

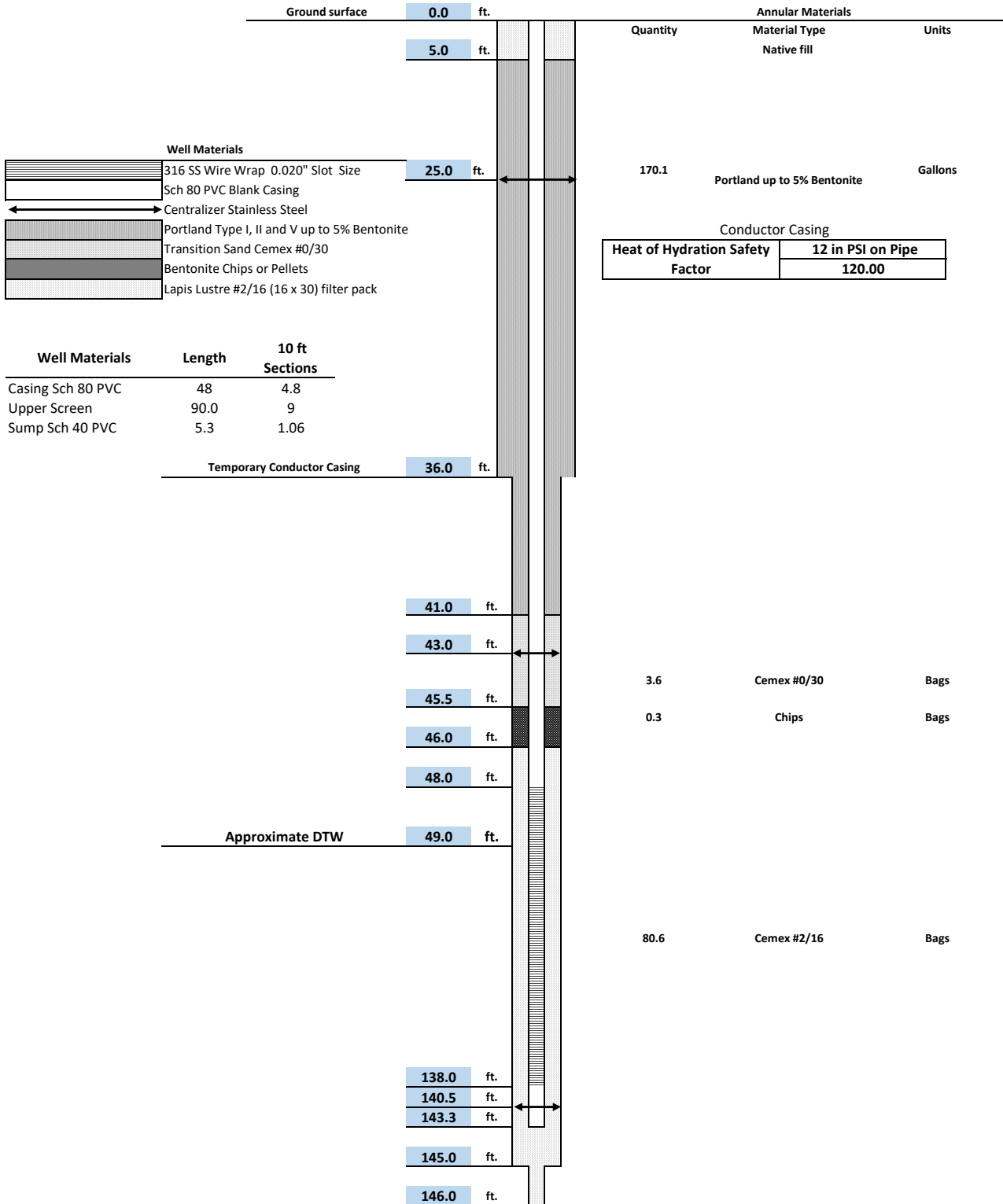


# ER-02 Final Well Design 05/08/22

Conductor casing Dia: **12**  
 Drill casing Dia: **10.75**  
 Rathole Dia: **8**

Well Casing Outer Diameter: **6.5**  
 Well Casing Inner Diameter: **6**

Surface Completion:



Date Started: 05/08/2022	Surface Elevation: 506.35 ft amsl	<b>Well ID: ER-02</b>
Date Completed: 05/10/2022	Shallow Well Elevation: 506.02 ft amsl	
Drilling Co.: ABC LIOVIN	Deep Well Elevation: N/A	Client: PG&E
Drilling Method: Sonic Drilling	Northing (NAD83): 2101009.50	Project: Final GW Remedy Phase 2A
Driller Name: Eddie Ramos	Easting (NAD83): 7616642.75	Location: PG&E Topock, Needles California
Drilling Asst: J. Candelaria / F. Perez	Borehole Diameter: 8-12 inches	
Logger: Alexis McIntyre	Static Water Level: See Log for Depths	Project Number: 30126255
Editor: Sean McGrane	Development End Date: 6/28/2022	
Total Depth: 146 ft bgs	Well Completion: <input checked="" type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input type="checkbox"/> To Be Completed in Well Vault	

TOPOCK WELL COMPLETION DETAILS | ARCADIS | 05/10/2022 | 08:22 | GINT DATA TEMPLATE.GDT | 8/8/22

Depth (ft)	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Construction Details	Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume
1		Fill	SM		(0.0 - 1.0') Temporary Surface Completion		(0.0 - 1.0') 7 bags Note: 2.5 x 2.5 ft. concrete pad with 18 inch diameter lockable vault, High Sped 4,500 PSI Concrete.
2		Weathered Bedrock - Conglomerate	N/A	XXXXXX	(1.0 - 2.0') Cemex #2/16 (16x30) Lapis Lustre Sand		Note: Cemex #2/16 (16x30) Lapis Lustre Sand extended into skirt of vault.
3					(2.0 - 5.0') Navite Material		Note: Material used to back fill was from the SPY.
4					(0.3 - 47.1') 6" Sch. 80 PVC Casing		
5		Weathered Bedrock - Conglomerate	N/A	XXXXXX	(5.0 - 39.6') Portland Cement 5% Bentonite Type I, II, and V with Hydrogel	(5.0 - 39.6') 139.4 gallons	(5.0 - 39.6') 175 gallons (126%) Note: Grout seal, used >20% of the calculated volume due to potential voids that formed during drilling and grout migration.
6							
7							
8							
9							
10	No Groundwater Samples Collected						
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, SS = Stainless Steel, NR = No Recovery, N/A = Not Applicable, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) static water measured during development and approximate static measured during drilling, respectively.

Date Started: 05/08/2022	Surface Elevation: 506.35 ft amsl	<b>Well ID: ER-02</b>
Date Completed: 05/10/2022	Shallow Well Elevation: 506.02 ft amsl	
Drilling Co.: ABC LIOVIN	Deep Well Elevation: N/A	Client: PG&E
Drilling Method: Sonic Drilling	Northing (NAD83): 2101009.50	Project: Final GW Remedy Phase 2A
Driller Name: Eddie Ramos	Easting (NAD83): 7616642.75	Location: PG&E Topock, Needles California
Drilling Asst: J. Candelaria / F. Perez	Borehole Diameter: 8-12 inches	
Logger: Alexis McIntyre	Static Water Level: See Log for Depths	Project Number: 30126255
Editor: Sean McGrane	Development End Date: 6/28/2022	
Total Depth: 146 ft bgs	Well Completion: <input checked="" type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input type="checkbox"/> To Be Completed in Well Vault	

TOPOCK WELL COMPLETION DETAILS | ARCADIS0366.SHAREPOINT.COM@SSLIDAVWWWROOTTEAMSPGETOPOCKCONSTRUCTIONSHARED DOCUMENTS\PHASE II DRILLING\06 - FIELD DOCUMENTATION\02 GINT FILES\00 NEW PHASE 2 GINT FILES\27 2022-08-08\GINT PROJECT.GPJ GINT DATA TEMPLATE.GDT 8/8/22

Depth (ft)	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Construction Details	Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume
21		Weathered Bedrock - Conglomerate	N/A	XXXXXX	(0.3 - 47.1') 6" Sch. 80 PVC Casing		
22				XXXXXX			
23			NR	XXXXXX			
24				XXXXXX			
25				XXXXXX	(24.5 - 25.5') SS Centralizer		
26				XXXXXX			
27				XXXXXX			
28				XXXXXX			
29				XXXXXX			
30	No Groundwater Samples Collected			XXXXXX	(5.0 - 39.6') Portland Cement 5% Bentonite Type I, II, and V with Hydrogel	(5.0 - 39.6') 139.4 gallons	(5.0 - 39.6') 175 gallons (126%) Note: Grout seal, used >20% of the calculated volume due to potential voids that formed during drilling and grout migration.
31		Weathered Bedrock - Conglomerate	N/A	XXXXXX			
32				XXXXXX			
33				XXXXXX			
34				XXXXXX			
35				XXXXXX			
36				XXXXXX			
37				XXXXXX	(36.0 - 145.0') 10.75" Diameter Borehole		
38				XXXXXX			
39				XXXXXX			
40				XXXXXX			
						(39.6 - 45.2')	(39.6 - 45.2') 4 bags (89%)

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, SS = Stainless Steel, NR = No Recovery, N/A = Not Applicable, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) static water measured during development and approximate static measured during drilling, respectively.

