9/	ARC4	DIS Design for na built a	n & Consultancy tural and ssets		Well Const	ruction Log	;	Sheet: 1 of 10	
	Started:	04/12/2019			_Surface Elevation:	497.71 ft amsl	Well ID: IR	Z-20	
	•	04/23/2019			_Shallow Well Elevation:				
Drilling		Cascade			_Deep Well Elevation:	N/A	Client: PG&E		
_	Method:	Dual Rotary			_Northing (NAD83):	2102761.41	•	GW Remedy Phase 1	
Driller		Jon Martine			_Easting (NAD83):	7615814.23	Location: <u>PG&</u>	<u> E Topock, Needles, California</u>	
Drilling		E. Martinez	-	ors	_Borehole Diameter:	18-24 inches	<u> </u>		
Logge				_Static Water Level:	See Log for Depths				
	· · · · · · · · · · · · · · · · · · ·				_Development End Date:				
I otal L	Jeptn:	188.1 ft bgs			_Well Completion:	☐ Flush ☐ Stick-up 区	Stick-up 🗵 To Be Completed in Well Vault		
Depth (ft)	Groundwat Sample II		USCS	USCS Class		onstruction	Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume	
99:130700701.10		Topock - Fluvial Deposits	GW-GM		(0.0 - 49.0') 10" SHUR-GRIP SDR17 PVC Casing (0.0 - 5.0') Cemex #0/30 sand		(0.0 - 5.0') 25 bags	(0.0 - 5.0') 30 bags (120%) Note: Lapis Lustre Sand, used >20% of the calculated volume due to potential voids forming during drilling.	
1ATE FOR PLOG.G		Topock - Fluvial Deposits	SP-SM				16		
		Topock - Fluvial Deposits	SM						
ON 8		Topock - Fluvial Deposits	SM		(5.0 - 34.5') Portland Cement 3% Bentonite Type I, II and V with Hydrogel	(0.0 - 23.3') 24.0" Borehole	(5.0 - 34.5') 439.1 gallons	(5.0 - 34.5') 485.3 gallons (111%) Note: Grout seal	
14		Topock - Fluvial Deposits	SM						
		Topock - Fluvial Deposits	SM						
18 19 200 19 200 19 200 19 200 19 200 19 200 19 200		Topock - Fluvial Deposits	GM						
	viations: U	SCS = Unifie	d Soil Cla	assificat	tion System, ft = feet, bgs	= below ground surface, a	msl = above mean	sea level, GW =	
						ory reporting limit, NR = no			
						rific capacity for the shallow	•		

rilling Co.: rilling Method: riller Name:	04/12/2019 d: 04/23/2019 Cascade			Surface Elevation:	497.71 ft amsl	Well ID: IR	7 20
rilling Co.: rilling Method: riller Name:						VVEILID. IRA	L-2 0
rilling Method: riller Name:	<u>Cascade</u>				N/A		
riller Name:				_Deep Well Elevation:	N/A	Client: PG&E	
	: <u>Dual Rotary</u> <u>Jon Martinez</u>			_Northing (NAD83):	2102761.41	•	GW Remedy Phase 1
rilling Asst: <u>E. Martinez / W. Saylors</u>				_Easting (NAD83):	7615814.23	Location: <u>PG&E</u>	Topock, Needles, California
-		-	<u>s</u>	Borehole Diameter:	18-24 inches		D0000750 0054
ogger:	David Cornell			_Static Water Level:	See Log for Depths	Project Number	r: RC000753.0051
ditor:	Sean McGran	<u>ie</u>		Development End Date:			:- \\/-!!\/!t
otal Depth:	188.1 ft bgs			_Well Completion:	☐ Flush ☐ Stick-up 区	To Be Completed	in vveii vauit
Groundw Sample		Code	Class		onstruction	Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume
	Topock - Fluvial Deposits	G M		(0.0 - 49.0') 10" SHUR-GRIP SDR17 PVC Casing (5.0 - 34.5') Portland Cement 3% Bentonite Type 1, II and V with Hydrogel	(23.3 - 40.0') 18.0" Borehole	(5.0 - 34.5') 439.1 gallons	(5.0 - 34.5') 485.3 gallons (111%) Note: Grout seal
	Fluvial Deposits	SM		(34.5 - 35.5') Centralizer (34.5 - 37.2') Bentonite seal chips Puregold medium chips		(34.5 - 37.2') 4.3 bags	(34.5 - 37.2') 7 bags (163%) Note: Seal between sand and grout, used >20% of the calculated volume due to potential voids forming during drilling.
38	Topock - Fluvial Deposits Topock - Alluvium Deposits	SM		(37.2 - 40.3') Cemex #0/30 Mesh —		(37.2 - 40.3') 6.9 bags	(37.2 - 40.3') 7 bags (101%) Note: Transition sand
bbreviations:		Soil Clas	sificati	ion System, ft = feet, bas	= below ground surface, a	msl = above mean	sea level, GW =
					ory reporting limit, NR = no		
	· · · · · · · · · · · · · · · · · · ·				ific capacity for the shallow	•	
ater table mar	Spi Sooiit do	to wat	J. (1t.	23., 3404104 pro-3pc0	sapasity for the shallow	430P 30100113	
ater table mar							

9/	ARC4	D	S Design & C for natural built asset	Consultancy Land s		Well Cons	struction Log	\$	Sheet: 3 of 10			
Date S			12/2019			_Surface Elevation:	497.71 ft amsl	Well ID: IRZ	Z-20			
	Completed:					_Shallow Well Elevatio						
Drilling			cade			_Deep Well Elevation:	N/A	Client: PG&E				
_	Method:		al Rotary			_Northing (NAD83):	2102761.41	· ·	GW Remedy Phase 1			
Driller I			Martinez	N C = 1	l	_Easting (NAD83):	7615814.23	Location: PG&E	Topock, Needles, California			
Drilling			// ///////////////////////////////////	v. Say	iors	_Borehole Diameter: Static Water Level:	18-24 inches See Log for Depths	Project Number	PC000753 0051			
Logge Editor:			<u>nd Comeil</u> n McGran			_Static vvater Level. _Development End Da		FTOJECT NUMBE	Project Number: <u>RC000753.0051</u>			
Total D			.1 ft bgs			_Well Completion:		up 🗵 To Be Completed	⊠ To Be Completed in Well Vault			
Depth (ft)	Groundwat Sample II		Geologic Formation	USCS	USCS Class	We	II Construction	Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume			
41424344454647			Topock - Alluvium Deposits	SM		(0.0 - 49.0') 10" SHUR-GRIP SDR17 PVC Casing			(40.3 - 73.3') 129 bags (173%) Note: Filter pack, used >20% of			
	IRZ-20-VAS 51-56 (150 ppb) 10/20/2018 11:40		Topock - Alluvium Deposits	GM		(49.0 - 71.0') 10" 316LStainless Steel Wire Wrap (20-slot) Screen	(40.0 - 59.8 18" Boreho		the calculated volume due to potential voids froming during drilling. Swabbed filter pack for approximately 48 minutes prior to installation of additional annular materials.			
 57			Topock - Alluvium Deposits	SM			X					
585960			Topock - Alluvium Deposits	SM								
	viations: I I	ISCS	S = Unified	Soil C	lassificat	ion System ft = feet_b	as = helow around surfa	ace. amsl = above mean :	sea level GW =			

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) measured pre-specific capacity for the shallow and deep screens respectively

9	4RC4	DIS Design 8 for nature built ass	Consultancy al and ets		Well Const	ruction Log	:	Sheet: 4 of 10
Date S	Started:	04/12/2019	unariti		_Surface Elevation:	497.71 ft amsl	Well ID: IR	Z-20
	•	04/23/2019			_Shallow Well Elevation:			
Drilling	-	Cascade			_Deep Well Elevation:	N/A	Client: PG&I	
-	•	•			_Northing (NAD83):	2102761.41	•	GW Remedy Phase 1
	Name:	Jon Martinez			_Easting (NAD83):	7615814.23	Location: <u>PG&I</u>	<u> Topock, Needles, California</u>
1	g Asst:	E. Martinez /	-	lors	_Borehole Diameter:	18-24 inches		
Logge		David Cornell			_Static Water Level:	See Log for Depths	Project Numbe	r: RC000753.0051
Editor		Sean McGrar	ne		_Development End Date			
I otal I	Depth:	188.1 ft bgs	Τ		_Well Completion:	☐ Flush ☐ Stick-up 区	To Be Completed	in Well Vault
Depth (ft)	Groundwa Sample II		USCS	USCS Class	Well C	Construction	Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume
61 62 63 64 65		Topock - Alluvium Deposits	SM		(49.0 - 71.0') 10" 316LStainless Steel Wire Wrap (20-slot) Screen			
66 67 68 68		Topock - Alluvium Deposits	ML			(59.8 - 78.9')	(40.3 - 73.3') 74.6 bags	
70 71 72		Topock - Alluvium Deposits	ML			18" Borehole (71.0 - 136.0') 10" SHUR-GRIP SDR17 PVC Casing		
<u>-</u>	-							
73	4							
74 _ 74 _ 75 _		Topock - Alluvium Deposits	ML		(73.3 - 75.4') Cemex #0/30 Mesh (30x50) Lapis Lustre Sand		(73.3 - 75.4') 4.7 bags	(73.3 - 75.4') 6 bags (128%) Note: Transition sand, used >20% of the calculated volume due to potential voids forming during drilling.
78 — 77 — 78 — 78 — 78 — 78 — 78					(75.4 - 125.6') Bentonite seal		(75.4 - 125.6') 90.9 buckets	(75.4 - 125.6') 148 buckets (163%) Note: Intermediate seal, used >20% of the calculated volume due
78 78 79 80	-	Topock - Alluvium Deposits	ML		pellets Pel-Plug (TR30) 3/8"	_ (78.9 - 99.9') 18" Borehole	CO.O DUGNOIS	to potential voids forming during drilling.
	viations: L	ISCS = Unified	Soil Cl	assifica	tion System, ft = feet, bgs	= below ground surface, a	msl = above mean	sea level, GW =
						tory reporting limit, NR = no		

water table marks represent depth to water (ft. bgs.) measured pre-specific capacity for the shallow and deep screens respectively

AR	CAE	Design & C for natura built asset	Consultancy Land s		Well Consti	ruction Log	Sheet: 5 of 10			
Date Started	: <u>0</u> 4	1/12/2019			_Surface Elevation:	497.71 ft amsl	Well ID: IR	Z-20		
Date Comple						N/A				
Drilling Co.:		ascade			_Deep Well Elevation:	N/A	Client: PG&E			
Drilling Meth		ual Rotary			_Northing (NAD83):	2102761.41	•	GW Remedy Phase 1		
Driller Name		n Martinez			_Easting (NAD83):	7615814.23	Location: <u>PG&</u> E	Topock, Needles, California		
Drilling Asst:		Martinez / V	V. Say	ors	_Borehole Diameter:	18-24 inches		D0000750 0054		
Logger:		avid Cornell			_Static Water Level:	See Log for Depths	Project Numbe	r: RC000753.0051		
Editor: Total Depth:	·				_Development End Date: _Well Completion:		 To Be Completed	in Well Vault		
					<u>- · · · · · · · · · · · · · · · · · · ·</u>					
	ndwater iple ID	Geologic Formation	USCS	USCS	Well Co	onstruction	Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume		
	87 33 U b) (2018 45	Topock - Alluvium Deposits Topock - Alluvium Deposits	ML		(75.4 - 125.6') Centralizer (75.4 - 125.6') Bentonite seal pellets Pel-Plug (TR30) 3/8"	(78.9 - 99.9') (78.9 - 99.9') 18" Borehole	(75.4 - 125.6') 90.9 buckets	(75.4 - 125.6') 148 buckets (163%) Note: Intermediate seal, used >20% of the calculated volume due to potential voids forming during drilling.		

