

Date Started: 10/14/2020	Surface Elevation: 499.73 ft amsl	Well ID: MW-98-55, MW-98-77
Date Completed: 10/24/2020	Shallow Well Elevation: 502.12 ft amsl	
Drilling Co.: Cascade	Deep Well Elevation: 502.02 ft amsl	Client: PG&E
Drilling Method: Sonic Drilling	Northing (NAD83): 2101189.85	Project: Final GW Remedy Phase 1
Driller Name: Jose Hernandez	Easting (NAD83): 7615677.40	Location: PG&E Topock, Needles, California
Drilling Asst: J. Colon / J. Martinez	Borehole Diameter: 8-12 inches	
Logger: Joe Latham	Static Water Level: See Log for Depths	Project Number: RC000753.0051
Editor: Sean McGrane	Development End Date: 10/30/2020	
Total Depth: 89 ft bgs	Well Completion: <input type="checkbox"/> Flush <input checked="" type="checkbox"/> Stick-up <input type="checkbox"/> To Be Completed in Well Vault	

Depth (ft)	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Well Construction	Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume
0					(+2.4 - 39.9') 2" PVC Sch 80 Casing		Note: 12x12-inch Lockable Steel Monument painted desert sand.
0.5					(+2.3 - 67.0') 2" PVC Sch 80 Casing		
0.5 - 1.3		Topock - Fluvial Deposits	SW		(+3.2 - 4.5') Surface Completion		(+1.3 - 4.5') 21 bags Note: 30" diameter concrete pad Quikrete concrete.
3.4 - 32.6		Topock - Alluvium Deposits	SW-SC		(3.4 - 32.6') Portland Cement 6% Bentonite Type I, II, and V with Hydrogel	(3.4 - 32.6') 143.1 gallons	(3.4 - 32.6') 150 gallons (105%) Note: Grout seal
0.0 - 17.0					(0.0 - 17.0') 12" Borehole		
14.5 - 15.5		Topock - Alluvium Deposits	SW		(14.5 - 15.5') Centralizer		

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, NR = no recovery; Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) measured post development for the shallow well and deep well respectively; installed in MW-98

WELL CONSTRUCTION DETAILS_PG&E_TOPOCK C:\USERS\SMCGRANE\DOCUMENTS\PG&E_TOPOCK\DRIFT BORING LOGS\GINT FILES\122820\TOPOCK DATABASE FOR PLOG.GPJ_TOPOCK DATA TEMPLATE FOR PLOG.GDT 12/28/20 08:50

Date Started: 10/14/2020	Surface Elevation: 499.73 ft amsl	Well ID: MW-98-55, MW-98-77
Date Completed: 10/24/2020	Shallow Well Elevation: 502.12 ft amsl	
Drilling Co.: Cascade	Deep Well Elevation: 502.02 ft amsl	Client: PG&E
Drilling Method: Sonic Drilling	Northing (NAD83): 2101189.85	Project: Final GW Remedy Phase 1
Driller Name: Jose Hernandez	Easting (NAD83): 7615677.40	Location: PG&E Topock, Needles, California
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Logger: Joe Latham	Static Water Level: See Log for Depths	Project Number: RC000753.0051
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Depth (ft)	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Well Construction	Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume
17		Topock - Alluvium Deposits	SW	[Pattern]	(+2.4 - 39.9') 2" PVC Sch 80 Casing		
18					(+2.3 - 67.0') 2" PVC Sch 80 Casing		
19		Topock - Alluvium Deposits	SC	[Pattern]	(3.4 - 32.6') Portland Cement 6% Bentonite Type I, II, and V with Hydrogel	(3.4 - 32.6') 143.1 gallons	(3.4 - 32.6') 150 gallons (105%) Note: Grout seal
20							
21		Topock - Alluvium Deposits	SW	[Pattern]	(17.0 - 81.0') 10" Borehole		
22							
23		Topock - Alluvium Deposits	SC	[Pattern]			
24							
25		Topock - Alluvium Deposits	SW	[Pattern]	(32.6 - 37.6') Cemex #0/30 MESH (30x50) Lapis Lustre Sand	(32.6 - 37.6') 5 bags	(32.6 - 37.6') 6 bags (120%) Note: Transition sand, used >20% of the calculated volume due to potential voids forming during drilling.
26							
27		Topock - Alluvium Deposits	SW	[Pattern]			
28							
29		Topock - Alluvium Deposits	SC	[Pattern]			
30							
31		Topock - Alluvium Deposits	SW	[Pattern]			
32							
33		Topock - Alluvium Deposits	SW	[Pattern]			
34							
35		Topock - Alluvium Deposits	SW	[Pattern]			
36							

