

Project: Motiva - Monitoring Well and Soil Boring Data

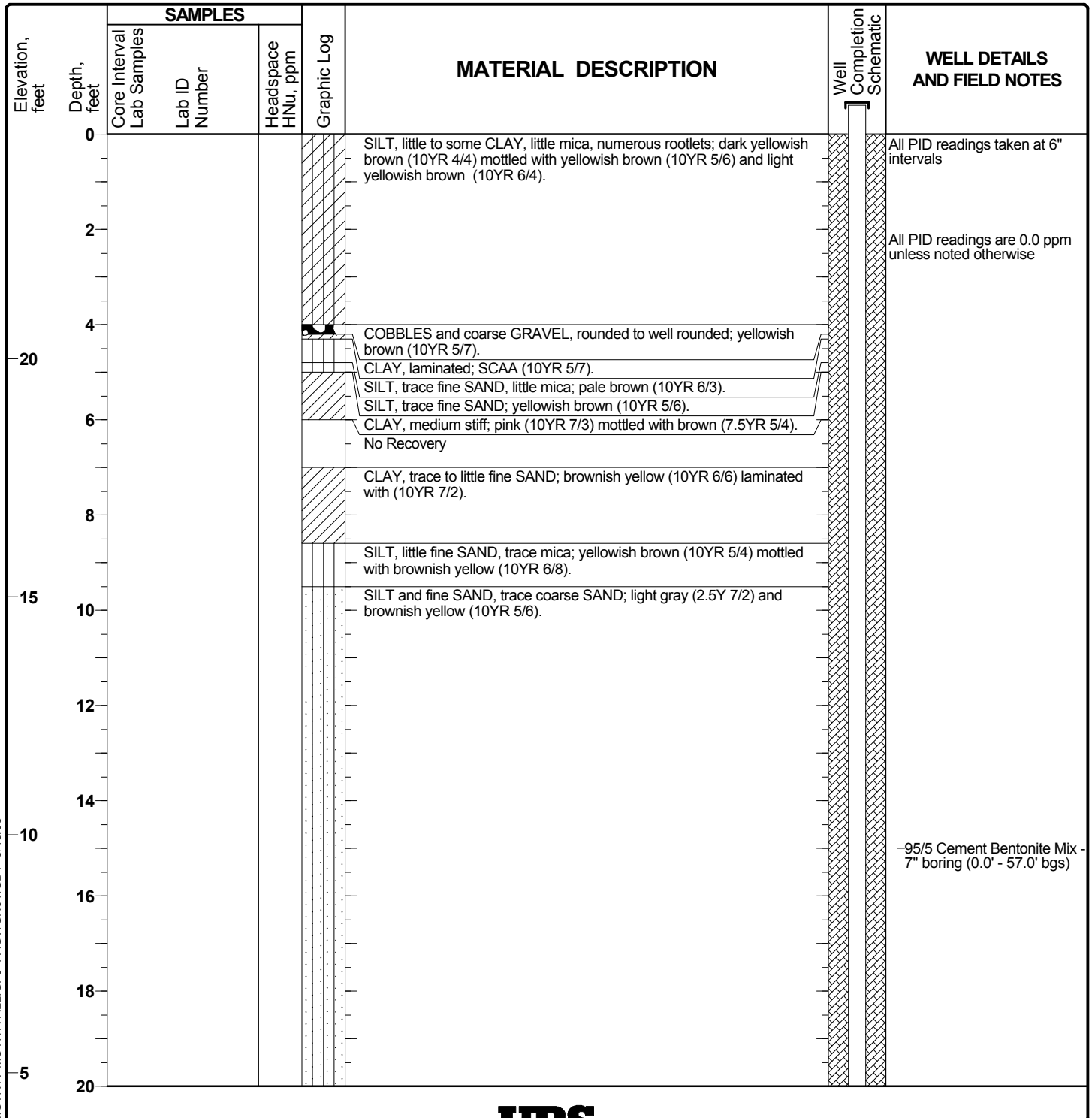
Project Location: Delaware City Refinery

