

# APPENDIX F

## Boring and Well Construction Logs



Mw-3

Project Seaboard System Railroad Site Waycross, Georgia **BORING** EX-5 Sh 1 of 2  
 Date Started 7-25-86 Completed 7-25-86 Ground Elevation \_\_\_\_\_  
 Total Depth 52.0' Location \_\_\_\_\_ Logged by S. & M.E., Inc.  
 Casing I.D. \_\_\_\_\_ Contractor American Drilling Co.  
 Remarks Exploratory boring back-filled with bentonite-cement grout after completion.

Elev. Feet	Depth Feet	Sample				Graphic Log	Sample Description	Remarks
		Type & Number	Blows per 6 in.	Depth Range	Rec.			
		J-1 J-2	9-7-6	0.5' 1.5'			Medium Dense White to Light Brown fine Sand, Slightly Calcareous (SP)	
	5	J-3 J-4	11-9-8	6.5' 7.5'			(7')	
							Firm tan silty to sand clay (CL)	
	10							
	15						(16')	
		J-5 J-6	2-1-2	18.5' 19.5'			Very Loose Red and White Clayey Fine to Medium Sand (SC-SM)	
	20						- Increase in Sand with Depth from 20.0'	
	25							
							(27')	
							Firm to Stiff Light Grey Fine to Coarse Sandy Clay (CL)	
	30	J-7 J-8	5-7-8	31.0' 32.0'				
	35							

Project Seaboard System Railroad Site Waycross, Georgia **BORING** EX-5 Sh<sup>2</sup> of 2  
 Date Started 7-25-86 Completed 7-25-86 Ground Elevation \_\_\_\_\_  
 Total Depth 52.0' Location \_\_\_\_\_ Logged by S. & M.E., Inc.  
 Casing I.D. \_\_\_\_\_ Contractor American Drilling Co.  
 Remarks \_\_\_\_\_

Elev. Feet	Depth Feet	Sample				Graphic Log	Sample Description	Remarks
		Type & Number	Blows per 6 in.	Depth Range	Rec.			
							Sandy Clay (CL) (cont'd) (37')	
	40						Light Gray Clayey Coarse Sand (SC-SP) Increase in Sand Content from 39.0'	
	45							
		J-9	6-3-4	49.0'			-6" Sandy clay seam @ 48.0 (49')	
		J-10		50.0'			Dark bluish gray medium to coarse sandy clay (CL)	
	50	ST-1		50'-52.0'			----- (52') -----	
	55							

Project Seaboard System Railroad Site Waycross, Georgia **BORING** EX-9 Sh 2 of 2  
 Date Started 7-26-86 Completed 7-26-86 Ground Elevation \_\_\_\_\_  
 Total Depth 56.0' Location \_\_\_\_\_ Logged by S. & M.E., Inc.  
 Casing I.D. \_\_\_\_\_ Contractor American Drilling Co.  
 Remarks \_\_\_\_\_

Elev. Feet	Depth Feet	Sample				Graphic Log	Sample Description	Remarks
		Type & Number	Blows per 6 in.	Depth Range	Reg.			
		J-7 J-8	9-12-9	37.5' 38.5'			(cont'd) Medium dense gray coarse sand with clay traces & phosphate (SP)	
	40						(43')	
							Stiff to very stiff bluish green coarse sand clay (CL)	
	45							
	50	J-9 J-10	5-6-6	50.5' 51.5'			- Top of Hawthorn Formation from 50.0'	
		ST-1		54'-56'				
	55						(56')	
	60							



Mw-6

Project Seaboard System Railroad Site Waycross, Georgia **BORING** EX-2 Sh 1 of 2  
 Date Started 7-22-86 Completed 7-23-86 Ground Elevation \_\_\_\_\_  
 Total Depth 62.0' Location \_\_\_\_\_ Logged by S & M.E., Inc.  
 Casing I.D. \_\_\_\_\_ Contractor American Drilling Co.  
 Remarks Exploratory boring back-filled with bentonite-cement grout after completion

Elev. Foot	Depth Foot	Sample				Graphic Log	Sample Description	Remarks
		Type & Number	Blows per 6 in.	Depth Range	Rec.			
		J-1	25-34-	0-1.5			Very dense light tan to gray lime Rx. base (fill material)	
		J-2	33 50/5'	1.5-				
		J-3		2.0			(3')	
	5	J-4	3-5-5	4-5.5			M. dense brown to tan slightly clayey silty fine sand (SM)	
		J-5	6-7-11	6-7.5				
		J-6						
		J-7	11-14-15	8-9.5			(8')	
		J-8						
	10	J-9	7-6-6	10-11.5			Dense gray clayey fine sand (SC)	
		J-10					(10')	
		J-11	3-5-6	12-13.5			Medium dense orange & tan silty medium sand with traces of clay (SM)	
		J-12					(12')	
		J-13	2-2-2	14-15.5			Stiff gray clay (CH) w/sparse silt (14')	
	15	J-14						
		J-15	2-5-6	16-17.5			Very loose to medium dense light gray to red fine to medium sand, slightly silty (SP)	
		J-16						
		J-17	5-8-3	18-19.5				
		J-18						
	20	J-19	3-4-8	20-21.5				
		J-20						
		J-21	3-5-6	22-23.5				
		J-22						
		J-23	2-1-3	24-25.5			(24')	
		J-24						
	25	J-25	2-3-4	26-27.5			Soft gray to brown sandy clay (CL)	
		J-26					(26')	
		J-27						
		J-28	1-3-4	28-29.5			Loose orange to brown clayey fine sand (SC)	
							(28')	
	30	J-29	5-7-6	30-31.5			Firm brown to gray slightly silty clay (CL) w sparse fine sand and mica (31')	
		J-30						
		J-31	2-3-4	32-33.5			Medium dense brown to orange silty fine to medium sand (SM)	
		J-32						
	35	J-33	3-5-9	34-35.5			(34')	
		J-34					Medium dense brown to orange	

MW-2

Project Seaboard System Railroad Site Waycross, Georgia **BORING** EX-2 Sh 2 of 2

Date Started 7/22/86 Completed 7/23/86 Ground Elevation \_\_\_\_\_

Total Depth 62.0' Location \_\_\_\_\_ Logged by S. & M.E., Inc.

Casing I.D. \_\_\_\_\_ Contractor American Drilling Co.

Remarks \_\_\_\_\_

Elev. Feet	Depth Feet	Sample				Graphic Log	Sample Description	Remarks
		Type & Number	Blows per 6 in.	Depth Range	Rec.			
		J-35		36.5'			Fine to Coarse Sand (SW) with Sparse Fine Pebbles	
		J-36	4-7-8	37.5'			(37')	
		J-37		38.5'			Firm Light Gray Silty Clay (CL)	
		J-38	2-2-3	39.5			with Sparse Mica	
	40						(40')	
		J-39		40.5'			Medium Dense to Dense Orange	
		J-40	9-14-11	41.5'			Slightly Clayey Fine to Coarse Sand	
		J-41	9-25-25	42.5'			(SE-SW) with 6" Seam of Gray Silty	
		J-42		43.5'			Clay @ 42.0'	
							(43')	
	45	J-43	19-25-29	44.5'			Dense to Very Dense Gray Slightly	
		J-44		45.5'			Silty Fine to Coarse Sand (SM-SW)	
							with 6" Seam of Dark Gray Clay	
		J-45	6-21-30	46.5'			@ 46.0"	
		J-46		47.5				
	50	J-47	12-7-14	48.5				
		J-48		49.5'				
		J-49	10-16-12	50.5				
		J-50		51.5'				
							(52')	
		J-51		52.5'			Loose to medium dense gray clayey.	
							fine to coarse sand (SC).	
	55	J-52	2-4-6	53.5'				
		J-53	4-7-11	54.5				
		J-54		55.5'			Stiff bluish green clay (CH)	
		J-55	4-6-9	56.5'			with Sparse Mica (Hawthorn	
		J-56		57.5			Formation)	
	60	ST-1		60'-62'				
							(62')	
	65							

Project Seaboard System Railroad Site Waycross, Georgia **BORING** MW-7 Sh. 1 of 1  
 Date Started 7-30-86 Completed 7-30-86 Ground Elevation \_\_\_\_\_  
 Total Depth 32.0' Location \_\_\_\_\_ Logged by S. & M.E. Inc.  
 Casing I.D. \_\_\_\_\_ Contractor American Drilling Co.  
 Remarks Monitoring well installed in the exploratory boring after completion

Elev. Feet	Depth Feet	Sample				Graphic Log	Sample Description	Remarks
		Type & Number	Blows per 6 in.	Depth Range	Req.			
		J-1 J-2	5-12-8	0.5' 1.5'			Medium dense tan silty fine sand (SM)	
	5	J-3 J-4	5-8-5	5.5' 6.5'			(5') Medium dense gray clayey sand (SC)	
	10						(8') Firm to stiff silty to sand clay (CL)	
	15							
	20	J-5 J-6	3-3-3	18.5' 19.5'			(20') Loose light gray clayey coarse sand (SC)	
	25							
	30	J-7 J-8	2-2-4	28.5' 29.5'			(29.5') Stiff light green silty fine sandy clay (CL)	
	35						32') -----	

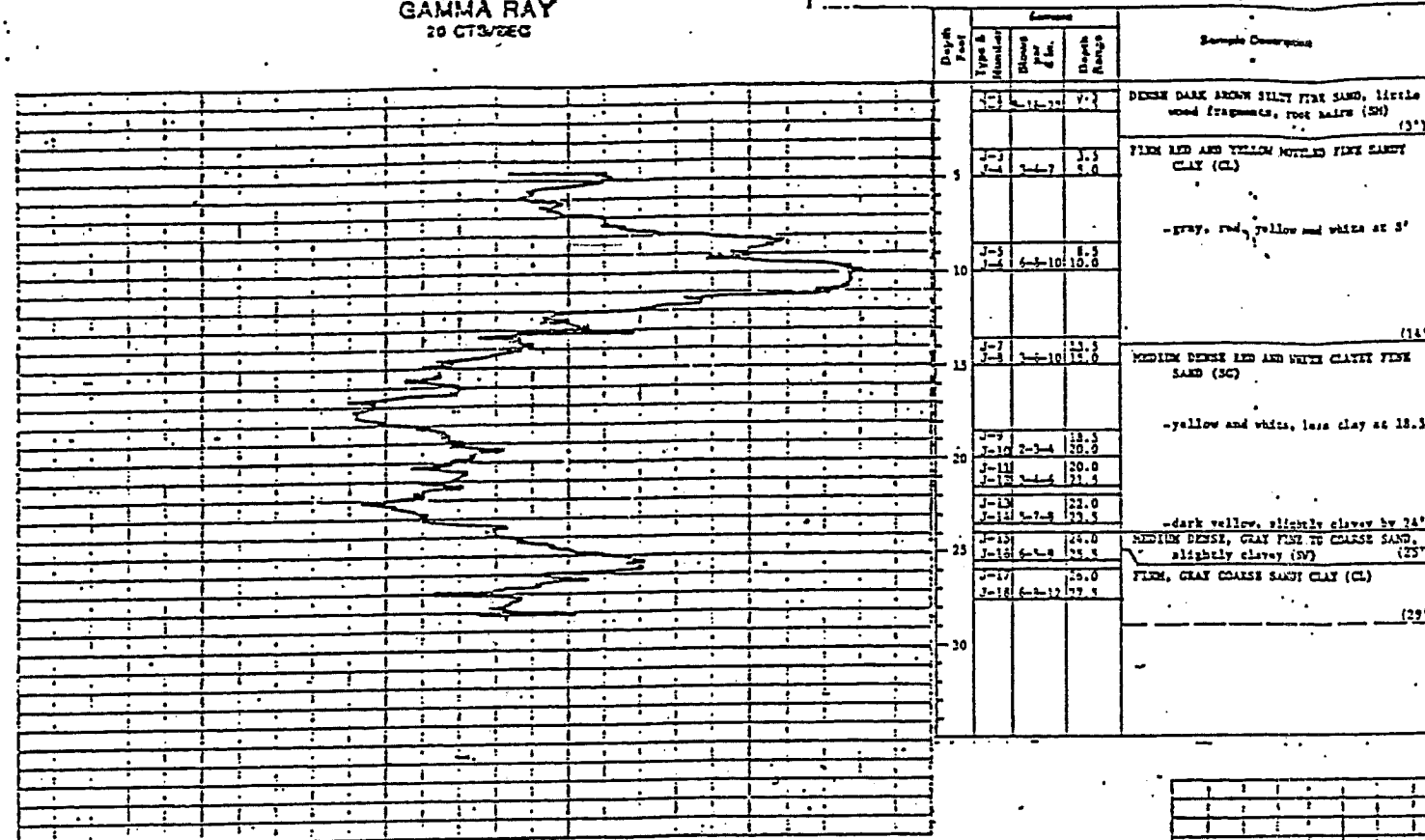
Project Seaboard System Railroad Site Waycross, Georgia **BORING** MW-8 Sh 1 of 1  
 Date Started 7-30-86 Completed 7-30-86 Ground Elevation \_\_\_\_\_  
 Total Depth 32.0' Location \_\_\_\_\_ Logged by S. & M.E. Inc.  
 Casing I.D. \_\_\_\_\_ Contractor American Drilling Co.  
 Remarks Monitoring well installed in the exploratory boring after completion

