 10-inch casing.	(0.0 - 97.0') 4437 gallons of water used; 0 gallons of water recovered; 4437 gallons of water lost
2									
3									
4	60								
5									
6									
7							(7'); moist; no organics		
8								(7.0 - 17.0') Heaving sands.	
9				Topock - Fill	SP				
10		No Sieve Samples Collected					(10'); wet		
11									
12	120								
13								(12.0 - 17.0') Sample interval was chosen based on moisture content of soils. Static water during sampling was higher possible from drill water used for heaving sands or possible confining unit.	
14			MW-Y'-VAS-12-17 (<0.033 U ppb) 8/20/2019 13:58						
15									
16									
17									
18								(17.0 - 37.0') Soft drilling. Very loose material being pushed out by core barrel causing poor recovery. Heaving sands encountered.	
19	102			Topock - Fluvial Deposits	SP-SM		(18.0 - 26.0') Topock - Fluvial Deposits; Poorly graded sand with silt (SP-SM); grayish brown (10YR 5/2) with pale yellow (2.5Y 7/3); very fine grained to fine grained, subangular to round; little silt; trace clay; some organics; moist to wet (19'); no organics		
20									

Final 12131119

SOIL BORING LOG_PG&E_TOPOCK_C:\USERS\MCGRANE\DOCUMENTS\PG&E_TOPOCK\DRIFT BORING LOGS\GINT FILES\12.31.19\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 12/31/19 14:27

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery, blue water table symbol represents depth to water measured during the first VAS interval

Date Started: 08/20/2019	Surface Elevation: 460.0 ft amsl	Boring No.: MW-92d
Date Completed: 09/05/2019	Northing (NAD83): 2102813.6	
Drilling Co.: Cascade	Easting (NAD83): 7617583.9	Client: PG&E
Drilling Method: Sonic Drilling	Total Depth: 137 ft bgs	Project: Final GW Remedy Phase 1
Drill Rig Type: Pro-Sonic Truck Mounted	Borehole Diameter: 6-12 inches	Location: PG&E Topock, Needles, California
Driller Name: J. Khem / S. Vasquez	Depth to First Water: 4.6 ft bgs	
Drilling Asst: L. Amaya / O. Flores	Sampling Method: 4 inch x 10 ft. Core Barrel	Project Number: RC000753.0051
Logger: G. Willford / D. Cornell	Sampling Interval: Continuous	
Editor: Sean McGrane	Converted to Well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Depth (ft)	Recovery (in)	Sieve Sample ID	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Soil Description	Drilling Notes	Drilling Fluid
21				Topock - Fluvial Deposits	SP-SM	[Symbol]	(20'); some organics		
22							(20.5'); no organics		
23									
24									
25									
26							(26.0 - 37.0') No recovery (NR)		
27	102								
28									
29									
30		No Sieve Samples Collected							
31									
32								(30.0') Due to borehole conditions 10" casing was retreated from 75 ft bgs to 30 ft bgs and re-advanced to 70 ft bgs on 8.26.19.	
33									
34									
35									
36									
37									
38	6							(37.0 - 47.0') Soft drilling. Very loose material being pushed out by core barrel causing poor recovery. Core barrel pushed down 10 ft bgs with very little to	
39									
40									

Final 12131119

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SOIL BORING LOG: PG&E TOPOCK C:\USERS\MCGRANE\DOCUMENTS\PG&E TOPOCK\DRIFT BORING LOGS\GINT FILES\12131119\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 12/31/19 14:27

