

# WELL COMPLETION DIAGRAM

**PROJECT NO:** 326228.IM

**PROJECT:** PG&E Topock, Interim Measures, Phase 2 (2005)

**WELL NO:** MW-42-055

**LOCATION:** Between to MW-27 & MW-20 on Colorado River floodplain.

**DRILLING CONTRACTOR:** Prosonic Corp. Phoenix, AZ

**DRILLING START DATE:** 02/01/2005

**DRILLING METHOD:** Rotosonic

**DRILLING END DATE:** 02/01/2005

**LOGGER:** B. Moayyad, B. Trebble

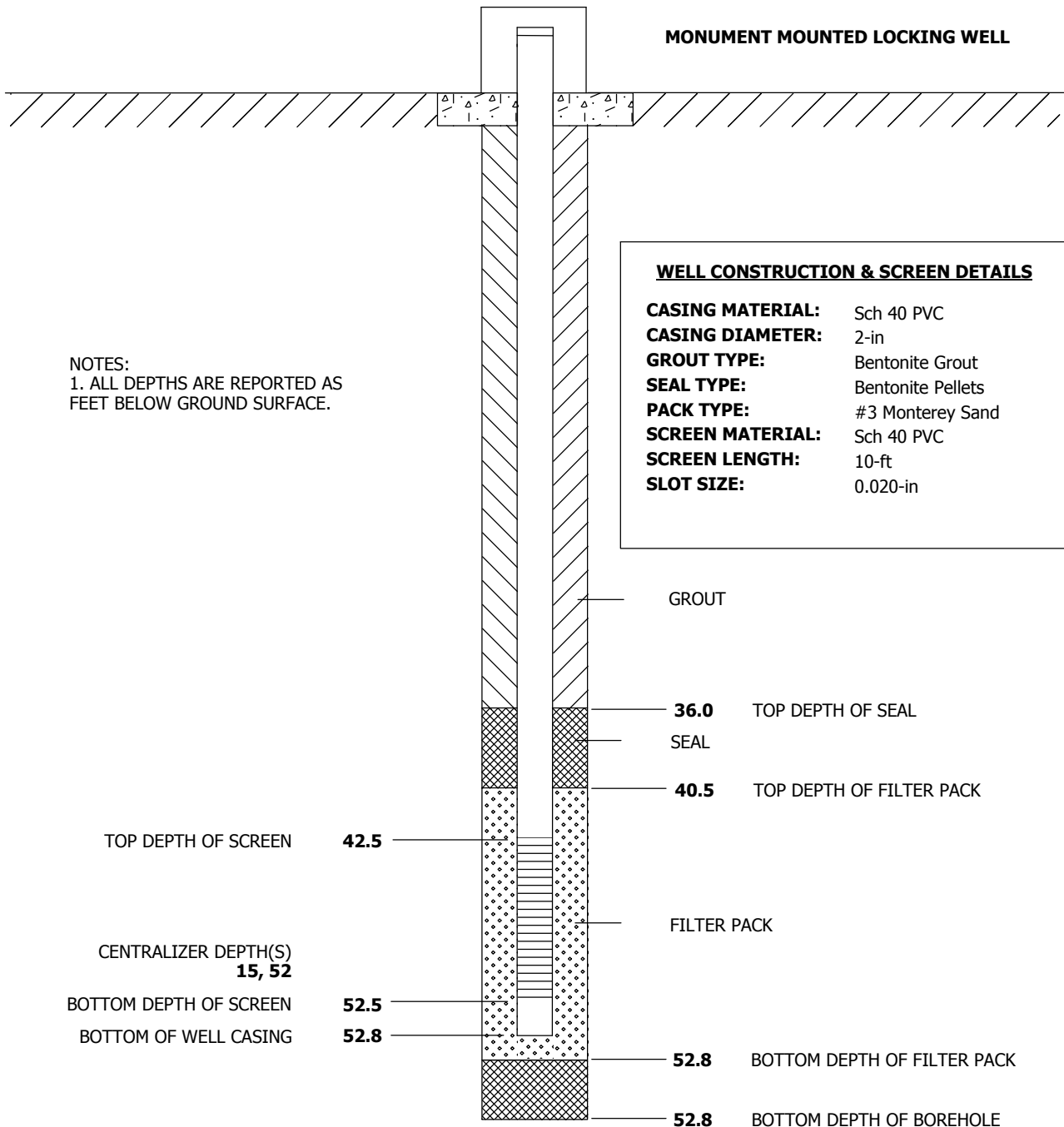
**WELL COMPLETION DATE:** 02/02/2005

**TOP OF WELL CASING (NGVD 29):** 463.87

**NORTHING COORDINATE (CCS DAND 27, ZONE 5):** 2102303.44

**GROUND SURFACE ELEVATION (NGVD 29):** 461.23

**EASTING COORDINATE (CCS NAD 27 ZONE 5):** 7616278.56



WELL DIAGRAM IS NOT TO SCALE

**SOIL BORING LOG**

<b>PROJECT NAME:</b> PG&E Topock, Interim Measures, Phase 2 (2005)		<b>HOLE DEPTH (ft):</b> 81.2	<b>DRILLING CONTRACTOR:</b> Prosonic Corp. Phoenix, AZ	
<b>SURFACE ELEVATION:</b> 461.0 ft. MSL	<b>NORTHING (CCS NAD 27 Z 5):</b> 2,102,296.95	<b>EASTING (CCS NAD 27 Z 5):</b> 7,616,274.95	<b>DATE STARTED:</b> 02/01/2005	<b>DATE COMPLETED:</b> 7:00:00 AM
<b>DRILLING METHOD:</b> Rotosonic		<b>WATER LEVEL (ft):</b>	<b>DRILLING EQUIPMENT:</b> Track-Mounted All Terrain Sonic	
<b>LOCATION:</b> Between to MW-27 & MW-20 on Colorado River floodplain.			<b>LOGGED BY:</b> B. Moayyad, B. Trebble	