Elev. Feet	Depth Feet	Sample				Graphic Log	Sample Description	Remarks
		Type & Number	Blows per 6 in.	Depth Range	Req.			
		J-1 J-2	3-6-18	0.5' 1.5'			Medium dense light tan silty fine sand (SM)	
	5							
	10						(11')	
		J-3 J-4	4-4-7	13.5' 14.5'			Firm light gray sandy to silty clay (CL)	
	15							
							(19')	
	20	J-5 J-6	3-5-5	21.0' 22.0'			Loose to medium dense tan silty medium to coarse sand (SM)	
	25							
	30							
	35						(32')	

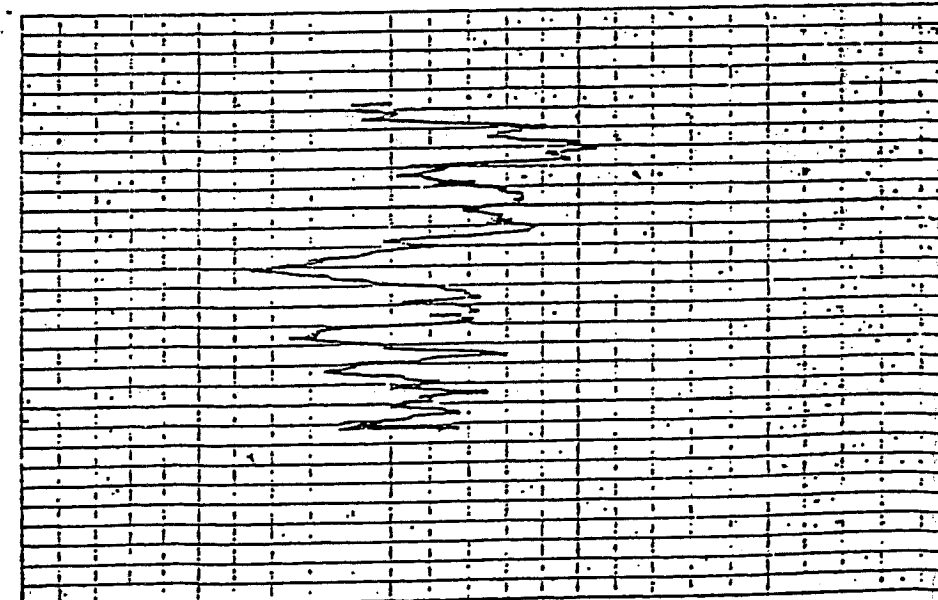
Project Seaboard System Railroad Site Waycross, Georgia **BORING** MW-9 Sh 1 of 1  
 Date Started 7-30-86 Completed 7-30-86 Ground Elevation \_\_\_\_\_  
 Total Depth 32.0' Location \_\_\_\_\_ Logged by S. & M.E. Inc.  
 Casing I.D. \_\_\_\_\_ Contractor American Drilling Co.  
 Remarks Monitoring well installed in the exploratory boring after completion

Elev. Feet	Depth Feet	Sample				Graphic Log	Sample Description	Remarks
		Type & Number	Blows per 6 in.	Depth Range	Reg.			
		J-1	2-6-8	0.5'			Medium dense tan silty fine sand (SM)	
		J-2		1.5'				
	5	J-3	4-4-4	5.5'			(5')	
		J-4		6.5'			Loose gray clayey fine sand (SC)	
	10						(11')	
							Loose tan silty medium sand (SM)	
	15	J-5	3-2-5	14.5'				
		J-6		15.5'				
	20							
	25							
							(27')	
							Stiff light green silty fine sandy clay (CL)	
	30							
							(32')	
	35							

**GAMMA RAY**  
20 CTS/SEC



**GAMMA RAY**  
20 CTS/SEC



Project: CSX Site: WAREHOSE, CA BORING: MW-11 SH: 1 of 1  
 Date Started: 10/28/86 Completed: 10/29/86 Ground Elevation:  
 Total Depth: 29 ft. Location: CSEA Logged by: Cameron Waller  
 Casing I.D.: 7 in. Contractor: American Drilling Co.  
 Remarks: Set surface casing to 9'

Depth (ft)	Sample Number	Sample Description	Remarks
0-1	J-1	SAND, DARK BROWN TO BLACK FINE SANDY CLAY (CL) (1.5')	Strong odor
1-2	J-2	LOOSE TAN FINE SAND WITH ROCK FRAGMENTS (SP) (5')	
2-3	J-3	FINE/MEDIUM DENSE LIGHT GRAY CLAYEY FINE SAND TO FINE SANDY CLAY, little yellow and red coloration (SC-CL) Greater clay content with depth	
3-4	J-4		
4-5	J-5		
5-6	J-6		
6-7	J-7		
7-8	J-8		
8-9	J-9		
9-10	J-10		
10-11	J-11		
11-12	J-12		
12-13	J-13		
13-14	J-14		
14-15	J-15		
15-16	J-16		
16-17	J-17		
17-18	J-18		
18-19	J-19		
19-20	J-20		
20-21	J-21		
21-22	J-22		
22-23	J-23		
23-24	J-24		
24-25	J-25		
25-26	J-26		
26-27	J-27		
27-28	J-28		
28-29	J-29		
29-30	J-30		

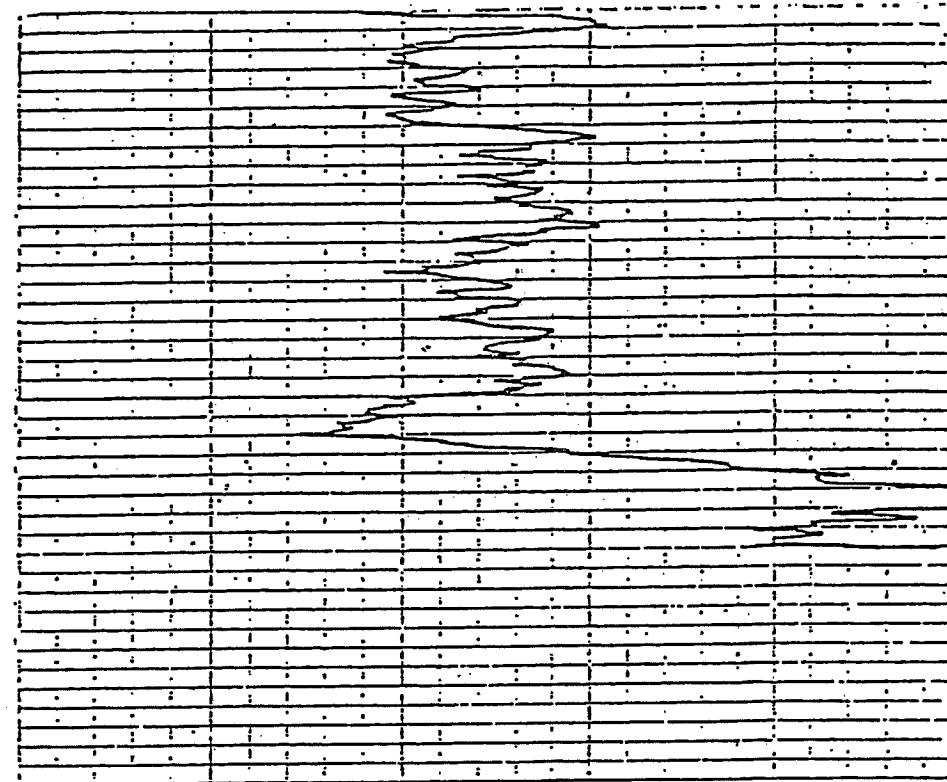


A RESOURCE ENGINEERING COMPANY

**BORING & GEOPHYSICAL LOGS**  
(MW-10 AND MW-11)  
CSX TRANSPORTATION

DRAWN BY: CC DATE: 12/15/86 PROJECT NO: 110-01  
 CHECKED BY: REVISED: DWG. NO:

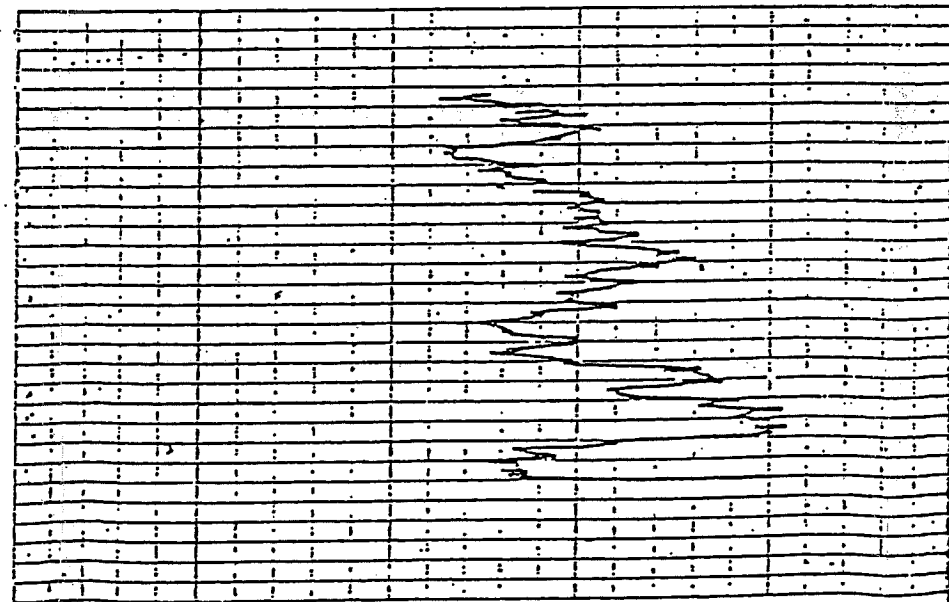
GAMMA RAY  
20 CTS/SEC



Project CSX Site Vauxcross, GA BORING MW-12 SH 1 of 1  
Date Started 11/3/86 Completed 11/3/86 Ground Elevation  
Total Depth 24.4 ft Location ORSA Logged by Terry Green  
Casing I.D. 3 in. Contractor American Drilling Co.  
Remarks Set surface casing to 8.5'

Depth Feet	Sample			Sample Description	Remarks
	Type & Number	Blows per ft	Depth Range		
0	J-1	4-20-2	0.0	DENSE, DARK BROWN TO BLACK SILT AND SILTY CLAY, some rock fragments (M-G)	Strong odor
1	J-2		1.5		
3	NR	4-4-4	3.5		No recovery
4			4.0		
10	J-3	5-6-7	8.5	FINE, RED, ORANGE AND GRAY FINE TO MEDIUM SANDY CLAY (CL)	(11.5')
11	J-4		10.0		
15	J-5	5-5-7	13.5	MEDIUM DENSE WHITE FINE SAND, little black stains (SP)	Moderate greasy odor
16	J-6		15.0		
20	J-7	3-6-7	18.5	LOOSE TO MEDIUM DENSE TAN, GRAY AND RED FINE TO MEDIUM SAND, some silt. little clay seams (2" thick), orange at 20' (SH)	No odor
21	J-8		20.0		
22	J-9	2-2-2	20.5		
23	J-10		22.0		
25	J-11	5-12-5	25.5	GRAY FINE SANDY CLAY (CL)	(25')
26	J-12		24.0		
					(29')

GAMMA RAY  
20 CTS/SEC



Project CSX Site Vauxcross, GA BORING MW-13 SH 1 of 1  
Date Started 11/3/86 Completed 11/3/86 Ground Elevation  
Total Depth 24.4 ft Location ORSA Logged by Terry Green  
Casing I.D. 3 in. Contractor American Drilling Co.  
Remarks Set surface casing to 8.5'

Depth Feet	Sample			Sample Description	Remarks
	Type & Number	Blows per ft	Depth Range		
0	J-1	15-17-15	0.0	DENSE, DARK BROWN TO BLACK SILT (ML)	(3.5')
1	J-2		1.5		
3	J-3	15-20-14	3.5	LIGHT BROWN SILTY CLAY (CL)	(8')
4	J-4		5.0		
10	J-5	8-10-12	8.5	LIGHT GRAY AND LIGHT BROWN SANDY CLAY (CL)	(9')
11	J-6		10.0		
15	J-7	7-7-9	12.0	MEDIUM DENSE LIGHT GRAY AND TAN FINE SAND with occasional clay seams (SP)	-light brown 14'
16	J-8		12.5		
17	J-9	4-7-4	14.0		
18	J-10		15.5		
20	J-11	2-2-2	15.0	LIGHT GRAY SANDY CLAY (CL)	(19')
21	J-12		17.5		
					-increase in sand 22'
					-increase in clay near 24' (24')



