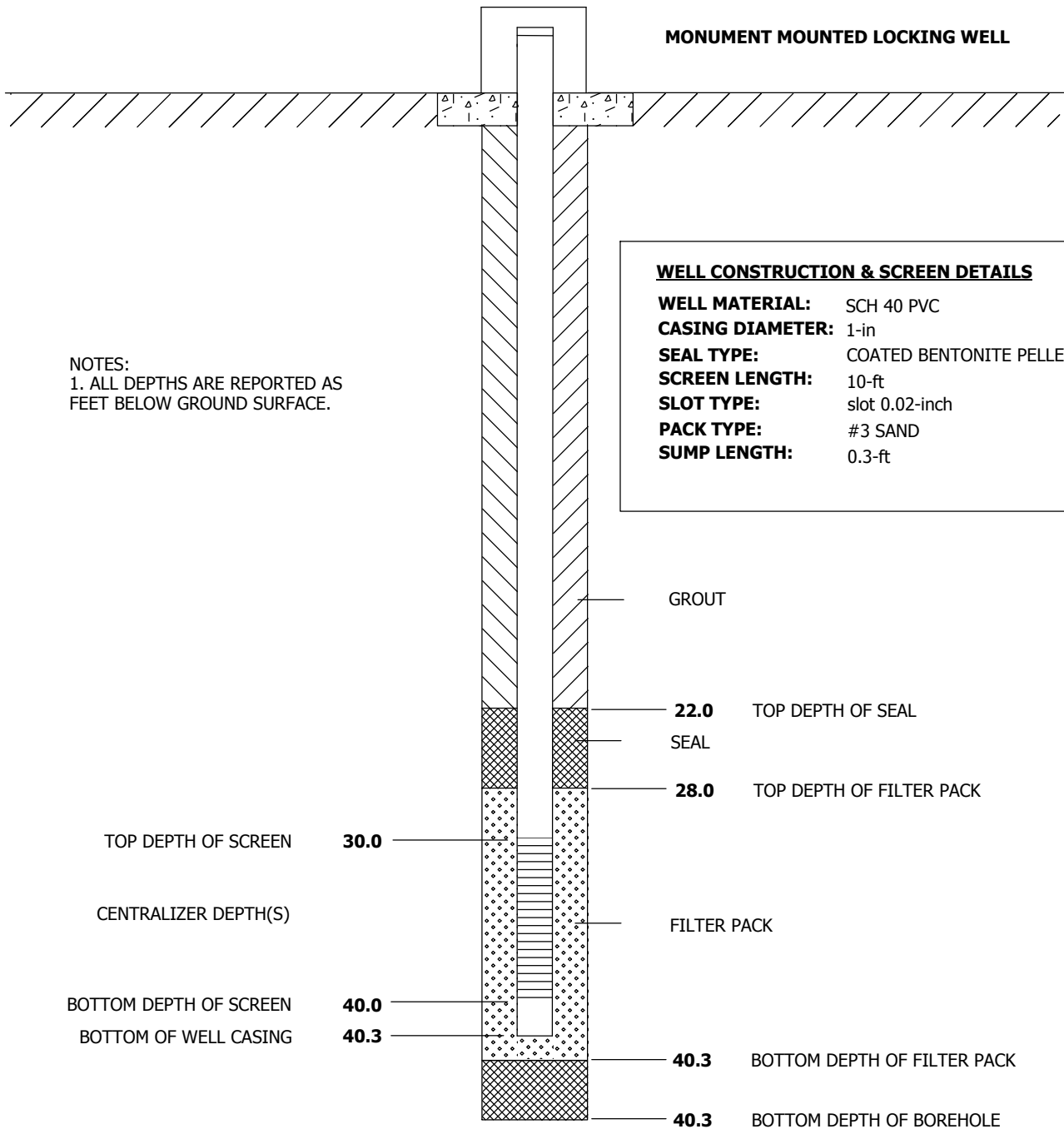


WELL COMPLETION DIAGRAM

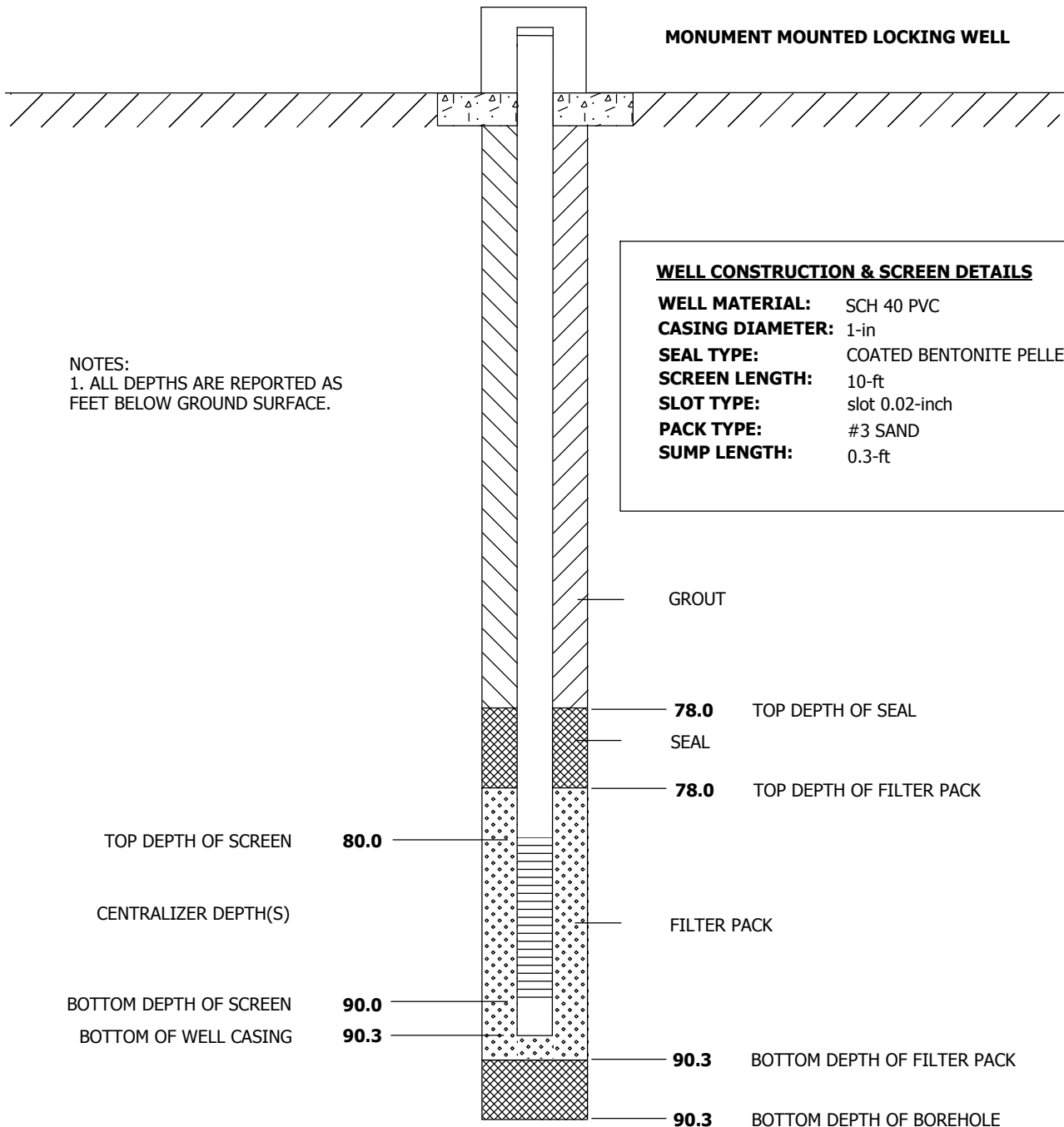
PROJECT NO: 315024.IM.02	PROJECT: PG&E Topock IM Investigation (Phase 5 2004)	WELL NO: MW-36-040
LOCATION: Floodplain well field Topock, CA. - Central dune area, approximately 350' north of railroad, 400' east of extraction well bench.		
DRILLING CONTRACTOR: Prosonic Corp. Mareta, OH		DRILLING START DATE: 05/02/2004
DRILLING METHOD: Rotosonic		DRILLING END DATE: 05/03/2004
LOGGER: J. Wellmeyer		WELL COMPLETION DATE: 05/03/2004
TOP OF WELL CASING (NGVD 29): 469.64		NORTHING COORDINATE (CCS DAND 27, ZONE 5): 2102537.20
GROUND SURFACE ELEVATION (NGVD 29): 466.70		EASTING COORDINATE (CCS NAD 27 ZONE 5): 7616267.58



WELL DIAGRAM IS NOT TO SCALE

WELL COMPLETION DIAGRAM

PROJECT NO: 315024.IM.02	PROJECT: PG&E Topock IM Investigation (Phase 5 2004)	WELL NO: MW-36-090
LOCATION: Floodplain well field Topock, CA. - Central dune area, approximately 350' north of railroad, 400' east of extraction well bench.		
DRILLING CONTRACTOR: Prosonic Corp. Mareta, OH		DRILLING START DATE: 05/02/2004
DRILLING METHOD: Rotosonic		DRILLING END DATE: 05/03/2004
LOGGER: J. Wellmeyer		WELL COMPLETION DATE: 05/03/2004
TOP OF WELL CASING (NGVD 29): 469.68		NORTHING COORDINATE (CCS DAND 27, ZONE 5): 2102537.34
GROUND SURFACE ELEVATION (NGVD 29): 466.70		EASTING COORDINATE (CCS NAD 27 ZONE 5): 7616267.63