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) measured pre-specific capacity for the shallow and deep screens respectively

ARC/	ADIS Design & for natura built asset	Consultancy al and ets	Well Const	ruction Log	;	Sheet: 6 of 10
Date Started:	04/12/2019		Surface Elevation:	497.71 ft amsl	Well ID: IR	Z-20
Date Completed	: <u>04/23/2019</u>		Shallow Well Elevation:			
Drilling Co.:	Cascade		Deep Well Elevation:	N/A	Client: PG&E	
Drilling Method:	Dual Rotary		Northing (NAD83):	2102761.41		GW Remedy Phase 1
Driller Name:	Jon Martinez		Easting (NAD83):	7615814.23	Location: <u>PG&E</u>	E Topock, Needles, California
Drilling Asst:	E. Martinez / Y	-	Borehole Diameter:	18-24 inches		
Logger:	David Cornell		Static Water Level:	See Log for Depths	Project Numbe	r: RC000753.0051
Editor: Total Depth:	Sean McGrar 188.1 ft bgs	<u>1e</u>	Development End Date Well Completion:		 To Be Completed	in Well Vault
		() a () ()			1	Material Volumes Installed
Groundwa Sample		USCS Code USCS Class	Well C	Construction	Calculated Material Volumes	Note: percentages are the actual volume vs the calculated volume
	Topock - Alluvium Deposits Topock - Alluvium Deposits	SM	(75.4 - 125.6') Bentonite seal pellets Pel-Plug (TR30) 3/8"	(71.0 - 136.0') 10" SHUR-GRIP SDR17 PVC Casing (99.9 - 119.9') 18" Borehole	(75.4 - 125.6') 90.9 buckets	(75.4 - 125.6') 148 buckets (163%) Note: Intermediate seal, used >20% of the calculated volume due to potential voids forming during drilling.
112		ML				
118 119 120	Topock - Alluvium Deposits	ML Soil Classifi	cotion System ft = foot has	= below ground surface, a	mel = abovo moco	sea level GW =

Abbreviations: USCS = Unified Soil Classification System, it = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) measured pre-specific capacity for the shallow and deep screens respectively

9/	RC4	DIS Design & for natura built asse	Consultancy al and ets		Well Cons	strı	uctio	n Log			Sheet: 7 of 10	
Date St		04/12/2019			_Surface Elevation:	4	197.71	ft amsl		Well ID: IR	7-20	
	•	04/23/2019			_Shallow Well Elevation		N/A					
Drilling		Cascade			_Deep Well Elevation:	_	N/A			_ Client: PG&		
_		Dual Rotary			_Northing (NAD83):		210276			•	GW Remedy Phase 1	
Driller N		Jon Martinez			_Easting (NAD83):		<u>761581</u>			Location: <u>PG&</u>	E Topock, Needles, California	
Drilling .		E. Martinez / \	-	lors	_Borehole Diameter:		18-24 inches					
Logger		David Cornell			_Static Water Level:		See Log for Depths			Project Numbe	er: RC000753.0051	
Editor: Total D	epth:	Sean McGrar 188.1 ft bgs	ne		_Development End Da _Well Completion:	ate: <u>5</u> [5/30/20 Flus		-up 🔀	— To Be Completed	l in Well Vault	
Depth (ft)	Groundwat Sample II		USCS	USCS Class	We	ell Con	struction			Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume	
121 122 123		Topock - Alluvium Deposits	ML		(119.5 - 120.5') Centralizer (75.4 - 125.6') Bentonite seal pellets Pel-Plug			- (71.0 - 136 10" SHUR- SDR17 PVC	GRIP	(75.4 - 125.6') 90.9 buckets	(75.4 - 125.6') 148 buckets (163%) Note: Intermediate seal, used >20% of the calculated volume due to potential voids forming during	
124 125		Topock - Alluvium Deposits Topock - Alluvium	GM ML		(TR30) 3/8"	200	. 0, 0, 0				drilling.	
126 127 128		Deposits	IVIL		(125.6 - 127.2') Cemex #0/30 Mesh (30x50) Lapis Lustre Sand	× × × × × × × × × × × × × × × × × × ×	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		<	(125.6 - 127.2') 3.5 bags	(125.6 - 127.2') 4 bags (114%) Note: Transition sand	
129		Topock - Alluvium Deposits	ML		e l'			(119.9 - 13 18" Boreh				
132 133 (134 135 136	IRZ-20-SS- 131-136 <0.17 U ppt 10/23/2018 13:25) Topock - Alluvium Deposits	SM		(127.2 - 163.3') Cemex # 1 C (16x40) Lapis Lustre Sand			- (136.0 - 15		(127.2 - 163.3') 86 bags	(127.2 - 163.3') 123 bags (143%) Note: Filter pack, used >20% of the calculated volume due to potential voids froming during drilling. Swabbed filter pack for approximately 75 minutes prior to installation of additional annular materials.	
137 138 139 140 Abbrevi	ations: U	Topock - Weathered Bedrock - conglomerate		assifica	tion System, ft = feet, b	ogs =	below	10" 316LSta Steel Wire (20-slot) Sc	Wrap creen	nsl = above mean	sea level, GW =	

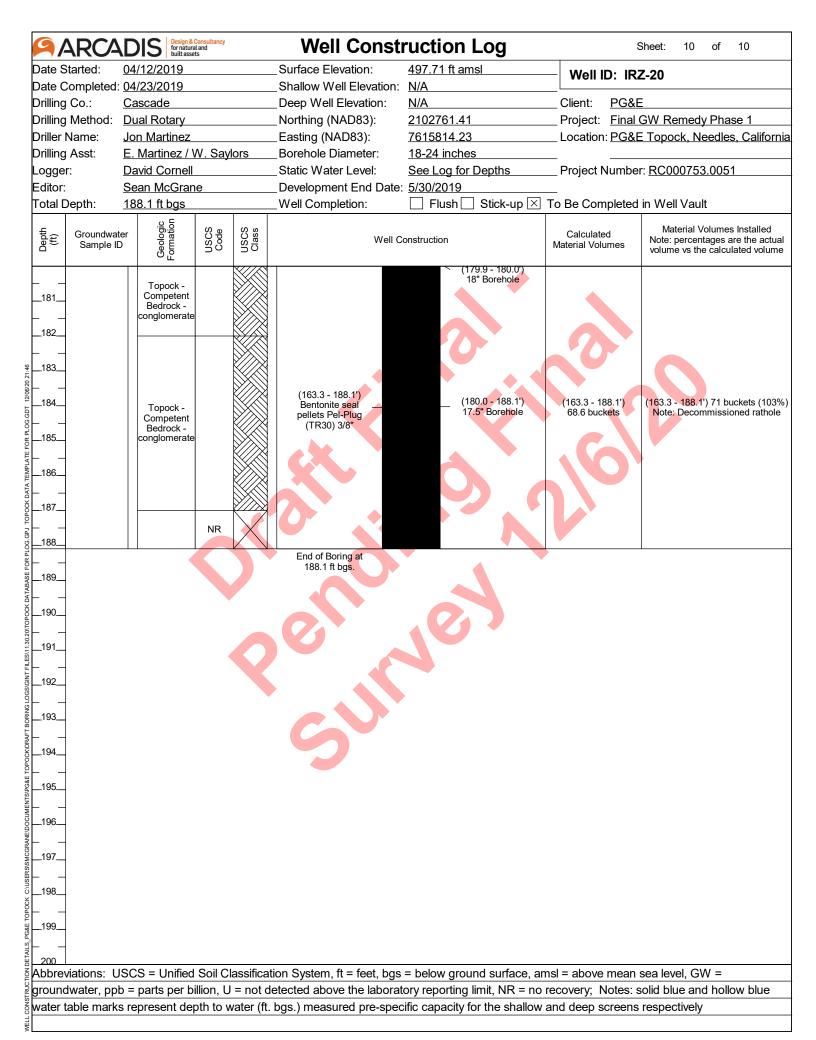
groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) measured pre-specific capacity for the shallow and deep screens respectively

9/	ARC4	Design & for natura built asset	Consultancy I and ts		Well Cons	struction	Log	Sheet: 8 of 10		
Date S	Started:	04/12/2019			_Surface Elevation:	<u>497.71 ft a</u>	msl	Well ID: IRZ	7-20	
	-	04/23/2019			_Shallow Well Elevatio					
Drilling		Cascade			_Deep Well Elevation:	N/A		Client: PG&E		
1		Dual Rotary			_Northing (NAD83):	<u>2102761.4</u>			GW Remedy Phase 1	
Driller I		Jon Martinez			_Easting (NAD83):	<u>7615814.2</u>		Location: <u>PG&E</u>	Topock, Needles, California	
Drilling		E. Martinez / \	-	lors	_Borehole Diameter:	18-24 inch				
Logge		David Cornell			_Static Water Level:	See Log fo	<u>r Depths</u>	Project Number: RC000753.0051		
Editor: Total D		Sean McGran 188.1 ft bgs	е		_Development End Da _Well Completion:	te: <u>5/30/2019 </u>	Stick up 🖂	— To Be Completed	in Wall Vault	
TOtal L	Јерин.				_ Well Completion.		Stick-up 🔼	To be Completed	III VVEII Vadit	
Depth (ft)	Groundwat Sample IE		Code	USCS	Wel	I Construction		Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume	
141	viations: II	Topock - Weathered Bedrock - conglomerate Topock - Weathered Bedrock - conglomerate	ML	assification of the state of th	(127.2 - 163.3') Cemex # 1 C (16x40) Lapis Lustre Sand (157.0 - 158.0') Centralizer		(139.9 - 159.9') (139.9 - 159.9') (18" Borehole	(127.2 - 163.3') 86 bags	(127.2 - 163.3') 123 bags (143%) Note: Filter pack, used >20% of the calculated volume due to potential voids froming during drilling. Swabbed filter pack for approximately 75 minutes prior to installation of additional annular materials.	