Project Number: 20240412.W1000

Log of Monitoring Well D56B

Sheet 1 of 7

Date(s) Drilled	5/24/2007	Logged By	Stephen Zahniser	Checked By	
Drilling Method	Roto Sonic	Drill Bit Size/Type		Total Depth of Borehole	137.0 feet
Drill Rig Type	Roto-Sonic	Drilling Contractor	Boart Longyear	Surface Elevation	24.72 NAVD88
Groundwater Level(s)		Sampling Method(s)		Top of Casing Elevation	
Location	Delaware City Refinery - Soy Field		Borehole Completion		



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Log of Monitoring Well D56B

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Elevation, feet	Depth, feet	SAMPLES			Graphic Log	MATERIAL DESCRIPTION	Well Completion Schematic	WELL DETAILS AND FIELD NOTES
		Core Interval Lab Samples	Lab ID Number	Headspace HNu, ppm				
20								
					SILT, little fine SAND, little to some mica; moderately cohesive, greenish black (GLEY1 2.5/10Y).			
	22							
	24							
0								
	26				SILT, trace to little fine SAND, micaceous; less cohesive than previous interval, greenish black (2.5/5GY).			
	28							
-5								
	30							
	32							
	34							
-10								
	36							
	38				SILT, trace fine SAND, micaceous, minor glauconite; very dark greenish gray (GLEY1 3/10Y).		Quaternary - Merchantville Contact (37.0')	
	40							
-15								
	42							

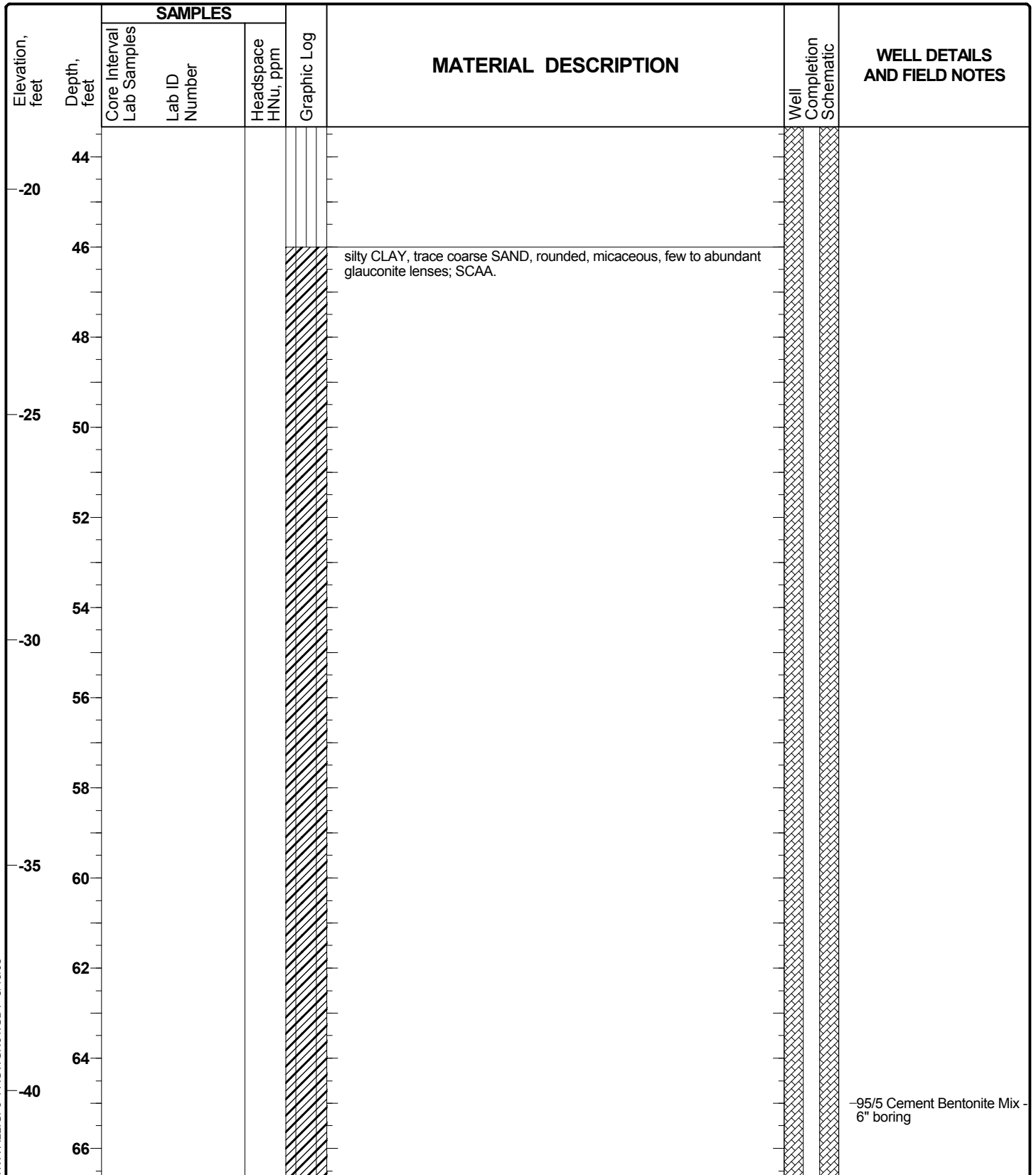
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Log of Monitoring Well D56B