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Drilling Co.: Cascade	Deep Well Elevation: 502.02 ft amsl	Client: PG&E
Drilling Method: Sonic Drilling	Northing (NAD83): 2101189.85	Project: Final GW Remedy Phase 1
Driller Name: Jose Hernandez	Easting (NAD83): 7615677.40	Location: PG&E Topock, Needles, California
Drilling Asst: J. Colon / J. Martinez	Borehole Diameter: 8-12 inches	
Logger: Joe Latham	Static Water Level: See Log for Depths	Project Number: RC000753.0051
Editor: Sean McGrane	Development End Date: 10/30/2020	
Total Depth: 89 ft bgs	Well Completion: <input type="checkbox"/> Flush <input checked="" type="checkbox"/> Stick-up <input type="checkbox"/> To Be Completed in Well Vault	

Depth (ft)	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Well Construction	Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume		
37		Topock - Alluvium Deposits	SW-SC	[Pattern]	(+2.4 - 39.9') 2" PVC Sch 80 Casing	(32.6 - 37.6') 5 bags			
38					(37.6 - 38.0') Bentonite chip seal Puregold Medium Chips	(37.6 - 38.0') 0.3 bags	(37.6 - 38.0') 0.5 bags (167%) Note: Bentonite seal, used >20% of the calculated volume due to potential voids forming during drilling.		
39		Topock - Alluvium Deposits	SW	[Pattern]					
40		Topock - Alluvium Deposits	SW-SC	[Pattern]					
41		Topock - Alluvium Deposits	SC	[Pattern]	(39.9 - 55.0') 2" 0.20-Slot PVC Sch 80 Screen				
42									
43									
44									
45	MW-98-VAS-44-49 (14 ppb) 10/10/2020 15:22	Topock - Alluvium Deposits	SC	[Pattern]	(38.0 - 59.0') Cemex #3 MESH (8x10) Lapis Lustre Sand	(38.0 - 59.0') 20.4 bags	(38.0 - 59.0') 29 bags (142%) Note: Filter pack, used >20% of the calculated volume due to potential voids forming during drilling.		
46									
47									
48		Topock - Alluvium Deposits	SM	[Pattern]	(17.0 - 81.0') 10" Borehole				
49									
50		Topock - Alluvium Deposits	SW	[Pattern]					
51									
52		Topock - Alluvium Deposits	SM	[Pattern]					
53									
54		Topock - Alluvium Deposits	SC	[Pattern]					
55									
56		Topock - Alluvium Deposits	SC	[Pattern]	(55.5 - 56.5') Centralizer				

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Date Completed: 10/24/2020	Shallow Well Elevation: 502.12 ft amsl	
Drilling Co.: Cascade	Deep Well Elevation: 502.02 ft amsl	Client: PG&E
Drilling Method: Sonic Drilling	Northing (NAD83): 2101189.85	Project: Final GW Remedy Phase 1
Driller Name: Jose Hernandez	Easting (NAD83): 7615677.40	Location: PG&E Topock, Needles, California
Drilling Asst: J. Colon / J. Martinez	Borehole Diameter: 8-12 inches	
Logger: Joe Latham	Static Water Level: See Log for Depths	Project Number: RC000753.0051
Editor: Sean McGrane	Development End Date: 10/30/2020	
Total Depth: 89 ft bgs	Well Completion: <input type="checkbox"/> Flush <input checked="" type="checkbox"/> Stick-up <input type="checkbox"/> To Be Completed in Well Vault	