Abbreviations: USCS = Unitied Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) measured pre-specific capacity for the shallow and deep screens respectively

9/-	ARC4	DIS Design & for natura built asse	Consultancy al and ets		Well Const	ruction	n Log		Sheet: 9 of 10		
Date S	started:	04/12/2019			_Surface Elevation:	497.71 ft	amsl	Well ID:	IRZ-20		
	•	04/23/2019			_Shallow Well Elevation:				0.05		
Drilling		Cascade			_Deep Well Elevation:	N/A	44		G&E		
Driller I		Dual Rotary Jon Martinez			_Northing (NAD83): _Easting (NAD83):	2102761. 7615814.			inal GW Remedy Phase 1 G&E Topock, Needles, California		
Drilling		E. Martinez / \	W Sav	lors	_ Borehole Diameter:	18-24 incl		Location. <u>F</u> \	GAL TOPOCK, Needles, Calliottila		
Logge		David Cornell	-	1013	_Static Water Level:		for Depths	— — — Proiect Nun	nber: <u>RC000753.0051</u>		
Editor:		Sean McGrar			_Development End Date	-	•				
Total D		188.1 ft bgs			_Well Completion:	Flush		To Be Completed in Well Vault			
Depth (ft)	Groundwat Sample ID		USCS	USCS Class	Well (Construction		Calculated Material Volume	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume		
161 162 		Topock - Weathered Bedrock - conglomerate	CL		(127.2 - 163.3') Cemex # 1 C (16x40) Lapis Lustre Sand	Si	tump and PVC End Cap	(127.2 - 163.3 86 bags	(127.2 - 163.3') 123 bags (143%) Note: Filter pack, used >20% of the calculated volume due to potential voids froming during drilling. Swabbed filter pack for approximately 75 minutes prior to installation of additional annular materials.		
164 165 166		Congionierate						6			
167 168 169 170 171					(163.3 - 188.1')		(159.9 - 179.9') 18" Borehole				
172 173 174		Topock - Weathered Bedrock - conglomerate	ML		Bentonite seal pellets Pel-Plug (TR30) 3/8"			(163.3 - 188.1' 68.6 buckets			
175 176 177 178 179	IRZ-20-VAS 173-178 (<0.83 U ppt 10/24/2018 14:12										
180									1.100		

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) measured pre-specific capacity for the shallow and deep screens respectively



ARUAI		gn & Consultancy natural and t assets		Drilling Log				Sheet:	1 of 10
	03/31/201			ice Elevation:	497.71 ft		Borine	g No.: <u>II</u>	RZ-20
ate Completed:		9		ning (NAD83):	2102761.		_		<u></u>
•	<u>Cascade</u>			ng (NAD83):	7615814.		_ Client:	PG&E	D D 4
•	Dual Rota	-		Depth:		gs	_ Project:		Remedy Phase 1
	Foremost			luctor Casing Diameter:			_ Location:		oock, Needles,
	Jon Martin			Casing Diameter:	18 inches		-	California	2222222
-			<u>aylors</u> Drill E			tricone	_ Project Nu	ımber: RC	000753.0051
	Arnold Lar		-	h to First Water:	44.6 ft bg	_	-		
Rig Geologist:	David Cori	neli	Conv	erted to Well:	× Yes	No			
Depth (ft) Drilling Run (and Average Penetration Ra	Code	USCS Class	Casing Diameter	Description (See Pilot boring log for full geologic descriptions)		g notes and observat temporary backfill m			Drilling Fluid
	GW-GM			(0.0 - 4.0') Topock - Fluvial Deposits; Well graded gravel with silt and sand (GW-GM); very pale brown (10YR 8/3)	(0.0 - 8.1 cuttings	0') Losing air to the back.	formation, not o	getting any	(0.0 - 23.3') 400 gallor of water used; 200 gallons of water recovered; 200 gallon of water lost
- 4 - - 5	SP-SM			(4.0 - 5.5') Topock - Fluvial Deposits; Poorly graded sand with silt (SP-SM); very pale brown (10YR 8/3)		6/			
- 6 <u> </u>	SM			(5.5 - 7.0') Topock - Fluvial Deposits; Silty sand (SM); ver pale brown (10YR 8/3)					
. 8	SM	N a	(0.0 - 23.3') 24.0" Steel Casing Note: Removed Installtion	(7.0 - 13.0') Topock - Fluvial Deposits; Silty sand (SM); ver pale brown (10YR 8/3)		5') Started getting fir	nes and water b	oack at 8 ft bgs	S
13	SM			(13.0 - 15.0') Topock - Fluvial Deposits; Silty sand (SM); ver pale brown (10YR 8/3)		3.5') Rough drilling			
	SM			(15.0 - 17.0') Topock - Fluvial Deposits; Silty sand (SM); ver pale brown (10YR 8/3)	,				
_17 _ _18	GM			(17.0 - 33.0') Topock - Fluvial Deposits; Silty gravel with san (GM); grayish brown (10YR 5/2)	(17.0 - 1	7.5') Rough drilling			
_19		6 M.M							
20	CS - 1125	5 P. C	laccification	System ft - fact has -	holow are:	ind curfoce are	al – abaya -	noon ooo lee	vol GW =
 				System, ft = feet, bgs =					
	not detecte	ed above		System, ft = feet, bgs = ry reporting limit, NR = r					

	ARCA			i <mark>ign & Consultar</mark> natural and It assets		Drilling Log					Sheet:	2 of 10	
	Started:		<u>31/201</u>			ace Elevation:		.71 ft a		Borin	g No.: <u>IR</u>	<u>Z-20</u>	
	Completed:			9		ning (NAD83):		2761.4		_			
_	g Co.: g Method:		scade al Rota	r.,		ng (NAD83): Depth:		<u>5814.2</u> .1 ft bo		_ Client: _ Project:	PG&E	emedy Phase 1	
_	ig Type:			DR-24		ductor Casing Diameter:		_	<u> </u> 5	•	PG&E Topo	•	
	Name:		Martir			Casing Diameter:		nches		2004.011.	California	on, recaice,	
	Asst:				<u>Saylors</u> Drill I	-			ricone	_ _ Project N	umber: RC00	00753.0051	
ool-F	Pusher:	<u>Arn</u>	old La	mon	Dept	h to First Water:	44.6	ft bgs	1				
ig G	Geologist: <u>David Cornell</u>				Converted to Well:			res [No				
Depth (ft)	Drilling Run (ft) and Average Penetration Rate USCS Code Class								notes and observa emporary backfill r			Drilling Fluid	
21					(0.0 - 23.3') 24.0" Steel								
- _22	(0.0 - 23.3) 10.37 mins/f	ft			Casing Note: Removed								
-					after during well installtion			22.0 - 23	3.3') Conductor ca	sing down to 23	3.3 ft bgs.		
_23												(23.3 - 40.0') 200	
24_									6			gallons of water used; 100 gallons of water recovered; 100 gallon	
25_							(:	25.0 - 33	3.0') Rough drilling	9		of water lost	
- 26													
- 27			GM										
28_													
- 29													
-													
_30													
31_					(23.3 - 40.0') 18.0" Steel								
-	(23.3 - 40.0) 8.91 mins/ft				Casing Note: Removed								
32_	0.01 111110/10				after during well installtion								
.33				00									
_						(33.0 - 36.0') Topock - Fluvial Deposits; Silty sand with grave	el						
.34_						(SM); brown (10YR 5/3)							
			SM										
35_													
- _36	-												
_00						(36.0 - 39.0') Topock - Fluvial Deposits; Silty sand with grave	el						
_37						(SM); brown (10YR 4/3)							
_			SM										
.38_							(:	38.0 - 39	0.0') Rough drilling	<u> </u>		-	
-									, o	-			
.39						(39.0 - 47.0') Topock - Alluviui	n						
- 40			SM			Deposits; Silty sand with graw (SM); grayish brown (10YR 5/							
						System, ft = feet, bgs =							
					e the laborato	ry reporting limit, NR = n	o rec	overy;	Notes: blue v	vater table s	ymbol collecte	ed during the first	
70 II	nterval of the	e hiic	או טטופ	IIUI U									

6 A	DCA	חוכ	Design & Consulta	псу	Drilling Log				Sheet:	3 of 10
Date S	ARUA	<u>03/31/20</u>	Design & Consulta for natural and built assets		ace Elevation:		97.71 ft amsl	Ι		
	ompleted:				ning (NAD83):		102761.41	Boring	g No.: <u>IR</u>	<u>Z-20</u>
Drilling		Cascade			ng (NAD83):		615814.23	Client:	PG&E	
_	Method:	Dual Ro			Depth:		38.1 ft bgs	Project:		emedy Phase 1
Drill Rig		Foremos	st DR-24	HD Cond	ductor Casing Diameter:	<u>24</u>	1 inches	Location:	PG&E Topo	ck, Needles,
Driller N	Name:	Jon Mar			Casing Diameter:	<u>18</u>	3 inches	<u>California</u>		
Drilling				<u>Saylors</u> Drill I			7.5 inch tricone	Project Nu	ımber: RC00	0753.0051
Tool-Pu		Arnold L		-	h to First Water:		1.6 ft bgs			
Rig Ge	ologist.	David Co	orriell	Con	verted to Well:	X	Yes No			
Depth (ft)	Drilling Run and Averag Penetration R	e Code		Casing Diameter	Description (See Pilot boring log for full geologic descriptions)		Drilling notes and observation temporary backfill ma			Drilling Fluid
41	(40.0 - 59.8) 2.68 mins/ft		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	(40.0 - 59.8') 18" Steel Casing Note: Removed after during well installtion	(47.0 - 56.0') Topock - Alluviu Deposits; Silty gravel with sar (GM); brown (10YR 4/3)	ım el ırk	(41.0 - 56.0') smooth driling			(40.0 - 59.8') 260 gallons of water used; 100 gallons of water recovered; 160 gallons of water lost

	1001		lesian & Consulta	ncv	Drilling Log				OI 1	4 (40
7 /	ARCA		lesign & Consulta or natural and uilt assets		Drilling Log				Sheet:	4 of 10
	started:	03/31/20			ace Elevation:		7.71 ft amsl	Boring	g No.: <u>IR</u>	<u>Z-20</u>
Date C Drilling	Completed:				ning (NAD83):) <u>2761.41</u> <u>15814.23</u>	Client:	PG&E	
	Method:	Cascade Dual Rot			ng (NAD83): Depth:			Project:		emedy Phase 1
_	g Type:	Foremos	-		ductor Casing Diameter:		-	Location:		•
Driller		Jon Mart			Casing Diameter:		inches		California	
Drilling				<u>Saylors</u> Drill I				Project Number: RC000753.0051		0753.0051
Tool-P	usher:	Arnold La	amon	Dept	h to First Water:	<u>44.</u>	6 ft bgs			
Rig Ge	ig Geologist: <u>David Cornell</u>				verted to Well:	X	Yes No			
D 41-	Drilling Run	(ft) uses	11000	Oi	Description		Deillian makes and also make			
Depth (ft)	and Averag Penetration R	e Code		Casing Diameter	(See Pilot boring log for full geologic descriptions)		Drilling notes and observation temporary backfill ma			Drilling Fluid
616263646566666770717273737475757677	(59.8 - 78.9) 4.99 mins/ft	ML ML		Note: Removed	(65.0 - 69.0') Topock - Alluviu Deposits; Sandy silt (ML); brown (10YR 5/3) (69.0 - 71.0') Topock - Alluviu Deposits; Sandy silt (ML); brown (7.5YR 4/4) (71.0 - 77.0') Topock - Alluviu Deposits; Silt with sand (ML); brown (7.5YR 4/4)	m	(74.0 - 75.0') Rough drilling			(59.8 - 79.9') 500 gallons of water used; 350 gallons of water recovered; 150 gallons of water lost
/ 5 _ 80				•						
	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		·		_	·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	·