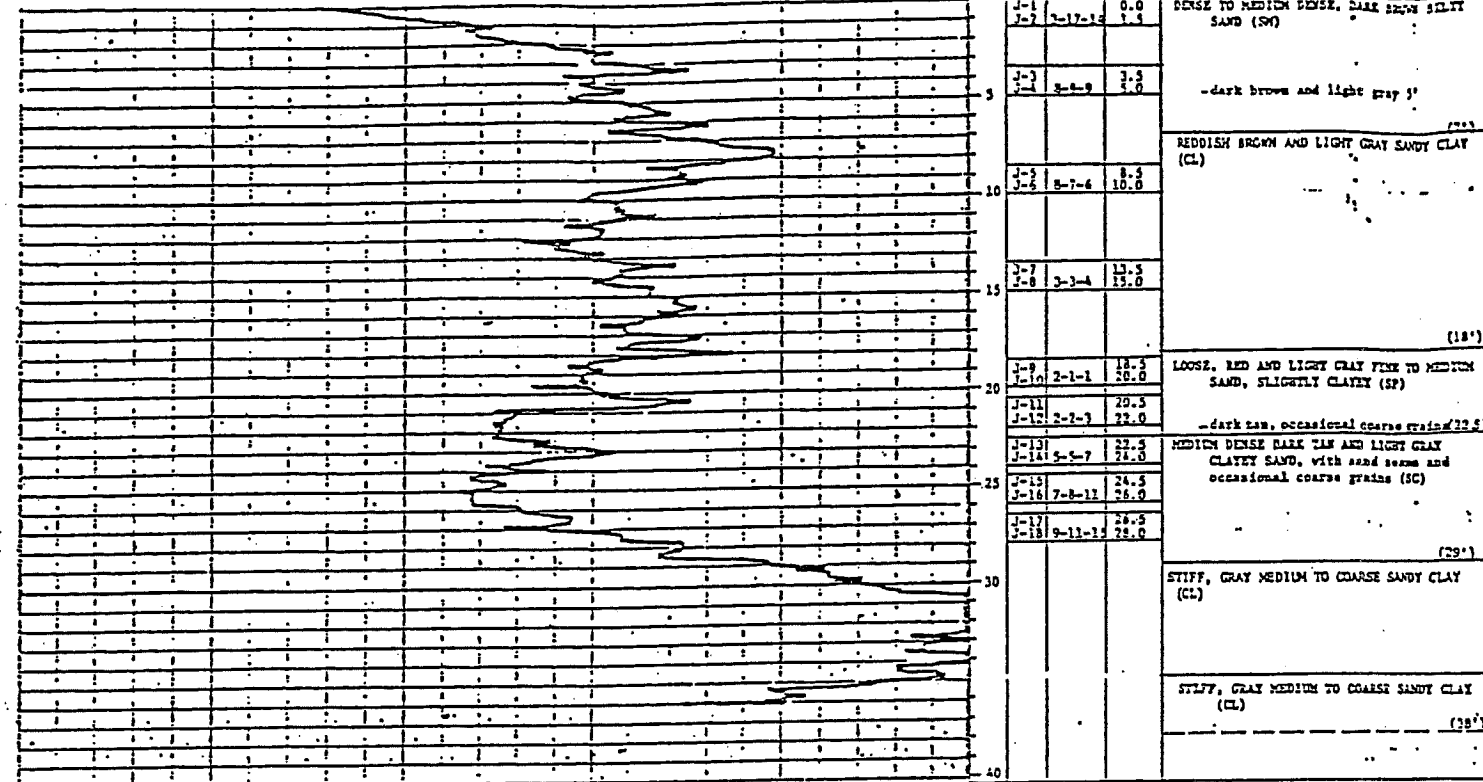
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BORING & GEOPHYSICAL LOGS  
(MW-12 AND MW-13)  
CSX TRANSPORTATION

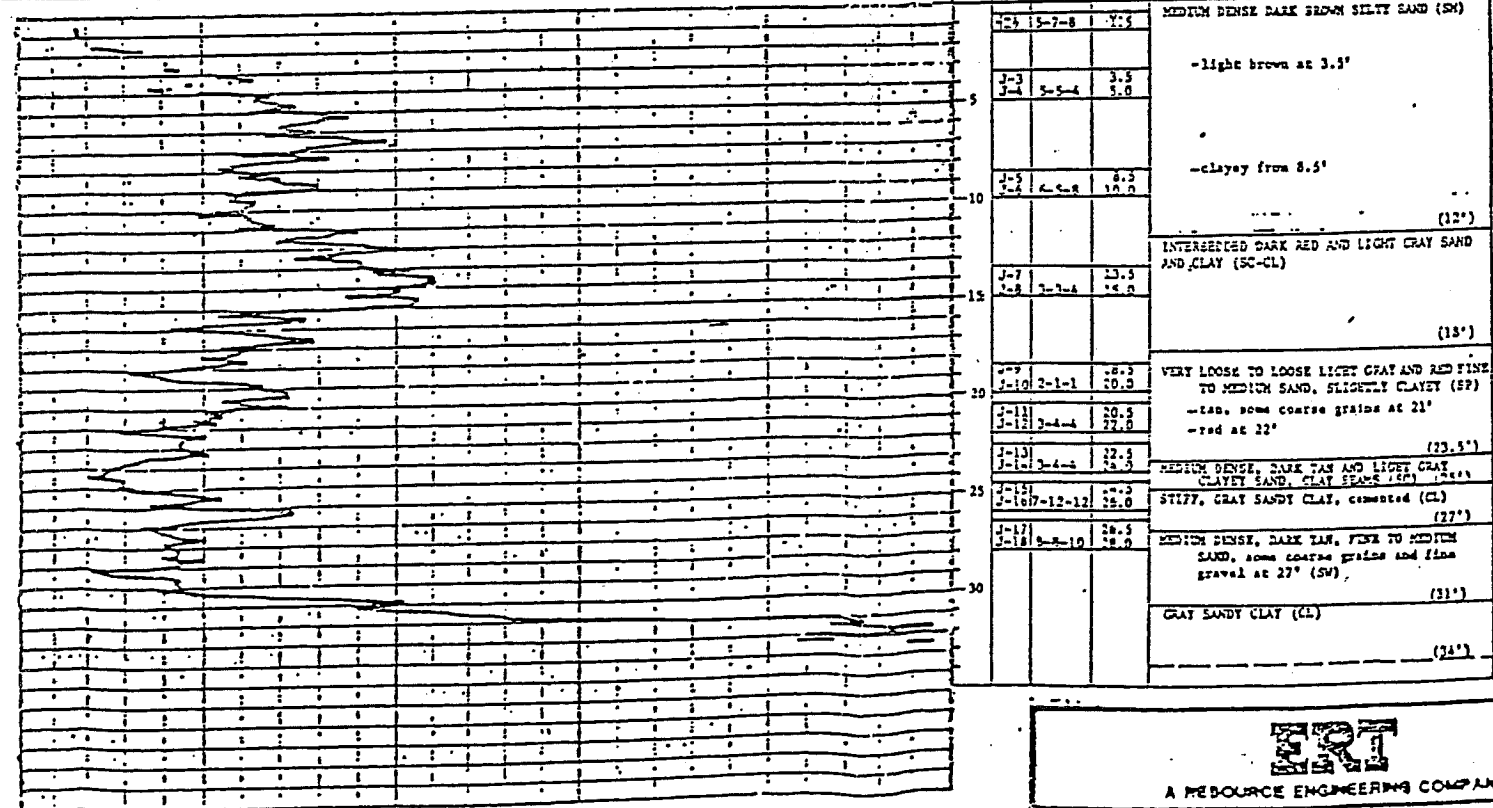
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CHECKED BY:	REVISED:	CWG/MQJ

GAMMA RAY  
20 CTS/SEC

Project	CSX	Site	Waveross, GA	BORING	MW-14	Sh 1 of 2
Date Started	10/31/86	Completed	10/31/86	Ground Elevation		
Total Depth	38 ft.	Location	Alum Sludge Basin	Logged by	Paul Patel	
Casing I.D.	2 in.	Contractor	American Drilling Co.			
Remarks						



GAMMA RAY  
20 CTS/SEC

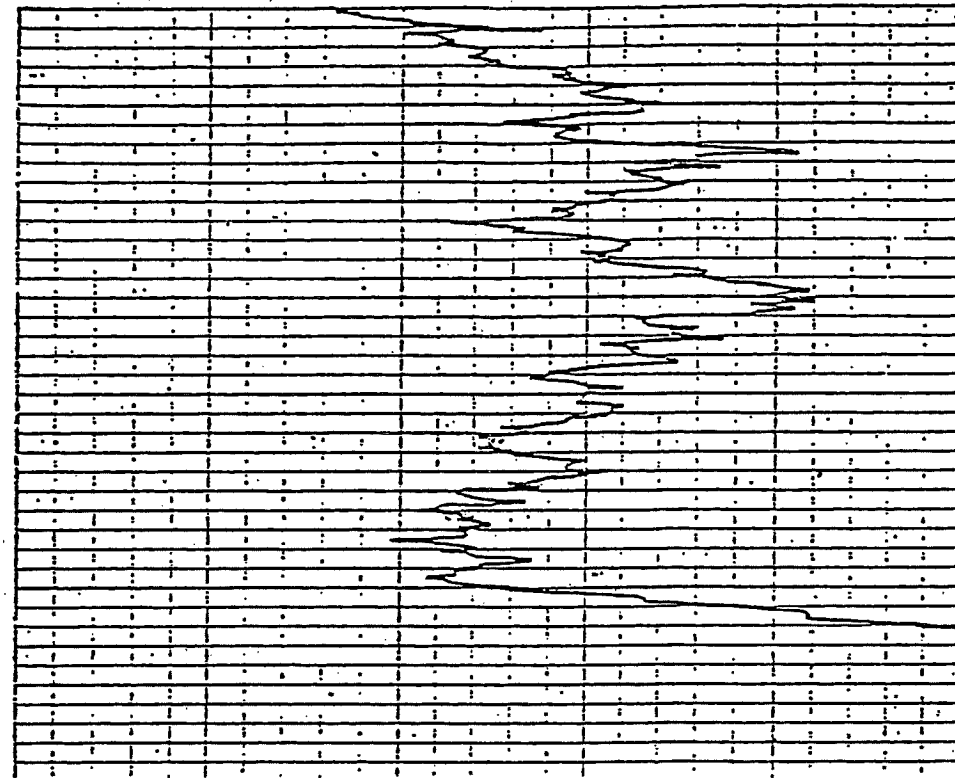


Project	CSX	Site	Waveross, GA	BORING	MW-15	Sh 1 of 1
Date Started	11/1/86	Completed	11/1/86	Ground Elevation		
Total Depth	34 ft.	Location	Alum Sludge Basin	Logged by	Paul Patel	
Casing I.D.	2 in.	Contractor				
Remarks						

<b>ERT</b> A RESOURCE ENGINEERING COMPANY			
<b>BORING &amp; GEOPHYSICAL LOGS</b> (MW-14 AND MW-15) CSX TRANSPORTATION			
DRAWN BY:	CG	DATE:	12-15-16
CHECKED BY:	REVISOR	PROJECT NO.:	410-31
		DWG. NO.:	



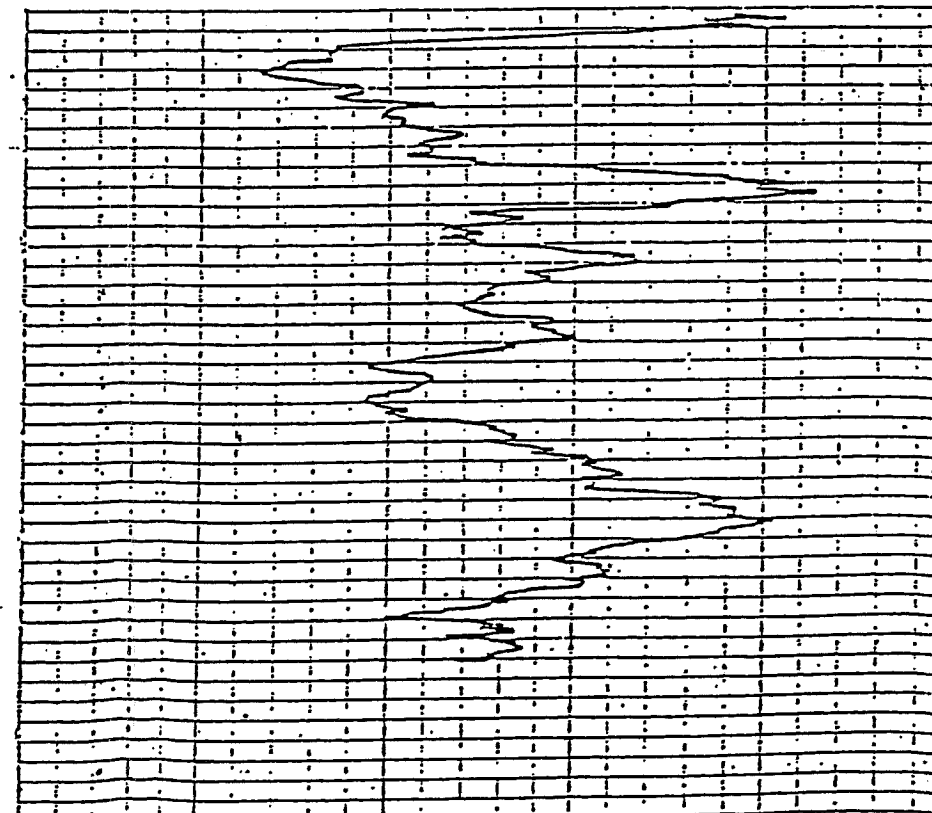
GAMMA RAY  
20 CTS/SEC



Project: CSX Site: Vero Beach, FL BORING: MW-16 SH 1 of 1  
 Date Started: 11/3/86 Completed: 11/7/86 Ground Elevation: \_\_\_\_\_  
 Total Depth: 34 ft. Location: Alum Sludge Basin Logged by: Jerry Green  
 Casing I.D.: 2 in. Contractor: American Drilling Co.  
 Remarks: \_\_\_\_\_