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Log of Monitoring Well D56B

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Elevation, feet	Depth, feet	SAMPLES			MATERIAL DESCRIPTION	Well Completion Schematic	WELL DETAILS AND FIELD NOTES
		Core Interval Lab Samples	Lab ID Number	Headspace HNu, ppm			
68							
-45	70						
	72						
	74						
-50	76						
	78						
-55	80						
	82						
	84						
-60	86						
	88						
-65	90				SAA - abundant glauconite as grains and lenses SCAA - noticable green hue 88.8' and 90.5' lithified sands (trace fossils)		

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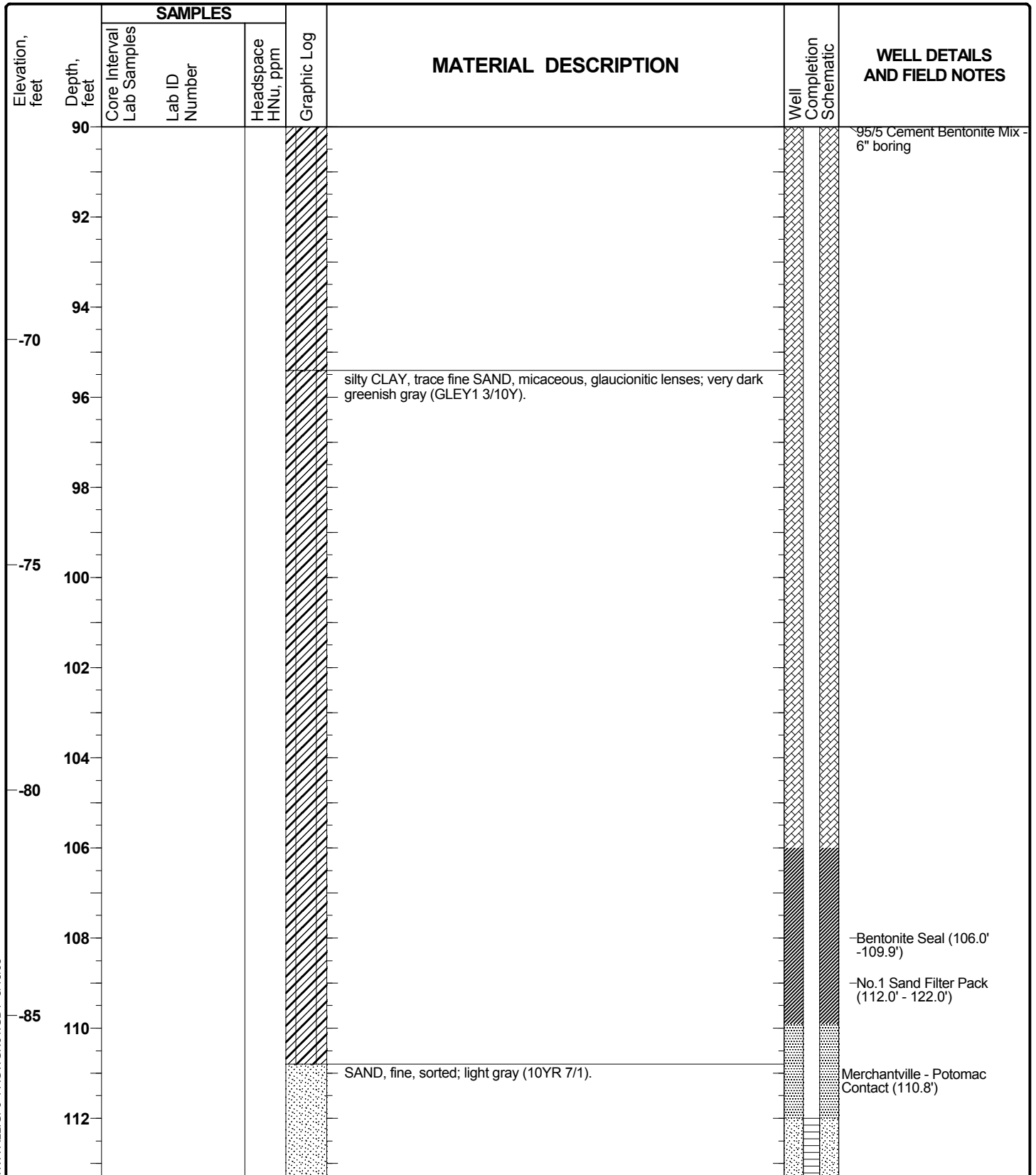
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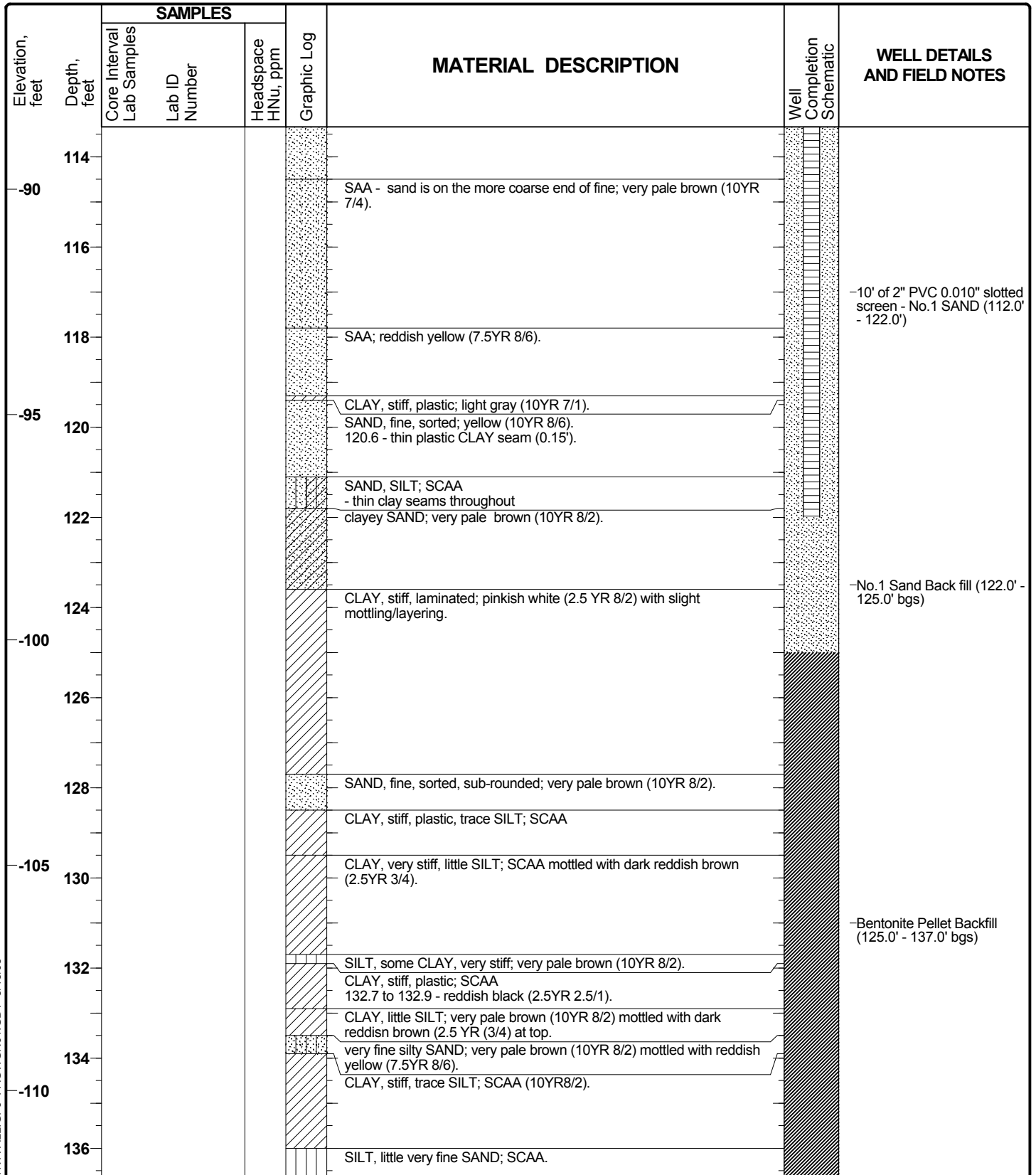
Log of Monitoring Well D56B