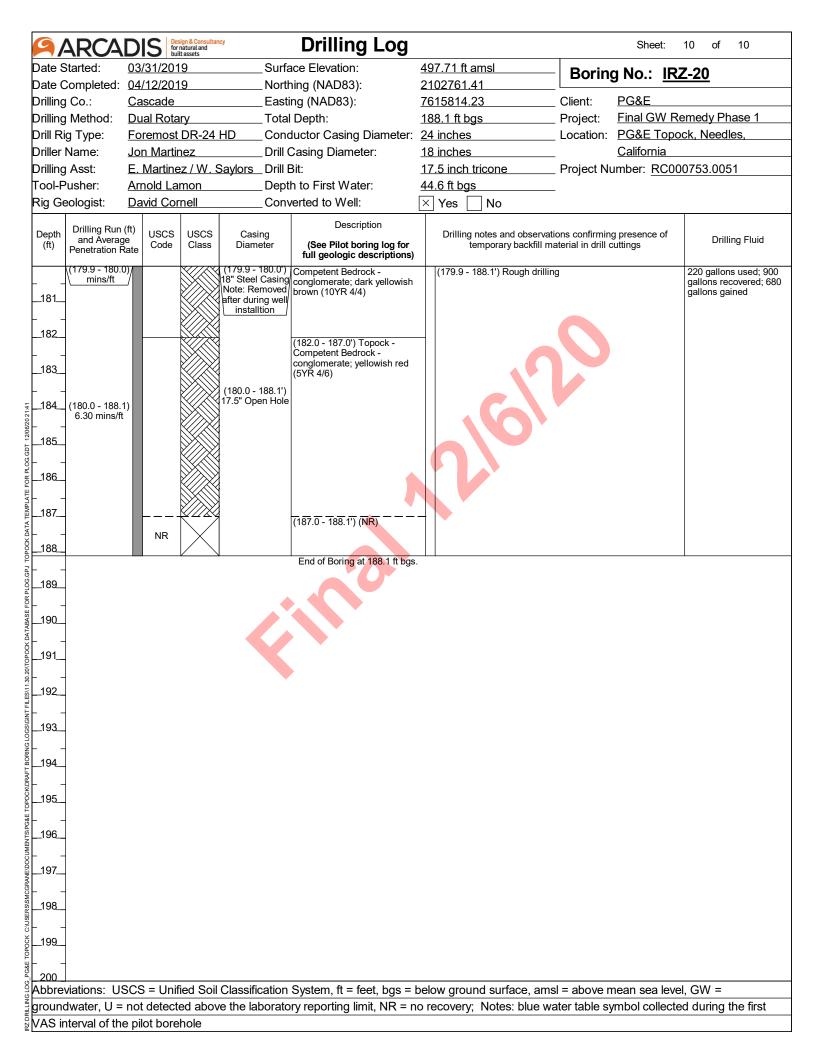
9/	PARCADIS Design & Consultancy for natural and built assets Date Started: 03/31/2019		icy	Drilling Log	Sheet: 5 of 10				
Date S	tarted:	03/31/20	19	Surfa	ace Elevation:	497.71 ft amsl	Boring No.: IF	RZ-20	
Date C Drilling	ompleted:	04/12/20 Cascade	19		ning (NAD83): ng (NAD83):	2102761.41 7615814.23	_ Client: <u>PG&E</u>		
_	Method:	Dual Rota	arv		Depth:	188.1 ft bgs		Remedy Phase 1	
Drill Rig		Foremos	-		ductor Casing Diameter:	_	_ ,	ock, Needles,	
Driller N	Name:	Jon Marti			Casing Diameter:	18 inches	<u>California</u>		
Drilling				Saylors Drill E		17.5 inch tricone	_ Project Number: RC0	000753.0051	
Tool-P	usher: ologist:	Arnold La David Co		-	h to First Water: /erted to Well:	44.6 ft bgs X Yes No	_		
Ng Ge	ologist.	Drilling Dun (ft)		Conv		Yes No			
Depth (ft)	Drilling Run and Averag Penetration R	e Codo	USCS Class	Casing Diameter	Description (See Pilot boring log for full geologic descriptions)	temporary backfill m	tions confirming presence of laterial in drill cuttings	Drilling Fluid	
81	(78.9 - 99.9) 3.81 mins/ft	SM		(78.9 - 99.9') 18" Steel Casing Note: Removed after during well installtion				(79.9 - 99.9') 220 gallons of water used; 2600 gallons of water recovered; 2380 gallons of water gained	

101	9/-	ARCA	DIS	Design & Consultar or natural and uilt assets	псу	Drilling Log		Sheet:	6 of 10
Delic Complete: 04/12/2019 Northing (NAD83): 201/2014								Boring No.: II	RZ-20
Deling Nethod: Dual Royary Total Depth: 188.1 ft bgs		-				- '			
Delit Type: Demost DR24 D Conductor Casing Diameter: 24 Inches Location: PGSE Topock, Needles								='	Dama du Dhasa 4
Drillery Asstrict Drillery Asstrict Tool-Pusher: Amoraid Lasmo	_						_	•	
Drilling Rate of Control Lamon Depth to First Water: Converted to Well: Yes No						-			ock, needles,
Tool-Pusher: Arnold Lamon Depth of First Water: 44.6 ft bgs No						-			000753 0051
Rig Coologist David Come Converted to Well: Yes No No					-			. i Toject Number. <u>1101</u>	000733.0031
Description Description Principal								-	
Depth Period Nation (Period Code) Period Annual Code (Code) Period Cod						I			
101		and Averag	e Codo			(See Pilot boring log for			-
			SM		Note: Removed after during well	Alluvium Deposits; Sandy silt with gravel (SM); brown (7.5YI 4/3) (109.0 - 117.0') Topock - Alluvium Deposits; Sandy silt (ML); brown (10YR 4/3) (117.0 - 123.0') Topock - Alluvium Deposits; Sandy silt	2		gallons of water used; 5000 gallons of water recovered; 4800 gallons

AK	U A			i <mark>gn & Consultan</mark> natural and It assets		Drilling Log			_	Sheet:	7 of 10
Date Starte			31/201			ace Elevation:	497.71 f		Borine	g No.: <u>IF</u>	RZ-20
Date Comp				9		ning (NAD83):	210276		_		
Orilling Co.:			cade			ng (NAD83):	7615814		_ Client:	PG&E	Damad Di d
Orilling Met			ıl Rota	•		Depth:	188.1 ft	-	_ Project:		Remedy Phase 1
Orill Rig Typ				DR-24		ductor Casing Diameter:			_ Location:		ock, Needles,
Oriller Name			Martir			Casing Diameter:	18 inche		— Danis at No	California	200752 0054
Orilling Assi					Saylors Drill E			n tricone	_ Project Ni	imber: RCC	000753.0051
ool-Pushe			<u>old Laı</u> id Cor		-	h to First Water: /erted to Well:	44.6 ft b		_		
Ng Geolog	ιοι.	Dav	iu Coi	11611	COIN		× Yes	No			
oepiii and	ng Run I Averag tration R	e	USCS Code	USCS Class	Casing Diameter	Description (See Pilot boring log for full geologic descriptions)	Drillir	ng notes and observa temporary backfill i			Drilling Fluid
_ _121 _ _ _122			ML								(119.9 - 139.9') 200 gallons of water use 4700 gallons of wat recovered; 4500 gal of water gained
_123						(123.0 - 124.5') Topock -		(
			GM			Alluvium Deposits; Silty grave with sand (GM); yellowish brown / moderate yellowish brown (10YR 5/4)		6			
_125						(124.5 - 127.0') Topock - Alluvium Deposits; Sandy silt		10			
_ _126			ML			(ML); brown (7.5YR 4/3)					
						(127.0 - 131.0') Topock - Alluvium Deposits; Sandy silt (ML); reddish brown / modera brown (5YR 4/4)	te				
129			ML			brown (STR 4/4)					
130 (119.9	9 - 139.9	9)	IVIL		(119.9 - 139.9') 18" Steel Casing Note: Removed						
	mins/ft				after during well installtion						
						(131.0 - 136.5') Topock - Alluvium Deposits; Silty sand (SM); brown (7.5YR 5/3)					
_134			SM								
_ _135											
_136											
_ _137			. – . – .			(136.5 - 157.0') Topock - Weathered Bedrock -					
_ _138						conglomerate; Silty sand (SM) reddish brown (5YR 5/4)	;				
			SM								
140											
_ <u>140_</u> ∆bbreviatio	ns: 119	SCS	= l Jnif	ied Soil	Classification	System, ft = feet, bgs =	below are	und surface an	nsl = above n	nean sea lev	vel. GW =
						ry reporting limit, NR = n					
roundwate	#1, U -	HOL (aetecti	c u abuv	e li le labulatu	1 y 16 porting in the 1111 - 11	O LECOVE	y, INDIES. DIGE V	valui labiu si	TIDOI COII C C	ica during the ma

ARC/	DIS	esign & Consultanc r natural and uilt assets	у	Drilling Log		Sheet:	8 of 10
Date Started:	03/31/20	19	Surfa	ce Elevation:	497.71 ft amsl	Boring No.: IR	ZZ-20
Date Completed Drilling Co.:	: <u>04/12/20</u> <u>Cascade</u>			ning (NAD83): ng (NAD83):	2102761.41	Client: PG&E	
Drilling Co Drilling Method:	Dual Rota			Depth:	7615814.23 188.1 ft bgs		Remedy Phase 1
Drill Rig Type:	Foremos	-		luctor Casing Diameter:	_	•	ock, Needles,
Driller Name:	Jon Marti			Casing Diameter:	18 inches	<u>California</u>	
Drilling Asst:			<u>aylors</u> Drill E		17.5 inch tricone	Project Number: RC0	00753.0051
Tool-Pusher:	Arnold La		=	n to First Water:	44.6 ft bgs	-	
Rig Geologist:	David Co	rnell	Conv	erted to Well:	× Yes No		1
Depth (ft) Drilling Ru and Avera	ige Code	USCS Class	Casing Diameter	Description (See Pilot boring log for full geologic descriptions)	Drilling notes and observati temporary backfill ma	ions confirming presence of aterial in drill cuttings	Drilling Fluid
				(157.0 - 160.0') Topock - Weathered Bedrock - conglomerate; Sandy silt (ML) brown (7.5YR 5/4)			(139.9 - 159.9') 220 gallons of water used; 4900 gallons of water recovered; 4680 gallons of water gained

