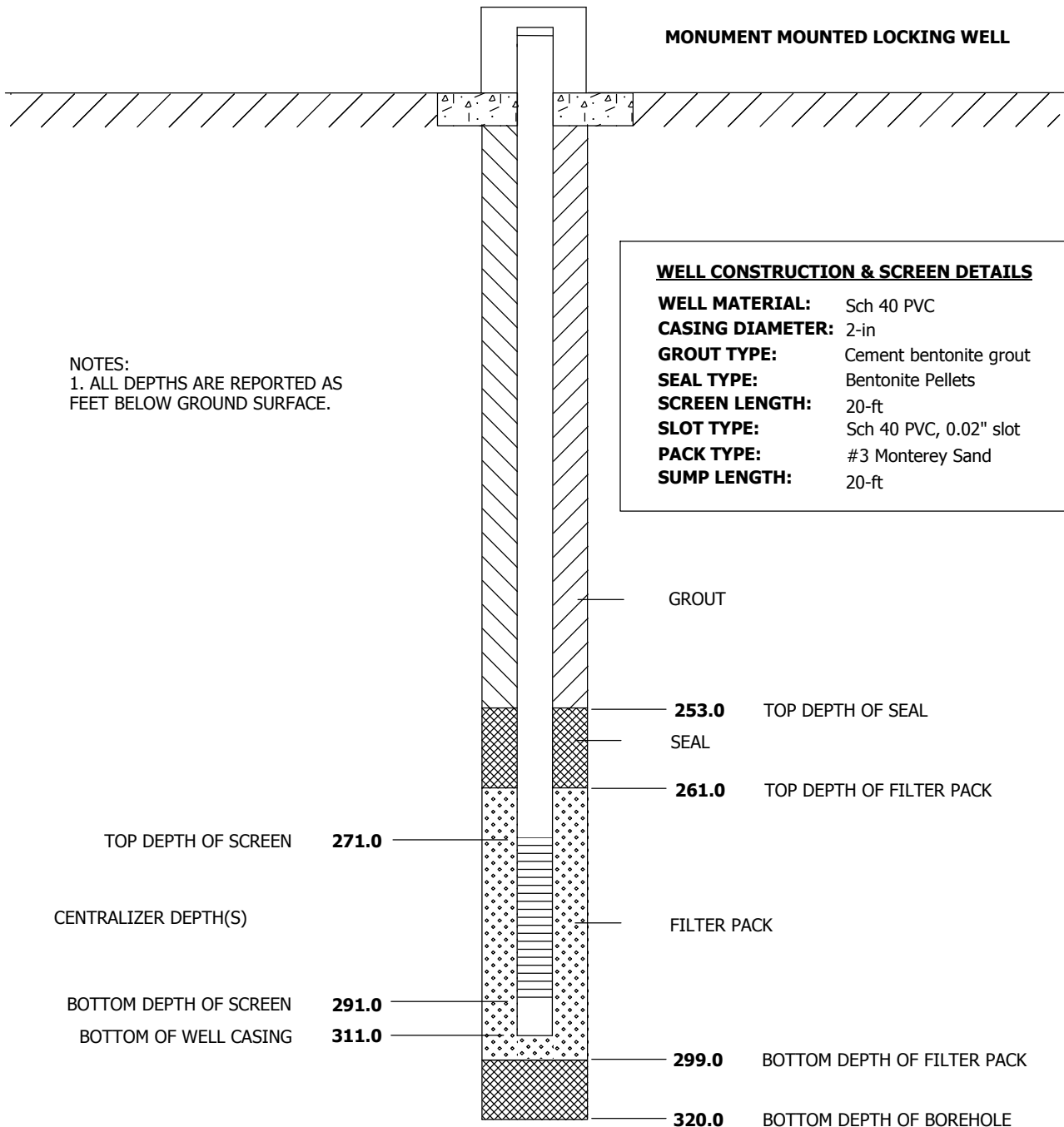


WELL COMPLETION DIAGRAM

PROJECT NO: 326128.01.07.AR	PROJECT: IM-3 Hydrogeologic Investigation, PG&E Topock	WELL NO: MW-41D
LOCATION: Bat Cave Wash, Parcel No. 650-151-06		
DRILLING CONTRACTOR: WDC Exploration & Wells, Montclair, CA	DRILLING START DATE: 10/22/2004	
DRILLING METHOD: Rotosonic	DRILLING END DATE: 11/05/2004	
LOGGER: T. McDonald	WELL COMPLETION DATE: 11/05/2004	
TOP OF WELL CASING (NGVD 29): 479.42	NORTHING COORDINATE (CCS DAND 27, ZONE 5): 2103536.66	
GROUND SURFACE ELEVATION (NGVD 29): 476.88	EASTING COORDINATE (CCS NAD 27 ZONE 5): 7614578.85	



NOTES:
1. ALL DEPTHS ARE REPORTED AS FEET BELOW GROUND SURFACE.