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Log of Monitoring Well D56B

Sheet 7 of 7

Elevation, feet	Depth, feet	SAMPLES			Graphic Log	MATERIAL DESCRIPTION	Well Completion Schematic	WELL DETAILS AND FIELD NOTES
		Core Interval Lab Samples	Lab ID Number	Headspace HNu, ppm				
					CLAY, very stiff, plastic; SCAA. EOB (137.0')			
	138							
-115	140							
	142							
	144							
-120	146							
	148							
-125	150							
	152							
	154							
-130	156							
	158							
-135	160							

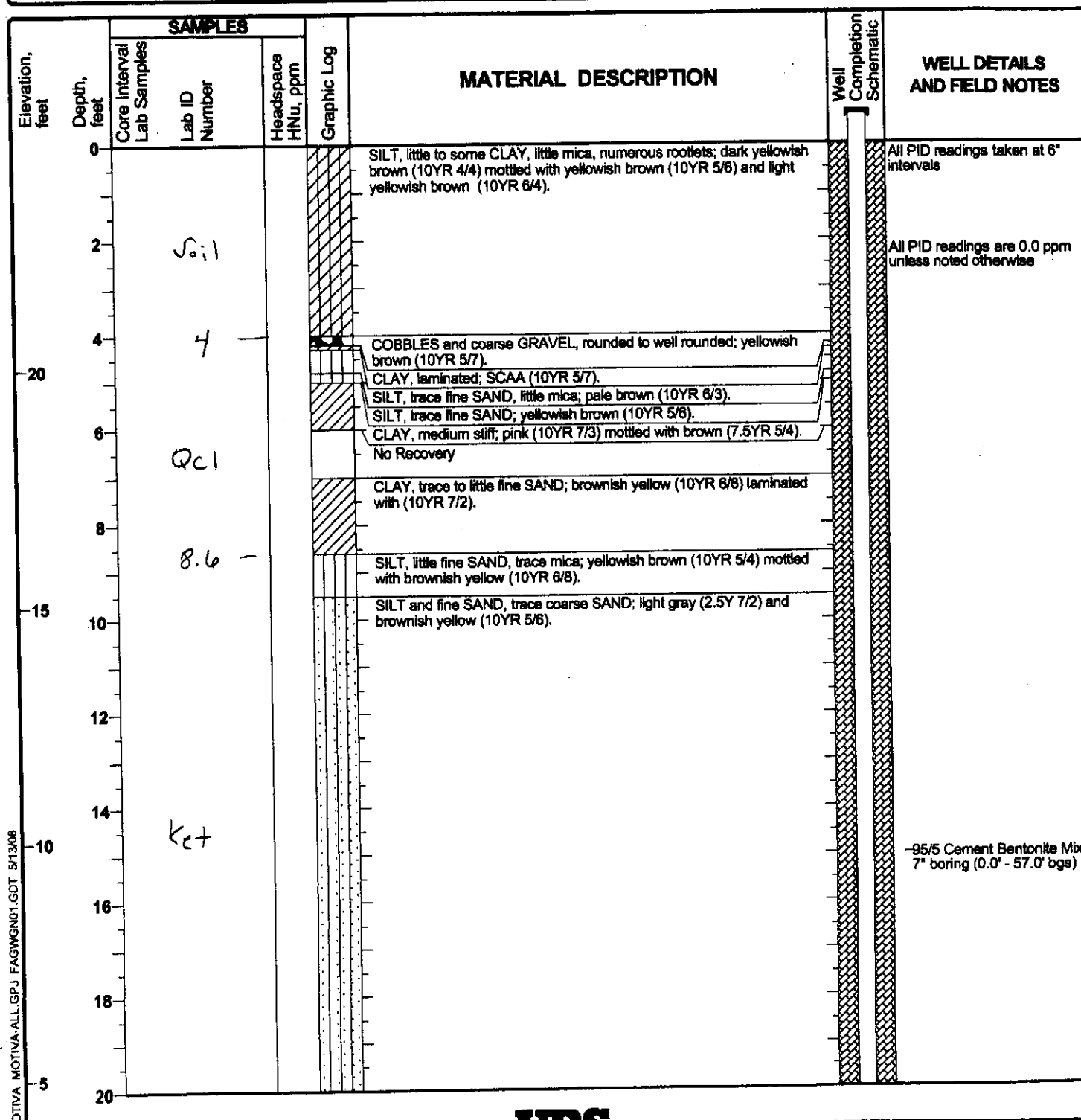
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Ecl3-46

Project: Motiva - Monitoring Well and Soil Boring Data	Log of Monitoring Well D56B
Project Location: Delaware City Refinery	Ecl3-46 Sheet 1 of 7
Project Number: 20240412.W1000	

Date(s) Drilled 5/24/2007	Logged By Stephen Zahniser	Checked By
Drilling Method Roto Sonic	Drill Bit Size/Type	Total Depth of Borehole 137.0 feet
Drill Rig Type Roto-Sonic	Drilling Contractor Boart Longyear	Surface Elevation 24.72 NAVD88
Groundwater Level(s)	Sampling Method(s)	Top of Casing Elevation
Location Delaware City Refinery - Soy Field	Borehole Completion	



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EC 13-40

Project: Motiva - Monitoring Well and Soil Boring Data
Project Location: Delaware City Refinery
Project Number: 20240412.W1000

Log of Monitoring Well D56B

Sheet 2 of 7

Elevation, feet	Depth, feet	SAMPLES			Graphic Log	MATERIAL DESCRIPTION	Well Completion Schematic	WELL DETAILS AND FIELD NOTES
		Core Interval Lab Samples	Lab ID Number	Headspace H ₂ Nu, ppm				
20								
	22					SILT, little fine SAND, little to some mica; moderately cohesive, greenish black (GLEY1 2.5/10Y).		
	24							
0	26					SILT, trace to little fine SAND, micaceous; less cohesive than previous interval, greenish black (2.5/5GY).		
	28							
-5	30							
	32							
	34							
-10	36							
	38					SILT, trace fine SAND, micaceous, minor glauconite; very dark greenish gray (GLEY1 3/10Y).		
	40							
-15	42							