Pate Started: 03/31/2019			and con-	Drilling Log		Sheet:	9 of 10
Date Started:	03/31/20	19	Surfa	ace Elevation:	497.71 ft amsl	Boring No.: IF	RZ-20
Date Completed: Drilling Co.:	04/12/20 Cascade			ning (NAD83): ing (NAD83):	2102761.41 7615814.23	Client: PG&E	
Drilling Method:	Dual Rot			Depth:	188.1 ft bgs	•	Remedy Phase 1
Drill Rig Type:	Foremos	-		ductor Casing Diameter:	_	Location: PG&E Top	ock, Needles,
Driller Name:	Jon Mart			Casing Diameter:	18 inches	<u>California</u>	
Drilling Asst: Tool-Pusher:			<u>Saylors</u> Drill I		17.5 inch tricone	Project Number: RC0	000753.0051
Rig Geologist:	Arnold Land			h to First Water: /erted to Well:	44.6 ft bgs		
				Description	103 110		
Depth (ft) Drilling Rur and Avera Penetration	ge Codo		Casing Diameter	(See Pilot boring log for full geologic descriptions)	Drilling notes and observati temporary backfill ma	ons confirming presence of aterial in drill cuttings	Drilling Fluid
	9) t ML		(159.9 - 179.9') 18" Steel Casing Note: Removed after during well installtion	(166.0 - 179.5') Topock - Weathered Bedrock - conglomerate; Lean clay with sand (CL); brown (10YR 4/3) (166.0 - 179.5') Topock - Weathered Bedrock - conglomerate; Sandy silt with gravel (ML); dark yellowish brown (10YR 3/6)			(159.9 - 179.9') 200 gallons of water used; 2150 gallons of water recovered; 1950 gallons of water gained

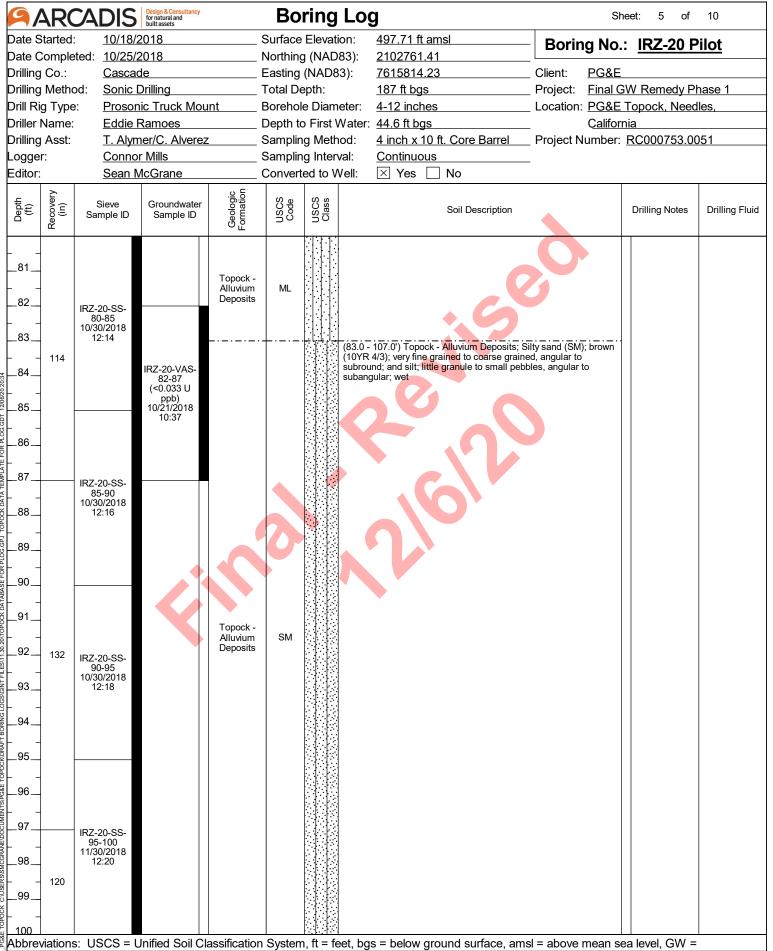


9/	٩RC	ADIS	Design & Consultancy for natural and built assets		Во	ring	Log	;	Sheet: 1 of	10
	started:				Surface			Boring No	o.: <u>IRZ-20 F</u>	Pilot
		ted: <u>10/25/2</u>			Northing		,	_		
Drilling		Cascac			Easting	•	•	_ Client: PG&		
Drilling			•	4	Total De	•	187 ft bgs		GW Remedy P	
Drill Ri			<u>ic Truck Mou</u>	<u>int</u>	Borehol			Location: PG&E Topock, Needles, California		iles,
Driller I Drilling			Ramoes ner/C. Alverez	,	Depth to First Water Sampling Method:		•			
Logge		Connoi		<u> </u>	Samplin	-		_ Project Numbe	1. KC000755.0	J3 I
Editor:		·	1cGrane		Convert	-		_		
Depth (ft)	Recovery (in)	Sieve Sample ID	Groundwater Sample ID	Geologic Formation	Code	USCS Class	Soil Description	_	Drilling Notes	Drilling Fluid
1	60			Topock - Fluvial Deposits Topock - Fluvial Deposits Topock - Fluvial Deposits	GW-GM SP-SM		(0.0 - 4.0') Topock - Fluvial Deposits; Well grand sand (GW-GM); very pale brown (10YR I large pebbles, angular to subround; and very grained sand, angular to round; little silt; trace subangular; dry (4.0 - 5.5') Topock - Fluvial Deposits; Poorly (SP-SM); very pale brown (10YR 8/3); very fir grained, angular to subround; little silt; dry; he for the following subround; and silt; trace granule to sm to subround; dry (7.0 - 13.0') Topock - Fluvial Deposits; Silty sa brown (10YR 8/3); fine grained to fine grained little silt; dry	graded sand with silt ne grained to fine omogeneous and (SM); very pale parse grained, nall pebbles, angular to the part of the parse grained, nall pebbles, angular the part of the part of the parse grained, nall pebbles, angular the part of the		(0.0 - 187.0') No water used
8 9 10 11 12 13 14	66			Topock - Fluvial Deposits	SM		(13.0 - 15.0') Topock - Fluvial Deposits; Silty brown (10YR 8/3); very fine grained to very or angular to subround; little silt; trace granules pebbles, angular to subround; trace angular to	parse grained, to very large		
 15 16 				Deposits Topock - Fluvial Deposits	SM		(15.0 - 17.0') Topock - Fluvial Deposits; Silty brown (10YR 8/3); very fine grained to fine grabbround; little silt; dry	sand (SM); very pale		
17 18 19 20	120			Topock - Fluvial Deposits	GM		(17.0 - 33.0') Topock - Fluvial Deposits; Silty (GM); grayish brown (10YR 5/2); very fine gra grained, angular to round; some fine to very cangular to round; little silt; little clay; trace and dry	ained to coarse coarse grained sand,		

9/-	\R(ADIS	Design & Consultancy for natural and built assets		Во	ring	Log		Sheet: 2 of	10
Date S	tarted:	10/18/2	018		Surface	Elevat	ion: <u>497.71 ft amsl</u>	Boring No	o.: <u>IRZ-20 P</u>	ilot
Date C	omple	ted: <u>10/25/2</u>	018		Northing			_		<u></u>
Drilling	Co.:	Cascad	e		Easting	(NAD8	(3): <u>7615814.23</u>	Client: PG&		
Drilling	Metho		-		Total De	-	187 ft bgs	•	GW Remedy Ph	
Drill Ri			<u>ic Truck Mou</u>	<u>int</u>	Borehol				E Topock, Need	les,
Driller I		Eddie F			Depth to First Water:		•	<u>Califo</u>		
Drilling		-	er/C. Alverez	<u>-</u>	Samplin	•		Project Numbe	r: <u>RC000753.00</u>)51
Logger Editor:	:	Connor Sean M	: Mills lcGrane		Samplin Convert	-		-		
	>	<u>Ocan iv</u>	logiano	υ <u>ς</u>			Voii. [5] 140			
Depth (ft)	Recovery (in)	Sieve Sample ID	Groundwater Sample ID	Geologic Formation	Code	USCS	Soil Description		Drilling Notes	Drilling Fluid
21	120			Topock - Fluvial Deposits Topock - Fluvial Deposits	GM		(33.0 - 36.0') Topock - Fluvial Deposits; Silty: (SM); brown (10YR 5/3); very fine grained to cangular to round; some silt; little clay; trace grangular to subround; dry	coarse grained,	(22.0 - 36.0') Open borehole collapsed overnight between 10/18/18 to 10/19/18.	
35 36 37 38 39	96			Topock - Fluvial Deposits	SM		(36.0 - 39.0') Topock - Fluvial Deposits; Silty: (SM); brown (10YR 4/3); very fine grained to vangular to subangular; little granule to very lai to subround; little silt; dry; strong cementation	very coarse grained, rge pebbles, angular n		
40				Alluvium Deposits	SM		(SM); grayish brown (10YR 5/2); very fine gragained, angular to subangular; and granule to	ined to very coarse		

9/-	\R(ADIS	Design & Consultancy for natural and built assets		Во	ring	Log		Shee	t: 3 of	10
Date S	tarted:	10/18/2	2018		Surface	Elevat	ion: <u>497.71 ft amsl</u>	- Boring I	Л О .	IRZ-20 P	ilot
Date C	omple	ted: <u>10/25/</u> 2	2018		Northing		•				<u></u>
Drilling		Cascad			Easting	•	•		3&E		
Drilling	Metho		-		Total De	-	187 ft bgs	-		Remedy Ph	
Drill Ri		: <u>Proson</u>	<u>ic Truck Mou</u>	nt	Borehol			Location: PG		-	les,
Driller I			Ramoes				Water: 44.6 ft bgs	Çalifornia			
Drilling			ner/C. Alverez	<u> </u>	Samplin	-		Project Numl	ber: <u>R</u>	C000753.00)51
Loggeı Editor:	:	Conno			Samplin Convert	•		-			
	<u>></u>	<u>Sean N</u>	1cGrane	.º 5			veii. A res I no				
Depth (ft)	Recovery (in)	Sieve Sample ID	Groundwater Sample ID	Geologic Formation	Code	Class	Soil Description			Orilling Notes	Drilling Fluid
41	96			Topock - Alluvium Deposits	SM		angular to subround; little silt; trace clay; dry		•		
47 48 49 50		IRZ-20-SS- 45-50 10/30/2018 12:00			0		(47.0 - 56.0') Topock - Alluvium Deposits; Silt (GM); brown (10YR 4/3); granules to large pe subangular; some very fine to coarse grained subround; little silt; moist	bbles, angular to	I _	(48.0') Soil starts getting moist.	
51 52 53 53 54 55	114	IRZ-20-SS- 50-55 10/30/2018 12:02	IRZ-20-VAS- 51-56 (150 ppb) 10/20/2018 11:40	Topock - Alluvium Deposits	GM						
 56 _57				Topock - Alluvium Deposits	SM		(56.0 - 57.0') Topock - Alluvium Deposits; Silt (SM); dark grayish brown / dark yellowish bro fine grained to coarse grained, angular to sub	wn (10YR 4/2); ve pround; some gran	ry		
 58 _59_ 	96	IRZ-20-SS- 55-60 10/30/2018 12:04		Topock - Alluvium Deposits	SM		to large pebbles, angular to subangular; some (57.0 - 65.0') Topock - Alluvium Deposits; Silt yellowish brown / moderate yellowish brown (grained to fine grained, angular to subround; granule to medium pebbles, angular to subround)	ty sand (SM); (10YR 5/4); very fir and silt; trace	ne		