Date Started: 05/08/2022	Surface Elevation: 506.35 ft amsl	Well ID: <b>ER-02</b>
Date Completed: 05/10/2022	Shallow Well Elevation: 506.02 ft amsl	
Drilling Co.: ABC LIOVIN	Deep Well Elevation: N/A	Client: PG&E
Drilling Method: Sonic Drilling	Northing (NAD83): 2101009.50	Project: Final GW Remedy Phase 2A
Driller Name: Eddie Ramos	Easting (NAD83): 7616642.75	Location: PG&E Topock, Needles California
Drilling Asst: J. Candelaria / F. Perez	Borehole Diameter: 8-12 inches	
Logger: Alexis McIntyre	Static Water Level: See Log for Depths	Project Number: 30126255
Editor: Sean McGrane	Development End Date: 6/28/2022	
Total Depth: 146 ft bgs	Well Completion: <input checked="" type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input type="checkbox"/> To Be Completed in Well Vault	

TOPOCK WELL COMPLETION DETAILS | ARCADIS | 030365.SHAREPOINT.COM | SSSLD | AWW | WROO | TTEAM | SPGETOCK | CONSTRUCTION | SHARED DOCUMENTS | PHASE II DRILLING | 06 FIELD DOCUMENTATION | 02 GINT FILES | 00 NEW PHASE 2 | GINT FILES | 27 2022-08-08 | GINT PROJECT.GPJ | GINT DATA TEMPLATE.GDT | 8/8/22

Depth (ft)	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Construction Details	Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume
41		Weathered Bedrock - Conglomerate	N/A	XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX	(0.3 - 47.1') 6" Sch. 80 PVC Casing	4.5 bags	Note: Transition sand seal
42					(39.6 - 45.2') Cemex #0/30 (30x50) Lapis Lustre Sand	(39.6 - 45.2') 4.5 bags	(39.6 - 45.2') 4 bags (89%) Note: Transition sand seal
43					(42.5 - 43.5') SS Centralizer		
44					(45.2 - 45.7') Enviroplug Medium Chips	(45.2 - 45.7') 0.3 bags	(45.2 - 45.7') 0.25 bags (83%) Note: Bentonite seal
45					(47.1 - 138.0') 6" 0.02-Slot 316 SS Wire Wrap Screen		
46	No Groundwater Samples Collected	Weathered Bedrock - Conglomerate	N/A	XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX	(45.7 - 146.0') Cemex #2/16 (16x30) Lapis Lustre Sand	(45.7 - 146.0') 80.9 bags	(45.7 - 146.0') 83 bags (103%) Note: Filter pack. Ran dummy tool and swabbed filter pack for approximately 20 minutes prior to the installation of the bentonite/transition sand seal. Grain-size analysis of the filter pack sand showed a higher percentage of fine-grained sand.
47							
48							
49							
50							
51							
52							
53							
54							
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56							
57							
58							
59							
60							

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Date Started: 05/08/2022	Surface Elevation: 506.35 ft amsl	<b>Well ID: ER-02</b>
Date Completed: 05/10/2022	Shallow Well Elevation: 506.02 ft amsl	
Drilling Co.: ABC LIOVIN	Deep Well Elevation: N/A	Client: PG&E
Drilling Method: Sonic Drilling	Northing (NAD83): 2101009.50	Project: Final GW Remedy Phase 2A
Driller Name: Eddie Ramos	Easting (NAD83): 7616642.75	Location: PG&E Topock, Needles California
Drilling Asst: J. Candelaria / F. Perez	Borehole Diameter: 8-12 inches	
Logger: Alexis McIntyre	Static Water Level: See Log for Depths	Project Number: 30126255
Editor: Sean McGrane	Development End Date: 6/28/2022	
Total Depth: 146 ft bgs	Well Completion: <input checked="" type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input type="checkbox"/> To Be Completed in Well Vault	

Depth (ft)	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Construction Details	Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume
61				XXXXXX	(47.1 - 138.0') 6" 0.02-Slot 316 SS Wire Wrap Screen		
62				XXXXXX			
63				XXXXXX			
64				XXXXXX			
65				XXXXXX			
66		Weathered Bedrock - Conglomerate	N/A	XXXXXX			
67				XXXXXX			
68				XXXXXX			
69				XXXXXX			
70	No Groundwater Samples Collected			XXXXXX	(45.7 - 146.0') Cemex #2/16 (16x30) Lapis Lustre Sand	(45.7 - 146.0') 80.9 bags	(45.7 - 146.0') 83 bags (103%) Note: Filter pack. Ran dummy tool and swabbed filter pack for approximately 20 minutes prior to the installation of the bentonite/transition sand seal. Grain-size analysis of the filter pack sand showed a higher percentage of fine-grained sand.
71				XXXXXX			
72				XXXXXX			
73		Weathered Bedrock - Conglomerate	N/A	XXXXXX			
74				XXXXXX			
75				XXXXXX			
76				XXXXXX			
77		Weathered Bedrock - Conglomerate	N/A	XXXXXX			
78				XXXXXX			
79				XXXXXX			
80				XXXXXX			

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, SS = Stainless Steel, NR = No Recovery, N/A = Not Applicable, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) static water measured during development and approximate static measured during drilling, respectively.

TOPOCK WELL COMPLETION DETAILS | ARCADIS | 05/08/2022 | 05/10/2022 | 506.35 | 506.02 | N/A | 2101009.50 | 7616642.75 | 8-12 | Alexis McIntyre | Sean McGrane | 6/28/2022 | 146 | 80.9 | 83 | Final 05/18/22

Date Started: 05/08/2022	Surface Elevation: 506.35 ft amsl	<b>Well ID: ER-02</b>
Date Completed: 05/10/2022	Shallow Well Elevation: 506.02 ft amsl	
Drilling Co.: ABC LIOVIN	Deep Well Elevation: N/A	Client: PG&E
Drilling Method: Sonic Drilling	Northing (NAD83): 2101009.50	Project: Final GW Remedy Phase 2A
Driller Name: Eddie Ramos	Easting (NAD83): 7616642.75	Location: PG&E Topock, Needles California
Drilling Asst: J. Candelaria / F. Perez	Borehole Diameter: 8-12 inches	
Logger: Alexis McIntyre	Static Water Level: See Log for Depths	Project Number: 30126255
Editor: Sean McGrane	Development End Date: 6/28/2022	
Total Depth: 146 ft bgs	Well Completion: <input checked="" type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input type="checkbox"/> To Be Completed in Well Vault	

TOPOCK WELL COMPLETION DETAILS | ARCADIS | 05/08/2022 | 05/10/2022 | 506.35 | 506.02 | 8-12 | 146 | 05/08/2022 | 05/10/2022 | ABC LIOVIN | Sonic Drilling | Eddie Ramos | J. Candelaria / F. Perez | Alexis McIntyre | Sean McGrane | 30126255 | Final 05/18/22

Depth (ft)	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Construction Details	Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume
81		Weathered Bedrock - Conglomerate	N/A	XXXXXX	(47.1 - 138.0') 6" 0.02-Slot 316 SS Wire Wrap Screen		
82				XXXXXX			
83		Weathered Bedrock - Conglomerate	NR	XXXXXX			
84				XXXXXX			
85				XXXXXX			
86				XXXXXX			
87				XXXXXX			
88				XXXXXX			
89				XXXXXX			
90	No Groundwater Samples Collected			XXXXXX	(45.7 - 146.0') Cemex #2/16 (16x30) Lapis Lustre Sand	(45.7 - 146.0') 80.9 bags	(45.7 - 146.0') 83 bags (103%) Note: Filter pack. Ran dummy tool and swabbed filter pack for approximately 20 minutes prior to the installation of the bentonite/transition sand seal. Grain-size analysis of the filter pack sand showed a higher percentage of fine-grained sand.
91				XXXXXX			
92		Weathered Bedrock - Conglomerate	N/A	XXXXXX			
93				XXXXXX			
94				XXXXXX			
95				XXXXXX			
96				XXXXXX			
97				XXXXXX			
98				XXXXXX			
99				XXXXXX			
100				XXXXXX			

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Date Started: 05/08/2022	Surface Elevation: 506.35 ft amsl	<b>Well ID: ER-02</b>
Date Completed: 05/10/2022	Shallow Well Elevation: 506.02 ft amsl	
Drilling Co.: ABC LIOVIN	Deep Well Elevation: N/A	PG&E
Drilling Method: Sonic Drilling	Northing (NAD83): 2101009.50	Final GW Remedy Phase 2A
Driller Name: Eddie Ramos	Easting (NAD83): 7616642.75	PG&E Topock, Needles California
Drilling Asst: J. Candelaria / F. Perez	Borehole Diameter: 8-12 inches	
Alexis McIntyre	Static Water Level: See Log for Depths	
Sean McGrane	Development End Date: 6/28/2022	
146 ft bgs	Well Completion: <input checked="" type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input type="checkbox"/> To Be Completed in Well Vault	