WELL DIAGRAM IS NOT TO SCALE

SOIL BORING LOG

PROJECT NAME: PG&E Topock IM Investigation (Phase 1 2004)		HOLE DEPTH (ft): 108.0	DRILLING CONTRACTOR: Prosonic Corp. Mareta, OH	
SURFACE ELEVATION: 466.8 ft. MSL	NORTHING (CCS NAD 27 Z 5): 2,102,532.37	EASTING (CCS NAD 27 Z 5): 7,616,267.51	DATE AND TIME STARTED: 04/30/2004	DATE AND TIME COMPLETED: 05/01/2004
DRILLING METHOD: Rotasonic		WATER LEVEL (ft): ---	DRILLING EQUIPMENT: All Terrain Sonic Rig with continuous 4 core, 6 casing	
LOCATION: Floodplain area, approx. 400' east of MW-20 bench			LOGGED BY: J. Wellmeyer / PHX	

DEPTH BGS (feet)	SAMPLE			USCS CODE	SOIL DESCRIPTION	COMMENTS
	INTERVAL	TYPE/NUMBER	RECOVERY (ft)			
5		CC1 Box 1	5	SP	<p>POORLY GRADED SAND (SP) - lt yellowish brn, 10YR6/4 f-m sand, well rnd, qtz dredge, loose, dry.</p> <p>- slightly damp</p> <p>- saturated</p> <p>- 10&R4/1 dk gray, f-m well rnd qtz sand, firm, moist, abundant fine-grained organic streaks and particulates</p> <p>- brn 10YR4/3</p>	<p>Start exploratory pilot hole 9:17 AM.</p> <p>Collect standard penetration tests (SPT) using 24 split-spoon sampler at 10 foot intervals at base of sonic-advance continuous core (CC) runs.</p> <p>9:20, heaving sands</p> <p>water added</p> <p>heaving sands, SPT washed</p>
10						
15		CC2 Box 2 Box 3 Box 4	10			
20						
25		CC3 Box 5 Box 6 Box 7	10			
30						
35		CC4 Box 8 Box 9 Box 10	10			

SOIL BORING LOG

PROJECT NAME: PG&E Topock IM Investigation (Phase 1 2004)		HOLE DEPTH (ft): 108.0		DRILLING CONTRACTOR: Prosonic Corp. Maretta, OH	
SURFACE ELEVATION: 466.8 ft. MSL	NORTHING (CCS NAD 27 Z 5): 2,102,532.37	EASTING (CCS NAD 27 Z 5): 7,616,267.51		DATE AND TIME STARTED: 04/30/2004	DATE AND TIME COMPLETED: 05/01/2004
DRILLING METHOD: Rotasonic		WATER LEVEL (ft): ---		DRILLING EQUIPMENT: All Terrain Sonic Rig with continuous 4 core, 6 casing	
LOCATION: Floodplain area, approx. 400' east of MW-20 bench				LOGGED BY: J. Wellmeyer / PHX	

DEPTH BGS (feet)	SAMPLE			USCS CODE	SOIL DESCRIPTION	COMMENTS
	INTERVAL	TYPE/NUMBER	RECOVERY (ft)			
40				SP	POORLY GRADED SAND (SP) - lt yellowish brn 10YR6/4, f-m sand, well rnd, qtz dredge, loose, dry.	DRILLING OBSERVATIONS AND OPERATIONS, DAILY START AND END TIMES, DRILL RATE, REFUSALS, SAMPLING AND TESTING NOTES.
45		CC5 Box 11 Box 12	10	SW	WELL GRADED SAND WITH GRAVEL (SW) - brn 10YR4/3, 95% f-vc sand, 5% gravel <0.5, trace fines, loose. - 50% c-vc sand, 30% f-m sand, 20% gravel up to 3, well rnd - small pocket of red brn clay	
50				SW	- small pockets of light yellowish brn clay	
55		CC6 Box 13 Box 14 Box 15	10	SW	- sand content fining	
60				SW	- small pockets of light yellowish brn clay	
65		CC7 Box 15 Box 16 Box 17 Box 18	10	SW	WELL GRADED SAND (SW) - dk yellowish brn 10YR4/4, 70% m-c sand, 15% f sand, 10% vc sand, 5% clay, very well rnd qtz sand. - red brn clay sheet - iron staining	
				SW	WELL GRADED SAND WITH GRAVEL (SW) - 10YR4/4, 65% m-c sand, 15% gravel, 10% f sand, 10% vc sand, trace clay, well rnd, loose.	
				SP	POORLY GRADED SAND (SP) - 10YR4/4, 70% m-sand, 20% c sand, 10% f sand, trace fines, loose.	
				SW	WELL GRADED SAND WITH GRAVEL (SW) - brn 10YR4/3, 95% f-vc sand, 5% gravel < 1/2, trace fines, loose.	
70						