Depth (ft)	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Well Construction	Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume
57		Topock - Alluvium Deposits	SC	[Diagonal Hatching]	(55.0 - 57.3') Sump and SS End Cap		
58					(38.0 - 59.0') Cemex #3 MESH (8x10) Lapis Lustre Sand	(+2.3 - 67.0') 2" PVC Sch 80 Casing	(38.0 - 59.0') 20.4 bags
59		Topock - Alluvium Deposits	SW-SM	[Dotted]	[Solid Blue]		
60							
61		Topock - Alluvium Deposits	SM	[Dotted]	[Solid Blue]		
62							
63		Topock - Alluvium Deposits	SM	[Dotted]	[Solid Blue]		
64							
65		Topock - Alluvium Deposits	SC	[Diagonal Hatching]	[Solid Blue]		
66							
67		Topock - Alluvium Deposits	SM	[Dotted]	[Solid Blue]		
68							
69		Topock - Alluvium Deposits	SM	[Dotted]	[Solid Blue]		
70							
71		Topock - Alluvium Deposits	SW-SM	[Dotted]	[Solid Blue]		
72							
73		Topock - Alluvium Deposits	SM	[Dotted]	[Solid Blue]		
74	MW-98-VAS-72-77 (430 ppb) 10/11/2020 14:23						
75		Topock - Alluvium Deposits	SM	[Dotted]	[Solid Blue]		
76							

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Drilling Co.: Cascade	Deep Well Elevation: 502.02 ft amsl	Client: PG&E
Drilling Method: Sonic Drilling	Northing (NAD83): 2101189.85	Project: Final GW Remedy Phase 1
Driller Name: Jose Hernandez	Easting (NAD83): 7615677.40	Location: PG&E Topock, Needles, California
Drilling Asst: J. Colon / J. Martinez	Borehole Diameter: 8-12 inches	
Logger: Joe Latham	Static Water Level: See Log for Depths	Project Number: RC000753.0051
Editor: Sean McGrane	Development End Date: 10/30/2020	
Total Depth: 89 ft bgs	Well Completion: <input type="checkbox"/> Flush <input checked="" type="checkbox"/> Stick-up <input type="checkbox"/> To Be Completed in Well Vault	

Depth (ft)	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Well Construction	Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume
77							
78					(77.5 - 78.5') Centralizer		
79					(65.0 - 81.0') Cemex #3 MESH (8x10) Lapis Lustre Sand	(65.0 - 81.0') 16.9 bags	(65.0 - 81.0') 22 bags (130%) Note: Filter pack, used >20% of the calculated volume due to potential voids forming during drilling.
80					(77.0 - 79.3') Sump and SS End Cap		
81					(17.0 - 81.0') 10" Borehole		
82		Topock - Competent					
83		Bedrock - conglomerate					
84							
85					(81.0 - 89.0') Bentonite pellets seal Pel-Plug (TR30) 3/8"	(81.0 - 89.0') 4.5 buckets	(81.0 - 89.0') 4 buckets (89%) Note: Decommissioned rathole
86							
87							
88							
89					End of Boring at 89.0 ft bgs.		
90							
91							
92							
93							
94							
95							
96							