Depth (ft)	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Construction Details	Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume
101				XXXXXX	(47.1 - 138.0') 6" 0.02-Slot 316 SS Wire Wrap Screen		
102				XXXXXX			
103				XXXXXX			
104				XXXXXX			
105				XXXXXX			
106				XXXXXX			
107				XXXXXX			
108				XXXXXX			
109		Weathered Bedrock - Conglomerate	N/A	XXXXXX			
110	No Groundwater Samples Collected			XXXXXX	(45.7 - 146.0') Cemex #2/16 (16x30) Lapis Lustre Sand	(45.7 - 146.0') 80.9 bags	(45.7 - 146.0') 83 bags (103%) Note: Filter pack. Ran dummy tool and swabbed filter pack for approximately 20 minutes prior to the installation of the bentonite/transition sand seal. Grain-size analysis of the filter pack sand showed a higher percentage of fine-grained sand.
111				XXXXXX			
112				XXXXXX			
113				XXXXXX			
114				XXXXXX			
115				XXXXXX			
116				XXXXXX			
117				XXXXXX			
118			NR	XXXXXX			
119				XXXXXX			
120				XXXXXX			

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TOPOCK WELL COMPLETION DETAILS | ARCADIS | 05/08/2022 | FIELD DOCUMENTATION | 02 | GINT FILES | 001 | NEW PHASE 2 | GINT FILES | 27 | 2022-08-08 | GINT PROJECT | GP | GINT DATA TEMPLATE | GDT | 8/8/22

Date Started: 05/08/2022	Surface Elevation: 506.35 ft amsl	<b>Well ID: ER-02</b>
Date Completed: 05/10/2022	Shallow Well Elevation: 506.02 ft amsl	
Drilling Co.: ABC LIOVIN	Deep Well Elevation: N/A	Client: PG&E
Drilling Method: Sonic Drilling	Northing (NAD83): 2101009.50	Project: Final GW Remedy Phase 2A
Driller Name: Eddie Ramos	Easting (NAD83): 7616642.75	Location: PG&E Topock, Needles California
Drilling Asst: J. Candelaria / F. Perez	Borehole Diameter: 8-12 inches	
Logger: Alexis McIntyre	Static Water Level: See Log for Depths	Project Number: 30126255
Editor: Sean McGrane	Development End Date: 6/28/2022	
Total Depth: 146 ft bgs	Well Completion: <input checked="" type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input type="checkbox"/> To Be Completed in Well Vault	

Depth (ft)	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Construction Details	Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume		
121		Weathered Bedrock - Conglomerate	N/A	XXXXXX	(47.1 - 138.0') 6" 0.02-Slot 316 SS Wire Wrap Screen				
122									
123									
124									
125									
126									
127									
128			NR						
129									
130	No Groundwater Samples Collected				(45.7 - 146.0') Cemex #2/16 (16x30) Lapis Lustre Sand	(45.7 - 146.0') 80.9 bags	(45.7 - 146.0') 83 bags (103%) Note: Filter pack. Ran dummy tool and swabbed filter pack for approximately 20 minutes prior to the installation of the bentonite/transition sand seal. Grain-size analysis of the filter pack sand showed a higher percentage of fine-grained sand.		
131									
132									
133		Weathered Bedrock - Conglomerate	N/A	XXXXXX					
134									
135									
136									
137								(136.2 - 137.2') PVC Well Bung (Plug)	
138									
139					(137.2 - 143.4') Cemex #2/16 (16x30) Lapis Lustre Sand and sediment.		(137.2 - 143.4') Note: Filter pack sand and sediment in the bottom of the well, due to potential damage to the sump or a higher percentage of fines in the filter pack material.		
140									

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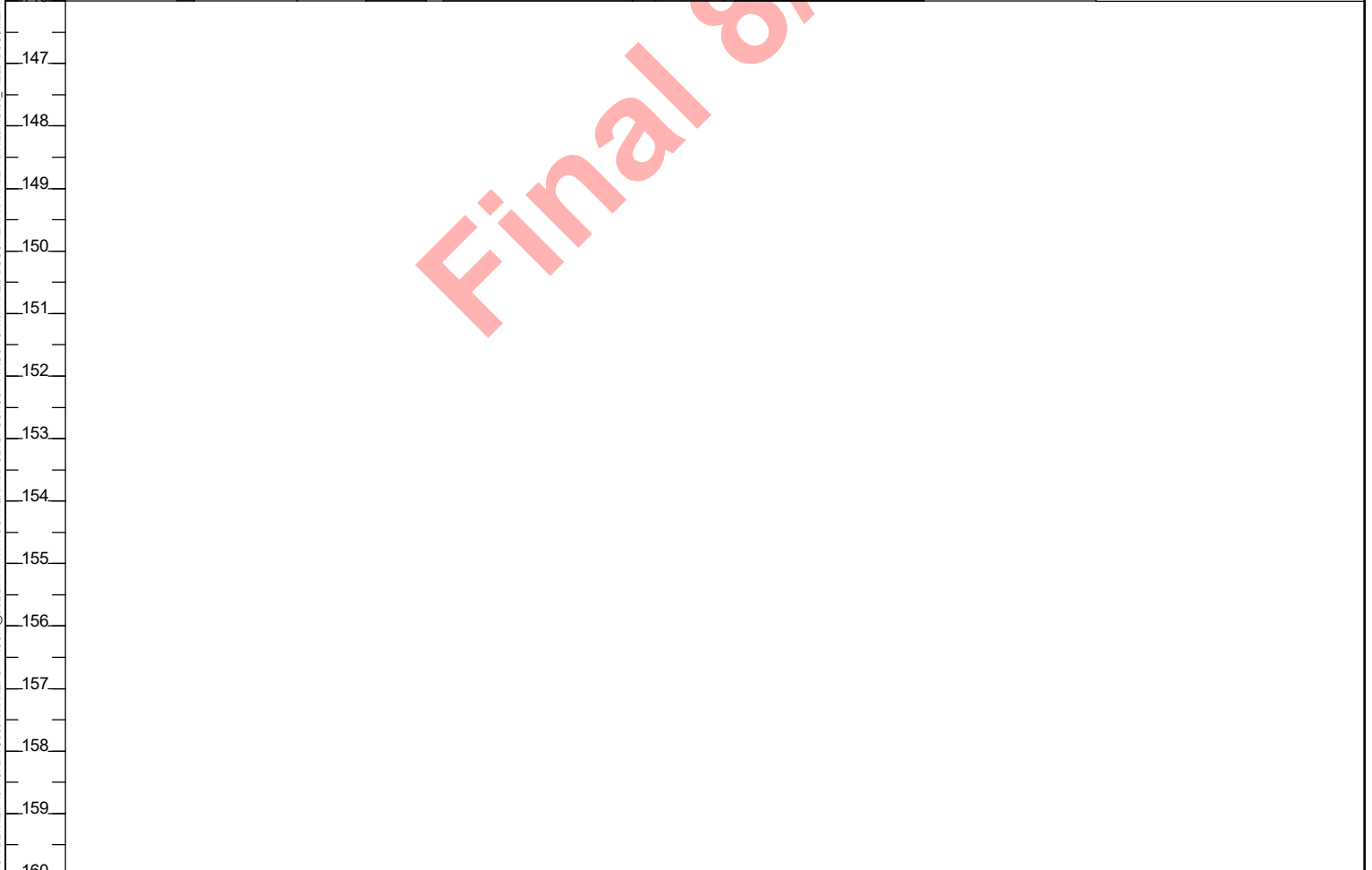
TOPOCK WELL COMPLETION DETAILS | WARCADIS030365.SHAREPOINT.COM@SSLIDAVWWWROOTTEAMSPGETOPOCKCONSTRUCTIONSHARED DOCUMENTS\PHASE II DRILLING\06 - FIELD DOCUMENTATION\02 GINT FILES\001 NEW PHASE 2 GINT FILES\27 2022-08-08\GINT PROJECT.GPJ GINT DATA TEMPLATE.GDT 8/8/22



Date Started: 05/08/2022	Surface Elevation: 506.35 ft amsl	<b>Well ID: ER-02</b>
Date Completed: 05/10/2022	Shallow Well Elevation: 506.02 ft amsl	
Drilling Co.: ABC LIOVIN	Deep Well Elevation: N/A	Client: PG&E
Drilling Method: Sonic Drilling	Northing (NAD83): 2101009.50	Project: Final GW Remedy Phase 2A
Driller Name: Eddie Ramos	Easting (NAD83): 7616642.75	Location: PG&E Topock, Needles California
Drilling Asst: J. Candelaria / F. Perez	Borehole Diameter: 8-12 inches	
Logger: Alexis McIntyre	Static Water Level: See Log for Depths	Project Number: 30126255
Editor: Sean McGrane	Development End Date: 6/28/2022	
Total Depth: 146 ft bgs	Well Completion: <input checked="" type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input type="checkbox"/> To Be Completed in Well Vault	

Depth (ft)	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Construction Details	Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume		
141	No Groundwater Samples Collected	Weathered Bedrock - Conglomerate	N/A	XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX	(140.0 - 141.0') SS Centralizer	(45.7 - 146.0') Cemex #2/16 (16x30) Lapis Lustre Sand (137.2 - 143.4') Cemex #2/16 (16x30) Lapis Lustre Sand and sediment.	(138.0 - 143.4') Sump and 316 SS End Cap	(45.7 - 146.0') 80.9 bags	
142					Note: Filter pack. Ran dummy tool and swabbed filter pack for approximately 20 minutes prior to the installation of the bentonite/transition sand seal. Grain-size analysis of the filter pack sand showed a higher percentage of fine-grained sand.				
143									Note: Filter pack sand and sediment in the bottom of the well, due to potential damage to the sump or a higher percentage of fines in the filter pack material.
144									
145									
146									

Final 818122



Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, SS = Stainless Steel, NR = No Recovery, N/A = Not Applicable, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) static water measured during development and approximate static measured during drilling, respectively.