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Quaternary - Merchantville Contact (37.0')

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EC 13-40

Project: Motiva - Monitoring Well and Soil Boring Data

Log of Monitoring Well D56B

Project Location: Delaware City Refinery

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Project Number: 20240412.W1000

Elevation, feet	Depth, feet	SAMPLES			Graphic Log	MATERIAL DESCRIPTION	Well Completion Schematic	WELL DETAILS AND FIELD NOTES
		Core Interval Lab Samples	Lab ID Number	Headspace H ₂ Nu, ppm				
-20	44		Ket					
	46		46	—		silty CLAY, trace coarse SAND, rounded, micaceous, few to abundant glauconite lenses; SCAA.		
-25	50							
	52							
-30	54		Kmv					
	56							
	58							
-35	60							
	62							
	64							
-40	66						-95/5 Cement Bentonite Mix - 6" boring	

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2015-40

Elevation, feet	Depth, feet	SAMPLES			Graphic Log	MATERIAL DESCRIPTION	Well Completion Schematic	WELL DETAILS AND FIELD NOTES
		Core Interval Lab Samples	Lab ID Number	Headspace HNu, ppm				
68								
-45	70							
	72							
	74							
-50	76		kmv					
	78							
-55	80							
	82							
	84							
-60	86							
	88							
-65	90						SAA - abundant glauconite as grains and lenses SCAA - noticeable green hue 88.8' and 90.5' lithified sands (trace fossils)	

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EC15114

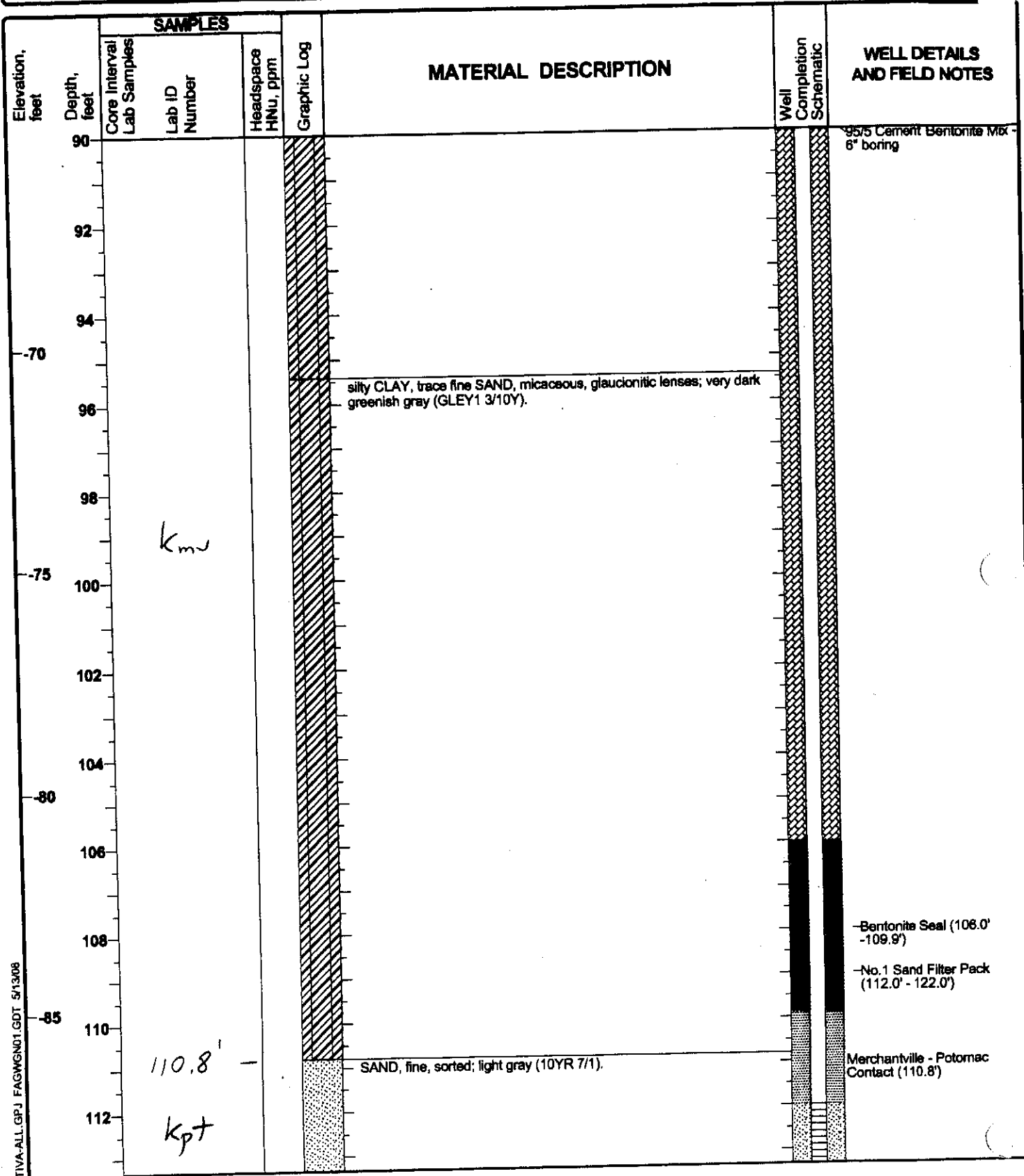
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Ec13-100