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Date Started: 10/09/2020	Surface Elevation: 499.73 ft amsl	Boring No.: MW-98
Date Completed: 10/13/2020	Northing (NAD83): 2101189.85	
Drilling Co.: Cascade	Easting (NAD83): 7615677.40	Client: PG&E
Drilling Method: Sonic Drilling	Total Depth: 89 ft bgs	Project: Final GW Remedy Phase 1
Drill Rig Type: Terrasonic track mount	Borehole Diameter: 8-12 inches	Location: PG&E Topock, Needles, California
Driller Name: Jose Hernandez	Depth to First Water: 43.8 ft bgs	Project Number: RC000753.0051
Drilling Asst: J. Colon / J. Martinez	Sampling Method: 4 inch x 10 ft. Core Barrel	
Logger: Joe Latham	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				Topock - Fluvial Deposits	SW		(0.0 - 5.0') Topock - Fluvial Deposits; Well graded sand with gravel (SW); brown (7.5YR 5/3); very fine grained to very coarse grained, angular to round; little granules to very large pebbles, angular to round; trace cobbles, round; trace clay; trace mica; little metadiorite; moist	(0.0 - 5.0') Used 32 inch diameter asphalt cutting tool to through asphalt and hand cleared to approximately 5 ft bgs. Slough leftover after hand augering in core. (3.5')	(0.0 - 5.0') No water used		
2										Hand auger refusal due to boulder. (5.0 - 15.0')	(5.0 - 15.0') No water used
3				Topock - Alluvium Deposits	SW-SC		(5.0 - 11.0') Topock - Alluvium Deposits; Well graded sand with clay and gravel (SW-SC); dark yellowish brown (10YR 4/4); very fine grained to very coarse grained, angular to subround; little granules to very large pebbles, angular to subangular; little clay; moist; coarser clast composed of metadiorite	(5.0 - 15.0') Normal drilling	(5.0 - 15.0') No water used		
4											
5											
6	120	No Sieve Samples Collected									
7				Topock - Alluvium Deposits	SW-SC		(11.0 - 11.5') Topock - Alluvium Deposits; Well graded sand with clay and gravel (SW-SC); pale brown (10YR 6/3); very fine grained to very coarse grained, angular to subangular; some granules to very large pebbles, angular to subangular; little clay; no odor; no staining; coarser clast composed of metadiorite				
8											
9				Topock - Alluvium Deposits	SW-SC		(11.5 - 12.5') Topock - Alluvium Deposits; Well graded sand with clay and gravel (SW-SC); dark yellowish brown (10YR 4/4); very fine grained to very coarse grained, angular to subround; little granules to very large pebbles, angular to subangular; little clay; moist; coarser clast composed of metadiorite				
10											
11				Topock - Alluvium Deposits	SW		(12.5 - 13.5') Topock - Alluvium Deposits; Well graded sand with clay and gravel (SW-SC); pale brown (10YR 6/3); very fine grained to very coarse grained, angular to subangular; some granules to very large pebbles, angular to subangular; little clay; no odor; no staining; coarser clast composed of metadiorite	(15.0 - 25.0') Normal drilling	(15.0 - 25.0') No water used		
12											
13											
14				Topock - Alluvium Deposits	SW		(13.5 - 19.5') Topock - Alluvium Deposits; Well graded sand with gravel (SW); brown (7.5YR 5/3); very fine grained to very coarse grained, angular to subangular; and granules to very large pebbles, angular to subangular; trace clay; no odor; iron oxide staining; coarser clast composed of metadiorite				
15	120										
16											
17											
18											
19											
20					SC		(19.5 - 25.0') Topock - Alluvium Deposits; Clayey sand with gravel				

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SOIL BORING LOG: PG&E TOPOCK C:\USERS\SMCGRANE\DOCUMENTS\PG&E TOPOCK\DRIFT BORING LOGS\GINT FILES\12.28.20\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 1/28/20 09:14

