

81385

Dc52-56

MONITOR WELL

(Page 1 of 5)

Project STANDARD CHLORINE
 Location DELAWARE CITY, DE.
 Geologist D. Cairns, L. Lawlor
 Drilling Contractor JCA
 Driller Joe Jester
 Drilling Method Mud Rotary
 Diameter of Borehole 7 7/8 inches
 Diameter of Well Casing 4 inches

Well Number MW-11 ~~1000A~~
 Coordinates 581855.33 N 438139.64
 Top of Casing Elevation 53.48 feet
 Groundsurface Elevation 51.97 feet
 Total Borehole Depth 148 feet
 Total Well Depth 135 feet
 Date Started 2/12/90
 Date Well Completed 2/24/90

DEPTH IN FEET	WELL CONSTRUCTION DETAIL	SAMPLE INTERVAL	BLDN COUNT	RECOVERY	SYNTHETIC GRAVEL	REMARKS	DESCRIPTION	
0							0-2' limestone GRAVEL, area has been excavated and filled in (depth based on bit).	
2							2-10' Orange-brown SAND, fine to coarse grained some (20%) silt, little pebbles, gravel layer at 5.0' BGS, poorly sorted, moist.	
4								
6			X	5 10 12	42		-/BKG	
8								
10			X	7 13	27		-/BKG	10-15' Light brown SAND and GRAVEL, little silt sand, fine to coarse, poor recovery due to driving a piece of gravel, moist.
12								
14			X	7 12 10	20		-/BKG	15-25' Light tannish brown SAND, fine to medium grained, some coarse sand with pebbles in top of interval, little silt, poorly sorted, moist.
16								
18								
20			X	9 12 11	57		-/BKG	
22								
24								

MONITOR WELL

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DEPTH IN FEET	WELL CONSTRUCTION DETAIL	SAMPLE INTERVAL	BLOW COUNT	RECOVERY	SYMBOL	REMARKS	DESCRIPTION	
24	<p>grout seal</p>	X	18	20	-/BKG		25-35' Light brown to light tannish brown SAND, fine to coarse, little (10%) silt, poorly sorted, somewhat loose, less percentage of coarse through interval, poor to moderate sorting, moist.	
26								
28								
30		X	18	32	-/BKG			
32								
34		X	12	25	-/BKG			35-40' Brown SAND, fine to medium grained, trace coarse, moderately sorted, somewhat loose, moist.
36								
38								GRAVEL layer at 37' BGS - based on bit performance.
40		X	17	5	-/BKG			40-45' very poor recovery - orange-brown SAND, fine to medium grained, some silt, little coarse sand - probably pushed gravel, moist.
42								
44								
46	X	14	40	BKS/-		45-52' Brown SAND, fine to medium grained, little silt, little to trace very fine sand, trace pebbles, moderately sorted, wet.		
48								
50						WATER between 42-45' BGS.		
52	X	14	0	-/-				
54	X	13	65	-/5-1		52-53' Orange-brown SAND, fine to medium, with some light tannish-brown SAND, fine to medium grained, some silt, little to some coarse sand and pebbles (increasing percentage through interval), trace mica, poorly sorted, wet.		
55	X	11	25	-/5-1				

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DEPTH IN FEET	WELL CONSTRUCTION DETAIL	WELL ID	BLOG COUNT	RECOVERY	SYMBOL	REMARKS	DESCRIPTION	
56	<p style="text-align: center;">grout seal</p>							
58								
60					37		-/1	
62								63-64' GRAVEL layer - based on bit performance, also some orange clay in matrix.
64					90		-/1	64-74' Dark gray to gray CLAY, some silt and fine sand (25% each), sand micaceous-very fine to fine, plastic, firm, moist (MERCHANTVILLE fm.).
66					0		-/-	
68					95		-/1	
70								
72					100		-/BKG	
74					85		-/BKG	
76					70		BKG/BKG	74-74.3' Dark gray to black CLAY, trace sand, very fine grained, high plasticity, soft, moist.
78								74.3-78' Light gray SAND, very fine to fine grained, and CLAY, little silt, sand and clay alternating layers, clay - dense, plastic, slightly moist to moist.
80				50		BKG/BKG	78-82.75' Gray silty SAND, fine grained, uniform, dry.	
82				40		BKG/BKG		
84				50		BKG/BKG	82.75-84' Black SAND, fine to medium grained, no fines, moist.	
86				90		BKG/BKG	84-86.7' Light gray CLAY to SILTY CLAY, stiff, high plasticity, moist.	
88				85		BKG/BKG	86.7-88.6' Light gray to black SAND, fine to medium grained, well sorted, moist.	