9/	۱RC	ADIS	Design & Consultancy for natural and built assets		Во	ring	Log	Sh	eet: 4 of	10
Date S					Surface			Boring No.	: IRZ-20 P	ilot
	•	ted: <u>10/25/2</u> <u>Cascac</u>			Northing Easting		•	_		
Drilling Drilling					Total De	•	33): <u>7615814.23</u> 187 ft bgs		W Remedy Ph	nase 1
Drill Ri			ic Truck Mou	ınt	Borehol	•	•	_ Location: <u>PG&E</u>	•	
Driller I			Ramoes				Water: 44.6 ft bgs	<u>Califorr</u>	•	,
Drilling	Asst:	T. Alym	ner/C. Alverez	<u> </u>	Samplin	-		_ Project Number:	RC000753.00)51
Logge		Conno			Samplin			_		
Editor:		Sean N	<u>//cGrane</u>		Convert	ed to \	Vell: ⊠ Yes □ No	T		
Depth (ft)	Recovery (in)	Sieve Sample ID	Groundwater Sample ID	Geologic Formation	USCS	USCS	Soil Description		Drilling Notes	Drilling Fluid
61 62 63 64 65	96	IRZ-20-SS- 60-65 10/30/2018 12:06		Topock - Alluvium Deposits	SM		(65.0 - 69.0') Topock - Alluvium Deposits; Sa	nedu cils (MIII) : broun		
66 67 68 69		IRZ-20-SS- 65-70 10/30/2018 12:08		Topock - Alluvium Deposits	ML		(10YR 5/3); no plasticity; some very fine to common angular to subround; little small pebbles, and moist (69.0 - 71.0') Topock - Alluvium Deposits; Sa	parse grained sand, gular to subangular;		
70 71				Topock - Alluvium Deposits	ML		(7.5YR 4/4); no plasticity; some fine to coars angular to subround; little granule to small per subangular; moist			
		IRZ-20-SS- 70-75 10/30/2018 12:10		Topock - Alluvium Deposits	ML		(71.0 - 77.0') Topock - Alluvium Deposits; Sil brown (7.5YR 4/4); no plasticity, little very fin sand, angular to subround; trace granule to r angular to subangular; trace clay; moist	e to coarse grained		
76 77 78 79	114	IRZ-20-SS- 75-80 10/30/2018 12:12		Topock - Alluvium Deposits	ML		(77.0 - 83.0') Topock - Alluvium Deposits; Sa (7.5YR 4/4); no plasticity; some very fine to n angular to subround; trace granule, angular t	nedium grained sand,		
 80										



groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit; 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

ARCADIS Design & Consultancy for natural and built assets					Bo	ring	Log	Sh	eet: 6 of	10
Date S	tarted:	10/18/2	2018		Surface	Elevat	ion: <u>497.71 ft amsl</u>	Boring No.	: IRZ-20 P	ilot
		ted: <u>10/25/2</u>	2018		Northing) (NAC	83): <u>2102761.41</u>	-		<u></u>
Drilling		Cascac			Easting	•	•	Client: PG&E		
Drilling			-		Total De	-	<u>187 ft bgs</u>	•	W Remedy Ph	
Drill Ri			ic Truck Mou		Borehol			Location: PG&E	-	les,
Driller I			Ramoes		•		Water: 44.6 ft bgs	California		
Drilling			ner/C. Alverez		Samplin	•		Project Number:	RC000753.00)51
Logge Editor:		Conno Sean M	r ivillis /IcGrane		Samplin Converte	-		-		
Depth (ft)	Recovery (in)	Sieve Sample ID	Groundwater Sample ID	Geologic Formation	USCS	USCS Class	Soil Description		Drilling Notes	Drilling Fluid
- 101_ - 102_ - 103_ - 104_ - 105_	120	IRZ-20-SS- 100-105 10/30/2018 12:22		Topock - Alluvium Deposits	SM					
106 107		IRZ-20-SS-					(107.0 - 109.0') Topock - Alluvium Deposits; \$	Sandy silt with gravel		
108 		105-110 10/30/2018 12:24		Topock - Alluvium Deposits	SM		(SM); brown (7.5YR 4/3); fine grained to coars to subround; and silt; little granule to small pe subangular; wet (109.0 - 117.0) Topock - Alluvium Deposits; Storown (10YR 4/3); no plasticity; some fine to	se grained, angular abbles, angular to Sandy silt (ML); coarse grained sand,		
110 _111_ _112_	103.2	IRZ-20-SS-					angular to subround; trace granule, angular to clay; wet	o subround; trace		
 _113		110-115 10/30/2018 12:26		Topock - Alluvium Deposits	ML					
 114			IRZ-20-VAS- 112-117 (<0.17 U	,						
 115			ppb) 10/22/2018							
			14:02							
_116										
L _										
_117		IRZ-20-SS-					(447.0 422.0!) Tanask, Allindian Dane 11.	Condy oil (MIL)		
118		115-120 10/30/2018 12:28		Topock -			(117.0 - 123.0') Topock - Alluvium Deposits; Strong brown (7.5YR 4/6); no plasticity; little gpebbles, angular to subangular; little fine to cangular to subround; wet	granule to medium		
119	132			Alluvium Deposits	ML					
120		11000							1 1 0 0 0 0	

Date Started: 10/18/2018 Surface Clevation: 497.71 ft ams Date Completed: 10/25/2018 Northing (NAD83): 21027814 14	PARCADIS Design & Consultancy for natural and built assets					Во	ring	Log	S	heet: 7 of	10
Dalle Completed: 10/28/2018 Northing (NAD83): 210/271-14 Diffiling Co.: Cascade	Date S	tarted:	10/18/2	2018		Surface	Elevat	ion: <u>497.71 ft amsl</u>	- Boring No	: IR7-20 P	ilot
Drilling Method: Drilling Touch Prosonic Truck Mount Eddle Ramoes Drilling Asst: Connor Mills Sean McGrane Connor Mills Sean McGrane Connor Mills Sample ID 122 122 123 124 125 126 127 127 128 128 128 128 128 128			ted: <u>10/25/2</u>	2018		Northing	g (NAE	83): <u>2102761.41</u>		<u> 20 1</u>	<u></u>
Drill Fix Types						_		•			
Deller Mane: Eddie Ramoes Depth to First Water: 44.6 ft bgs. Commor Mills Sample in Interval: Continuous Continuous Sample in Interval: Continuous Sample	-					Total De	epth:	<u>187 ft bgs</u>		•	
Drilling Assts: T. AlmertC. Alverez Sampling Method: 4 inch x 10.ft. Core Barrel Connor Mills Sampling Interval: Sean McGrane Connor Mills Sampling Interval				<u>ic Truck Mou</u>	<u>ınt</u>	Borehol	e Dian	eter: 4-12 inches	_ Location: <u>PG&E</u>	Topock, Need	les,
Continuous Con						•		<u> </u>			
Editor: Sean McGrane Converted to Welk: Yes No Siege Sample D Countriester Sample Samp	_		-			-	-		_ Project Number:	: RC000753.00)51
Sieve Sample ID Groundwater Sample ID Ground						-	-		_		
121	Editor:	1	Sean M	<u>1cGrane</u>		Convert	ed to \	Vell: ⊠ Yes □ No			
122 122 123 124 125 120 125 120 125 120 125 120 125 120 125	Depth (ft)	Recovery (in)			Geologic	USCS	USCS	Soil Description		Drilling Notes	Drilling Fluid
Topock-Alluvium Deposits, Silty granules to very large pebbles, angular to subangular, some silt, moderate yellowish brown (10VR S/4); granules to very large pebbles, angular to subangular, some silt, granules to very large pebbles, angular to subangular, some silt, granules to very large pebbles, angular to subangular, some silt, granules to very large pebbles, angular to subangular, some silt, granules to very large pebbles, angular to subangular, some silt, granules to very large pebbles, angular to subangular, moderate pebbles, angular to subangular so subangular to subangular so subangul	 _122_ 		120-125 10/30/2018		Alluvium	ML		.5			
Topock-Alluvium Deposits ML 126. 127. 128. 129. 129. 129. 129. 130. 131. 132. 132. 132. 133. 134. 135. 136. 137. 138. 139. 138. 139. 139. 130. 1		132	12.30		Alluvium	GM		(GM); yellowish brown / moderate yellowish b granules to very large pebbles, angular to sub little very fine to coarse grained sand, angular moist	orown (10YR 5/4); bangular; some silt; r to subangular;		
128	 _126 				Alluvium	ML		brown (7.5YR 4/3); no plasticity; little granule angular to subangular; little fine to coarse granule	to medium pebbles,		
132 IRZ-20-SS-130-135 IRZ-20-VAS-131-136 (-0.17 U ppb) 10/23/2018 12:00 IRZ-20-SS-135-140 IR			125-130 10/30/2018		Alluvium	ML		reddish brown / moderate brown (5YR 4/4); n fine grained sand, angular to subround; trace	no plasticity; some		
137 IRZ-20-SS- 135-140 10/30/2018 12:36 Topock - Alluvium Deposits SM Deposits (136.5 - 157.0') Topock - Alluvium Deposits; Silty sand (SM); reddish brown (5YR 5/4); very fine grained to coarse grained, angular to subangular; and silt; little granule to very large pebbles, angular to subangular; wet; granules and pebbles are composed of metadiorite	131 132 133 134	132	130-135 10/30/2018	131-136 (<0.17 U ppb) 10/23/2018	Alluvium	SM		brown (7.5YR 5/3); fine grained to coarse gra subround; some silt; little granule to medium	ained, angular to		
10/30/2018 Topock - Alluvium Deposits SM Deposits Topock - Alluvium Deposits Topock - Alluviu								reddish brown (5YR 5/4); very fine grained to	coarse grained,	_	
Abbreviations: USCS - Unified Sail Classification System # - feet bas - below ground surface and - show man acclavel CW -	 _139_ _140		10/30/2018 12:36		Alluvium Deposits			angular to subangular; wet; granules and peb of metadiorite	obles are composed		