TOPOCK WELL COMPLETION DETAILS \\ARCADIS\0366.SHAREPOINT.COM@SSLIDAVWWWROOT\TEAMSPGETOPOCKCONSTRUCTION\PHASE II DRILLING\06 - FIELD DOCUMENTATION\02 GINT FILES\001 NEW PHASE 2 GINT FILES\27 2022-08-08\GINT PROJECT.GPJ GINT DATA TEMPLATE.GDT 8/8/22

Date Started: 03/31/2022	Surface Elevation: 506.35 ft amsl	<b>Boring No.: ER-02</b>
Date Completed: 05/08/2022	Northing (NAD83): 2101009.50	
Drilling Co.: ABC LIOVIN	Easting (NAD83): 7616642.75	Client: PG&E
Drilling Method: Sonic Drilling	Total Depth: 146 ft bgs	Project: Final GW Remedy Phase 2A
Drill Rig Type: Terra Sonic Truck Mounted	Borehole Diameter: 8-12 inches	Location: PG&E Topock, Needles California
Driller Name: Eddie Ramos	Depth to First Water: 60.0 ft bgs	
Drilling Asst: J. Candelaria / F. Perez	Sampling Method: 4 inch x 10 ft. Core Barrel	Project Number: 30126255
Logger: Grant Willford	Sampling Interval: Continuous	
Editor: Sean McGrane	Converted to Well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

TOPOCK SOIL BORING LOG \ARCADIS\0365\SHAREPOINT.COM\SSLD\AV\WWW\ROOT\TEAMS\FGETOPOCK\CONSTRUCTION\SHARED DOCUMENTS\PHASE II DRILLING\06L\_FIELD\_DOCUMENTATION\02 GINT FILES\00 NEW PHASE 2 GINT FILES\27 2022-08-08\GINT PROJECT.GPJ GINT DATA TEMPLATE.GDT 08/22

Depth (ft)	Recovery (ft)	Sieve Sample ID	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Soil Description	Drilling Notes	Drilling Fluid
1				Fill	SM		(0-1.5 ft) Silty sand with gravel (SM); reddish brown (5YR 5/4); very fine to very coarse grained, angular to subround; little silt; little small to very large pebbles, angular to subangular; little granules, angular to subangular; trace small cobbles, angular; trace clay; dry.		
2				Weathered Bedrock - Conglomerate	N/A		(1.5-7 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4); microcrystalline to coarse grained, angular; hard; very intensely fractured; massive; some competent rock fragments observed, 1-4 inches in length; most fragments are weak and friable; dry; NOTE: Core sample mostly pulverized by drilling process.		
3									
4	5.5								
5									
6									
7				Weathered Bedrock - Conglomerate	N/A		(7-22 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4); microcrystalline to coarse grained, angular; hard; very intensely fractured; massive; most fragments observed are weak and friable with a few competent rock fragments; dry; NOTE: Core sample mostly pulverized by drilling process.	(7.0 - 50.0') Rough drilling	(7.0 - 50.0') No drilling fluid used
8									
9									
10	5	No Sieve Samples Collected	No Groundwater Samples Collected						
11									
12									
13									
14	5								
15									
16									
17									
18									
19	5								
20									

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, NR = No Recovery, N/A = Not Applicable, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during pre-development, respectively. Apparent partial recoveries can be the result of potential compaction of sediments in the core bag.

Date Started: 03/31/2022	Surface Elevation: 506.35 ft amsl	<b>Boring No.: ER-02</b>
Date Completed: 05/08/2022	Northing (NAD83): 2101009.50	
Drilling Co.: ABC LIOVIN	Easting (NAD83): 7616642.75	Client: PG&E
Drilling Method: Sonic Drilling	Total Depth: 146 ft bgs	Project: Final GW Remedy Phase 2A
Drill Rig Type: Terra Sonic Truck Mounted	Borehole Diameter: 8-12 inches	Location: PG&E Topock, Needles California
Driller Name: Eddie Ramos	Depth to First Water: 60.0 ft bgs	
Drilling Asst: J. Candelaria / F. Perez	Sampling Method: 4 inch x 10 ft. Core Barrel	Project Number: 30126255
Logger: Grant Willford	Sampling Interval: Continuous	
Editor: Sean McGrane	Converted to Well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

TOPOCK SOIL BORING LOG \\ARCADIS\03615.SHAREPOINT.COM\SSLD\A\WWW\ROOT\TEAMS\FGETOPOCK\CONSTRUCTION\SHARED DOCUMENTS\PHASE II DRILLING\06.FIELD DOCUMENTATION\02 GINT FILES\00 NEW PHASE 2 GINT FILES\07 2022-08-08\GINT PROJECT.GPJ GINT DATA TEMPLATE.GDT 8/9/22

Depth (ft)	Recovery (ft)	Sieve Sample ID	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Soil Description	Drilling Notes	Drilling Fluid
21	5			Weathered Bedrock - Conglomerate	N/A	XXXXXX	(7-22 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4); microcrystalline to coarse grained, angular; hard; very intensely fractured; massive; most fragments observed are weak and friable with a few competent rock fragments; dry; NOTE: Core sample mostly pulverized by drilling process.		
22							(22-23 ft) No Recovery; see Drilling Notes.	(22.0 - 27.0') Top foot of drill run fell out of core barrel during extraction onto drill deck/intro hopper.	(22.0 - 27.0') No drilling fluid used
23					NR	XXXXXX	(23-50 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4); microcrystalline to coarse grained, angular; hard; very intensely fractured; massive; most fragments observed are weak and friable with a few competent rock fragments; dry; NOTE: Core sample mostly pulverized by drilling process.		
24	4					XXXXXX			
25						XXXXXX			
26						XXXXXX			
27						XXXXXX			
28						XXXXXX			
29						XXXXXX			
30	5	No Sieve Samples Collected	No Groundwater Samples Collected			XXXXXX			
31						XXXXXX			
32				Weathered Bedrock - Conglomerate	N/A	XXXXXX			
33						XXXXXX			
34						XXXXXX			
35	5					XXXXXX			
36						XXXXXX			
37						XXXXXX		(35.0') 6-inch casing getting hung up at approximately 35 ft. bgs. Trip out 6-inch to drill with larger diameter tooling (see Drilling Logs). 6-inch pilot hole drilling resumes on 4/25/22.	(35.0') No drilling fluid used
38						XXXXXX			
39	6					XXXXXX			
40						XXXXXX			

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, NR = No Recovery, N/A = Not Applicable, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during pre-development, respectively. Apparent partial recoveries can be the result of potential compaction of sediments in the core bag.



# Boring Log

Date Started:	03/31/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.:</b> ER-02	
Date Completed:	05/08/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Sonic Drilling	Total Depth:	146 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mounted	Borehole Diameter:	8-12 inches	Location:	PG&E Topock, Needles California
Driller Name:	Eddie Ramos	Depth to First Water:	60.0 ft bgs		
Drilling Asst:	J. Candelaria / F. Perez	Sampling Method:	4 inch x 10 ft. Core Barrel	Project Number:	30126255
Logger:	Grant Willford	Sampling Interval:	Continuous		
Editor:	Sean McGrane	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Recovery (ft)	Sieve Sample ID	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Soil Description	Drilling Notes	Drilling Fluid
41	6					XXXXXX	(23-50 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4); microcrystalline to coarse grained, angular; hard; very intensely fractured; massive; most fragments observed are weak and friable with a few competent rock fragments; dry; NOTE: Core sample mostly pulverized by drilling process.		
42									
43	4			Weathered Bedrock - Conglomerate	N/A	XXXXXX			
44									
45									
46	5	No Sieve Samples Collected	No Groundwater Samples Collected			XXXXXX			
47									
48									
49									
50	5			Weathered Bedrock - Conglomerate	N/A	XXXXXX	(50-52 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4); microcrystalline to coarse grained, angular; hard; very intensely fractured; massive; most fragments observed are weak and friable with a few competent rock fragments; dry; NOTE: Core sample mostly pulverized by drilling process.	(50.0 - 52.0') Drilling becoming significantly rougher.	(50.0 - 52.0') No drilling fluid used
51							(52.0 - 64.0') Rough drilling	(52.0 - 64.0') No drilling fluid used	
52									
53									
54									
55	5			Weathered Bedrock - Conglomerate	N/A	XXXXXX			
56									
57									
58									
59									
60									

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, NR = No Recovery, N/A = Not Applicable, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during pre-development, respectively. Apparent partial recoveries can be the result of potential compaction of sediments in the core bag.