<u>WELL CONSTRUCTION & SCREEN DETAILS</u>	
WELL MATERIAL:	Sch 40 PVC
CASING DIAMETER:	2-in
GROUT TYPE:	Cement bentonite grout
SEAL TYPE:	Bentonite Pellets
SCREEN LENGTH:	20-ft
SLOT TYPE:	Sch 40 PVC, 0.02" slot
PACK TYPE:	#3 Monterey Sand
SUMP LENGTH:	20-ft

WELL DIAGRAM IS NOT TO SCALE

SOIL BORING LOG

PROJECT NAME: IM-3 Hydrogeologic Investigation, PG&E Topock		HOLE DEPTH (ft): 320.0	DRILLING CONTRACTOR: WDC Exploration & Wells, Montclair, CA	
SURFACE ELEVATION: 476.9 ft. MSL	NORTHING (CCS NAD 27 Z 5): 2,103,536.66	EASTING (CCS NAD 27 Z 5): 7,614,578.85	DATE STARTED: 10/22/2004	DATE COMPLETED: 11/05/2004
DRILLING METHOD: Rotasonic		WATER LEVEL (ft): ---	DRILLING EQUIPMENT: Gefco SS-15K-HL	
LOCATION: Bat Cave Wash, Parcel No. 650-151-06			LOGGED BY: T. McDonald	

DEPTH BGS (feet)	SAMPLE			USCS CODE	SOIL DESCRIPTION SOIL NAME, USCS SYMBOL, COLOR, PERCENT COMPOSITION, GRADING, GRAIN SHAPE, MINERALOGY, DENSITY/CONSISTENCY, STRUCTURE, MOISTURE.	COMMENTS DRILLING OBSERVATIONS AND OPERATIONS, DAILY START AND END TIMES, DRILL RATE, REFUSALS, SAMPLING AND TESTING NOTES.
	INTERVAL	TYPE/NUMBER	RECOVERY (ft)			
5				SW	WELL GRADED SAND WITH GRAVEL (SW) - 45% rnd to ang gravel/cobbles up to 0.75", 40% f-m sand, 10% coarse sand, 5% silty clay.	0 to 20 ft not collected in core barrel during conductor casing set. Description is from homogenized cuttings
10						
15						
20						
25		CC1	11	GW-GM	WELL GRADED GRAVEL WITH SILT AND SAND (GW-GM) - 65% f-c gravel avg 2.5" up to 3", 20% c sand, 10% silt/clay, 5% f-m sand, sand and gravel ang to subang, metamorphic, 50% of gravels are highly weathered, moist, abrupt lower boundary.	Box 1 - 20 to 23 ft
30						
35				SC	SILTY SAND WITH GRAVEL (SC) - olive brn (2.5Y 4/3), 30% c sand, 25-30% silt, 20% m sand, 10% f gravel (0.2" to 0.75"), 10% f sand, sand and gravel ang to subang, metamorphic, moist.	Box 2: 23 to 27 ft Box 3: 27 to 31 ft Box 4: 31 to 34 ft Appears to be fining upward from to 31 to ___ ft bgs Box 5: 34 to 38 ft

SOIL BORING LOG

PROJECT NAME: IM-3 Hydrogeologic Investigation, PG&E Topock		HOLE DEPTH (ft): 320.0	DRILLING CONTRACTOR: WDC Exploration & Wells, Montclair, CA	
SURFACE ELEVATION: 476.9 ft. MSL	NORTHING (CCS NAD 27 Z 5): 2,103,536.66	EASTING (CCS NAD 27 Z 5): 7,614,578.85	DATE STARTED: 10/22/2004	DATE COMPLETED: 11/05/2004
DRILLING METHOD: Rotosonic		WATER LEVEL (ft): ---	DRILLING EQUIPMENT: Gefco SS-15K-HL	
LOCATION: Bat Cave Wash, Parcel No. 650-151-06			LOGGED BY: T. McDonald	