Elevation, feet	Depth, feet	SAMPLES			Graphic Log	MATERIAL DESCRIPTION	Well Completion Schematic	WELL DETAILS AND FIELD NOTES
		Core Interval Lab Samples	Lab ID Number	Headspace HNU, ppm				
	114							
-90					SAA - sand is on the more coarse end of fine; very pale brown (10YR 7/4).			
	116							
	118				SAA; reddish yellow (7.5YR 8/6).			
-95	120				CLAY, stiff, plastic; light gray (10YR 7/1). SAND, fine, sorted; yellow (10YR 8/6). 120.6 - thin plastic CLAY seam (0.15').		-10' of 2" PVC 0.010" slotted screen - No.1 SAND (112.0' - 122.0')	
	122				SAND, SILT; SCAA - thin clay seams throughout clayey SAND; very pale brown (10YR 8/2).			
	124				CLAY, stiff, laminated; pinkish white (2.5 YR 8/2) with slight mottling/layering.		-No.1 Sand Back fill (122.0' - 125.0' bgs)	
-100	126							
	128				SAND, fine, sorted, sub-rounded; very pale brown (10YR 8/2).			
	130				CLAY, stiff, plastic, trace SILT; SCAA			
-105	130				CLAY, very stiff, little SILT; SCAA mottled with dark reddish brown (2.5YR 3/4).			
	132				SILT, some CLAY, very stiff; very pale brown (10YR 8/2). CLAY, stiff, plastic; SCAA 132.7 to 132.9 - reddish black (2.5YR 2.5/1).			
	134				CLAY, little SILT; very pale brown (10YR 8/2) mottled with dark reddish brown (2.5 YR (3/4) at top). very fine silty SAND; very pale brown (10YR 8/2) mottled with reddish yellow (7.5YR 8/6). CLAY, stiff, trace SILT; SCAA (10YR8/2).			
-110	136				SILT, little very fine SAND; SCAA.		-Bentonite Pellet Backfill (125.0' - 137.0' bgs)	

K_{pt}

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ECL15110

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		Core Interval Lab Samples	Lab ID Number	Headspace H ₂ Nu, ppm				
			K _{pt}		////	CLAY, very stiff, plastic; SCAA. EOB (137.0)		
	138							
-115	140							
	142							
	144							
-120	146							
	148							
-125	150							
	152							
	154							
-130	156							
	158							
-135	160							

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