Depth Feet	Sample Type & Number	Blows per ft.	Depth Range	Sample Description
0-1	J-1	5-1-5	0.0 1.5	MEDIUM DENSE, DARK BROWN SILTY SAND (SM)
1-2	J-2	2-3-5	1.5 3.5	-light tan and gray 3.5'
3-4	J-3	4-6-8	3.5 5.0	(9')
5-6	J-4	7-8-9	5.0 6.5	LIGHT GRAY SAND WITH CLAY SEAMS (SF)
6-7	J-5	8-10-12	6.5 8.5	(13.5')
8-9	J-6	10-12-15	8.5 11.5	INTERBEDDED DARK RED AND GRAY CLAY AND SAND (CL-SC)
9-10	J-7	12-15-18	11.5 14.0	(18.5')
10-11	J-8	15-18-22	14.0 18.5	VERY LOOSE TO MEDIUM DENSE LIGHT BROWN FINE SAND with occasional interbedded clay seams (SF)
11-12	J-9	18-22-25	18.5 20.5	
12-13	J-10	22-25-28	20.5 22.5	-reddish brown to dark red from 22'
13-14	J-11	25-28-30	22.5 24.5	(27.5')
14-15	J-12	30-33-36	24.5 26.5	LIGHT GRAY COARSE SANDY CLAY (CL)
15-16	J-13	36-39-42	26.5 28.5	(34')

GAMMA RAY  
20 CTS/SEC



Project: CSX Site: Vero Beach, FL BORING: MW-17 SH 1 of 1  
 Date Started: 10/30/86 Completed: 10/30/86 Ground Elevation: \_\_\_\_\_  
 Total Depth: 33 ft. Location: Alum Sludge Basin Logged by: Paul Satal  
 Casing I.D.: 2 in. Contractor: American Drilling Co.  
 Remarks: \_\_\_\_\_

Depth Feet	Sample Type & Number	Blows per ft.	Depth Range	Sample Description	REMARKS
0-1	J-1	5-1-5	0.0 1.5	LOOSE TO MEDIUM DENSE DARK BROWN AND BLACK SILTY FINE SAND with organics (roots) (SM)	
1-2	J-2	2-3-5	1.5 3.5	light gray and tan from 3.5'	
3-4	J-3	4-6-8	3.5 5.0	(9')	
5-6	J-4	7-8-9	5.0 6.5	MEDIUM DENSE DARK RED AND LIGHT GRAY CLAYEY SAND, slightly silty (SC)	
6-7	J-5	8-10-12	6.5 8.5	(14.5')	
8-9	J-6	10-12-15	8.5 11.5	LOOSE TO MEDIUM DENSE DARK RED AND LIGHT GRAY SILTY FINE TO MEDIUM SAND, with clay seams 15'-16' (SM)	
9-10	J-7	12-15-18	11.5 14.0		
10-11	J-8	15-18-22	14.0 18.5	dark tan and light gray 22'	
11-12	J-9	18-22-25	18.5 20.5	(26')	
12-13	J-10	22-25-28	20.5 22.5	STIFF LIGHT GRAY SANDY CLAY, slightly silty (CL)	
13-14	J-11	25-28-30	22.5 24.5	(32')	
14-15	J-12	30-33-36	24.5 26.5	SAND (SF)	Driller's notes
15-16	J-13	36-39-42	26.5 28.5	(33')	

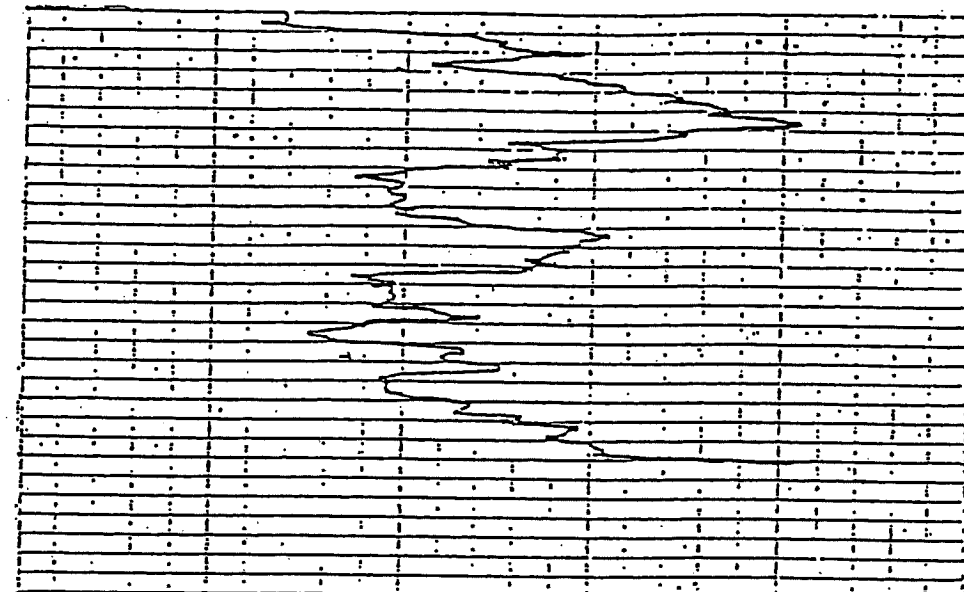
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A RESOURCE ENGINEERING COMPANY

BORING & GEOPHYSICAL LOGS  
(MW-16 AND MW-17)  
CSX TRANSPORTATION

DRAWN BY: CC DATE: 12-15-86 PROJECT NO: 440-01

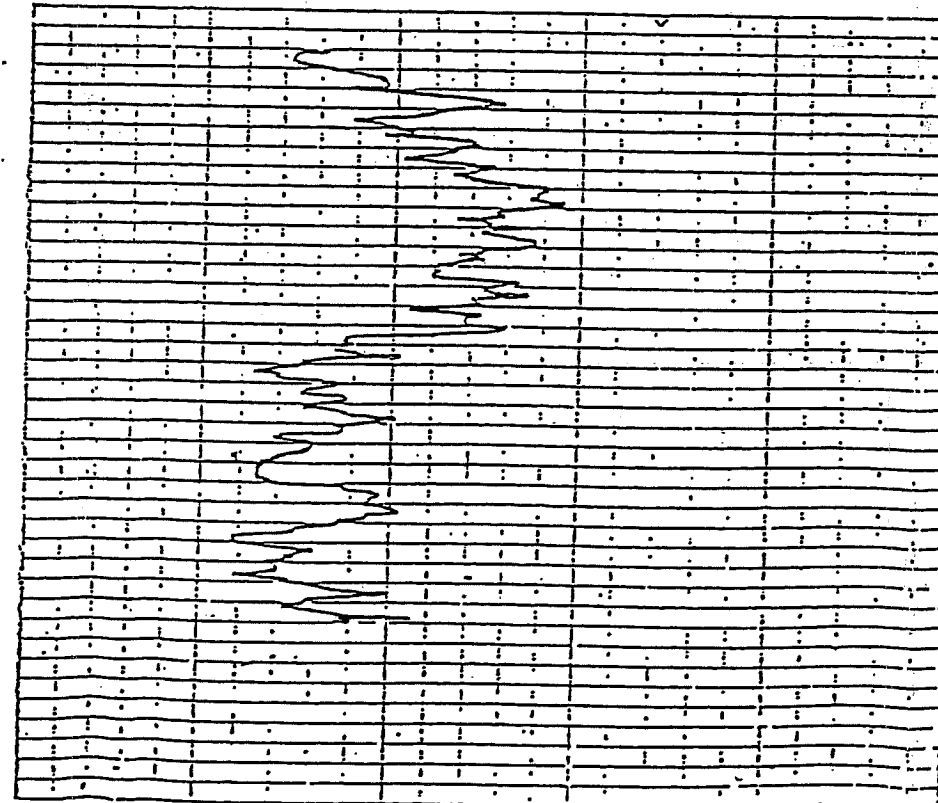
GAMMA RAY  
20 CTS/SEC



Project: CSX Site: Vancouver, CA BORING MW-18 SH1 of 1  
 Date Started: 11/1/88 Completed: 11/1/88 Ground Elevation: \_\_\_\_\_  
 Total Depth: 34 ft Location: MW-18 Logged by: American Drilling Co.  
 Casing I.D.: 7 in. Contractor: American Drilling Co.  
 Remarks: \_\_\_\_\_

Depth Feet	Sample Type & Number	Moisture wt %	Depth Range	Sample Description
0-1	1-1	4-7.8	0-0	MEDIUM DENSE BROWN TO TAN SILT (ML)
1-2	1-2		0-0	(3.5')
2-3	1-3	11-17	3.5	HAID GRAY AND RED STRAINED SILTY CLAY, little to some dark orange (7E) coloration (CL)
3-4	1-4		3.5	(8.5')
4-5	1-5	17-19	8.5	MEDIUM DENSE TAN TO ORANGE SILTY MEDIUM SAND (SM)
5-6	1-6		10.0	-clay seam 11-13'
6-7	1-7	2-3.8	10.0	
7-8	1-8		10.0	
8-9	1-9		10.0	
9-10	1-10	11-17	10.0	-tan and red clayey seam 18'
10-11	1-11		10.0	(12.5')
11-12	1-12	7-11	10.0	STIFF TO HARD ORANGE MEDIUM SANDY CLAY (CL)
12-13	1-13		10.0	(24')

GAMMA RAY  
20 CTS/SEC



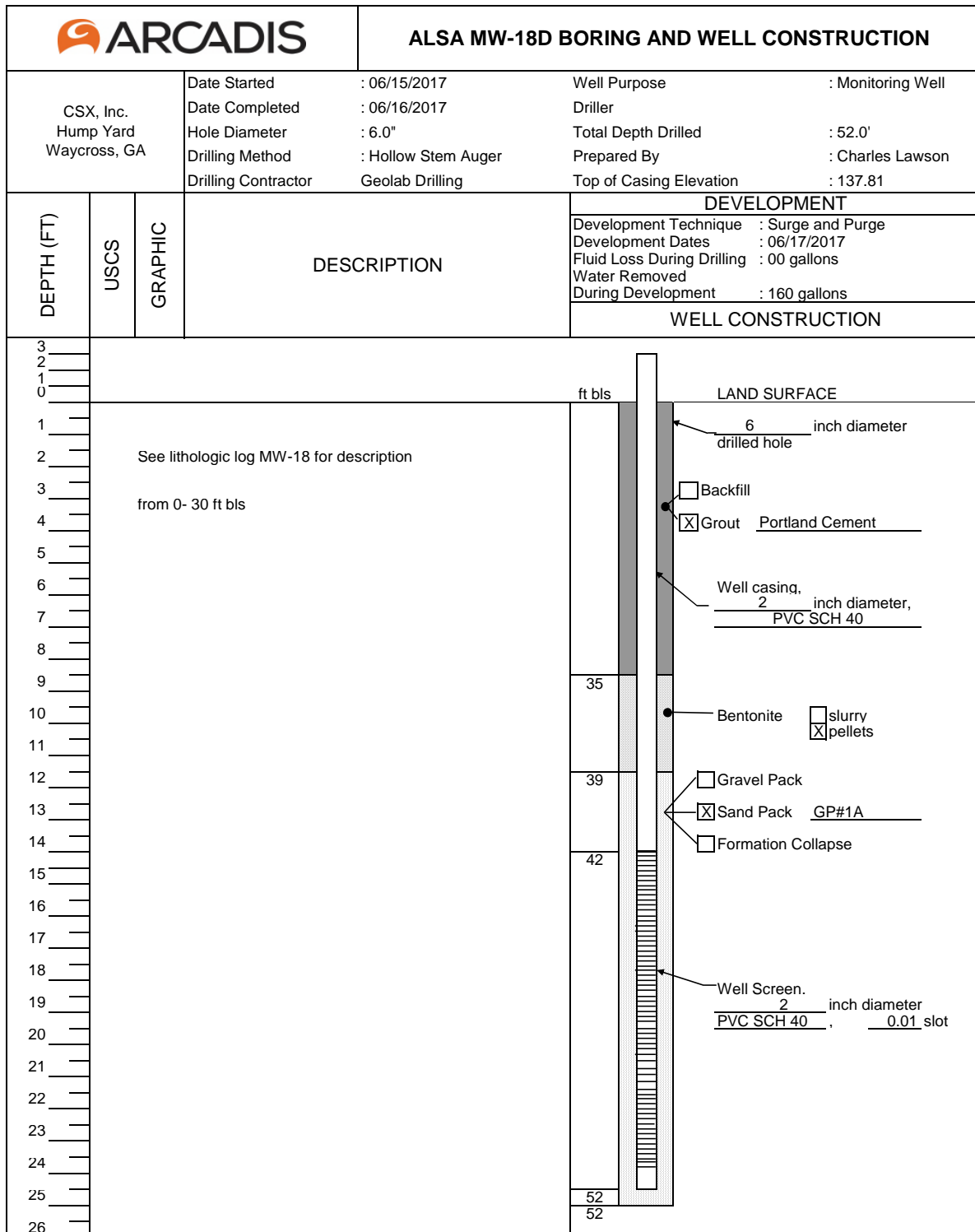
Project: CSX Site: Vancouver, CA BORING MW-19 SH1 of 1  
 Date Started: 11/1/88 Completed: 11/1/88 Ground Elevation: \_\_\_\_\_  
 Total Depth: 34 ft Location: MW-19 Logged by: American Drilling Co.  
 Casing I.D.: 7 in. Contractor: American Drilling Co.  
 Remarks: \_\_\_\_\_