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		Bag 10	5.6	SP	<b>POORLY GRADED SAND (SP)</b> - lt yellowish brn 10YR6/4, 98% f sand, 2% silt, subang qtz, loose, moist  - becomes subrnd by 6 ft, < 10% m sand	collect bag samples for archive description and potential grain-size testing. moist from previous rain some compaction of surficial sands
10					- 99% vf-f sand, 1% fines, becomes wet	take bag sample at 10 ft, @7:50 MW-42D-GS-10
15		Bag 10 Bag 25	9.5	SP	<b>POORLY GRADED SAND (SP)</b> - dk gray brn, 95% f qtz rich sand, 5% subrnd fines, loose, wet, sulfur smell	saturated zone
20				SP	<b>POORLY GRADED SAND (SP)</b> - brn 7.5YR5/3, 97% qtz rich sand, 3% subrnd fines, loose, wet  - occasionally micas, <10% mafics, no gravels	
25		Bag 25 Bag 53	9.5		- 98% vf-m sand, 2% fines, rnd to subrnd	take bag sample at 25 ft, @8:15 MW-42D-GS-25  collect groundwater at 27-37 ft
30				SP	<b>POORLY GRADED SAND (SP)</b> - brn 7.5YR5/4, 98% sand, 2% fines, qtz rich sand, subrnd to rnd, loose, wet	soft drilling
35		Bag 53	10			

**SOIL BORING LOG**

<b>PROJECT NAME:</b> PG&E Topock, Interim Measures, Phase 2 (2005)		<b>HOLE DEPTH (ft):</b> 81.2		<b>DRILLING CONTRACTOR:</b> Prosonic Corp. Phoenix, AZ	
<b>SURFACE ELEVATION:</b> 461.0 ft. MSL	<b>NORTHING (CCS NAD 27 Z 5):</b> 2,102,296.95	<b>EASTING (CCS NAD 27 Z 5):</b> 7,616,274.95	<b>DATE STARTED:</b> 02/01/2005	<b>DATE COMPLETED:</b> 7:00:00 AM	
<b>DRILLING METHOD:</b> Rotasonic		<b>WATER LEVEL (ft):</b>		<b>DRILLING EQUIPMENT:</b> Track-Mounted All Terrain Sonic	
<b>LOCATION:</b> Between to MW-27 & MW-20 on Colorado River floodplain.			<b>LOGGED BY:</b> B. Moayyad, B. Trebble		