DEPTH BGS (feet)	SAMPLE			USCS CODE	SOIL DESCRIPTION	COMMENTS
	INTERVAL	TYPE/NUMBER	RECOVERY (ft)			
40		CC2	8.5	SW-SC	WELL GRADED SAND WITH SILT AND GRAVEL (SW-SC) - olive brn (2.5Y 4/3), 40% f sand, 30% m sand, 10-15% silt, 10% c sand, 5-10% f gravel, sand and gravel ang to subang, metamorphic, moist, abrupt lower boundary.	Box 6: 38 to 42 ft
				SW	WELL GRADED SAND WITH GRAVEL (SW) - brn (7.5YR 4/4), 50% m sand, 20% f sand, 15% c sand, 10% f gravel coarsening with depth, 5% silt, moderate caliche development, sand and gravel ang to subang, metamorphic, moist.	
45		CC3	9.5	SW-SM	SAND WITH SILT AND GRAVEL (SW-SM) - brn (10YR 4/4), 40% m sand, 25% c sand, 10-15% f gravel, 10-15% silt, 10% f sand well graded, sand and gravel ang to subang, metamorphic. - lt to moderate caliche	Box 7: 42 to 46 ft
					WELL GRADED SAND WITH GRAVEL (SW) - dark grayish brn to brn (10YR 4/2-4/3), 60% m sand, 15% f sand, 15% f-m gravel, 10% f sand, ang to subang, metamorphic, wet. - 20% f gravel	Box 8: 46 to 50 ft
50					- 5% gravel, 15% silt	Box 9: 50 to 54 ft
55		CC4	10		- 30% f gravel, 25% vf sand, 15% silt, 15% f sand, 5% m sand, 10% c sand	Box 10: 54 to 58 ft
					- brn (10YR 4/3), 40% c sand, 15% f sand, 15% m sand, 15% f gravel, 10% c gravel, 5% silt, ang to subang, metamorphic, wet	Box 11: 58 to 62 ft
65		CC5	10	SW	- 5% silt, 10% f sand, 10% m sand, 60% c sand, 5-10% f gravel	Box 12: 62 to 66 ft Collect grain size sample at 62 to 64 ft, ID: MW-41D-63
					- increasing silt content, 10% silt at 70 ft bgs, 15% silt at 71 ft bgs	Box 13: 66 to 70 ft Collect groundwater grab sample, ID: MW-41D-70
70						

SOIL BORING LOG

PROJECT NAME: IM-3 Hydrogeologic Investigation, PG&E Topock		HOLE DEPTH (ft): 320.0	DRILLING CONTRACTOR: WDC Exploration & Wells, Montclair, CA	
SURFACE ELEVATION: 476.9 ft. MSL	NORTHING (CCS NAD 27 Z 5): 2,103,536.66	EASTING (CCS NAD 27 Z 5): 7,614,578.85	DATE STARTED: 10/22/2004	DATE COMPLETED: 11/05/2004
DRILLING METHOD: Rotasonic		WATER LEVEL (ft): ---	DRILLING EQUIPMENT: Gefco SS-15K-HL	
LOCATION: Bat Cave Wash, Parcel No. 650-151-06			LOGGED BY: T. McDonald	