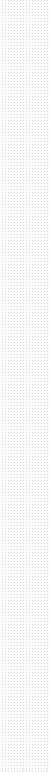

Depth Feet	Sample Type & Number	Moisture wt %	Depth Range	Sample Description
0-1	2-1	2-2.3	0-0	LOOSE DARK BROWN FINE SANDY SILT, with roots, tan at 1' (ML)
1-2	2-2		0-0	(7.5')
2-3	2-3	5-6.11	3.5	FINE TAN, GRAY AND ORANGE FINE SANDY CLAY (CL)
3-4	2-4		3.5	
4-5	2-5	6-7-11	4.5	-gray, silty to fine sand 10'
5-6	2-6		10.0	
6-7	2-7		10.0	-gray and red, fine sand 13'
7-8	2-8	3-4.7	13.5	
8-9	2-9		13.5	(16')
9-10	2-10	4-7-11	13.5	MEDIUM DENSE, ORANGE, RED AND GRAY MEDIUM SAND, slightly cemented at 20' (SP)
10-11	2-11		13.5	
11-12	2-12	12-13	22.5	-clay seams 24'
12-13	2-13	13-14	23.5	-red coarse sand layer 25.5'
13-14	2-14	14-15	24.0	
14-15	2-15	15-16	27.0	
15-16	2-16		27.0	(24')

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A RESOURCE ENGINEERING COMPANY

BORING AND GEOPHYSICAL LOGS  
(MW-18 AND MW-19)  
CSX TRANSPORTATION  
DRAWN BY: JCC DATE: 12-15-88 PROJECT NO: 448-03



27			
28			
29			
30			
31	SM		Silty Sands 75% Minor amounts of clays density firm tan/orange/gray
32	CL		Clay, minor silt, firm, gray, moist, no visual porosity
33			
34			
35			
36			
37			
38			
39			
40	SM		Silty sand, fine to medium grained 80%, silts 20% density firm, tan to orange
41	SW		Well sorted sands 100%, fine to coarse grain, density soft, sub-angular, quartz, feldspar, some mica flakes, moderate visual porosity tan to gray. Small clay layer about 1 foot thick from 48 to 49 ft bls. Lost core from 50 to 55 bls
42			
43			
44			
45			
46			
47			
48			
49			
50			
51			
52			
53			
54			
55			
56	SM/S C		Silty-clayey sand to silty clay, consistency firm, fine grain sands, bluish to gray
57			
58			
59			
60			

# GAMMA RAY 20 CTS/SEC

Project: CSX Site: Waverly, GA BORING MW-20 SH 1 of 3  
 Date Started: 10/30/86 Completed: 10/30/86 Ground Elevation: \_\_\_\_\_  
 Total Depth: 34 ft. Location: 5000' Logged by: Jackson, Dallas  
 Casing I.D.: 7 in. Contractor: Jackson Drilling Co.  
 Remarks:

Depth Feet	Sample Type & Number	Moisture per ft. in.	Depth Range	Sample Description
0-1	3-1	3-1-1	0-0	MEDIUM DENSE DARK BROWN TO TAN SILTY FINE SAND, some roots, vegetation (SN)
1-2	3-2	3-2-1	0-0	
2-3	3-3	3-3-1	0-0	
3-4	3-4	3-4-1	0-0	
4-5	3-5	3-5-1	0-0	
5-6	3-6	3-6-1	0-0	
6-7	3-7	3-7-1	0-0	
7-8	3-8	3-8-1	0-0	
8-9	3-9	3-9-1	0-0	
9-10	3-10	3-10-1	0-0	
10-11	3-11	3-11-1	0-0	
11-12	3-12	3-12-1	0-0	
12-13	3-13	3-13-1	0-0	
13-14	3-14	3-14-1	0-0	
14-15	3-15	3-15-1	0-0	
15-16	3-16	3-16-1	0-0	
16-17	3-17	3-17-1	0-0	
17-18	3-18	3-18-1	0-0	
18-19	3-19	3-19-1	0-0	
19-20	3-20	3-20-1	0-0	
20-21	3-21	3-21-1	0-0	
21-22	3-22	3-22-1	0-0	
22-23	3-23	3-23-1	0-0	
23-24	3-24	3-24-1	0-0	
24-25	3-25	3-25-1	0-0	
25-26	3-26	3-26-1	0-0	
26-27	3-27	3-27-1	0-0	
27-28	3-28	3-28-1	0-0	
28-29	3-29	3-29-1	0-0	
29-30	3-30	3-30-1	0-0	
30-31	3-31	3-31-1	0-0	
31-32	3-32	3-32-1	0-0	
32-33	3-33	3-33-1	0-0	
33-34	3-34	3-34-1	0-0	

# GAMMA RAY 20 CTS/SEC

Project: CSX Site: Waverly, GA BORING MW-21 SH 1 of 3  
 Date Started: 10/30/86 Completed: 10/30/86 Ground Elevation: \_\_\_\_\_  
 Total Depth: 34 ft. Location: 5000' Logged by: Jackson, Dallas  
 Casing I.D.: 7 in. Contractor: Jackson Drilling Co.  
 Remarks:

Depth Feet	Sample Type & Number	Moisture per ft. in.	Depth Range	Sample Description
0-1	3-1	3-1-1	0-0	LOOSE TO MEDIUM DENSE DARK BROWN SILTY SAND with organics (roots and wood fragments) (SN)
1-2	3-2	3-2-1	0-0	
2-3	3-3	3-3-1	0-0	
3-4	3-4	3-4-1	0-0	
4-5	3-5	3-5-1	0-0	
5-6	3-6	3-6-1	0-0	
6-7	3-7	3-7-1	0-0	
7-8	3-8	3-8-1	0-0	
8-9	3-9	3-9-1	0-0	
9-10	3-10	3-10-1	0-0	
10-11	3-11	3-11-1	0-0	
11-12	3-12	3-12-1	0-0	
12-13	3-13	3-13-1	0-0	
13-14	3-14	3-14-1	0-0	
14-15	3-15	3-15-1	0-0	
15-16	3-16	3-16-1	0-0	
16-17	3-17	3-17-1	0-0	
17-18	3-18	3-18-1	0-0	
18-19	3-19	3-19-1	0-0	
19-20	3-20	3-20-1	0-0	
20-21	3-21	3-21-1	0-0	
21-22	3-22	3-22-1	0-0	
22-23	3-23	3-23-1	0-0	
23-24	3-24	3-24-1	0-0	
24-25	3-25	3-25-1	0-0	
25-26	3-26	3-26-1	0-0	
26-27	3-27	3-27-1	0-0	
27-28	3-28	3-28-1	0-0	
28-29	3-29	3-29-1	0-0	
29-30	3-30	3-30-1	0-0	
30-31	3-31	3-31-1	0-0	
31-32	3-32	3-32-1	0-0	
32-33	3-33	3-33-1	0-0	
33-34	3-34	3-34-1	0-0	

# GAMMA RAY 20 CTS/SEC

Project: CSX Site: Waverly, GA BORING MW-22 SH 1 of 3  
 Date Started: 10/30/86 Completed: 10/30/86 Ground Elevation: \_\_\_\_\_  
 Total Depth: 34 ft. Location: 5000' Logged by: Jackson, Dallas  
 Casing I.D.: 7 in. Contractor: Jackson Drilling Co.  
 Remarks:

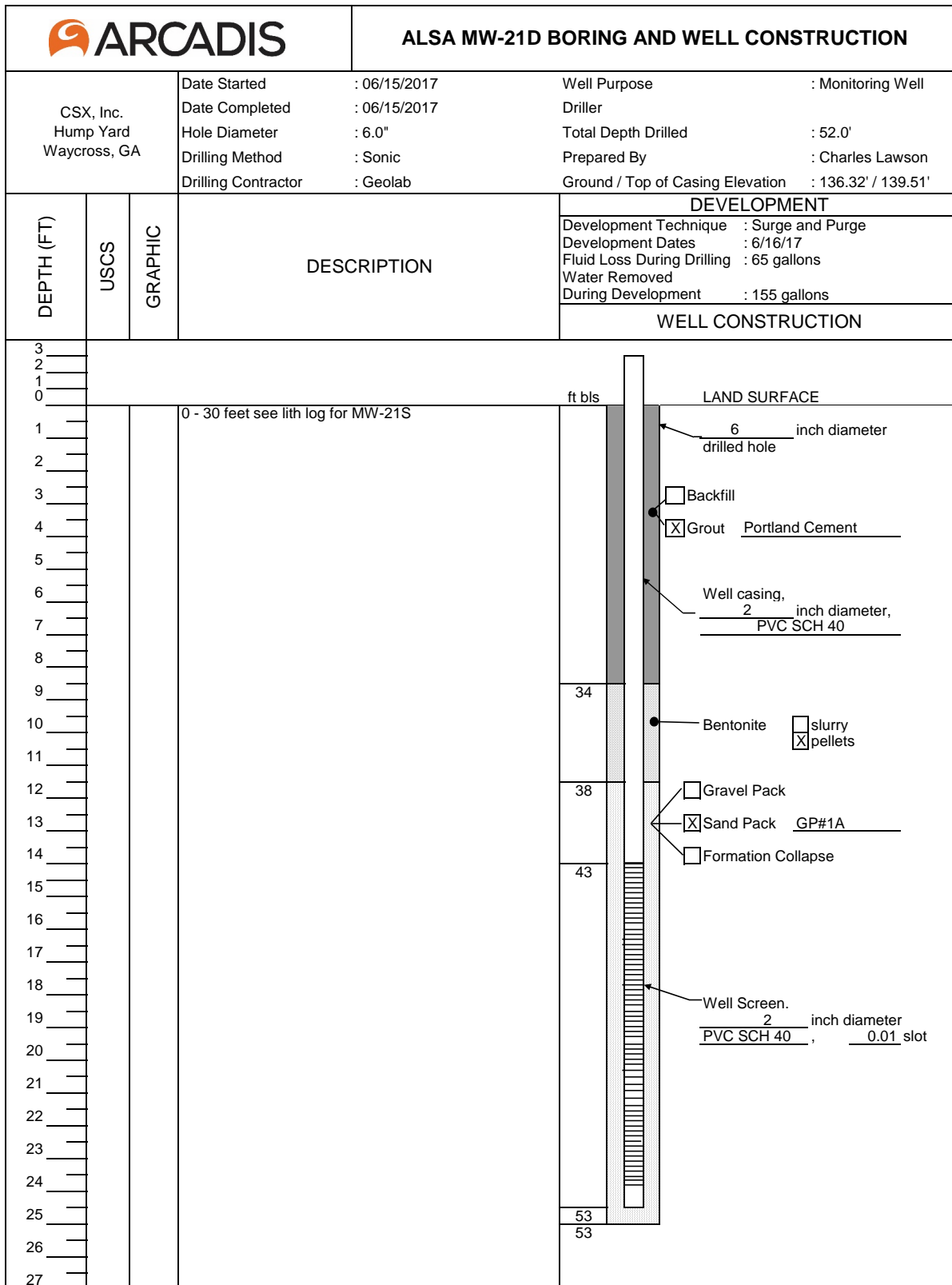
Depth Feet	Sample Type & Number	Moisture per ft. in.	Depth Range	Sample Description
0-1	3-1	3-1-1	0-0	LOOSE LIGHT BROWN FINE SAND (ST)
1-2	3-2	3-2-1	0-0	
2-3	3-3	3-3-1	0-0	
3-4	3-4	3-4-1	0-0	
4-5	3-5	3-5-1	0-0	
5-6	3-6	3-6-1	0-0	
6-7	3-7	3-7-1	0-0	
7-8	3-8	3-8-1	0-0	
8-9	3-9	3-9-1	0-0	
9-10	3-10	3-10-1	0-0	
10-11	3-11	3-11-1	0-0	
11-12	3-12	3-12-1	0-0	
12-13	3-13	3-13-1	0-0	
13-14	3-14	3-14-1	0-0	
14-15	3-15	3-15-1	0-0	
15-16	3-16	3-16-1	0-0	
16-17	3-17	3-17-1	0-0	
17-18	3-18	3-18-1	0-0	
18-19	3-19	3-19-1	0-0	
19-20	3-20	3-20-1	0-0	
20-21	3-21	3-21-1	0-0	
21-22	3-22	3-22-1	0-0	
22-23	3-23	3-23-1	0-0	
23-24	3-24	3-24-1	0-0	
24-25	3-25	3-25-1	0-0	
25-26	3-26	3-26-1	0-0	
26-27	3-27	3-27-1	0-0	
27-28	3-28	3-28-1	0-0	
28-29	3-29	3-29-1	0-0	
29-30	3-30	3-30-1	0-0	
30-31	3-31	3-31-1	0-0	
31-32	3-32	3-32-1	0-0	
32-33	3-33	3-33-1	0-0	
33-34	3-34	3-34-1	0-0	

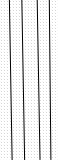






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A RESOURCE ENGINEERING COMPANY