Date Started: 03/31/2022	Surface Elevation: 506.35 ft amsl	<b>Boring No.: ER-02</b>
Date Completed: 05/08/2022	Northing (NAD83): 2101009.50	
Drilling Co.: ABC LIOVIN	Easting (NAD83): 7616642.75	Client: PG&E
Drilling Method: Sonic Drilling	Total Depth: 146 ft bgs	Project: Final GW Remedy Phase 2A
Drill Rig Type: Terra Sonic Truck Mounted	Borehole Diameter: 8-12 inches	Location: PG&E Topock, Needles California
Driller Name: Eddie Ramos	Depth to First Water: 60.0 ft bgs	
Drilling Asst: J. Candelaria / F. Perez	Sampling Method: 4 inch x 10 ft. Core Barrel	Project Number: 30126255
Logger: Grant Willford	Sampling Interval: Continuous	
Editor: Sean McGrane	Converted to Well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

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Depth (ft)	Recovery (ft)	Sieve Sample ID	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Soil Description	Drilling Notes	Drilling Fluid
61	5					XXXXX	(50-72 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4); microcrystalline to coarse grained, angular; hard; very intensely fractured; massive; most fragments observed are weak and friable with a few competent rock fragments; dry; NOTE: Core sample mostly pulverized by drilling process.		
62						XXXXX	(60 ft) Observed slight moisture on rock fragment.		
63						XXXXX			
64						XXXXX			
65	5			Weathered Bedrock - Conglomerate	N/A	XXXXX		(64.0 - 67.0') Drilling becoming significantly rougher.	(64.0 - 67.0') No drilling fluid used
66						XXXXX			
67						XXXXX			
68						XXXXX			
69						XXXXX			
70	5	No Sieve Samples Collected	No Groundwater Samples Collected			XXXXX			
71						XXXXX			
72						XXXXX			
73				Weathered Bedrock - Conglomerate	N/A	XXXXX	(72-73.5 ft) No Recovery; see Drilling Notes.	(72.0 - 77.0') Top portion of drill run fell out of core barrel during extraction onto drill deck/soil hopper.	(72.0 - 77.0') No drilling fluid used
74						XXXXX	(73.5-82 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4); microcrystalline to coarse grained, angular; hard; very intensely fractured; massive; most fragments observed are weak and friable with a few competent rock fragments; dry; NOTE: Core sample mostly pulverized by drilling process.		
75	3.5					XXXXX	(74-74.3 ft) Rock fragments are moist.		
76						XXXXX			
77				Weathered Bedrock - Conglomerate	N/A	XXXXX			
78						XXXXX			
79	5					XXXXX			
80						XXXXX			

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, NR = No Recovery, N/A = Not Applicable, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during pre-development, respectively. Apparent partial recoveries can be the result of potential compaction of sediments in the core bag.

Date Started:	03/31/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.: ER-02</b>	
Date Completed:	05/08/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Sonic Drilling	Total Depth:	146 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mounted	Borehole Diameter:	8-12 inches	Location:	PG&E Topock, Needles California
Driller Name:	Eddie Ramos	Depth to First Water:	60.0 ft bgs		
Drilling Asst:	J. Candelaria / F. Perez	Sampling Method:	4 inch x 10 ft. Core Barrel	Project Number:	30126255
Logger:	Grant Willford	Sampling Interval:	Continuous		
Editor:	Sean McGrane	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Recovery (ft)	Sieve Sample ID	Groundwater Sample ID	Geologic Formation	USCS Code	USCS Class	Soil Description	Drilling Notes	Drilling Fluid
81	5			Weathered Bedrock - Conglomerate	N/A	XXXXXX	(73.5-82 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4); microcrystalline to coarse grained, angular; hard; very intensely fractured; massive; most fragments observed are weak and friable with a few competent rock fragments; dry; NOTE: Core sample mostly pulverized by drilling process.		
82							(82-84.5 ft) No Recovery; see Drilling Notes.	(82.0 - 87.0') Top portion of drill run fell out of core barrel during extraction onto drill deck/soil hopper.	(82.0 - 87.0') No drilling fluid used
83				Weathered Bedrock - Conglomerate	NR	XXXXXX			
84	2.5						(84.5-117 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4); microcrystalline to coarse grained, angular; hard; very intensely fractured; massive; most fragments observed are weak and friable with a few competent rock fragments; dry; NOTE: Core sample mostly pulverized by drilling process.		
85									
86									
87									
88									
89									
90	5	No Sieve Samples Collected	No Groundwater Samples Collected						
91									
92				Weathered Bedrock - Conglomerate	N/A	XXXXXX			
93									
94									
95	5						(94 ft) Slight increase in competent rock fragments.		
96									
97									
98								(97.0 - 127.0') Began using water to advance in 6-inch casing.	(97.0 - 127.0') 500 gallons of water used; 450 gallons of water recovered; 50 gallons of water lost
99	6								
100									

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, NR = No Recovery, N/A = Not Applicable, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during pre-development, respectively. Apparent partial recoveries can be the result of potential compaction of sediments in the core bag.

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Date Started:	04/26/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.: ER-02 8-inch</b>	
Date Completed:	04/27/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	145.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	9 inches	Location:	PG&E Topock, Needles
Driller Name:	Eddie Ramos	Drill Casing Diameter:	8 inches	California	
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	8 inches	Project Number:	30126255
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	G. Wilford / A. McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid
1		SM	(0-1.5 ft) Silty sand with gravel (SM); reddish brown (5YR 5/4).		(0.0 - 37.0') Flushing the 8-inch diameter drill casing over the 6-inch diameter drill casing through 9-inch diameter temporary conductor casing.	(0.0 - 37.0') 100 gallons of water used; 0 gallons of water recovered; 100 gallons of water lost
2			(1.5-7 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).			
3						
4		N/A				
5						
6						
7						
8			(7-22 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).			
9						
10						
11						
12						
13						
14		N/A				
15						
16						
17						
18						
19						
20						

Final 8/8/22

Penetration rates not documented for sonic drilling not required per Specification 33 22 00

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

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Date Started:	04/26/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.: ER-02 8-inch</b>	
Date Completed:	04/27/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	145.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	9 inches	Location:	PG&E Topock, Needles
Driller Name:	Eddie Ramos	Drill Casing Diameter:	8 inches	California	
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	8 inches	Project Number:	30126255
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	G. Wilford / A. McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid
21	Penetration rates not documented for sonic drilling not required per Specification 33 22 00	N/A	XXXXX	(7-22 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).		
22		NR	XXXXX	(22-23 ft) No Recovery; see Drilling Notes.		
23		N/A	XXXXX	(23-50 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).		
24			XXXXX			
25			XXXXX			
26			XXXXX			
27			XXXXX			
28			XXXXX			
29			XXXXX			
30			XXXXX			
31	XXXXX					
32	XXXXX					
33	XXXXX					
34	XXXXX					
35	XXXXX					
36	XXXXX					
37	XXXXX					
38	XXXXX	(37.0 - 47.0') Flushing the 8-inch diameter drill casing over the 6-inch diameter drill casing.	(37.0 - 47.0') 100 gallons of water used; 75 gallons of water recovered; 25 gallons of water lost			
39	XXXXX					
40	XXXXX					

Final 8/8/22

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

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Date Started:	04/26/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.:</b> <u>ER-02 8-inch</u>	
Date Completed:	04/27/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	145.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	9 inches	Location:	PG&E Topock, Needles
Driller Name:	Eddie Ramos	Drill Casing Diameter:	8 inches	California	
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	8 inches	Project Number:	30126255
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	G. Wilford / A. McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid
41	Penetration rates not documented for sonic drilling not required per Specification 33 22 00	N/A	x x	(23-50 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).		
42						
43						
44						
45						
46						
47						
48						
49						
50						
51		N/A	x x	(50-72 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).	▼	
52						
53						
54						
55						
56						
57						
58						
59						
60						
47.0 - 57.0					(47.0 - 57.0') Flushing the 8-inch diameter drill casing over the 6-inch diameter drill casing.	(47.0 - 57.0') 300 gallons of water used; 50 gallons of water recovered; 250 gallons of water lost
57.0 - 67.0					(57.0 - 67.0') Flushing the 8-inch diameter drill casing over the 6-inch diameter drill casing.	(57.0 - 67.0') 200 gallons of water used; 90 gallons of water recovered; 110 gallons of water lost