DEPTH BGS (feet)	SAMPLE			USCS CODE	SOIL DESCRIPTION SOIL NAME, USCS SYMBOL, COLOR, PERCENT COMPOSITION, GRADING, GRAIN SHAPE, MINERALOGY, DENSITY/CONSISTENCY, STRUCTURE, MOISTURE.	COMMENTS DRILLING OBSERVATIONS AND OPERATIONS, DAILY START AND END TIMES, DRILL RATE, REFUSALS, SAMPLING AND TESTING NOTES.
	INTERVAL	TYPE/NUMBER	RECOVERY (ft)			
75		CC6	9.5		<p>WELL GRADED SAND WITH GRAVEL (SW) - dark grayish brn to brn (10YR 4/2-4/3), 60% m sand, 15% f sand, 15% f-m gravel, 10% f sand, ang to subang, metamorphic, wet.</p>	<p>Box 14: 70 to 74 ft</p> <p>Box 15: 74 to 78 ft</p> <p>Box 16: 78 to 82 ft</p>
80					<p>- 10-15% silt</p> <p>- 5-10% silt</p>	<p>Stop drilling at 80 ft bgs on 10/22/04, continue drilling on 10/23/04</p>
85		CC7	10	ML	<p>SANDY SILT WITH GRAVEL (ML) - greenish gray (GLE Y1 5/5GY), 50% silt, 20% vf sand, 10% f sand, 10% m sand, 10% f gravel, sand and gravel ang to subang, metamorphic, silty plastic, silty sticky to not sticky, moist to wet. Abrupt lower boundary (< 2 cm).</p>	<p>Box 17: 82 to 86 ft</p>
90				SW	<p>WELL GRADED SAND WITH GRAVEL (SW) - brn (7.5YR 4/4), 40% f sand, 20% m sand, 20% c sand, 10% silt, 10% f gravel, sand and gravel ang to subang, metamorphic, moist, distinct layers of 15-20% silt < 2 cm thick.</p>	<p>Box 18: 86 to 90 ft</p>
95		CC8	10	SM	<p>SILTY SAND WITH GRAVEL (SM) - brn (10YR 5/3-4/3), 35% f sand, 20% silt, 15% f gravel 0.2" to 1", 10% vf sand, 10% m sand, 10% c sand, sand and gravel dominantly ang to subang, v few subrnd, metamorphic and v few conglomerate, moist.</p>	<p>Box 19: 90 to 94 ft</p> <p>Collect grain size sample at 93 ft, ID: MW-41D-93</p>
100					<p>- silt caliche</p>	<p>Box 20: 94 to 98 ft</p>
105		CC9	5	SW-SM	<p>SAND WITH SILT AND GRAVEL (SW-SM) - brn (7.5YR 4/3), 30% m sand, 20% f sand, 20% c sand, 20% f-m gravel, 10% silt, sand and gravel ang to subang, metamorphic, moist to wet, silt caliche.</p>	<p>Box 21: 98 to 102 ft</p> <p>Drilled 100 to 110 ft but dropped core during retrieval and recovered on next run</p>
105					<p>- 15% silt, 5% f-m gravel</p>	<p>Box 22: 102 to 106 ft</p>

SOIL BORING LOG

PROJECT NAME: IM-3 Hydrogeologic Investigation, PG&E Topock		HOLE DEPTH (ft): 320.0	DRILLING CONTRACTOR: WDC Exploration & Wells, Montclair, CA	
SURFACE ELEVATION: 476.9 ft. MSL	NORTHING (CCS NAD 27 Z 5): 2,103,536.66	EASTING (CCS NAD 27 Z 5): 7,614,578.85	DATE STARTED: 10/22/2004	DATE COMPLETED: 11/05/2004
DRILLING METHOD: Rotasonic		WATER LEVEL (ft): ---	DRILLING EQUIPMENT: Gefco SS-15K-HL	
LOCATION: Bat Cave Wash, Parcel No. 650-151-06			LOGGED BY: T. McDonald	

DEPTH BGS (feet)	SAMPLE			USCS CODE	SOIL DESCRIPTION SOIL NAME, USCS SYMBOL, COLOR, PERCENT COMPOSITION, GRADING, GRAIN SHAPE, MINERALOGY, DENSITY/CONSISTENCY, STRUCTURE, MOISTURE.	COMMENTS DRILLING OBSERVATIONS AND OPERATIONS, DAILY START AND END TIMES, DRILL RATE, REFUSALS, SAMPLING AND TESTING NOTES.
	INTERVAL	TYPE/NUMBER	RECOVERY (ft)			
110				SW	WELL GRADED SAND WITH GRAVEL (SW) - brn (7.5YR 4/4), 30% m sand, 30% c sand, 20% f sand, 15% f-m gravel, 5% silt, sand and gravel ang to subang, metamorphic, moist. Moderate caliche development, silty cemented throughout. Distinct 1/8" silt layers are dark gray (5Y4/1), 90% silt, 10% vf sand.	Box 23: 106 to 110 ft
115		CC10	14	SW	WELL GRADED SAND WITH GRAVEL (SW) - brn (10YR 4/3), 30% f sand, 30% m sand, 15% silt, 15% c sand, 10% f gravel, ang to subang, metamorphic, wet.	Box 24: 110 to 114 ft
120				SW	WELL GRADED SAND WITH GRAVEL (SW) - brn (10YR 4/3 at top, 7.5YR 4/3 at bottom), 30% m sand, 30% c sand, 25% f-c gravel, 10% f sand, 5% silt, sand ang to subang and fining downwards, gravel ang to subrnd, metamorphic, wet. - 20% silt	Box 25: 114 to 118 ft Box 26: 118 to 122 ft
125		CC11	10	MH	SILT WITH GRAVEL (MH) - dark brn (2.5Y 4/3 or 4/4), 65% silt, 30% f-m ang to subang gravel up to 2.75", 5% clay, 5% c sand, metamorphic, med-high elasticity, sticky, plastic, dry, caliche on gravels, abrupt lower boundary. - interbedded sand with gravels, brn (7.5YR 4/3), 30% c sand, 20% f gravel, 20% m sand, 20% f gravel, 10% silt, well graded	Box 27: 122 to 126 ft Collect grain size sample at 122 to 124 ft, ID: MW-14D-123 Box 28: 126 to 130 ft
130				SW	SILTY SAND (SW) - dark greenish gray (Y2 4/10G), 30% vf sand, 30% f sand, 20% silt, 10% m-c sand, 10% ang to subang gravel, metamorphic, moist. Moderate caliche development. Mottled brn (7.5YR 4/4) over 10% of surface, mottling increases to 50% of surface at bottom 3". - 80% silt, 10% f sand, 10% c sand	Box 29: 130 to 134 ft
135		CC12	10		WELL GRADED SAND WITH GRAVEL (SW) - 40% m sand, 25% f-c gravel (1/5" to 1"), 20% c sand, 10% f sand, 5% silt, ang to subang, metamorphic, wet. - 10% silt, slit horizontal fabric in gravels	Box 30: 134 to 138 ft Collect grain size sample at 136.5 to 137.5 ft, ID: MW-14D-137 Box 31: 138 to 142 ft Collect groundwater sample at 139 ft
140						