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)			
					<del>POORLY GRADED SAND (SP) - 5% brn sand, 13% rnd gravel, 88% sand, 2% fines, qtz rich sand, subrnd to rnd, loose, wet</del>	
40					- as above, no gravel	
45		Bag 53	9	SP	- 95% sand, 2% gravel, <3% fines, subrnd gravel up to 1" long - silty clay lens 2" thick at 43 ft	
50					- brn 7.5YR5/2, subrnd to subang with gravel up to 3" long, 62% f sand, 30% m sand, 5% gravel, 3% fines, medium to loose	
55		Bag 53 Bag 64	8	SW	- grades to m sand with gravel by 52 ft	collect bag sample at 53 ft @ 9:45 MW-42-GS-53
				SP	- brn 7.5YR5/3, 60% m sand, 33% f sand, 5% gravel, 2% fines, subrnd to rnd, qtz rich sand, loose	
					<del>WELL GRADED SAND WITH GRAVEL (SW) - 88% sand, 10% gravel, 2% fines</del> <del>POORLY GRADED SAND (SP) - m sand, &lt;2% fines, no gravel</del>	
60				SP	<del>POORLY GRADED SAND WITH GRAVEL (SP) - brn, 85% sand, 15% chert and metamorphic gravel, m sand with gravel up to 3" long, medium density, wet</del>	
65		Bag 64	9	SW	- 15" thick clay lens at 62.5 ft - gravelly zone at 63-64 ft, 60% sand, 38% gravel, 2% fines	collect bag sample at 64 ft @ 10:45 MW-42D-GS-64 collect bag sample at 65 ft @ 10:45 MW-42D-GS-65
				ML	<del>WELL GRADED SAND WITH GRAVEL(SW) - brn, 75% sand, 25% v round pebbles 1/2 to 1"</del> <del>SILT (ML) - strong brn 7.5YR4/6, 70% silt, 30% sand, firm to soft, wet</del>	
				ML	- gravel and cobble zone at 66 to 67 ft, 35% rnd gravel, 65% silt	
70				ML	<del>SANDY SILT (ML) - reddish brn 7.5YR4/4, 65% silt, 32% sand, 3% f rnd gravel, massive, firm, wet</del> - gravelly ML	Top Miocene Conglomerate at 69.5 ft,



**SOIL BORING LOG**

<b>PROJECT NAME:</b> PG&E Topock, Interim Measures, Phase 2 (2005)		<b>HOLE DEPTH (ft):</b> 81.2	<b>DRILLING CONTRACTOR:</b> Prosonic Corp. Phoenix, AZ	
<b>SURFACE ELEVATION:</b> 461.0 ft. MSL	<b>NORTHING (CCS NAD 27 Z 5):</b> 2,102,296.95	<b>EASTING (CCS NAD 27 Z 5):</b> 7,616,274.95	<b>DATE STARTED:</b> 02/01/2005	<b>DATE COMPLETED:</b> 7:00:00 AM
<b>DRILLING METHOD:</b> Rotosonic		<b>WATER LEVEL (ft):</b>	<b>DRILLING EQUIPMENT:</b> Track-Mounted All Terrain Sonic	
<b>LOCATION:</b> Between to MW-27 & MW-20 on Colorado River floodplain.			<b>LOGGED BY:</b> B. Moayyad, B. Trebble	

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			9	BR	<b>CONGLOMERATE (BR)</b> - reddish brn 7.5YR4/4, 65% silt, 32% sand, 3% f rnd gravel, massive, firm, wet	hard drilling  reddish brn, indurated, cemented, fanglomerate shattered by sonic coring, dry, hard
80			4.2			
Boring Terminated at 81.2 ft						
<b>ABBREVIATIONS</b> 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						