Date Started: 10/09/2020	Surface Elevation: 499.73 ft amsl	Boring No.: MW-98
Date Completed: 10/13/2020	Northing (NAD83): 2101189.85	
Drilling Co.: Cascade	Easting (NAD83): 7615677.40	Client: PG&E
Drilling Method: Sonic Drilling	Total Depth: 89 ft bgs	Project: Final GW Remedy Phase 1
Drill Rig Type: Terrasonic track mount	Borehole Diameter: 8-12 inches	Location: PG&E Topock, Needles, California
Driller Name: Jose Hernandez	Depth to First Water: 43.8 ft bgs	Project Number: RC000753.0051
Drilling Asst: J. Colon / J. Martinez	Sampling Method: 4 inch x 10 ft. Core Barrel	
Logger: Joe Latham	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	120			Topock - Alluvium Deposits	SC		(SC); brown (7.5YR 5/3); very fine grained to very coarse grained, angular to subangular; little granules to very large pebbles, angular to subround; little clay; dry to moist; iron oxide staining; caliche nodules, coarser clast composed of metadiorite		
22									
23									
24									
25	108	No Sieve Samples Collected		Topock - Alluvium Deposits	SW		(25.0 - 28.0') Topock - Alluvium Deposits; Well graded sand with gravel (SW); dark yellowish brown (10YR 4/6); very fine grained to very coarse grained, angular to subangular; little granules to very large pebbles, angular to subangular; trace clay; moist; iron oxide staining; coarser clast composed of metadiorite	(25.0 - 32.0') Normal drilling	(25.0 - 34.0') No water used
26									
27									
28									
29									
30									
31									
32									
33	12			Topock - Alluvium Deposits	SC		(28.0 - 34.0') Topock - Alluvium Deposits; Clayey sand with gravel (SC); brown (7.5YR 5/4); very fine grained to very coarse grained, angular to subangular; little small pebbles to very large pebbles, angular to subangular; little clay; dry to moist; iron oxide staining; caliche nodules, coarser clast composed of metadiorite	(32.0 - 34.0') Rough/hard drilling	
34									
35									
36									
37	60			Topock - Alluvium Deposits	SW		(34.0 - 37.0') Topock - Alluvium Deposits; Well graded sand with gravel (SW); dark yellowish brown (10YR 4/4); very fine grained to very coarse grained, angular to subangular; trace clay; moist; iron oxide staining; caliche nodules, coarser clast composed of metadiorite	(34.0 - 39.5') Normal drilling	(34.0 - 40.0') No water used
38									
39									
40									

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Drilling Co.:	Cascade	Easting (NAD83):	7615677.40	Client:	PG&E
Drilling Method:	Sonic Drilling	Total Depth:	89 ft bgs	Project:	Final GW Remedy Phase 1
Drill Rig Type:	Terrasonic track mount	Borehole Diameter:	8-12 inches	Location:	PG&E Topock, Needles, California
Driller Name:	Jose Hernandez	Depth to First Water:	43.8 ft bgs	Project Number:	RC000753.0051
Drilling Asst:	J. Colon / J. Martinez	Sampling Method:	4 inch x 10 ft. Core Barrel		
Logger:	Joe Latham	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	60			Alluvium Deposits	SC		staining; caliche nodules, coarser clast composed of metadiorite (39.5 - 40.0') Topock - Alluvium Deposits; Well graded sand with clay and gravel (SW-SC); yellowish brown / moderate yellowish brown (10YR 5/4); very fine grained to very coarse grained, angular to subangular; little granules to very large pebbles, angular to subangular; little clay; dry; iron oxide staining; caliche nodules, coarser clast composed of metadiorite	Rough drilling (40.0 - 43.0') Normal drilling	(40.0 - 45.0') No water used	