SOIL BORING LOG

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SURFACE ELEVATION: 476.9 ft. MSL	NORTHING (CCS NAD 27 Z 5): 2,103,536.66	EASTING (CCS NAD 27 Z 5): 7,614,578.85	DATE STARTED: 10/22/2004	DATE COMPLETED: 11/05/2004
DRILLING METHOD: Rotasonic		WATER LEVEL (ft): ---	DRILLING EQUIPMENT: Gefco SS-15K-HL	
LOCATION: Bat Cave Wash, Parcel No. 650-151-06			LOGGED BY: T. McDonald	

DEPTH BGS (feet)	SAMPLE			USCS CODE	SOIL DESCRIPTION	COMMENTS
	INTERVAL	TYPE/NUMBER	RECOVERY (ft)			
145				SW	<p>WELL GRADED SAND WITH GRAVEL (SW) - 40% m sand, 25% f-c gravel (1/5" to 1"), 20% c sand, 10% f sand, 5% silt, ang to subang, metamorphic, wet.</p> <p>- dark grayish brn (10YR 4/2), 40% f sand, 20% f-c gravel 1/5" up to 3", 10% m sand, 5-10% silt, moist. Mottling in blocks of brn (7.5YR 4/3)</p> <p>- 35% m sand, 25% c sand, 25% f sand, 15% gravel, 5-10% silt, well graded, caliche development throughout and increased cementation with depth</p>	<p>bgs, ID: MW-41D-139 Appears to be reworked due to drilling</p> <p>Box 32: 142 to 146 ft</p> <p>Box 33: 146 to 150 ft</p> <p>Box 34: 150 to 154 ft</p> <p>Box 35: 154 to 158 ft</p> <p>Reworking at 140 to 176 indicated by lack of fabric, no silt layers around gravels, color, and blocks of mottled brown</p>
150		CC13	15			
155						
160				SW-SM	<p>- brn (10YR 4/3 to 7.5YR 4/3), 5% silt, 10% f sand, 40% m sand, 35% c sand, 10% f gravel, well graded, sand and gravel ang to subang - metamorphic. Gravels less than 2 cm</p> <p>WELL GRADED SAND WITH SILT (SW-SM) - brn (7.5YR 4/2 to 4/3), 35% m sand, 30% f sand, 15% c sand, 10-15% silt, 5-10% f-c gravel (0.2" avg, up to 2"), ang to subang with v few subang gravel, moist to wet.</p>	<p>Collect grain size sample at 172.5 to 173.5 ft, ID: MW-41D-173</p>
165		CC14	10			
170						
175						

SOIL BORING LOG

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SURFACE ELEVATION: 476.9 ft. MSL	NORTHING (CCS NAD 27 Z 5): 2,103,536.66	EASTING (CCS NAD 27 Z 5): 7,614,578.85	DATE STARTED: 10/22/2004	DATE COMPLETED: 11/05/2004
DRILLING METHOD: Rotasonic		WATER LEVEL (ft): ---	DRILLING EQUIPMENT: Gefco SS-15K-HL	
LOCATION: Bat Cave Wash, Parcel No. 650-151-06			LOGGED BY: T. McDonald	