BORING AND GEOPHYSICAL LOGS  
(MW-20, MW-21 AND MW-22)  
CSX TRANSPORTATION

DRAWN BY: CC DATE: 12-15-86 PROJECT NO.: 440-01  
 CHECKED BY: REVERED



28			
29			
30			
31			
32	SM		Silty sands, fine to medium grain, density soft, pink, poor visual porosity
33			
34			
35			
36	CL		Sandy-silty Clay, consistency firm, grey, minor amounts of fine grain sands
37			
38			
39			
40	SM		Silty sands, fine to coarse, minor amounts of clay, gray
41			
42	SP		Poorly sorted sands 100%, fine to medium grain, density firm, sub-angular, quartz and feldspar, grey, saturated, poor visual porosity
43			
44			
45			
46	SP		Same as above
47			
48			
49	CL		Clay , small clay lens, grey
50	SP		Poorly sorted sands, same as (40-45')

Project CSX Site Waycross, GA **BORING** MW-26 Sh 1 of 1  
 Date Started 3-27-87 Completed 3-27-87 Ground Elevation \_\_\_\_\_  
 Total Depth 28 ft. Location Alum Sludge Basin Logged by Raaj Patel  
 Casing I.D. 2 in. Contractor American Drilling Company  
 Remarks \_\_\_\_\_

	Depth Feet	Sample			Sample Description	REMARKS	
		Type & Number	Blows per 6 in.	Depth Range			
	5	J-1		0.0'	Dark brown silty sand, with roots. (SM) (1')		
		J-2	2-5-6	1.5'	Light gray and white sandy silt and medium dense silty sand. (SM) (3.5')		
		J-3		3.5'	Light gray and tan sandy clay, with sand pockets and black stains. (CL)		
		J-4	3-5-9	5.0'			
	10	J-5		8.5'	Loose dark gray and tan silty fine to medium sand. (SM)  - clay seam 11.5'  - light gray and tan, silty clay pockets from 13.5'  - dark tan from 18.0'		
		J-6	3-4-2	10.0'			
		J-7		13.5'			
		J-8	2-1-2	15.0'			
	20	J-9		18.5'	(23')		
		J-10	2-3-2	20.0'			
		J-11		23.5'			
		J-12	2-4-7	25.0'			
	25				Stiff light green sandy clay and clay, with sand pockets. (CL-CH) (28')		
	30						



Project CSX Site Waycross, GA **BORING** MW-28 Sh 1 of 1  
 Date Started 3-27-87 Completed 3-27-87 Ground Elevation \_\_\_\_\_  
 Total Depth 32 ft. Location Alum Sludge Basin Logged by Raj Patel  
 Casing I.D. 2 in. Contractor American Drilling Company  
 Remarks \_\_\_\_\_

Depth Feet	Sample			Sample Description	REMARKS
	Type & Number	Blows per 6 in.	Depth Range		
5	J-1		0.0'	Medium dense light tan and gray silty fine sand, with roots. (SM)	
	J-2	2-5-6	1.5'		
	J-3 J-4	7-11-10	3.5' 5.0'		
10				(12')	
15	J-5		12.0'	Dark tan and yellowish red sandy clay, with sand seams. (CL-SC)	(15')
	J-6	2-5-5	13.5'		
20				Loose light to dark tan and brown fine to medium sand, little coarse sand. (SP)	
25	J-7		18.5'		
	J-8	3-6-6	20.0'		
30				Stiff light green clay, with sand pockets. (CH-CL)	(32')
35					

Project <u>CSX</u>		Site <u>Waycross, GA</u>		<b>BORING</b>		MW-29 Sh 1 of <u>1</u>	
Date Started <u>3-27-87</u>		Completed <u>3-27-87</u>		Ground Elevation _____			
Total Depth <u>33 ft.</u>		Location <u>Alum Sludge Basin</u>		Logged by <u>Raaj Patel</u>			
Casing I.D. <u>2 in.</u>		Contractor <u>American Drilling Company</u>					
Remarks _____							

	Depth Feet	Sample			Sample Description	REMARKS
		Type & Number	Blows per 6 in.	Depth Range		
5		J-1	2-4-4	0.0'	Loose light brown and red silty fine sand, with roots. (SM)	(3')
		J-2		1.5'		
		J-3	10-14-15	3.5'	Dark tan and light gray sandy clay, with sand pockets. (CL)	
		J-4		5.0'		
20		J-5	2-3-2	18.5'	Loose dark tan and light brown fine to medium sand. (SP)	
		J-6		20.0'		
25						
30						
35						

Project CSX Site Waycross, GA **BORING** MW-30 Sh 1 of 1  
 Date Started 3-28-87 Completed 3-28-87 Ground Elevation \_\_\_\_\_  
 Total Depth 32 ft. Location Alum Sludge Basin Logged by Raaj Patel  
 Casing I.D. 2 in. Contractor American Drilling Company  
 Remarks \_\_\_\_\_

Depth Feet	Sample			Sample Description	REMARKS
	Type & Number	Blows per 6 in.	Depth Range		
5	J-1 J-2	3-5-6	0.0' 1.5'	Medium dense dark brown silty fine sand, with roots. (SM)	
				(7')	
10	J-3 J-4	4-7-6	8.5' 10.0'	Light gray and tan clayey sand, with numerous clay pockets. (SC) (8.5')	
				Medium dense dark tan and red silty fine to medium sand. (SM)	
20	J-5 J-6	2-3-4	18.5' 20.0'	- loose, little coarse sand at 18.5'	
				(25')	
25				Light greenish gray sand and clay, cemented, little coarse sand. (SC-CL)	
30				(32')	
35					

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Project CSX Site Waycross, GA **BORING** MW-32 Sh 1 of 1  
 Date Started 3-30-87 Completed 3-31-87 Ground Elevation \_\_\_\_\_  
 Total Depth 28 ft. Location ODSA Logged by Raai Patel  
 Casing I.D. 2 in. Contractor American Drilling Company  
 Remarks \_\_\_\_\_

	Depth Feet	Sample			Sample Description	REMARKS
		Type & Number	Blows per 6 in.	Depth Range		
		J-1 J-2	7-6-4	0.0' 1.5'	Dark brown and black silty fine sand, with wood pieces, roots, and rock fragments. (SM)	
		J-3 J-4	1-1-3	3.5' 5.0'		
	5					
					Light gray and red sandy clay. (CL)	
		J-5 J-6	6-8-9	8.5' 10.0'		
	10					
					Loose light gray and tan silty fine to medium sand. (SM)	
		J-7 J-8	1-2-3	18.5' 20.0'		
	20					
	25				----- (28')	
	30					
	35					

Project CSX Site Waycross, GA **BORING** NW-34 Sh 1 of 1  
 Date Started 3-28-87 Completed 3-28-87 Ground Elevation \_\_\_\_\_  
 Total Depth 28 ft. Location ODSA Logged by Raaj Patel  
 Casing I.D. 2 in Contractor American Drilling Company  
 Remarks \_\_\_\_\_

	Depth Feet	Sample			Sample Description	REMARKS
		Type & Number	Blows per 6 in.	Depth Range		
		J-1		0.0'	Dark brown silty fine sand, with roots and black stains. (SM) (1')	
		J-2	4-8-10	1.5'		
					Dark brown and black clayey sand, with sand seams (SC-SP) (3.5')	
	5	J-3		3.5'	Light to dark gray silty to clayey sand. (SC-SM)	
		J-4	3-5-4	5.0'		
					(8')	
	10	J-5		8.5'	Light gray and tan sandy clay, with sand pockets and black stains. (CL)	
		J-6	6-6-7	10.0'		
					(13')	
	15	J-7		13.5'	Loose light brown and gray silty fine to medium sand. (SM)	
		J-8	2-2-3	15.0'		
					- light greenish gray, with clay pockets at 19' (20')	
	20	J-9		18.5'	Light gray clayey sand to sandy clay (SC-CL)	
		J-10	1-2-3	20.0'		
					(28')	
	25					
	30					
	35					

BORING

ERT

Project CSX Site Waycross, GA **BORING** MW-36 Sh 1 of 1  
 Date Started 3-28-87 Completed 3-28-87 Ground Elevation \_\_\_\_\_  
 Total Depth 32 ft. Location ODSA Logged by Raaj Patel  
 Casing I.D. 2 in. Contractor American Drilling Company  
 Remarks \_\_\_\_\_

Depth Feet	Sample			Sample Description	REMARKS
	Type & Number	Blows per 6 in.	Depth Range		
5	J-1	6-12-12	0.0'	Dark brown and tan silty fine sand, with roots and Fe stains. (SM)  - light brown from 1'  - wood chips at 3'  (6.5')	
	J-2		1.5'		
10	J-3	4-8-8	8.5'	Light gray and brown sandy clay, with sand seams, pockets, and partings. (CL)  (15')	
	J-4		10.0'		
15				Light gray and tan silty fine sand. (SM)  (19')	
20	J-5	2-2-5	18.5'	Dark gray and tan clayey sand and sandy clay, with clay pockets and partings. (SC-CL)	
	J-6		20.0'		
25					
30					
35					

# ERT

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Sheet 1 of 1

## BORING LOG AND CONSTRUCTION OF MW-38

Client CSV Transportation  
Project Name SWMA - Acid Line Sludge Area  
Project Location Lavercross, Georgia  
Job No. 450-07-05 Boring No. MW-38  
Logged By J. Barringer  
Approved By C. Teller  
Drilled By American Drilling Driller's Name D. Robinson

DRILLING AND SAMPLING INFORMATION  
Date Started 8-17-87 Date Completed 8-17-87  
Method Mud Rotary Bit/Auger Size 5 3/4 inch bit  
WELL COMPLETION INFORMATION  
Screen Dia. 2-inch Ø Length 10.0 feet  
Slot Size 0.010 inch Type Stainless Steel  
Casing Dia. 2-inch Ø Length 22.0 feet

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	SAMPLE DEPTH (in feet)	BLOW COUNTS	% RECOVERY	RNU VALUE (in units)	WELL COMPLETION	REMARKS
0	SURFACE ELEVATION	J-1 J-2	SS	0.5 1.5	4-8-7		0.0		
	Compact, dark brown to black silty fine sand with coal and red brick fragments. (SM) (3.0')								
5	Loose, dark to light gray and brown silty fine sand with clay pockets. - At 5.0' clay content increases. (SM-SC) (8.5')	J-3 J-4	SS	4.0 5.0	1-2-2		0.0		
10	Soft, light to dark gray (mottled orange/gray on fresh break) silty clay-clayey silt. (CL-ML) - At 10.5' firm gray clay with little silt.. (13.5')	J-5 J-6	SS	9.0 10.0	4-5-4		0.0		
15	Loose, light tan and gray silty fine sand with gray clay pockets. (SM) (15.5')	J-7 J-8	SS	14.0 15.0	4-4-5		0.0		
20	At 15.5', becomes a fine to medium sand with occasional gray coarse sand interspersed, clay content decreases. (smoky quartz) (20.0')	J-9 J-10	SS	19.0 20.0	3-5-5		0.0		
25	From 21.0', coloring becomes laminated cream, rose and orange; well-graded sand, vet. (Uppermost Aquifer) (25.0')	J-11 J-12	SS	24.0 25.0	2-5-4		0.0		
30	Compact, light gray and tan (mottled gray/orange on fresh break) medium sand with occasional coarse sand interbedded with a firm clay. Muscovite and biotite fragments are prevalent. (SC-CL) (32.0')	J-13 J-14	SS	29.0	9-12-14		0.0		
35	Boring was terminated at 32.0' in clay. Total depth of MW-38 is 32.0' as it is screened in the uppermost aquifer.								
40									
45									
50									

SAMPLER TYPE  
SS - DRIVEN SPLIT SPOON CA - CONTINUOUS FLIGHT AUGER  
ST - PRESSED SHELBY TUBE RC - ROCK CORE

BORING METHOD  
HSA - HOLLOW STEM AUGERS DC - DRIVING CASING  
CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING



## BORING LOG AND CONSTRUCTION OF MW-39

Client CSX Transportation  
 Project Name SWMA - Acid - Line Sludge Area  
 Project Location Waycross, Georgia  
 Job No. 440-07-03 Boring No. MW-39  
 Logged By J. Barringer  
 Approved By C. Teller  
 Drilled By American Drilling Driller's Name D. Robinson

DRILLING AND SAMPLING INFORMATION  
 Date Started 8-16-87 Date Completed 8-16-87  
 Method Mud Rotary Bit/Auger Size 5 3/4 inch bit  
 WELL COMPLETION INFORMATION  
 Screen Dia. 2-inch 9 Length 10.0 feet  
 Slot Size 0.010 inch Type Stainless Steel  
 Casing Dia. 2-inch 0 Length 17.0 feet