42				Topock - Alluvium Deposits			(40.0 - 45.0') Topock - Alluvium Deposits; Clayey sand with gravel (SC); brown (7.5YR 4/4); very fine grained to very coarse grained, angular to subangular; little granules to very large pebbles, angular to subangular; little clay; moist; iron oxide staining; coarser clast composed of metadiorite (42.5'); wet	(43.0 - 45.0') Rough drilling		
43	60	No Sieve Samples Collected	MW-98-VAS-44-49 (14 ppb) 10/10/2020 15:22	Topock - Alluvium Deposits	SC		(45.0 - 50.0') Topock - Alluvium Deposits; Clayey sand with gravel (SC); yellowish brown / moderate yellowish brown (10YR 5/4); very fine grained to very coarse grained, angular to subangular; little granules to very large pebbles, angular to subangular; little clay; trace silt; moist; 5G 5/2 specks, coarser clast composed of metadiorite	(45.0 - 47.0') Normal drilling	(45.0 - 47.0') No water used	
44									(47.0 - 49.0') Rough drilling	(47.0 - 50.0') No water used
45									(49.0 - 50.0') Normal drilling	
46	60			Topock - Alluvium Deposits	SM		(50.0 - 53.0') Topock - Alluvium Deposits; Silty sand with gravel (SM); yellowish brown / moderate yellowish brown (10YR 5/4); very fine grained to very coarse grained, angular to subangular; little granules to very large pebbles, angular to subangular; little silt; trace cobbles; trace clay; moist to wet; iron oxide staining; 5G 5/2 and caliche nodules, coarser clast composed of metadiorite (50.5'); moist (51.5'); dry to moist (52.5'); wet	(50.0 - 53.0') Normal drilling	(50.0 - 55.0') No water used	
47										
48	60			Topock - Alluvium Deposits	SW		(53.0 - 54.0') Topock - Alluvium Deposits; Well graded sand with gravel (SW); dark yellowish brown (10YR 4/6); very fine grained to very coarse grained, angular to subangular; little granules to very large pebbles, angular to subangular; trace silt; wet; coarser clast composed of metadiorite	(53.0 - 55.0') Rough drilling		
49										
50	60			Topock - Alluvium Deposits	SM		(54.0 - 55.0') Topock - Alluvium Deposits; Silty sand with gravel (SM); yellowish brown / moderate yellowish brown (10YR 5/4); very fine grained to very coarse grained, angular to subangular; little granules to very large pebbles, angular to subangular; little silt; trace cobbles; trace clay; wet; iron oxide staining; 5G 5/2 and caliche nodules, coarser clast composed of metadiorite (54.5'); dry to moist		(55.0 - 60.0') No water used	
51										
52	84			Topock - Alluvium Deposits	SC		(55.0 - 59.5') Topock - Alluvium Deposits; Clayey sand with gravel (SC); brown (7.5YR 5/3); very fine grained to very coarse grained, angular to subangular; little granules to very large pebbles, angular to subangular; little silt; wet; iron oxide staining; 5G 5/2 and caliche nodules, coarser clast composed of metadiorite	(57.0') Rough drilling		
53										
54	84			Topock - Alluvium Deposits	SW-SM		(59.5 - 61.5') Topock - Alluvium Deposits; Well graded sand with	(59.0') Rough drilling		
55										