DEPTH BGS (feet)	SAMPLE			USCS CODE	SOIL DESCRIPTION	COMMENTS
	INTERVAL	TYPE/NUMBER	RECOVERY (ft)			
180		CC15	10		WELL GRADED SAND WITH SILT (SW-SM) - brn (7.5YR 4/2 to 4/3), 35% m sand, 30% f sand, 15% c sand, 10-15% silt, 5-10% f-c gravel (0.2" avg, up to 2"), ang to subang with v few subang gravel, moist to wet - < 5% red mottling (2.5YR 4/6), < 5% silt, 20% f sand, 50% m sand, 20% c sand, 5% gravel	
185				SW	WELL GRADED SAND WITH GRAVEL (SW) - brn (10YR 5/3), 50% m sand, 20% c sand, 20% f sand, 5% silt, 5% gravel avg 0.5", ang to subang, metamorphic, wet.	
				SP	POORLY GRADED SAND (SP) - grayish brn (10YR 5/2), 85% m sand, 10% f sand, < 5% silt, ang to subang, metamorphic, wet.	
				SW	WELL GRADED SAND WITH GRAVEL (SW) - brn (10YR 5/3), 50% m sand, 20% f sand, 20% c sand, 5% silt, 5% gravel avg 0.5", ang to subang, metamorphic, wet.	
190		CC16	18		SILTY SAND WITH GRAVEL (SM) - brn (7.5YR 4/3) with 15% dark greenish gray (GLEY1 4/10Y) and 10% red (10R 4/6) mottling, 25% m sand, 25% c sand, 20% silt, 15% f sand, 15% gravel 0.5" - 2.5", ang to subang with v few subrnd, metamorphic. Silty caliche development, faint fabric with aligned gravels.	
195				SM		
200						
205				SW-SM	WELL GRADED SAND WITH SILT AND GRAVEL (SW-SM) - brn (7.5YR 4/3) with 10% dark greenish gray (GLEY1 4/10Y) mottling, 30% m sand, 25% c sand, 20% f sand, 15% gravel from 0.5" - 2.5", 10% silt, sand and gravel ang to subang, metamorphic, silt caliche development, abrupt lower boundary.	
210						

SOIL BORING LOG

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SURFACE ELEVATION: 476.9 ft. MSL	NORTHING (CCS NAD 27 Z 5): 2,103,536.66	EASTING (CCS NAD 27 Z 5): 7,614,578.85	DATE STARTED: 10/22/2004	DATE COMPLETED: 11/05/2004
DRILLING METHOD: Rotasonic		WATER LEVEL (ft): ---	DRILLING EQUIPMENT: Gefco SS-15K-HL	
LOCATION: Bat Cave Wash, Parcel No. 650-151-06			LOGGED BY: T. McDonald	

DEPTH BGS (feet)	SAMPLE			USCS CODE	SOIL DESCRIPTION	COMMENTS
	INTERVAL	TYPE/NUMBER	RECOVERY (ft)			
215		CC17	18	GW-GM	WELL GRADED GRAVEL WITH SILT AND SAND (GW-GM) - brn (7.5YR 4/2), 50% gravel up to 2" , 20% m sand, 20% c sand, 5% silt, 5% f sand, sand and gravel ang to subang, metamorphic.	Appears to be coarsening upward sequence 210 to 213 ft bgs Core from 220 to 233 appears to be washed out from drilling process
				SW-SM	WELL GRADED SAND WITH SILT AND GRAVEL (SW-SM) - brn (7.5YR 4/3) with 10% dark greenish gray (GLE1 4/10Y) mottling, 30% m sand, 25% c sand, 20% f sand, 15% gravel from 0.5" to 2", 10% silt, ang to subang, metamorphic with lt caliche development.	
				SW	WELL GRADED SAND WITH SILT AND GRAVEL (SW) - brn (7.5YR 4/3), 40% m sand, 30% f sand, 20% c sand, 5% silt, 5% gravel, sand and gravel ang to subang, metamorphic, wet, moderate to strong caliche development, silt fabric with horizontally aligned gravels and c sand.	
220		CC18	17	SP	POORLY GRADED SAND (SP) - dark grayish brn (2.5Y 4/2), 50% m sand, 50% c sand, subang, metamorphic, wet.	
					WELL GRADED SAND (SW) - brn (7.5YR 5/3), 40% m sand, 30% c sand, 15% f sand, 10% gravel, 5% silt, sand and gravel ang to subang, metamorphic, wet, silt cementation.	
					- 10% silt - reddish brn (5YR 4/3), 45% m sand, 5-10% silt, 10% f sand, 5-10% gravel .5 to 8 cm, moderate caliche development	
225						
230					- 60-70% m sand, 20% c sand, 5% silt, 5% gravel 0.5 - 2 cm	
235					- 45% m sand, 30% c sand, 5-10% silt, 10% f sand, 5-10% gravel 0.5 to 8 cm	
240					- 30% m sand, 30% c sand, 10-15% silt, 15% f sand, 10-15% gravel, some caliche, wet	
245						