Date Started:	08/20/2019	Surface Elevation:	460.0 ft amsl	Boring No.: MW-92d	
Date Completed:	09/05/2019	Northing (NAD83):	2102813.6		
Drilling Co.:	Cascade	Easting (NAD83):	7617583.9	Client:	PG&E
Drilling Method:	Sonic Drilling	Total Depth:	137 ft bgs	Project:	Final GW Remedy Phase 1
Drill Rig Type:	Pro-Sonic Truck Mounted	Borehole Diameter:	6-12 inches	Location:	PG&E Topock, Needles, California
Driller Name:	J. Khem / S. Vasquez	Depth to First Water:	4.6 ft bgs		
Drilling Asst:	L. Amaya / O. Flores	Sampling Method:	4 inch x 10 ft. Core Barrel	Project Number:	RC000753.0051
Logger:	G. Willford / D. Cornell	Sampling Interval:	Continuous		
Editor:	Sean McGrane	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Recovery (in)	Sieve Sample ID	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Soil Description	Drilling Notes	Drilling Fluid
41								no resistance, approximately 0.5 ft of soil in core barrel. Heaving sands encountered.	
42									
43	6				NR				
44									
45								(47.0 - 60.0') Topock - Fluvial Deposits; Poorly graded sand (SP); very pale brown (10YR 7/3); very fine grained to fine grained, subangular to round; trace silt; moist to wet	(47.0 - 57.0') Soft drilling. Heaving sands encountered.
46									
47									
48									
49									
50		No Sieve Samples Collected							
51									
52	120								
53				Topock - Fluvial Deposits	SP				
54			MW-Y'-VAS-52-57 (<0.033 U ppb) 8/21/2019 11:41						
55							(55'); saturated		
56									
57							(57'); moist to wet		
58								(57.0 - 67.0') Soft drilling. Heaving sands encountered.	
59	120								
60									

Final 12131119

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SOIL BORING LOG: PG&E TOPOCK C:\USERS\MCGRANE\DOCUMENTS\PG&E TOPOCK\DRIFT BORING LOGS\GINT FILES\12131119\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 12/31/19 14:27

Date Started:	08/20/2019	Surface Elevation:	460.0 ft amsl	Boring No.: MW-92d	
Date Completed:	09/05/2019	Northing (NAD83):	2102813.6		
Drilling Co.:	Cascade	Easting (NAD83):	7617583.9	Client:	PG&E
Drilling Method:	Sonic Drilling	Total Depth:	137 ft bgs	Project:	Final GW Remedy Phase 1
Drill Rig Type:	Pro-Sonic Truck Mounted	Borehole Diameter:	6-12 inches	Location:	PG&E Topock, Needles, California
Driller Name:	J. Khem / S. Vasquez	Depth to First Water:	4.6 ft bgs		
Drilling Asst:	L. Amaya / O. Flores	Sampling Method:	4 inch x 10 ft. Core Barrel	Project Number:	RC000753.0051
Logger:	G. Willford / D. Cornell	Sampling Interval:	Continuous		
Editor:	Sean McGrane	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Recovery (in)	Sieve Sample ID	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Soil Description	Drilling Notes	Drilling Fluid
61	120			Topock - Fluvial Deposits	SP-SM		(60.0 - 68.0') Topock - Fluvial Deposits; Poorly graded sand with silt (SP-SM); very pale brown (10YR 7/3); very fine grained to very fine grained, subangular to round; little medium grained sand, subangular to round; little silt; wet		
62									
63									
64									
65	No Sieve Samples Collected			Topock - Fluvial Deposits	SW-SM		(68.0 - 71.5') Topock - Fluvial Deposits; Well graded sand with silt and gravel (SW-SM); very pale brown (10YR 7/3); very fine grained to very coarse grained, subangular to round; little granules to large pebbles, subround to round; little silt; wet	(67.0 - 77.0') Soft drilling. Very loose material being pushed out by core barrel causing poor recovery. Heaving sands encountered.	
66									
67									
68									
69									
70									
71	54			NR			(71.5 - 77.0') No recovery (NR)		
72									
73									
74	120			Topock - Fluvial Deposits	SP-SM		(77.0 - 80.0') Topock - Fluvial Deposits; Poorly graded sand with silt (SP-SM); very pale brown (10YR 7/3); very fine grained to medium grained, subangular to round; little granules to medium pebbles, subangular to round; little silt; wet	(77.0 - 87.0') Soft drilling. Very loose material being pushed out by core barrel causing poor recovery. Heaving sands encountered. Spindle bolts	
75									
76									
77									
78									
79									
80									