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	SAMPLE DEPTH in feet	BLOW COUNTS	% RECOVERY	HNu VALUE (in units)	WELL COMPLETION	REMARKS
0	SURFACE ELEVATION								
0	Compact, dark brown to black, silty fine sand with slag fragments at 1.0'. (SM)	J-1 J-2	SS	1.0 1.5	6-8-7				1-1
4.0'									
5	Loose, light orange to tan silty fine sand with some clay (SM-SC)	J-3 J-4	SS	4.0 5.0	2-3-2				
8.0'									
10	Firm light gray, orange, tan and red sandy clay with silty sand pockets. (CL-SC)	J-5 J-6	SS	9.0 10.0	6-9-9				
13.5'									
15	Loose, laminated coloring of rose, tan and orange, fine to medium sand with occasional smoky gray coarse grains and silty clay layers, 1 to 3 inches thick, wet. (Uppermost Aquifer) (SW-CL)	J-7 J-8	SS	14.0 15.0	4-4-2				
20		J-9 J-10	SS	19.0 20.0	2-3-4				
22.5'									
25	Stiff light purple, gray and orange silty clay with fine sand partings. (CL-SC)	J-11 J-12	SS	24.0 25.0	1-3-4				
27.0'									
30	Boring was terminated at 27.0' in clay. Total depth of MW-39 is 27.0' as it is screened in the uppermost aquifer.								
35									
40	REMARKS: J-1 HNu was not working due to rainy weather.								
45									
50									

SAMPLER TYPE: SS - DRIVEN SPLIT SPOON, CA - CONTINUOUS FLIGHT AUGER, ST - PRESSED SHELBY TUBE, RC - ROCK CORE  
 BORING METHOD: HSA - HOLLOW STEM AUGERS, CFA - CONTINUOUS FLIGHT AUGERS, DC - DRIVING CASING, MD - MUD DRILLING

## BORING LOG AND CONSTRUCTION OF MW- 40

Client CSX Transportation  
 Project Name SWs - Acid - Lime Sludge Area  
 Project Location Waycross, Georgia  
 Job No. 440-07-03 Boring No. MW-40  
 Logged By C. Teller  
 Approved By R. Patel  
 Drilled By American Drilling Driller's Name D. Robinson

DRILLING AND SAMPLING INFORMATION  
 Date Started 8-16-87 Date Completed 8-16-87  
 Method Mud Rotary Bit/Auger Size 5 3/4 inch dia  
 WELL COMPLETION INFORMATION  
 Screen Dia. 2-inch Length 10 feet  
 Slot Size 0.010 inch Type Stainless Steel  
 Casing Dia. 2-inch Length 10 feet

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	SAMPLE DEPTH (in feet)	BLOW COUNTS	% RECOVERY	HQU VALUE (in units)	WELL COMPLETION	REMARKS
0	SURFACE ELEVATION								
0	Compact dark brown to black with silty fine sand, some brick fragments. (SH)	J-1 J-2	SS	1.0 1.5	2-5-12		5.0 6.0		
5	- At 3.0' occasional black staining	J-3 J-4	SS	4.0 5.0	4-11-11		0.0 0.0		
10		N/R			6-10-13	N/R			1-1
13.5'									
15	Stiff, red, gray and tan, medium sandy clay, no black staining. (CL)	J-5 J-6	SS	14.0 15.0	3-6-5		0.0 0.0		
18.5'									
20	Loose red, gray, tan, and rust fine to medium sand with a trace of coarse sand, little silt and little clay pockets (1"). (SW) (Uppermost Aquifer)	J-7 J-8	SS	18.0 20.0	2-2-8		0.0 0.0		
26.0'		J-9 J-10	SS	24.0 25.0	1-2-2		0.0 0.0		
30	Soft gray and orange fine to coarse sandy clay. (CL)	J-11 J-12	SS	31.0 32.0	3-2-2		0.0 0.0		
35.0'									
35	Boring was terminated at 35.0' in clay. Boring hole was filled with sand from 35.0' to 32.0'. Total depth of MW-40 is 32.0' as it is screened in the uppermost aquifer.								
40									
45									
	REMARKS: 1-1, brick clogged spoon, no sample								

SAMPLER TYPE  
 SS - DRIVEN SPLIT SPOON CA - CONTINUOUS FLIGHT AUGER  
 ST - PRESSED SHELBY TUBE RC - ROCK CORE

BORING METHOD  
 HSA - HOLLOW STEM AUGERS DC - DRIVING CASING  
 CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING

## BORING LOG AND CONSTRUCTION OF MW- 41

Client CSX Transportation  
 Project Name SWA - Acid - Lime Sludge Area  
 Project Location Waycross, Georgia  
 Job No. 440-07-03 Boring No. MW-41  
 Logged By C. Teller  
 Approved By R. Patel  
 Drilled By American Drilling Driller's Name D. Robinson

DRILLING AND SAMPLING INFORMATION  
 Date Started 8-17-87 Date Completed 8-17-87  
 Method Mud Rotary Bit/Auger Size 5 3/4 inch bit  
 WELL COMPLETION INFORMATION  
 Screen Dia. 2-inch Ø Length 10.0 feet  
 Slot Size 0.010 inch Type Stainless Steel  
 Casing Dia. 2-inch Ø Length 17.0 feet

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	SAMPLE DEPTH (in feet)	BLOW COUNTS	% RECOVERY	RHU VALUE (in units)	WELL COMPLETION	REMARKS
0	SURFACE ELEVATION								
0	Compact dark brown fine sandy silt, with coal fragments and roots. (SH)	J-1 J-2	SS	1.0 1.5	4-7-6		0.0		
5	- Becomes tan to cream fine sandy silt	J-3 J-4	SS	4.0 5.0	4-8-9		0.0		
	(8.0')								
10	Loose, tan and gray clayey fine sand with some silt, occasional 1-inch clay seams (gray) (SC)	J-5 J-6	SS	9.0 10.0	3-4-3		0.0		
	(15.0')	J-7 J-8	SS	14.0 15.0	2-6-5		0.0		
15	Loose gray and tan fine to coarse sand with little silt, trace biotite grains. (SW) (Uppermost Aquifer)	J-9 J-10	SS	19.0 20.0	1-2-3		0.0		
20	Firm, red clay, gray and orange. (CL)	J-11 J-12	SS	24.0 25.0	2-2-3		0.0		
25	Firm gray and orange clay. (CH)								
	(27.0')								
30	Boring was terminated at 27.0'. Total depth of MW-41 is 27.0' as it is screened in the uppermost aquifer.								
35									
40									
45									

SAMPLER TYPE  
 SE - DRIVEN SPLIT SPOON CA - CONTINUOUS FLIGHT AUGER  
 ST - PRESSED SHELLEY TUBE RC - ROCK CORE

BORING METHOD  
 HSA - HOLLOW STEM AUGERS DC - DRIVING CASINGS  
 CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING

BORING LOG AND CONSTRUCTION  
OF MW-42

Client CSX Transportation  
 Project Name SKMA - Acid Lime Sludge Area  
 Project Location Waycross, Georgia  
 Job No. 440-07-03 Boring No. MW-42  
 Logged By J. Barringer  
 Approved By C. Teller  
 Drilled By American Drilling Driller's Name D. Robinson

DRILLING AND SAMPLING INFORMATION  
 Date Started 8-15-87 Date Completed 8-15-87  
 Method Mud Rotary Bit/Auger Size 5 3/4 inch bit  
 WELL COMPLETION INFORMATION  
 Screen Dia. 2-inch Ø Length 10.0 feet  
 Slot Size 0.010 inch Type Stainless Steel  
 Casing Dia. 2-inch Ø Length 12.0 feet

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	SAMPLE DEPTH (in feet)	BLOW COUNTS	% RECOVERY	NHU VALUE (in units)	WELL COMPLETION	REMARKS
	SURFACE ELEVATION								
0	Loose, dark brown silty fine sand with flecks of coal (SM) (.5')	J-1 J-2	SS	1.0 1.5	2-4-4		0.0		
	Light yellow and tan silty fine sand. (3.0')								
5	Compact, cream to tan silty clay-clayey silt. (CL-ML) - Very stiff, gray clay layer from 4.7 to 5.0'. (8.5')	J-3 J-4	SS	4.0 5.0	6-2-11		0.0		
10	Loose to compact orange, tan and rose fine sandy clay with occasional coarse sand. (CL-SC)  - At 13.0' are alternating layers of fine to medium sand and clay. Sand layers are 1.0" thick and clay layers are 2.5" thick. (15.0')	J-5 J-6	SS	9.0 10.0	5-6-5		0.0		
15	Loose, rose fine to medium sand. (SK) (Uppermost Aquifer)  - At 18.0' becomes a red, cream and orange medium to coarse sand with muscovite and biotite fragments prevalent, wet. - Very stiff gray clay layer from 19.8' to 20.0' (23.0')	J-7 J-8	SS	14.0 15.0	2-3-4		0.0		
20									
25	Stiff light purple, gray and orange clay with fine sand partings. From 23.5' to 24.0' is cemented medium sand and clay layer. (CL-CH)   (31.0')	J-9 J-10	SS	19.0 20.0	1-2-3		0.0		
30	Loose, tan medium to coarse sand to 31.8', sandy clay to 32.0' (SK-SC) (32.0')	J-11 J-12	SS	24.0 25.0	2-2-3		0.0		
35	Boring was terminated at 32.0'. Boring hole was filled with sand from 32.0' to 22.0'. Total depth of MW-42 is 22.0' as it is screened in the uppermost aquifer.	J-13 J-14	SS	29.0 30.0	2-5-5		0.0		
40									
45									
50									

SAMPLER TYPE  
 SS - DRIVEN SPLIT SPOON CA - CONTINUOUS FLIGHT AUGER  
 ST - PRESSED SHELLEY TUBE RC - ROCK CORE

BORING METHOD  
 HSA - HOLLOW STEM AUGERS DC - DRIVING CASING  
 CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING



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## BORING LOG AND CONSTRUCTION OF MW- 44

Client CSX Transportation  
 Project Name SKWA - Pollution Ponds  
 Project Location Waycross, Georgia  
 Job No. 440-07-03 Boring No. MX-44  
 Logged By R. Patel  
 Approved By C. Teller  
 Drilled By American Drilling Driller's Name D. Robinson

DRILLING AND SAMPLING INFORMATION  
 Date Started 8-14-87 Date Completed 8-14-87  
 Method Mud Rotary Bit/Auger Size 5 3/4 inch bit  
 WELL COMPLETION INFORMATION  
 Screen Dia. 2-inch Ø Length 10.0 feet  
 Slot Size 0.010 inch Type Stainless Steel  
 Casing Dia. 2-inch Ø Length 18.0 feet

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	SAMPLE DEPTH in feet	BLOW COUNTS	% RECOVERY	PMU VALUE in units	WELL COMPLETION	REMARKS
0	SURFACE ELEVATION								
0	Dense dark brown and black silty fine sand, with small gravel (SM)	J-1 J-2	SS	1.0 1.5	9-14-16		0.0		
5	- From 3.0' to 8.0', light gray and dark tan	J-3 J-4	SS	4.0 5.0	3-11-16		0.0		
	(8.0')								
10	Compact dark gray and brown clayey fine sand. (SC)	J-5 J-6	SS	9.0 10.0	5-5-6		0.0		
	(13.5')								
15	Loose dark brown and light gray silty fine to medium sand with clay pockets and clay partings. (SW) (Uppermost Aquifer)	J-7 J-8	SS	14.0 15.0	2-3-3-		0.0		
20		J-9 J-10	SS	19.0 20.0	2-1-2		0.0		
25	- From 23.5' to 25.0' medium to coarse sand, light gray, wet. (SW)	J-11 J-12	SS	24.0 25.0	2-2-2		0.0		
	(26.0')								
30	Firm to stiff light gray-green clay with sand pockets. (CH)	J-13 J-14	SS	26.5 27.5	1-2-3		0.0		
	(31.0')								
30	Stiff greenish-gray clay with abundant muscovite. (CH)	J-15 J-16	SS	31.0 32.0	2-2-3		0.0		
	(32.0')								
35	Boring was terminated at 32.0'. Total depth of MX-44 is 31.5' as it is screened in the uppermost aquifer.								
40									
45									
50									

SAMPLER TYPE  
 SS - DRIVEN SPLIT SPOON CA - CONTINUOUS FLIGHT AUGER  
 ST - PRESSED SHELBY TUBE RC - ROCK CORE

BORING METHOD  
 HSA - HOLLOW STEM AUGERS DC - DRIVING CASING  
 CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING



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# BORING LOG AND CONSTRUCTION OF MW- 45

Client CSX Transportation  
Project Name SWMA - Pollution Ponds  
Project Location Waycross, Georgia  
Job No. 440-07-03 Boring No. MW-45  
Logged By Cameron Teller  
Approved By Jennifer Barringer  
Drilled By American Drilling Driller's Name D. Robinson

DRILLING AND SAMPLING INFORMATION  
Date Started 8-14-87 Date Completed 8-14-87  
Method Mud Rotary Bit/Auger Size 5 3/4 inch bit  
WELL COMPLETION INFORMATION  
Screen Dia. 2 inch Length 10 feet  
Slot Size 0.010 inch Type Stainless Steel  
Casing Dia. 2-inch Length 22 feet