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DEPTH IN FEET	WELL CONSTRUCTION DETAIL	STRIKE INTERVAL	BLOW COUNT	% RECOVERY	SPERMATIC SAMPLE	WATER/NO. READING	DESCRIPTION
88	<p>grout seal</p> <p>bentonite seal</p> <p>sand pack</p>						
88.6-89.1'			12	80			Gray CLAY, stiff, plastic, moist.
89.1-90.7'			12	85			Gray and red mottled CLAY, stiff, low plasticity, dry.
90.7-95.7'			7	100			Light gray to gray CLAY to SILTY CLAY, stiff, slightly plastic to non-plastic, trace red mottled in bottom 0.7', slightly moist to dry.
95.7-98.25'			9	100			Gray silty SAND and gray silty CLAY sand very fine to fine grained, clay- stiff, plastic, moist.
98.25-98.75'			11	90			Light gray SAND, fine to medium grained, loose, wet.
98.75-101.75'			10	100			Gray CLAY, some red bands, dense, plastic, moist.
101.75-102'			10	100			Light gray SAND, fine to medium grained, same as 98.25-98.75'.
102-108.2'			10	100			Gray CLAY to gray SILTY CLAY, trace bands of sand (wet), clay - dense, stiff, plastic, moist.
108.2-108.7'			15	100			Light gray SAND, fine to medium grained, well sorted, loose, wet.
108.7-110'			10	100			Light gray SILT and CLAY, some sand, fine grained, stiff, plastic, moist.
110-110.4'			10	100			Gray SAND and CLAY, dense, plastic, moist.
110.4-110.8'			30	60			Light gray SAND, fine grained, loose, well sorted, wet.
110.8-112.4'			24	100			SAND and CLAY, same as 110-110.4'.
112.4-115.5'			53	50			Light gray SAND to SILTY SAND, fine grained, well sorted, firm, moist.
115.5-116'			17	20			Light gray to red SILT and SAND, some gravel, poorly sorted, loose, moist.
116-117'							Light gray SAND, fine grained, some red-orange bands, stiff, wet.
117-130'						Brown to brownish-white (buff) to red SAND, fine grained, some medium sand, little silt, dense-stiff, moist.	

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DEPTH IN FEET	WELL CONSTRUCTION DETAIL	DEPTH INTERVAL	DOWN COUNT	RECOVERY	SYMBOL	REMARKS	DESCRIPTION
120	<p>20 slot wire wound stainless steel screen</p> <p>sand pack</p>	47 57 75	0		BKG/BKG		
122		41 100/.4	45		BKG/BKG		
124		70 100/.25	50		BKG/BKG		
126		98 100/.4	0		BKG/BKG		
128		82 126 150	50		BKG/BKG		
130		45 41 33 32	0		BKG/BKG		130-133' Red and white CLAY, some silt. high plasticity, stiff, moist.
132		23 89	85		BKG/BKG		133-136' Buff brown SAND, fine grained, well sorted, loose, wet.
134		158/.5	25		BKG/BKG		
136		200/.4	20		BKG/BKG		136-140.4' Light gray and red mottled CLAY, very stiff, low plasticity, dry
138		38 45 65 80	55		BKG/BKG		
140	28 40 45 50	100		BKG/BKG		140.4-148' Red, green and brown mottled CLAY with some SILTY CLAY, very stiff, plastic, moist.	
142	27 44 52 73	100		BKG/BKG			
144	21 31 42 47	100		BKG/BKG			
146	21 34 31 44	100		BKG/BKG			
148						END OF BORING - 148' BGS.	
150							
152							