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SOIL BORING LOG: PG&E TOPOCK C:\USERS\SMCGRANE\DOCUMENTS\PG&E TOPOCK\DRIFT BORING LOGS\GINT FILES\12.28.20\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 12/28/20 09:14

Date Started:	10/09/2020	Surface Elevation:	499.73 ft amsl	Boring No.: MW-98	
Date Completed:	10/13/2020	Northing (NAD83):	2101189.85		
Drilling Co.:	Cascade	Easting (NAD83):	7615677.40	Client:	PG&E
Drilling Method:	Sonic Drilling	Total Depth:	89 ft bgs	Project:	Final GW Remedy Phase 1
Drill Rig Type:	Terrasonic track mount	Borehole Diameter:	8-12 inches	Location:	PG&E Topock, Needles, California
Driller Name:	Jose Hernandez	Depth to First Water:	43.8 ft bgs	Project Number:	RC000753.0051
Drilling Asst:	J. Colon / J. Martinez	Sampling Method:	4 inch x 10 ft. Core Barrel		
Logger:	Joe Latham	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	84			Topock - Alluvium Deposits	SW-SM		silt and gravel (SW-SM); brown (7.5YR 5/4); very fine grained to very coarse grained; little granules to very large pebbles; little silt; moist to wet; iron oxide staining; 5G 5/2 and caliche nodules, coarser clast composed of metadiorite	(61.0') Rough drilling	(60.0 - 62.0') No water used
62				Topock - Alluvium Deposits	SM		(61.5 - 64.0') Topock - Alluvium Deposits; Silty sand with gravel (SM); brown (10YR 5/3); granules to very large pebbles; some very fine grained to very coarse grained sand; some silt; trace clay; dry; iron oxide staining; coarser clast composed of metadiorite (62'); moist to wet	(62.0 - 65.0') Normal drilling (62.0') Rough drilling	(62.0 - 75.0') No water used
63									
64									
65				Topock - Alluvium Deposits	SC		(64.0 - 70.0') Topock - Alluvium Deposits; Clayey sand with gravel (SC); brown (7.5YR 5/3); very fine grained to very coarse grained; some granules to very large pebbles; little clay; trace silt; moist to wet; iron oxide staining; 5G 5/2 staining, coarser clast composed of metadiorite	(65.0 - 70.0') Rough drilling	
66									
67									
68									
69	144								
70		No Sieve Samples Collected							
71				Topock - Alluvium Deposits	SM		(70.0 - 73.0') Topock - Alluvium Deposits; Silty sand with gravel (SM); grayish brown (10YR 5/2); very fine grained to very coarse grained; little granules to very large pebbles; little silt; little clay; moist to wet; iron oxide staining; coarser clast composed of metadiorite	(70.0 - 71.0') Normal drilling	
72								(71.0 - 72.0') Rough drilling	
73								(72.0 - 75.0') Normal drilling	
74			MW-98-VAS-72-77 (430 ppb) 10/11/2020 14:23	Topock - Alluvium Deposits	SW-SM		(73.0 - 75.0') Topock - Alluvium Deposits; Well graded sand with silt and gravel (SW-SM); brown (10YR 4/3); very fine grained to very coarse grained; some granules to very large pebbles; little silt; saturated; no staining; coarser clast composed of metadiorite		
75									
76				Topock - Alluvium Deposits	SM		(75.0 - 77.0') Topock - Alluvium Deposits; Silty sand with gravel (SM); grayish brown (10YR 5/2); very fine grained to very coarse grained; some granules to very large pebbles; little silt; little clay; moist; 5G 5/2 specks, coarser clast composed of metadiorite	(75.0 - 77.0') Normal drilling	(75.0 - 80.0') No water used
77									
78	60			Topock - Competent Bedrock - conglomerate			(77.0 - 89.0') Topock - Competent Bedrock - conglomerate; red (2.5YR 4/8); dry; friable, pulverized	(77.0 - 80.0') Rough drilling	
79									
80									

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SOIL BORING LOG: PG&E-TOPOCK C:\USERS\SMCGRANE\DOCUMENTS\PG&E-TOPOCK\DRIFT BORING LOGS\GINT FILES\12.28.20\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 12/28/20 09:14

Date Started: 10/09/2020	Surface Elevation: 499.73 ft amsl	Boring No.: MW-98
Date Completed: 10/13/2020	Northing (NAD83): 2101189.85	
Drilling Co.: Cascade	Easting (NAD83): 7615677.40	Client: PG&E
Drilling Method: Sonic Drilling	Total Depth: 89 ft bgs	Project: Final GW Remedy Phase 1
Drill Rig Type: Terrasonic track mount	Borehole Diameter: 8-12 inches	Location: PG&E Topock, Needles, California
Driller Name: Jose Hernandez	Depth to First Water: 43.8 ft bgs	Project Number: RC000753.0051
Drilling Asst: J. Colon / J. Martinez	Sampling Method: 4 inch x 10 ft. Core Barrel	
Logger: Joe Latham	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	60	No Sieve Samples Collected		Topock - Competent Bedrock - conglomerate				(80.0 - 85.0') Very rough drilling	(80.0 - 85.0') No water used			
82								0	(85.0 - 87.0') Very rough drilling	(85.0 - 87.0') No water used		
83									(87.0 - 89.0') Very rough drilling	(87.0 - 89.0') No water used		
84	24											
85										0	(85.0 - 87.0') Very rough drilling	(85.0 - 87.0') No water used
86												
87												
88												
89							End of Boring at 89.0 ft bgs.					
90												
91												
92												
93												
94												
95												
96												
97												
98												
99												
100												

Final 12/28/20

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, NR = no recovery; Notes: blue water table symbol represents depth to water measured during the first VAS interval; apparent partial recoveries can be the result of potential compaction of sediments in the core bag; wells MW-98-55, MW-98-77 installed in borehole

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