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

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Date Started:	04/26/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.:</b> <u>ER-02 8-inch</u>	
Date Completed:	04/27/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	145.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	9 inches	Location:	PG&E Topock, Needles
Driller Name:	Eddie Ramos	Drill Casing Diameter:	8 inches	California	
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	8 inches	Project Number: 30126255	
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	G. Wilford / A. McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid
61	Penetration rates not documented for sonic drilling not required per Specification 33 22 00	N/A	XXXXX	(50-72 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4). (60 ft) Observed slight moisture on rock fragment.		
62						
63						
64						
65						
66						
67						
68						
69						
70						
71			XXXXX			
72			XXXXX			
73		N/A	XXXXX	(72-73.5 ft) No Recovery; see Drilling Notes.		
74			XXXXX	(73.5-82 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4). (74-74.3 ft) Rock fragments are moist.		
75			XXXXX			
76			XXXXX			
77		N/A	XXXXX			
78			XXXXX			
79			XXXXX			
80			XXXXX			
			XXXXX		(67.0 - 77.0') Flushing the 8-inch diameter drill casing over the 6-inch diameter drill casing.	(67.0 - 77.0') 300 gallons of water used; 270 gallons of water recovered; 30 gallons of water lost
			XXXXX		(77.0 - 87.0') Flushing the 8-inch diameter drill casing over the 6-inch diameter drill casing.	(77.0 - 87.0') 300 gallons of water used; 270 gallons of water recovered; 30 gallons of water lost

Final 8/8/22

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

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Date Started:	04/26/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.: ER-02 8-inch</b>	
Date Completed:	04/27/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	145.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	9 inches	Location:	PG&E Topock, Needles
Driller Name:	Eddie Ramos	Drill Casing Diameter:	8 inches	California	
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	8 inches	Project Number:	30126255
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	G. Wilford / A. McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid
81	Penetration rates not documented for sonic drilling not required per Specification 33 22 00	N/A	XXXXXX	(73.5-82 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).	<p>(87.0 - 97.0') Flushing the 8-inch diameter drill casing over the 6-inch diameter drill casing.</p>	<p>(87.0 - 97.0') 400 gallons of water used; 360 gallons of water recovered; 40 gallons of water lost</p>
82		NR	XXXXXX	(82-84.5 ft) No Recovery; see Drilling Notes.		
83						
84						
85		N/A	XXXXXX	(84.5-117 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).		
86						
87						
88						
89						
90						
91						
92						
93						
94						
95			(94 ft) Slight increase in competent rock fragments.			
96						
97						
98				(97.0 - 107.0') Flushing the 8-inch diameter drill casing over the 6-inch diameter drill casing.	(97.0 - 107.0') 300 gallons of water used; 270 gallons of water recovered; 30 gallons of water lost	
99						
100						

Final 8/8/22

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

TOPOCK\IRZ\DRILLING LOG \ARCADIS\0615\SHAREPOINT.COM\SSL\DAV\WWW\ROOT\TEAMS\FGETOPOCK\CONSTRUCTION\SHARED DOCUMENTS\PHASE II DRILLING\06 FIELD DOCUMENTATION\02 GINT FILES\00 NEW PHASE 2 GINT FILES\07 2022-08-08\GINT PROJECT.GPJ GINT DATA TEMPLATE.GDT 8/8/22

Date Started:	04/26/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.:</b> <u>ER-02 8-inch</u>	
Date Completed:	04/27/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	145.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	9 inches	Location:	PG&E Topock, Needles California
Driller Name:	Eddie Ramos	Drill Casing Diameter:	8 inches	Project Number:	30126255
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	8 inches		
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	G. Wilford / A. McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid
101	Penetration rates not documented for sonic drilling not required per Specification 33 22 00	N/A	XXXXX	(84.5-117 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).		
			XXXXX	(100.7-101 ft) Rock fragments are moist.		
102			XXXXX			
103			XXXXX			
104			XXXXX			
105			XXXXX			
106			XXXXX			
107			XXXXX			
108			XXXXX			
109			XXXXX			
110			XXXXX			
111			XXXXX			
112	XXXXX					
113	XXXXX					
114	XXXXX					
115	XXXXX					
116	XXXXX					
117	XXXXX					
118		NR		(117-120 ft) No Recovery; see Drilling Notes.	(117.0 - 127.0') Flushing the 8-inch diameter drill casing over the 6-inch diameter drill casing.	(117.0 - 127.0') 150 gallons of water used; 150 gallons of water recovered; 0 gallons of water lost
119						
120						

Final 8/8/22

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

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Date Started:	04/26/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.: ER-02 8-inch</b>	
Date Completed:	04/27/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	145.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	9 inches	Location:	PG&E Topock, Needles
Driller Name:	Eddie Ramos	Drill Casing Diameter:	8 inches	California	
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	8 inches	Project Number:	30126255
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	G. Wilford / A. McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid			
121	Penetration rates not documented for sonic drilling not required per Specification 33 22 00	N/A	XXXXX	(120-127 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4). (120.01-122 ft) Rock fragments are moist.					
122									
123									
124									
125									
126									
127									
128			NR	XXXXX			(127-129.4 ft) No Recovery; see Drilling Notes.	(127.0 - 137.0') Approximately 20 ft of drill casing was retracted to free up the casing, prior to continuing to advance 8-inch diameter casing.	(127.0 - 137.0') 300 gallons of water used; 270 gallons of water recovered; 30 gallons of water lost
129			N/A	XXXXX			(129.4-145 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).		
130									
131									
132									
133									
134									
135									
136									
137									
138		XXXXX			(137.0 - 145.0') Flushing the 8-inch diameter drill casing over the 6-inch diameter drill casing. Tripped out the 6-inch diameter drill casing.	(137.0 - 145.0') 250 gallons of water used; 225 gallons of water recovered; 25 gallons of water lost			
139									
140									

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

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Date Started:	04/26/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.: ER-02 8-inch</b>	
Date Completed:	04/27/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	145.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	9 inches	Location:	PG&E Topock, Needles
Driller Name:	Eddie Ramos	Drill Casing Diameter:	8 inches	California	
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	8 inches	Project Number:	30126255
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	G. Wilford / A. McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid
141	Penetration rates not documented for sonic drilling not required per Specification 33 22 00	N/A	x x x x	(129.4-145 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).		
142						
143						
144						
145						
146						
147						
148						
149						
150						
151						
152						
153						
154						
155						

End of Boring at 145 ft bgs.

Final 8/8/22

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

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Date Started:	04/24/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.: ER-02 9-inch</b>	
Date Completed:	05/03/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	145.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	N/A	Location:	PG&E Topock, Needles
Driller Name:	Eddie Ramos	Drill Casing Diameter:	9 inches	California	
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	9 inches	Project Number:	30126255
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	G. Wilford / A. McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid	
1		SM	(0-1.5 ft) Silty sand with gravel (SM); reddish brown (5YR 5/4).		(0.0 - 25.0') Drilled to act as temporary conductor casing for drilling with 6-inch diameter drill casing.	(0.0 - 25.0') No drilling fluid used	
2		N/A	(1.5-7 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).				
3							
4							
5							
6							
7							
8				(7-22 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).			
9							
10							
11							
12							
13							
14			N/A				
15							
16							
17							
18							
19							
20							

Final 8/8/22

Penetration rates not documented for sonic drilling not required per Specification 33 22 00

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

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Date Started:	04/24/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.:</b> <u>ER-02 9-inch</u>	
Date Completed:	05/03/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	145.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	N/A	Location:	PG&E Topock, Needles
Driller Name:	Eddie Ramos	Drill Casing Diameter:	9 inches		California
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	9 inches	Project Number:	30126255
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	G. Wilford / A. McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid
21	Penetration rates not documented for sonic drilling not required per Specification 33 22 00	N/A	XXXXX	(7-22 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).		
22			XXXXX			
23		NR	X	(22-23 ft) No Recovery; see Drilling Notes.		
24		N/A	XXXXX	(23-50 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).		
25			XXXXX			
26			XXXXX			
27			XXXXX			
28			XXXXX			
29			XXXXX			
30			XXXXX			
31	XXXXX					
32	XXXXX					
33	XXXXX					
34	XXXXX					
35	XXXXX					
36	XXXXX					
37	XXXXX					
38	XXXXX					
39	XXXXX					
40	XXXXX					
				(25.0 - 37.0') Flush 9-inch diameter drill casing over 8-inch diameter drill casing to free it up.	(25.0 - 37.0') 350 gallons of water used; 150 gallons of water recovered; 200 gallons of water lost	
				(36.0') 8-inch diameter drill casing became stuck.	(36.0') No drilling fluid used	
				(37.0 - 47.0') Flush 9-inch diameter drill casing over 8-inch diameter drill casing.	(37.0 - 47.0') 325 gallons of water used; 293 gallons of water recovered; 32 gallons of water lost	