SOIL BORING LOG

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DRILLING METHOD: Rotosonic		WATER LEVEL (ft): ---	DRILLING EQUIPMENT: Gefco SS-15K-HL	
LOCATION: Bat Cave Wash, Parcel No. 650-151-06			LOGGED BY: T. McDonald	

DEPTH BGS (feet)	SAMPLE			USCS CODE	SOIL DESCRIPTION	COMMENTS
	INTERVAL	TYPE/NUMBER	RECOVERY (ft)			
250		CC19	10	SW	<p>WELL GRADED SAND (SW) - brn (7.5YR 5/3), 40% m sand, 30% c sand, 15% f sand, 10% gravel, 5% silt, sand and gravel ang to subang, metamorphic, wet, silt cementation.</p> <p>- reddish brn (5YR 4/4), 5% red (10R 4/8), 5% grayish green (GLE1 4/5G) mottled, 60-70% m sand, 10-15% silt, 15% f sand, 5% gravel, some caliche, silty consolidated</p> <p>- 40% f sand, 40% m sand, 10% c sand, 5% silt, 5% f gravel, very few c gravel of 4 to 5 cm, silty indurated, slit fabric with horizontal gravel, strongest at base</p> <p>- brn (10YR 5/3) matrix, 60% yellowish red (5YR 4/6), 20% v dark greenish gray GLEY2 3/5BG mottling, 30% f sand, 20% vf sand, 20% m sand, 15-20% silt, 5% c sand, 5% c gravel, few thin layers of 25-30% silt, abrupt lower boundary</p> <p>- reddish brn (5YR 4/4), 40% f sand, 35% c sand, 10% m sand, 10% f gravel up to 2 cm, 5% silt, gravel ang to subang, c sand ang to subround, metamorphic, wet, slit clay films on gravels</p> <p>- red (2.5YR 4/4 to 4/6), 5-10% silt/clay, 30% f sand, 30% c sand, 20% m sand, 15% gravel, increased induration, v few weak clay films around gravels</p> <p>- strong caliche</p> <p>- 2 to 6 cm gravels from 267 to 268 ft bgs</p> <p>- brn (5YR 4/4), 50% c sand, 25% f gravel up to 0.5", 10% f sand, 10% m sand, 5% clay/silt</p> <p>- v few spots of dk greenish gray (GLE2 4/5BG) mottling, 40% f sand, 20% m sand, 20% c sand, 10% silt, 10% f gravel, well graded, silty indurated, moderate caliche, strongest in top 6 inches</p>	<p>DRILLING OBSERVATIONS AND OPERATIONS, DAILY START AND END TIMES, DRILL RATE, REFUSALS, SAMPLING AND TESTING NOTES.</p>
255		CC20	9			
260						
265		CC21	9			
270						
275		CC22	5			
280					<p>SILTY SAND WITH GRAVEL (SM) - dark reddish brn (2.5YR 3/3), 30% f sand, 25% silt, 20% c sand, 15% gravel, 10% m sand, subang, little metamorphic, wet, silty indurated, weathered.</p>	

SOIL BORING LOG

PROJECT NAME: IM-3 Hydrogeologic Investigation, PG&E Topock		HOLE DEPTH (ft): 320.0	DRILLING CONTRACTOR: WDC Exploration & Wells, Montclair, CA	
SURFACE ELEVATION: 476.9 ft. MSL	NORTHING (CCS NAD 27 Z 5): 2,103,536.66	EASTING (CCS NAD 27 Z 5): 7,614,578.85	DATE STARTED: 10/22/2004	DATE COMPLETED: 11/05/2004
DRILLING METHOD: Rotosonic		WATER LEVEL (ft): ---	DRILLING EQUIPMENT: Gefco SS-15K-HL	
LOCATION: Bat Cave Wash, Parcel No. 650-151-06			LOGGED BY: T. McDonald	