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SOIL BORING LOG: PG&E-TOPOCK-C:\USERS\MCGRANE\DOCUMENTS\PG&E-TOPOCK\DRIFT BORING LOGS\GINT FILES\12.31.19\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 12/31/19 14:27

Date Started:	08/20/2019	Surface Elevation:	460.0 ft amsl	Boring No.: MW-92d	
Date Completed:	09/05/2019	Northing (NAD83):	2102813.6		
Drilling Co.:	Cascade	Easting (NAD83):	7617583.9	Client:	PG&E
Drilling Method:	Sonic Drilling	Total Depth:	137 ft bgs	Project:	Final GW Remedy Phase 1
Drill Rig Type:	Pro-Sonic Truck Mounted	Borehole Diameter:	6-12 inches	Location:	PG&E Topock, Needles, California
Driller Name:	J. Khem / S. Vasquez	Depth to First Water:	4.6 ft bgs		
Drilling Asst:	L. Amaya / O. Flores	Sampling Method:	4 inch x 10 ft. Core Barrel	Project Number:	RC000753.0051
Logger:	G. Willford / D. Cornell	Sampling Interval:	Continuous		
Editor:	Sean McGrane	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Recovery (in)	Sieve Sample ID	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Soil Description	Drilling Notes	Drilling Fluid
81	120			Topock - Fluvial Deposits	SW-SM	[Soil Diagram]	(80.0 - 87.5') Topock - Fluvial Deposits; Well graded sand with silt and gravel (SW-SM); very fine grained to very coarse grained, subangular to round; some granules to very large pebbles, subround to round; little silt; trace small cobbles, subround; wet	broke while advancing 6-inch casing.	
82									
83									
84									
85	No Sieve Samples Collected			Topock - Fluvial Deposits	SM	[Soil Diagram]	(87.5 - 97.0') Topock - Fluvial Deposits; Silty sand with gravel (SM); pale brown (10YR 6/3); very fine grained to coarse grained, subangular to round; little granules to medium pebbles, subangular to round; little silt; trace small cobbles, round; trace clay; wet	(87.0 - 97.0') Soft drilling. Heaving sands encountered.	
86									
87									
88									
89									
90									
91									
92	120		MW-Y-VAS-92-97 (0.31 ppb) 8/22/2019 11:43	Topock - Fluvial Deposits	SM	[Soil Diagram]	(88.0 - 88.2'); fat clay lense		
93									
94									
95	72		MW-Y-VAS-98-103 (<0.033 U ppb) 8/23/2019 21:24	Topock - Fluvial Deposits	SM	[Soil Diagram]	(97.0 - 101.6') Topock - Fluvial Deposits; Silty sand with gravel (SM); pale brown (10YR 6/3) some gray (10YR 6/1); very fine grained to coarse grained, subangular to round; little granules to large pebbles, subangular to round; little silt; trace clay; wet to moist	(97.0 - 107.0') No water used	
96									
97									
98									
99									
100									

Final 12/31/19

SOIL BORING LOG_PG&E_TOPOCK_C:\USERS\MCGRANE\DOCUMENTS\PG&E_TOPOCK\DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 12/31/19 14:27

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery, blue water table symbol represents depth to water measured during the first VAS interval