SOIL BORING LOG

PROJECT NAME: PG&E Topock IM Investigation (Phase 1 2004)		HOLE DEPTH (ft): 108.0		DRILLING CONTRACTOR: Prosonic Corp. Mareta, OH	
SURFACE ELEVATION: 466.8 ft. MSL	NORTHING (CCS NAD 27 Z 5): 2,102,532.37	EASTING (CCS NAD 27 Z 5): 7,616,267.51	DATE AND TIME STARTED: 04/30/2004	DATE AND TIME COMPLETED: 05/01/2004	
DRILLING METHOD: Rotosonic		WATER LEVEL (ft): ---		DRILLING EQUIPMENT: All Terrain Sonic Rig with continuous 4 core, 6 casing	
LOCATION: Floodplain area, approx. 400' east of MW-20 bench				LOGGED BY: J. Wellmeyer / PHX	

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		CC8 Box 18 Box 19 Box 20	10	SM	SILTY SAND (SM) - 7.5YR4/4, 60% f sand, 30% silt, 10% clay, some CaCO3 concretions, loose.	drill chatter at 76' - 2 layer pure red clay
				CH	FAT CLAY (CH) - brn 7.5YR4/4, some organics, CaCO3?, concretions.	
				SM	SILTY SAND (SM) - 40% f sand, 20% m sand, 30% silt, 10% clay.	
				GC	CLAYEY GRAVEL (GC) - 7.5YR4/4, 35% clay, 30% gravel up to 3, 20% m-c sand, 10% f sand, 5% silt, matrix supported, heavily weathered.	
80					WELL GRADED GRAVEL (GW) - 95% gravel up to 3 including pea gravel, 5% sands, trace fines, very well rnd, clast supported, fining upward, loose.	only 1/2 of core recovered
				- fluvial gravel zone		
85		CC9 Box 21 Box 22	5	GW		
90				SP	POORLY GRADED SAND (SP) - brn 10YR4/4, 65% m sand, 15% f sand, 10% c-vc sand, 5% fines, trace gravel, loose.	hard drilling, lots of chatter on core pipe
				GW	WELL GRADED GRAVEL (GW) - brn 10YR4/3, 70% gravel up to 2, 15% m-c sand, well rnd, clast supported, fining upward.	
95		CC10 Box 22 Box 23 Box 24	10	GW	- 70% gravel up to 4, 20% sand, 10% silt	top weathered Miocene conglomerate (Tmc unit)
					- dusky red 10YR3/4, ang lithic, consolidated	
100				BR	CONSOLIDATED CONGLOMERATE (BR) 10R3/4 dusky red, ang lithics, consolidated.	drill chatter, samples very hot
105		CC11 Box 25 Box 26 Box 27	10			very hard drilling

SOIL BORING LOG

PROJECT NAME: PG&E Topock IM Investigation (Phase 1 2004)		HOLE DEPTH (ft): 108.0	DRILLING CONTRACTOR: Prosonic Corp. Maretta, OH	
SURFACE ELEVATION: 466.8 ft. MSL	NORTHING (CCS NAD 27 Z 5): 2,102,532.37	EASTING (CCS NAD 27 Z 5): 7,616,267.51	DATE AND TIME STARTED: 04/30/2004	DATE AND TIME COMPLETED: 05/01/2004
DRILLING METHOD: Rotosonic		WATER LEVEL (ft): ---	DRILLING EQUIPMENT: All Terrain Sonic Rig with continuous 4 core, 6 casing	
LOCATION: Floodplain area, approx. 400' east of MW-20 bench			LOGGED BY: J. Wellmeyer / PHX	

DEPTH BGS (feet)	SAMPLE			USCS CODE	SOIL DESCRIPTION	COMMENTS
	INTERVAL	TYPE/ NUMBER	RECOVERY (ft)			
	X			BR	<p>CONSOLIDATED CONGLOMERATE (BR) 10R3/4 dusky red, ang lithics, consolidated.</p> <p>- hard cemented red conglomerate</p>	<p>high vibrations on drill</p> <p>core barrel refusal</p> <p>stop at 8:35 AM</p>
					<p style="text-align: center;">Boring Terminated at 108 ft</p> <p>ABBREVIATIONS</p> <p>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</p>	