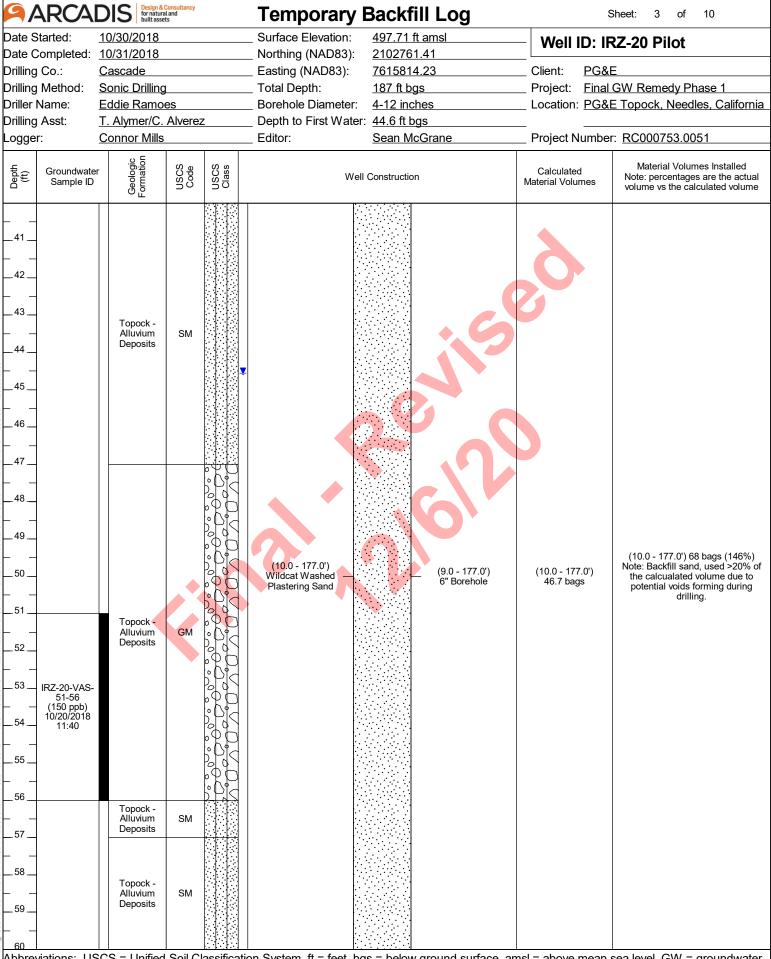
9/	ARC	ADIS	Design & Consultancy for natural and built assets		Во	ring Lo	og .	S	heet: 8 of	10
Date S	Started	10/18/2			Surface	Elevation:	497.71 ft amsl	Boring No	.: <u>IRZ-20 P</u>	ilot
	-	ted: <u>10/25/2</u>				g (NAD83):	2102761.41	_		1101
Drilling		Cascad				(NAD83):	7615814.23	Client: PG&E		
Drilling			-		Total De	-	<u>187 ft bgs</u>	Project: Final GW Remedy Phase 1		
Drill Ri			<u>ic Truck Mou</u>			e Diameter:	4-12 inches	_ Location: <u>PG&E</u>	•	les,
Driller I			<u>er/C. Alverez</u>		•	o ⊢irst Wate g Method:	r: 44.6 ft bgs 4 inch x 10 ft. Core Barrel	<u>Califo</u> _ Project Number)E1
Drilling Logge		<u>1. Alyiii</u> Connor			-	g Interval:	Continuous	_ Project Number	. <u>KC000755.00</u>	131
Editor:			lcGrane			ed to Well:		_		
Depth (ft)	Recovery (in)	Sieve Sample ID	Groundwater Sample ID	Geologic Formation	USCS	USCS Class	Soil Description	•	Drilling Notes	Drilling Fluid
	Re	campic is	94	9 P	150					
141 142 143 144 145	132	IRZ-20-SS- 140-145 10/30/2018 12:38								
146 147 148 149 150_		IRZ-20-SS- 145-150 10/30/2018 12:40		Topock - Alluvium Deposits	SM		26/2			
151 152 153 154 155	132	IRZ-20-SS- 150-155 10/30/2018 12:42								
 156 157										
 158 159 160	132	IRZ-20-SS- 155-160 10/30/2018 12:44		Topock - Weathered Bedrock - conglomerat	e	Sand coard	0 - 160.0') Topock - Weathered Bedroc y silt (ML); brown (7.5YR 5/4); no plasti se grained sand, angular to subround; ti bangular; trace clay; moist	city; and fine to ace granule, angular	(157.0 - 167.0') Soil core hot and dry, lost approximately 2 ft. of core down hole, tripped back in to retrieve lost	

9/-	\R(CADIS	Design & Consultancy for natural and built assets		Во	ring	Log		She	eet: 9 of	10
Date S	tarted:	10/18/2	2018		Surface	Elevat	ion: <u>497.71 ft amsl</u>	Borin	a No:	IRZ-20 P	ilot
Date C	omple	ted: <u>10/25/2</u>	2018		Northing	ı (NAD	•			<u> 20 .</u>	<u></u>
Drilling		Cascac			Easting	•	•	Client:	PG&E		
Drilling			-		Total De	-	<u>187 ft bgs</u>	-		W Remedy Ph	
Drill Ri			<u>ic Truck Mou</u>		Borehol			Location:		<u> Fopock, Need</u>	les,
Driller I			Ramoes				Water: 44.6 ft bgs		Californ		
Drilling		-	er/C. Alverez		Samplin	-		Project N	umber: !	RC000753.00	51
Logger Editor:		Connor	lcGrane		Samplin Converte	-					
Editor.		<u>Sean iv</u>	ICGIAIIE		Convent	eu io v	Veli. A res I NO				
Depth (ft)	Recovery (in)	Sieve Sample ID	Groundwater Sample ID	Geologic Formation	USCS	USCS	Soil Description			Drilling Notes	Drilling Fluid
161 162 163 164 165	132	IRZ-20-SS- 160-165 10/30/2018 12:46		Topock - Weathered Bedrock - conglomerat	CL		(160.0 - 166.0') Topock - Weathered Bedrock Lean clay with sand (CL); brown (10YR 4/3); I small to medium pebbles, angular to subang coarse grained sand, angular to subround; litt to subangular; dry	ow plasticity; ılar; some fine	some e to		
 166 167		IRZ-20-SS- 165-170					(166.0 - 179.5') Topock - Weathered Bedrock Sandy silt with gravel (ML); dark yellowish bro medium plasticity; some fine to coarse graine subround; little granule to small pebbles, angu	wn (10YR 3/6 d sand, angul	s); ar to		
168 169 170		10/30/2018 12:48			0						
171 172 173	87.6	IRZ-20-SS- 170-175 10/30/2018 12:50		Topock - Weathered Bedrock -	IVIL						
 _174				conglomerat	6						
_175			IRZ-20-VAS- 173-178								
-			(<0.83 U ppb)								
176			10/24/2018 18:52								
 			10.02								
177		IRZ-20-SS-								(177.0 -	
 _178 	79.2	175-180 10/30/2018 12:52								182.0') Very rough drilling, had refusal at 182', tripped out and	
179 180		11000					(179.5 - 182.0') Topock - Competent Bedrock	- conglomera	ite;	make another run for 182-187'.	

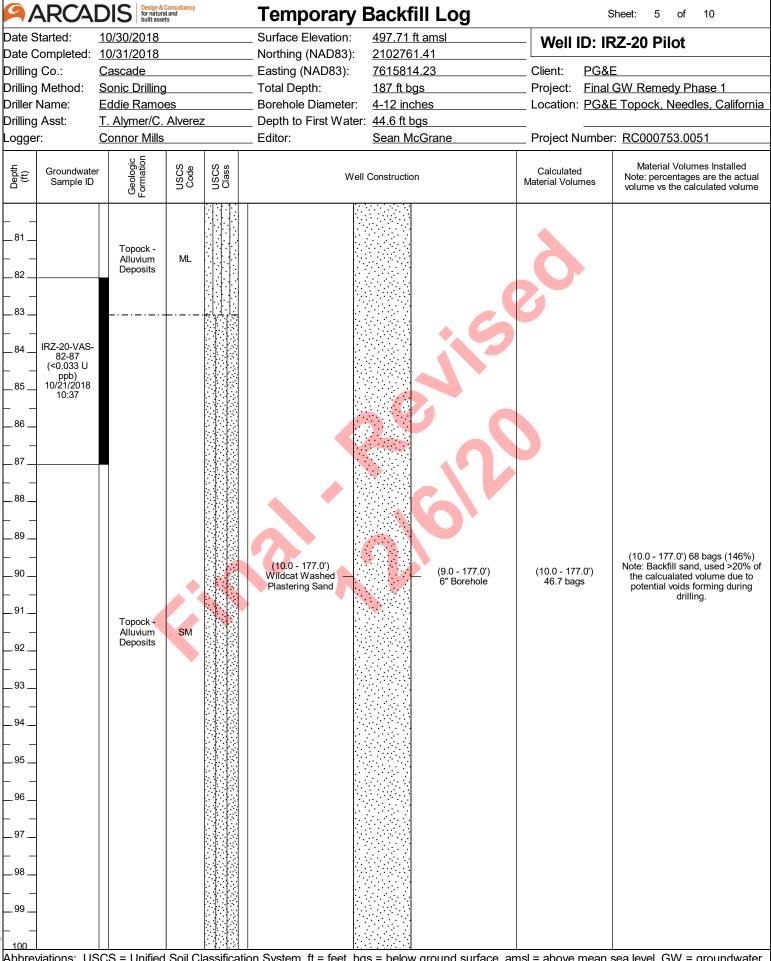
9/	ARC	CADIS	Design & Consultancy for natural and built assets		Во	ring L	og	Si	neet: 10 of	10
Date S	Started:	10/18/2	<u>:</u> 018		Surface	Elevation	497.71 ft amsl	Boring No.	· IR7-20 P	ilot
Date 0	Comple	ted: <u>10/25/2</u>	2018		Northing	(NAD83	: <u>2102761.41</u>	_ boiling ivo	<u>IIXZ-ZU I</u>	<u>110t</u>
Drilling	Co.:	Cascad	le		Easting	(NAD83):	7615814.23	Client: PG&E		
Drilling	Metho	od: <u>Sonic E</u>)rilling		Total De	epth:	187 ft bgs	Project: Final 0	GW Remedy Ph	nase 1
Drill Ri	д Туре	: <u>Proson</u>	ic Truck Mou	<u>int</u>	Borehol	e Diamete	r: 4-12 inches	Location: PG&E	Topock, Need	les,
Driller	Name:	Eddie F	Ramoes		Depth to	First Wa	ter: 44.6 ft bgs	<u>Califor</u>	nia	
Drilling	Asst:	-	<u>ier/C. Alverez</u>		•	g Method		Project Number:	RC000753.00)51
Logge		Connor				g Interval:		-		
Editor:		Sean M	<u>lcGrane</u>		Convert	ed to Wel	: X Yes No		I	
Depth (ft)	Recovery (in)	Sieve Sample ID	Groundwater Sample ID	Geologic Formation	USCS Code	USCS	Soil Description		Drilling Notes	Drilling Fluid
 181 _182_	79.2			Topock - Competent Bedrock - conglomerat		fria	k yellowish brown (10YR 4/4); dry; modera ble			
 183		IRZ-20-SS- 180-187				yel	i2.0 - 187.0') Topock - Comp <mark>etent Bed</mark> rock lowish red (5YR 4/6); moist; weak cementa	c - conglomerate; ation; friable	(182.0 - 187.0') Had to vibe the core barrel and lost the	
184	58.8	10/30/2018 12:54		Topock - Competent Bedrock -					core downhole, retrieved with flapper bit,	
185				conglomerat	е				sediment were very wet due to lost of core in	
186									the borehole.	
187_						V///XI	End of Boring at 187.0 ft bo	gs.		
188										
189			•							
190					•					
191			X							
192										
193										
194										
195										
196										
197										
198										
199										
200 Abbre	viations	: USCS = U	nified Soil Cl	assification	System	n ft = feet	bas = below around surface, ams	sl = ahove mean s	ea level GW =	