Date Started:	08/20/2019	Surface Elevation:	460.0 ft amsl	Boring No.: MW-92d	
Date Completed:	09/05/2019	Northing (NAD83):	2102813.6		
Drilling Co.:	Cascade	Easting (NAD83):	7617583.9	Client:	PG&E
Drilling Method:	Sonic Drilling	Total Depth:	137 ft bgs	Project:	Final GW Remedy Phase 1
Drill Rig Type:	Pro-Sonic Truck Mounted	Borehole Diameter:	6-12 inches	Location:	PG&E Topock, Needles, California
Driller Name:	J. Khem / S. Vasquez	Depth to First Water:	4.6 ft bgs		
Drilling Asst:	L. Amaya / O. Flores	Sampling Method:	4 inch x 10 ft. Core Barrel	Project Number:	RC000753.0051
Logger:	G. Willford / D. Cornell	Sampling Interval:	Continuous		
Editor:	Sean McGrane	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Recovery (in)	Sieve Sample ID	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Soil Description	Drilling Notes	Drilling Fluid
101	72		MW-Y- VAS-98-103 (<0.033 U ppb) 8/23/2019 21:24	Topock - Fluvial Deposits	SM			(100.0 - 103.0') Rough drilling.	
102							(101.6 - 137.0') Topock - Competent Bedrock - conglomerate; red (2.5YR 4/8); dry; strong cementation; heavily fractured-pulverized rock, friable		
103								(103.0 - 107.0') Very rough drilling.	
104									
105	48								
106									
107									
108		No Sieve Samples Collected						(107.0 - 117.0') Very rough drilling.	(107.0 - 117.0') 100 gallons of water used; 0 gallons of water recovered; 100 gallons of water lost
109				Topock - Competent Bedrock - conglomerate					
110									
111									
112	120								
113			MW-Y'-VAS- 112-117 (<0.033 U ppb) 8/23/2019 15:11						
114									
115									
116									
117									
118	120							(117.0 - 127.0') Very rough drilling.	(117.0 - 127.0') 60 gallons of water used; 0 gallons of water recovered; 60 gallons of water lost
119									
120									

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SOIL BORING LOG: PG&E-TOPOCK C:\USERS\MCGRANE\DOCUMENTS\PG&E-TOPOCK\DRIFT BORING LOGS\GINT FILES\12.31.19\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 12/31/19 14:27

Date Started: 08/20/2019	Surface Elevation: 460.0 ft amsl	Boring No.: MW-92d
Date Completed: 09/05/2019	Northing (NAD83): 2102813.6	
Drilling Co.: Cascade	Easting (NAD83): 7617583.9	Client: PG&E
Drilling Method: Sonic Drilling	Total Depth: 137 ft bgs	Project: Final GW Remedy Phase 1
Drill Rig Type: Pro-Sonic Truck Mounted	Borehole Diameter: 6-12 inches	Location: PG&E Topock, Needles, California
Driller Name: J. Khem / S. Vasquez	Depth to First Water: 4.6 ft bgs	
Drilling Asst: L. Amaya / O. Flores	Sampling Method: 4 inch x 10 ft. Core Barrel	Project Number: RC000753.0051
Logger: G. Willford / D. Cornell	Sampling Interval: Continuous	
Editor: Sean McGrane	Converted to Well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

SOIL BORING LOG: PG&E-TOPOCK C:\USERS\MCGRANE\DOCUMENTS\PG&E-TOPOCK\DRIFT BORING LOGS\GINT FILES\12.31.19\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 12/31/19 14:27

Depth (ft)	Recovery (in)	Sieve Sample ID	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Soil Description	Drilling Notes	Drilling Fluid
121									
122									
123									
124	120								
125									
126									
127									
128		No Sieve Samples Collected		Topock - Competent Bedrock - conglomerate				(127.0 - 132.0') Very rough drilling.	(127.0 - 137.0') 735 gallons of water used; 675 gallons of water recovered; 60 gallons of water lost
129	60								
130									
131									
132									
133								(132.0 - 137.0') Very rough drilling.	
134	60		no sample (interval did not produce) 8/24/2019 12:55						
135									
136									
137									
End of Boring at 137.0' bgs.									
138									
139									
140									

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