DEPTH BGS (feet)	SAMPLE			USCS CODE	SOIL DESCRIPTION SOIL NAME, USCS SYMBOL, COLOR, PERCENT COMPOSITION, GRADING, GRAIN SHAPE, MINERALOGY, DENSITY/CONSISTENCY, STRUCTURE, MOISTURE.	COMMENTS DRILLING OBSERVATIONS AND OPERATIONS, DAILY START AND END TIMES, DRILL RATE, REFUSALS, SAMPLING AND TESTING NOTES.
	INTERVAL	TYPE/NUMBER	RECOVERY (ft)			
285		CC23	5	SM	SILTY SAND WITH GRAVEL (SM) - dark reddish brn (2.5YR 3/3), 30% f sand, 25% silt, 20% c sand, 15% gravel, 10% m sand, subang, little metamorphic, wet, silty indurated, weathered.	
290		CC24	15	SW	WELL GRADED SAND (SW) - grayish brn (10YR 5/2), 40% m sand, 25% c sand, 15% f sand, 10% fines, 10% gravel to 0.5", sand and gravel ang to subang, some metamorphic, wet, silty indurated, trace caliche.	
295				SM	SILTY SAND (SM) - grayish brn (10YR 5/2), 30% m sand, 25% fines, 25% gravel, 20% c sand, 10% f sand, ang to subang, some metamorphic, wet, moderately indurated.	
300				SW	SAND (SW) - dark red (2.5YR 3/6) with brn (7.5YR4/3 clay layer, 30% m sand, 25% gravel up to 1.5", 20% c sand, 15% fines, 10% f sand, weathered bedrock, moderately indurated, wet.	
305		CC25	15	BR	CONGLOMERATE (BR) - dark reddish brn (2.5YR 3/3), 30% m sand, 30% c sand, 20% f sand, 10% fines, 10% gravel up to 1.5", ang to subang, dry, strongly indurated.	
				BR	CONGLOMERATE (BR) - reddish brn (2.5YR 4/4), 30% m sand, 30% c sand, 20% f sand, 10% fines, 10% gravel, gravel subrnd, dry.	
310				BR	CONGLOMERATE (BR) - reddish brn (2.5YR 4/3), 30% f sand, 20% fines, 20% c sand, 20% subang gravel up to 1", 10% m sand, wet.	
315					CONGLOMERATE (BR) - dark reddish brn (2.5YR 3/3), 30% m sand, 30% subang gravel to 1.5", 20% f sand, 10% fines, 10% c sand, dry, silty indurated, weathered.	

Angled bedding plane seen at 301' (photo)

SOIL BORING LOG

PROJECT NAME: IM-3 Hydrogeologic Investigation, PG&E Topock		HOLE DEPTH (ft): 320.0	DRILLING CONTRACTOR: WDC Exploration & Wells, Montclair, CA	
SURFACE ELEVATION: 476.9 ft. MSL	NORTHING (CCS NAD 27 Z 5): 2,103,536.66	EASTING (CCS NAD 27 Z 5): 7,614,578.85	DATE STARTED: 10/22/2004	DATE COMPLETED: 11/05/2004
DRILLING METHOD: Rotosonic		WATER LEVEL (ft): ---	DRILLING EQUIPMENT: Gefco SS-15K-HL	
LOCATION: Bat Cave Wash, Parcel No. 650-151-06			LOGGED BY: T. McDonald	

DEPTH BGS (feet)	SAMPLE			USCS CODE	SOIL DESCRIPTION	COMMENTS
	INTERVAL	TYPE/NUMBER	RECOVERY (ft)			
320	 	CC26	5	BR	CONGLOMERATE (BR) - dark reddish brn (2.5YR 3/3), 30% m sand, 30% subang gravel to 1.5", 20% f sand, 10% fines, 10% c sand, dry, silty indurated, weathered. - silty more indurated, moist	Well Completion: TD = 311.5' bgs; Screen Interval = 271 to 291 ft bgs; Filter Pack = 299 - 261 ft bgs; Stick-up Approx = 2.6 ft; Sump = 291 to 311 bgs
					Boring Terminated at 320 ft ABBREVIATIONS cc = continuous core run brn = brown lt = light dk = dark vf = very fine-grained f = fine-grained m = medium-grained c = coarse-grained vc = very coarse-grained ang = angular subang = subangular subrnd = subrounded rnd = rounded br = bedrock formation ss = sandstone conglom = conglomerate comptd = compacted qtz = quartz	