Final 018122

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

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Date Started:	04/24/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.: ER-02 9-inch</b>	
Date Completed:	05/03/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	145.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	N/A	Location:	PG&E Topock, Needles California
Driller Name:	Eddie Ramos	Drill Casing Diameter:	9 inches	Project Number:	30126255
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	9 inches		
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	G. Wilford / A. McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid
41	Penetration rates not documented for sonic drilling not required per Specification 33 22 00	N/A	x x x x	(23-50 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).		
42						
43						
44						
45						
46						
47						
48						
49						
50						
51		N/A	x x x x	(50-72 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).	(47.0 - 57.0') Flush 9-inch diameter drill casing over 8-inch diameter drill casing.	(47.0 - 57.0') 325 gallons of water used; 293 gallons of water recovered; 32 gallons of water lost
52						
53						
54						
55						
56						
57						
58						
59						
60						
58			x x x x		(57.0 - 67.0') Flush 9-inch diameter drill casing over 8-inch diameter drill casing.	(57.0 - 67.0') 175 gallons of water used; 0 gallons of water recovered; 175 gallons of water lost

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

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Date Started:	04/24/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.: ER-02 9-inch</b>	
Date Completed:	05/03/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	145.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	N/A	Location:	PG&E Topock, Needles California
Driller Name:	Eddie Ramos	Drill Casing Diameter:	9 inches	Project Number:	30126255
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	9 inches		
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	G. Wilford / A. McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid
61	Penetration rates not documented for sonic drilling not required per Specification 33 22 00	N/A	xxxxx	(50-72 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4). (60 ft) Observed slight moisture on rock fragment.		
62						
63						
64						
65						
66						
67						
68						
69						
70						
71						
72						
73		N/A	XXXXX	(72-73.5 ft) No Recovery; see Drilling Notes.		
74		N/A	xxxxx	(73.5-82 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4). (74-74.3 ft) Rock fragments are moist.	(67.0 - 77.0') Flush 9-inch diameter drill casing over 8-inch diameter drill casing.	(67.0 - 77.0') 125 gallons of water used; 0 gallons of water recovered; 125 gallons of water lost
75						
76						
77						
78						
79						
80						
80						
77			xxxxx	(77.0 - 87.0') Flush 9-inch diameter drill casing over 8-inch diameter drill casing.	(77.0 - 87.0') 225 gallons of water used; 0 gallons of water recovered; 225 gallons of water lost	

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

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Date Started:	04/24/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.: ER-02 9-inch</b>	
Date Completed:	05/03/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	145.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	N/A	Location:	PG&E Topock, Needles
Driller Name:	Eddie Ramos	Drill Casing Diameter:	9 inches	California	
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	9 inches	Project Number:	30126255
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	G. Wilford / A. McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid
81	Penetration rates not documented for sonic drilling not required per Specification 33 22 00	N/A	XXXXXX	(73.5-82 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).	<p>(87.0 - 97.0') Flush 9-inch diameter drill casing over 8-inch diameter drill casing.</p>	(87.0 - 97.0') 75 gallons of water used; 0 gallons of water recovered; 75 gallons of water lost
82		NR	XXXXXX	(82-84.5 ft) No Recovery; see Drilling Notes.		
83						
84						
85		N/A	XXXXXX	(84.5-117 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).		
86						
87						
88						
89						
90						
91						
92						
93						
94						
95			(94 ft) Slight increase in competent rock fragments.			
96						
97						
98				(97.0 - 107.0') Flush 9-inch diameter drill casing over 8-inch diameter drill casing.	(97.0 - 107.0') 100 gallons of water used; 0 gallons of water recovered; 100 gallons of water lost	
99						
100						

Final 8/8/22

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

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Date Started:	04/24/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.: ER-02 9-inch</b>	
Date Completed:	05/03/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	145.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	N/A	Location:	PG&E Topock, Needles California
Driller Name:	Eddie Ramos	Drill Casing Diameter:	9 inches	Project Number:	30126255
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	9 inches		
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	G. Wilford / A. McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid
101			x x x x	(84.5-117 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).		
			x x x x	(100.7-101 ft) Rock fragments are moist.		
102			x x x x			
103			x x x x			
104			x x x x			
105			x x x x			
106			x x x x			
107			x x x x			
108		N/A	x x x x		(107.0 - 117.0') Flush 9-inch diameter drill casing over 8-inch diameter drill casing.	(107.0 - 117.0') 125 gallons of water used; 0 gallons of water recovered; 125 gallons of water lost
109	Penetration rates not documented for sonic drilling not required per Specification 33 22 00		x x x x			
110			x x x x			
111			x x x x			
112			x x x x			
113			x x x x			
114			x x x x			
115			x x x x			
116			x x x x			
117			x x x x			
118		NR	X	(117-120 ft) No Recovery; see Drilling Notes.	(117.0 - 127.0') Flush 9-inch diameter drill casing over 8-inch diameter drill casing.	(117.0 - 127.0') 175 gallons of water used; 0 gallons of water recovered; 175 gallons of water lost
119			X			
120			X			

Final 8/8/22

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

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Date Started:	04/24/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.: ER-02 9-inch</b>	
Date Completed:	05/03/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	145.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	N/A	Location:	PG&E Topock, Needles California
Driller Name:	Eddie Ramos	Drill Casing Diameter:	9 inches	Project Number:	30126255
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	9 inches		
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	G. Wilford / A. McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid
121	Penetration rates not documented for sonic drilling not required per Specification 33 22 00	N/A	xxxxx	(120-127 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4). (120.01-122 ft) Rock fragments are moist.		
122						
123						
124						
125						
126						
127						
128						
129						
130						
131			XXXXX	(127-129.4 ft) No Recovery; see Drilling Notes.	(127.0 - 137.0') Flush 9-inch diameter drill casing over 8-inch diameter drill casing.	(127.0 - 137.0') 100 gallons of water used; 0 gallons of water recovered; 100 gallons of water lost
132			XXXXX	(129.4-145 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).		
133						
134						
135						
136						
137						
138						
139						
140						
137			XXXXX			

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

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Date Started:	04/24/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.:</b> <u>ER-02 9-inch</u>	
Date Completed:	05/03/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	145.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	N/A	Location:	PG&E Topock, Needles California
Driller Name:	Eddie Ramos	Drill Casing Diameter:	9 inches	Project Number:	30126255
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	9 inches		
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	G. Wilford / A. McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid
141	Penetration rates not documented for sonic drilling not required per Specification 33 22 00	N/A	x x x x	(129.4-145 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).		
142						
143						
144						
145						
146						
147						
148						
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158						
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160						

End of Boring at 145 ft bgs.

Final 8/8/22

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

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Date Started:	05/03/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.:</b> <u>ER-02 10 &amp; 12-inch</u>	
Date Completed:	05/08/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	146.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	12 inches	Location:	PG&E Topock, Needles
Driller Name:	Eddie Ramos	Drill Casing Diameter:	10.5-12 inches	California	
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	10.5-12 inches	Project Number:	30126255
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	Alexis McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid
1		SM	(0-1.5 ft) Silty sand with gravel (SM); reddish brown (5YR 5/4).		(0.0 - 16.0') Flushed 12-inch diameter drill casing over 10.5-inch diameter drill casing.	(0.0 - 16.0') 150 gallons of water used; 30 gallons of water recovered; 120 gallons of water lost
2			(1.5-7 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).			
3						
4		N/A				
5						
6						
7						
8				(7-22 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).		
9						
10	Penetration rates not documented for sonic drilling not required per Specification 33 22 00					
11						
12						
13						
14			N/A			
15						
16						
17						
18						
19						
20					(16.0 - 26.0') Flushed 12-inch diameter drill casing over 10.5-inch diameter drill casing.	(16.0 - 26.0') 350 gallons of water used; 295 gallons of water recovered; 55 gallons of water lost

Final 8/8/22

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

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Date Started:	05/03/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.:</b> ER-02 10 & 12-inch	
Date Completed:	05/08/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	146.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	12 inches	Location:	PG&E Topock, Needles California
Driller Name:	Eddie Ramos	Drill Casing Diameter:	10.5-12 inches	Project Number:	30126255
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	10.5-12 inches		
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	Alexis McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid
21	Penetration rates not documented for sonic drilling not required per Specification 33 22 00	N/A	XXXXX	(7-22 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).		
22				NR		
23		N/A	XXXXX	(23-50 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).		
24						
25						
26						
27				(26.0 - 36.0') Flushed 12-inch diameter drill casing over 10.5-inch diameter drill casing.		
28				(26.0 - 36.0') 400 gallons of water used; 135 gallons of water recovered; 265 gallons of water lost		
29						
30						
31						
32						
33						
34						
35						
36						
37				(36.0 - 46.0') Advancing 10.5-inch diameter drill casing.		
38				(36.0 - 46.0') 350 gallons of water used; 80 gallons of water recovered; 270 gallons of water lost		
39						
40						