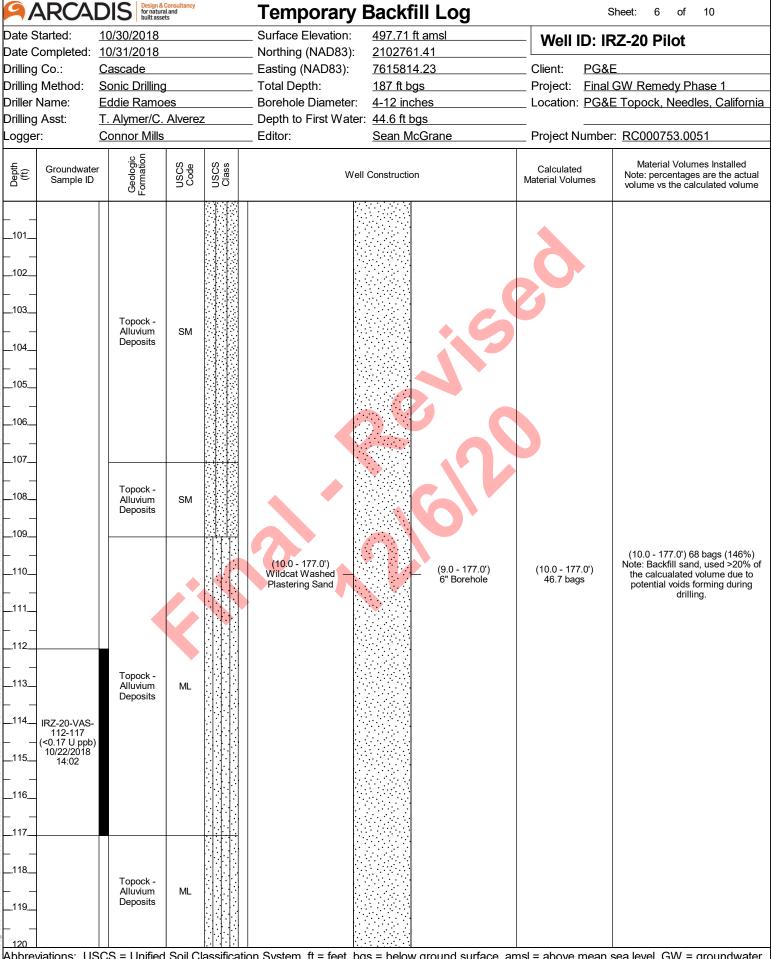
AF	RCAL	ols built asset	l and ts		Temporary I	Backfill Log	S	Sheet: 1 of 10
Date Star		10/30/2018			_ Surface Elevation:	497.71 ft amsl	Well ID: IF	RZ-20 Pilot
	e Completed: <u>10/31/2018</u>		_ Northing (NAD83):	2102761.41				
Drilling Co		Cascade			_ Easting (NAD83):	7615814.23	_ Client: <u>PG&E</u>	
Drilling Me		Sonic Drilling		_ Total Depth:	187 ft bgs		GW Remedy Phase 1	
Driller Nar	_	Eddie Ramo			_ Borehole Diameter:	4-12 inches	Location: <u>PG&</u> E	E Topock, Needles, California
Drilling As		T. Alymer/C.		<u>z</u>	_ Depth to First Water:	_	— — — — — — — — — — — — — — — — — — —	DC000752 0054
Logger:		Connor Mills	I		_ Editor:	Sean McGrane	Project Number	: RC000753.0051
	roundwater Sample ID	Geologic Formation	USCS	USCS Class		Construction	Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume
 _ 1 _					(0.0 - 0.5') Steel Plate	- 		Note: Steel plates with BMPs in place
2 2 3 4		Topock - Fluvial Deposits	GW-GM					
5		Topock - Fluvial Deposits	SP-SM		(0.5 - 10.0') Cemex #0/30 Mesh (30x50) Lapis Lustre Sand	(0.0 - 9.0') 12" Borehole	(0.5 - 10.0') 7.9 bags	(0.5 - 10.0') 8 bags (101%) Note: Surface sand seal
6 7		Topock - Fluvial Deposits	SM		Sand			
		Topock - Fluvial	SM					
		Deposits						
14 14 15		Topock - Fluvial Deposits	SM		(10.0 - 177.0') Wildcat Washed —	(9.0 - 177.0') 6" Borehole	(10.0 - 177.0')	(10.0 - 177.0') 68 bags (146%) Note: Backfill sand, used >20% of the calcualated volume due to
		Topock - Fluvial Deposits	SM		Plastering Sand		46.7 bags	potential voids forming during drilling.
18		Topock - Fluvial Deposits	GM					pool lovel CW = groundwater

ARCADIS Design & Const. for natural and built assets **Temporary Backfill Log** Sheet: Date Started: Surface Elevation: 10/30/2018 497.71 ft amsl Well ID: IRZ-20 Pilot Northing (NAD83): 2102761.41 Date Completed: 10/31/2018 Cascade Drilling Co.: Easting (NAD83): 7615814.23 Client: PG&E Drilling Method: Sonic Drilling Total Depth: Project: Final GW Remedy Phase 1 187 ft bgs Driller Name: **Eddie Ramoes** Borehole Diameter: 4-12 inches Location: PG&E Topock, Needles, California Drilling Asst: T. Alymer/C. Alverez Depth to First Water: 44.6 ft bgs Editor: Sean McGrane Project Number: RC000753.0051 Logger: Connor Mills Geologic Formation USCS Class Material Volumes Installed USCS Code Depth (ft) Groundwater Calculated Well Construction Note: percentages are the actual Sample ID Material Volumes volume vs the calculated volume 21 22 23 25 26 Topock -Fluvial GM Deposits 27 29 (10.0 - 177.0') 68 bags (146%) Note: Backfill sand, used >20% of (10.0 - 177.0')(10.0 - 177.0') (9.0 - 177.0') 30 Wildcat Washed the calcualated volume due to 6" Borehole 46.7 bags Plastering Sand potential voids forming during drilling. 32 Topock -SM Fluvial Deposits 35 36 Topock -Fluvial Deposits 38 39 Topock -Alluvium



9/.	ARCA	DIS for buil	atural and assets		Temporary	Backfill Log	Sheet: 4 of 10			
	Started:	10/30/201			Surface Elevation:	497.71 ft amsl	─ Well ID: IF	Well ID: IRZ-20 Pilot		
Date Completed: Drilling Co.:			8		Northing (NAD83):	2102761.41	Oliverty DONE			
		Cascade			Easting (NAD83):	7615814.23	Client: PG&I			
_	Method:	Sonic Drill	-		Total Depth:	187 ft bgs	•	GW Remedy Phase 1		
Driller I		Eddie Rar		_	Borehole Diameter:	4-12 inches	Location: <u>PG&I</u>	E Topock, Needles, California		
Drilling Logge		T. Alymer/ Connor M		<u>Z</u>	Depth to First Water Editor:	Sean McGrane	— Project Number			
Logge	1.		5	T	Editor.	<u>Sean McGrane</u>	Project Number: RC000753.0051			
Depth (ft)	Groundwate Sample ID		USCS	USCS	Well	Construction	Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume		
61 62 63 64 65		Topock Alluviur Deposit	n SM				30			
66 67 68 69		Topock Alluviur Deposit	n ML							
		Topock Alluviun Deposit	n ML		(10.0 - 177.0') Wildcat Washed Plastering Sand	(9.0 - 177.0') 6" Borehole	(10.0 - 177.0') 46.7 bags	(10.0 - 177.0') 68 bags (146%) Note: Backfill sand, used >20% of the calcualated volume due to potential voids forming during drilling.		
72		Topock Alluviur Deposit	n ML							
77 78 79 80		Topock Alluviur Deposit	n ML s					pool lovel. CW = groundwater.		





9/	ARCA	DIS Design for natural built as	& Consultancy Iral and sets		Temporary I	Backfill Log	\$	Sheet: 7 of 10		
Date Started: Date Completed: Drilling Co.:		10/30/2018			Surface Elevation:	497.71 ft amsl	Well ID: IF	Well ID: IRZ-20 Pilot		
					Northing (NAD83):	2102761.41				
		Cascade			Easting (NAD83):	7615814.23	Client: PG&			
	Method:	Sonic Drillin	-		Total Depth:	187 ft bgs	•	GW Remedy Phase 1		
	Name:	Eddie Ramo			Borehole Diameter:	4-12 inches	Location: PG&	E Topock, Needles, California		
Drilling Logge		T. Alymer/C		<u> </u>	<pre>_ Depth to First Water: _ Editor:</pre>	Sean McGrane	Project Numbe	r: RC000753.0051		
			Τ							
Depth (ft)	Groundwate Sample ID	Geologic	OSCS	USCS	Well	Construction	Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume		
		Topock - Alluvium Deposits	ML				6			
124		Topock - Alluvium Deposits	GM							
125 126 127		Topock - Alluvium Deposits	ML				3			
128		Topock - Alluvium Deposits	ML		(10.0 - 177.0') Wildcat Washed Plastering Sand	(9.0 - 177.0') 6" Borehole	(10.0 - 177.0') 46.7 bags	(10.0 - 177.0') 68 bags (146%) Note: Backfill sand, used >20% of the calcualated volume due to potential voids forming during drilling.		
132 133 134 135 136	IRZ-20-VAS- 131-136 (<0.17 U ppb) 10/23/2018 12:00	Topock - Alluvium Deposits	SM							
137 138 139 140		Topock - Alluvium Deposits	SM					aca lovel. CW = groundwater		

ARC	DIS Design & for natura built asse	Consultancy all and ts		Temporary I	Backfill Log	\$	Sheet: 8 of 10		
Date Started: Date Completed: Drilling Co.: Drilling Method: Driller Name: Drilling Asst: Logger:	10/30/2018 10/31/2018 Cascade Sonic Drilling Eddie Ramoes T. Alymer/C. Alverez Connor Mills			Surface Elevation: 497.71 ft amsl Northing (NAD83): 2102761.41 Easting (NAD83): 7615814.23 Total Depth: 187 ft bgs Borehole Diameter: 4-12 inches Depth to First Water: 44.6 ft bgs Editor: Sean McGrane		Client: PG& Project: Final Location: PG&			
Groundwa Sample II		USCS	USCS	Well	Construction	Calculated Material Volumes	Material Volumes Installed Note: percentages are the actual volume vs the calculated volume		
	Topock - Alluvium Deposits Topock - Weathered Bedrock - conglomerate		lassificati	(10.0 - 177.0') Wildcat Washed Plastering Sand	(9.0 - 177.0') 6" Borehole	(10.0 - 177.0') 46.7 bags	(10.0 - 177.0') 68 bags (146%) Note: Backfill sand, used >20% of the calcualated volume due to potential voids forming during drilling.		