Final 6/18/22

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

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Date Started:	05/03/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.:</b> <u>ER-02 10 &amp; 12-inch</u>	
Date Completed:	05/08/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	146.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	12 inches	Location:	PG&E Topock, Needles
Driller Name:	Eddie Ramos	Drill Casing Diameter:	10.5-12 inches	California	
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	10.5-12 inches	Project Number:	30126255
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	Alexis McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid
41	Penetration rates not documented for sonic drilling not required per Specification 33 22 00	N/A	x x x x	(23-50 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).		
42						
43						
44						
45						
46						
47						
48						
49						
50						
51		N/A	x x x x	(50-72 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).	(46.0 - 56.0') Advancing 10.5-inch diameter drill casing.	(46.0 - 56.0') 100 gallons of water used; 90 gallons of water recovered; 10 gallons of water lost
52						
53						
54						
55						
56						
57						
58						
59						
60						
56					(56.0 - 66.0') Advanced 10.5-inch diameter casing by dry drilling and cleaning out casing with 8-inch diameter core barrel. Mud tub seal broke compliance notified. Tripped out 9-inch diameter casing to drill dry.	(56.0 - 66.0') No drilling fluid used

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

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Date Started:	05/03/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.:</b> <u>ER-02 10 &amp; 12-inch</u>	
Date Completed:	05/08/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	146.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	12 inches	Location:	PG&E Topock, Needles California
Driller Name:	Eddie Ramos	Drill Casing Diameter:	10.5-12 inches	Project Number:	30126255
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	10.5-12 inches		
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	Alexis McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid
61	Penetration rates not documented for sonic drilling not required per Specification 33 22 00	N/A	XXXXX	(50-72 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4). (60 ft) Observed slight moisture on rock fragment.		
62						
63						
64						
65						
66						
67						
68						
69						
70						
71						
72						
73		N/A	XXXXX	(72-73.5 ft) No Recovery; see Drilling Notes.		
74			XXXXX	(73.5-82 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4). (74-74.3 ft) Rock fragments are moist.		
75			XXXXX			
76			XXXXX			
77		N/A	XXXXX		(76.0 - 86.0') Advanced 10.5-inch diameter casing by dry drilling and cleaning out casing with 8-inch diameter core barrel.	(76.0 - 86.0') No drilling fluid used
78			XXXXX			
79			XXXXX			
80			XXXXX			

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

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Final 018/22

Date Started:	05/03/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.:</b> ER-02 10 & 12-inch	
Date Completed:	05/08/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	146.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	12 inches	Location:	PG&E Topock, Needles California
Driller Name:	Eddie Ramos	Drill Casing Diameter:	10.5-12 inches	Project Number:	30126255
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	10.5-12 inches		
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	Alexis McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid
81		N/A	XXXXXX	(73.5-82 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).		
82				(82-84.5 ft) No Recovery; see Drilling Notes.		
83		NR				
84						
85			XXXXXX	(84.5-117 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).		
86			XXXXXX		(86.0 - 96.0') Advanced 10.5-inch diameter casing by dry drilling and cleaning out casing with 8-inch diameter core barrel.	(86.0 - 96.0') No drilling fluid used
87			XXXXXX			
88			XXXXXX			
89	Penetration rates not documented for sonic drilling not required per Specification 33 22 00		XXXXXX			
90			XXXXXX			
91			XXXXXX			
92		N/A	XXXXXX			
93			XXXXXX			
94			XXXXXX	(94 ft) Slight increase in competent rock fragments.		
95			XXXXXX			
96			XXXXXX			
97			XXXXXX		(96.0 - 116.0') Advanced 10.5-inch diameter casing by dry drilling and cleaning out casing with 8-inch diameter core barrel. A hydraulic line on the drill head ruptured releasing hydraulic fluid. Compliance was immediately notified. Confirmed hydraulic fluid did not go down borehole. Once drilling resumed hard material was encountered and cleaned out with 8-inch diameter core barrel.	(96.0 - 116.0') No drilling fluid used
98			XXXXXX			
99			XXXXXX			
100			XXXXXX			

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

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Date Started:	05/03/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.: ER-02 10 &amp; 12-inch</b>	
Date Completed:	05/08/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	146.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	12 inches	Location:	PG&E Topock, Needles California
Driller Name:	Eddie Ramos	Drill Casing Diameter:	10.5-12 inches	Project Number:	30126255
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	10.5-12 inches		
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	Alexis McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid	
101			x x x x	(84.5-117 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).			
			x x x x	(100.7-101 ft) Rock fragments are moist.			
102			x x x x				
103			x x x x				
104			x x x x				
105			x x x x				
106			x x x x				
107			x x x x				
108			x x x x				
109	Penetration rates not documented for sonic drilling not required per Specification 33 22 00	N/A	x x x x				
110			x x x x				
111			x x x x				
112			x x x x				
113			x x x x				
114			x x x x				
115			x x x x				
116			x x x x				
117			x x x x			(116.0 - 145.0') Advanced 10.5-inch diameter casing by dry drilling and cleaning out casing with 8-inch diameter core barrel.	(116.0 - 145.0') No drilling fluid used
118						(117-120 ft) No Recovery; see Drilling Notes.	
119		NR	X				
120							

Final 8/8/22

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

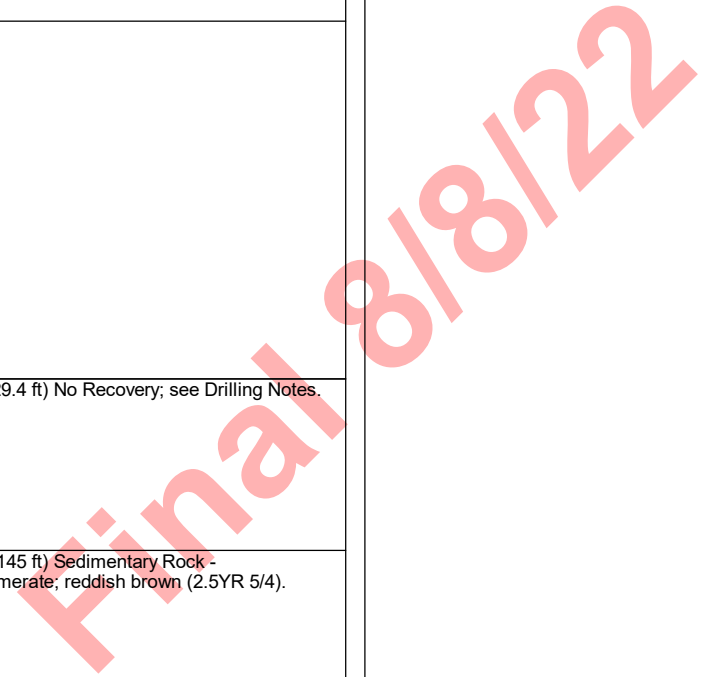
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Date Started:	05/03/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.:</b> <u>ER-02 10 &amp; 12-inch</u>	
Date Completed:	05/08/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	146.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	12 inches	Location:	PG&E Topock, Needles
Driller Name:	Eddie Ramos	Drill Casing Diameter:	10.5-12 inches	California	
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	10.5-12 inches	Project Number:	30126255
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	Alexis McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid		
121	Penetration rates not documented for sonic drilling not required per Specification 33 22 00	N/A	XXXXX	(120-127 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4). (120.01-122 ft) Rock fragments are moist.				
122								
123								
124								
125								
126								
127								
128			NR				XXXXX	(127-129.4 ft) No Recovery; see Drilling Notes.
129								
130			N/A				XXXXX	(129.4-145 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).
131								
132								
133								
134								
135								
136								
137								
138								
139								
140								

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

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Date Started:	05/03/2022	Surface Elevation:	506.35 ft amsl	<b>Boring No.: ER-02 10 &amp; 12-inch</b>	
Date Completed:	05/08/2022	Northing (NAD83):	2101009.50		
Drilling Co.:	ABC LIOVIN	Easting (NAD83):	7616642.75	Client:	PG&E
Drilling Method:	Roto-Sonic	Total Depth:	146.0 ft bgs	Project:	Final GW Remedy Phase 2A
Drill Rig Type:	Terra Sonic Truck Mount	Conductor Casing Diameter:	12 inches	Location:	PG&E Topock, Needles
Driller Name:	Eddie Ramos	Drill Casing Diameter:	10.5-12 inches	California	
Drilling Asst:	J. Candelaria / F. Perez	Drill Bit:	10.5-12 inches	Project Number:	30126255
Tool-Pusher:	N/A	Depth to First Water:	60.0 ft bgs		
Rig Geologist:	Alexis McIntyre	Converted to Well:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Depth (ft)	Drilling Run (ft) and Average Penetration Rate	USCS Code	USCS Class	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observations confirming presence of temporary backfill material in drill cuttings	Drilling Fluid
141	Penetration rates not documented for sonic drilling not required per Specification 33 22 00	N/A	XXXXX	(129.4-145 ft) Sedimentary Rock - Conglomerate; reddish brown (2.5YR 5/4).		
142						
143						
144						
145						
146						
146		NR	XXXXX	(145-146 ft) No Recovery; see Drilling Notes.	(145.0 - 146.0') Advanced with 8-inch diameter core barrel to plug the core barrel to clean out prior to well installation. Core not bagged or logged.	(145.0 - 146.0') No drilling fluid used

End of Boring at 146 ft bgs.

Final 05/12/22

147
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159
160

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered during drilling and approximate static measured during drilling, respectively.

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