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	SAMPLE DEPTH (in feet)	BLOW COUNTS	% RECOVERY	HNU VALUE (in units)	WELL COMPLETION	REMARKS
0	SURFACE ELEVATION								
0	Compact dark brown, fine sandy silt, with some gravel fragments. (SM)	J-1 J-2	SS	0.5 1.5	8-12-14		0.0		
	(4.0')								
5	Firm to stiff gray to tan fine sandy clay. (CL)	J-3 J-4	SS	4.0 5.0	7-16-16		0.0		
	- from 9.0' grades to soft silty clay								
10		J-5 J-6	SS	9.0 10.0	2-2-4		0.0		
	(13.5')								
15	Loose tan silt and fine sand (SM)	J-7 J-8	SS	14.0 15.0	1-2-3		0.0		
	(19.0')								
20	Loose light gray silty fine to coarse sand, clay layer from 19.0' to 19.5' (Uppermost aquifer) (SW)	J-9 J-10	SS	19.0 20.0	1-1-2		0.0		
25		J-11 J-12	SS	24.0 25.0	2-2-1		0.0		
	(26.0')								
30	Very stiff light green silty clay to clay (CL-CH)	J-13 J-14	SS	28.5 29.5	2-2-4		0.0		
	(33.5')	J-15 J-16	SS	32.5 33.5	3-3-5		0.0		
35	Boring was terminated at 33.5'. Boring hole was filled with sand from 33.5' to 32.0'. Total depth of MW-45 is 32.0' as it is screened in the uppermost aquifer.								
40									
45									
50									

SAMPLER TYPE  
SS - DRIVEN SPLIT SPOON CA - CONTINUOUS FLIGHT AUGER  
ST - PRESSED SHELBY TUBE RC - ROCK CORE

BORING METHOD  
HSA - HOLLOW STEM AUGERS DC - DRIVING CASING  
CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING

## BORING LOG AND CONSTRUCTION OF MW-46

Client CSX Transportation  
 Project Name Deep Weather Blank Installation Program - ASB  
 Project Location Waycross, Georgia  
 Job No. 440-09-03 Boring No. MW-46  
 Logged By T. Bazzler  
 Approved By R. Fitch  
 Drilled By American Drilling Co. Driller's Name G. Tamlinson

DRILLING AND SAMPLING INFORMATION  
 Date Started 10-20-87 Date Completed 10-24-87  
 Method Mud Rotary Bit/Auger Size 5 3/4 Inch Bit  
 WELL COMPLETION INFORMATION  
 Screen Dia. 2-inch Length 20.0 feet  
 Slot Size 0.010-inch Type Stainless steel  
 Casing Dia. 2-inch Length 47.0 feet

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	DEPTH RANGE (in feet)	BLOW COUNTS	% RECOVERY	RHU VALUE (in units)	WELL COMPLETION	REMARKS
	SURFACE ELEVATION								
	Compact dark brown sandy silt, with roots (SM)	J-1	SS	0.0 - 1.5	3-5-7		0.0		
	- Dark tan and brown silty fine sand from 1.0'	J-2	SS						
	(3.0')								
5	Dense dark tan and gray clayey sand, with numerous (SC) clay partings and partings	J-3	SS	3.5 - 5.0	5-9-21		0.0		
	- Numerous sand seams from 4.0'	J-4	SS						
	(8.0')								
10	Loose to compact dark gray and tan silty fine sand (SM)	J-5	SS	8.5 - 10.0	12-12-10		0.0		
		J-6	SS						
15	- Loose dark tan and red from 13.5'	J-7	SS	13.5	4-5-7		0.0		
	(uppermost aquifer)	J-8	SS	15.0					
20	- Grades into fine to coarse sand, with clay laminae from 19.0'	J-9	SS	18.5 - 20.0	1-1-3		0.0		
		J-10	SS						
25	- compact to dense, dark tan and red from 23.0'	J-11	SS	23.5	3-4-6		0.0		
		J-12	SS	25.0					
30		J-13	SS	28.5 - 30.0	10-20-20		0.0		
	(33.0')								
35	Very stiff dark gray clay, with some cemented (CH) fine to medium sand	J-14	SS	33.5 - 35.0	8-8-10		0.0		
		J-15	SS						
	(38.5')								
40	Very dense green-gray clay and dense cemented (SP-cl) medium to coarse sand.	J-17	SS	38.5 - 40.0	9-20-20		0.0		
		J-18	SS						
45		NR	SS	43.5 - 45.0	15-16-14	0%	0.0		
	(48.5')								
50	Compact light brown silty fine to medium sand, with numerous clay partings (SM)	J-19	SS	48.5 - 50.0	5-3-8		0.0		
		J-20	SS						
55	- Numerous clay seams from 53.5' to 59.0'	J-21	SS	53.5 - 55.0	5-7-9		0.0		
		J-22	SS						
60	- Dark greenish gray medium to coarse ground sand 59'-63'	J-23	SS	58.5 - 60.0	10-18-25		0.0		
		J-24	SS						

SAMPLER TYPE  
 SS - DRIVEN SPLIT SPOON CA - CONTINUOUS FLIGHT AUGER  
 SI - PRESSED SHIELD TUBE RC - ROCK CORE

BORING METHOD  
 HSA - HOLLOW STEM AUGERS DC - DRIVING CASING  
 CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING

## BORING LOG AND CONSTRUCTION OF MW-46

Client CSX Transportation  
 Project Name Deep Monitor Well Installation Program - A98  
 Project Location Waycross, Georgia  
 Job No. 447-09-09 Boring No. MW-46  
 Logged By T. Ruckelshaus  
 Approved By R. Patel  
 Drilled By American Drilling Co. Driller's Name C. Tamlinson

DRILLING AND SAMPLING INFORMATION  
 Date Started 10-20-87 Date Completed 10-24-87  
 Method Mud Rotary Bit/Auger Size 5 3/4 inch  
 WELL COMPLETION INFORMATION  
 Screen Dia. 2.0 inch  $\phi$  Length 20 feet  
 Slot Size 0.010 inch Type Stainless steel  
 Casing Dia. 2.0 inch  $\phi$  Length 47 feet

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	DEPTH RANGE (in feet)	BLOW COUNTS	% RECOVERY	HMV VALUE (in units)	WELL COMPLETION	REMARKS
	SURFACE ELEVATION								
	Dark greenish gray silty medium to coarse sand (SM) (continued)								62.0'
				(63.0')					
65	Shift, dark greenish gray sandy clay, with numerous blue clay seams	J-25 J-26	SS	63.5 65.0	24-27-41		0.0		
									67.0'
				(65.0')					
70	Very dense light greenish-gray and light brown medium to coarse sand (SW)	J-27 J-28	SS	68.5 70.0	21-30-28		0.0		
	Notes: • Boring terminated at 70.0' ..... • Total depth of MW-46 is 67.0' as it is screened in the lower permeable zone (42'-82')								

SAMPLER TYPE  
 SS - DRIVEN SPLIT SPOON CA - CONTINUOUS FLIGHT AUGER  
 ST - PRESSED SHELBY TUBE RC - ROCK CORE

BORING METHOD  
 HSA - HOLLOW STEM AUGERS DC - DRIVING CASING  
 CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING



## BORING LOG AND CONSTRUCTION OF MW-47

Client CSX Transportation  
 Project Name Deep Monitor Well Installation Program - AD3A  
 Project Location Waynesboro, Georgia  
 Job No. 440-09-03 Boring No. MW-47  
 Suggested By T. Baerliger  
 Approved By R. Patel  
 Drilled By American Drilling Co. Driller's Name C. Tomlinson

DRILLING AND SAMPLING INFORMATION  
 Date Started 10-20-87 Date Completed 10-25-87  
 Method Mud Rotary Bit/Auger Size 5 3/4 inch  
 WELL COMPLETION INFORMATION  
 Screen Dia. 2.0 inch φ Length 15.0 feet  
 Slot Size 0.010 inch Type Stainless steel  
 Casing Dia. 2.0 inch φ Length 42.0 feet

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	DEPTH RANGE (in feet)	BLOW COUNTS	% RECOVERY	HMU VALUE (in units)	WELL COMPLETION	REMARKS
	SURFACE ELEVATION								
	Compact, dark brown and black silty fine sand, with gravel fill (SM)	J-1 J-2	SS	0.0- 1.5'	11-12-11		0.0		
5	- black stains (HMU reading +100 units)	J-3	SS	3.5- 5.0	6-4-4		100.0		
	(8.0')								
10	Slightly firm, dark tan and brown sandy clay, (CL)	J-4 J-5	SS	8.5- 10.0	4-4-10		0.0		
	with numerous fine sand partings								
15	- dark tan and gray firm 15.0'	J-6	SS	13.5- 15.0	8-22-20		2.0		
	(17.0')								
20	Loose, dark gray silty fine sand (SM)	J-7 J-8	SS	18.5- 20.0	4-5-5		0.0		
	(Uppermost Aquifer)								
	(21.0')								
25	Stiff, dark gray sandy clay to clayey sand, (CL-SC)	J-9 J-10	SS	21.0- 22.5	4-7-8		0.0		
	with numerous clay partings								
	↳ fine to coarse sand @ 23.5'	J-11 J-12	SS	23.5- 25.0	2-5-7		0.0		
	(26.0')								
30	Firm to stiff, dark greenish gray clay, (CL)	J-13 J-14	SS	28.5- 30.0	2-2-4		0.0		
	with numerous sandy partings and pockets								
35	- Sand lens at 35.0'	J-15 J-16	SS	33.5- 35.0	3-4-4		0.0		
	(38.0')								
40	Compact, dark gray and light brown clayey sand (SC)	N/R	SS	38.5- 40.0	10-12-12	0%			
	(43.0')								
45	Compacted to dense, dark gray and light brown fine to medium to coarse sand, wet (SW)	J-17 J-18	SS	43.5- 45.0	13-16-19		0.0		
	(Lower Permeable Zone)								
50		J-19 J-20	SS	48.5- 50.0	7-17-25		0.0		
	(53.0')								
55	Firm to stiff, dark greenish gray clay, with numerous sand partings and pockets (CL-SC)	J-21 J-22	SS	53.5- 55.0	10-4-4		0.0		
	↳ fine to medium clayey sand from 54.5'	J-23 J-24	SS	55.0- 56.5	4-5-6		2.0 1.0		
	(57.0')								
60	Very stiff, dark greenish gray sandy clay with numerous sand pockets and partings (CL)	J-25 J-26	SS	58.5- 60.0	8-8-10		3.0 2.0		
	(60.0')								

SAMPLER TYPE  
 SS - DRIVEN SPLIT SPOON CA - CONTINUOUS FLIGHT AUGER  
 ST - PRESSED SHELBY TUBE RC - ROCK CORE

BORING METHOD  
 HSA - HOLLOW STEM AUGERS DC - DRIVING CASING  
 CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING

Notes: • Boring terminated at 60.0 feet

• Total depth of MW-47 is 57.0' as it is screened in the lower permeable zone (27.0'-57.0')



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Sheet \_\_\_ of \_\_\_

# BORING LOG AND CONSTRUCTION OF MW-48

Client CSX Transportation  
Project Name Off-site Investigation: ASB  
Project Location Waycross, Georgia  
Job No. 2130-005-002 Boring No. MW-48  
Logged By R. Patel  
Approved By C. Teller  
Drilled By American Drilling Driller's Name G. Degroot

DRILLING AND SAMPLING INFORMATION  
Date Started 3-17-88 Date Completed 3-17-88  
Method Mud Rotary Bit/Auger Size 5 1/2 in  
WELL COMPLETION INFORMATION  
Screen Dia. 2 in Length 10 ft  
Slot Size 0.010 in Type 304 stainless steel  
Casing Dia. 2 in Length 18 ft

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	DEPTH RANGE (in feet)	BLOW COUNTS	% RECOVERY	HNU VALUE (in units)	WELL COMPLETION	REMARKS
0	SURFACE ELEVATION								
	Loose dark brown sandy silt, with roots (SH)	J1	SS	0.0	3-2-4		0.0		
		J2	SS	1.5					
	(3.0')								
5	Dense dark tan and light gray clayey fine to medium sand, with occasional roots to 4 ft (SC)	J3	SS	3.5	11-26-40		0.0		
		J4	SS	5.0					
10		J5	SS	8.5					
		J6	SS	10.0	12-12-14		0.0		
	(13.5')								
15	Medium dense dark tan, light gray and red silty fine to medium sand, occasional coarse grains and gravel at 15 ft (SH)	J7	SS	13.5	7-5-5		0.0		
		J8	SS	15.0					
		J9	SS	16.9	8-8-12		0.0		
	-16.5' medium to coarse								
	-17.0' clayey, with numerous clay partings to 18 ft	J11	SS	17.0	3-2-5		0.0		
	(18.0')	J12	SS	18.5					
20	Medium dense dark tan, light gray, and red medium to coarse sand, silty with some fine sand to 19.0 ft (SP)	J13	SS	18.0					
		J14	SS	20.0	5-8-13		0.0		
	-21.0' some gravel								
		J15	SS	21.0					
		J16	SS	22.5	4-14-20		0.0		
	-22.5' clay pockets and partings								
	-23.0' dark red and light brown, some fine gravel to 25 ft	J17	SS	23.0	9-10-12		0.0		
		J18	SS	24.5					
25		J19	SS	25.0	5-7-10		0.0		
	-26.5' some fine to medium gravel	J20	SS	26.5					
	(28.0')	J21	SS	27.0	14-14-10		0.0		
		J22	SS	28.0					
	Medium dense dark yellow clayey fine to coarse sand, some gravel (SC)/29'								
30	Very stiff light green and tan silty clay, numerous sand partings and pockets (CL)	J23	SS	29.0	10-14-14		0.0		
		J24	SS	30.5					
		J25	SS	31.0					
		J26	SS	32.5	10-15-20		0.0		
	(33.0')								
	Boring terminated at 33.0 ft								
35									

SAMPLER TYPE  
SS - DRIVEN SPLIT SPOON CA - CONTINUOUS FLIGHT AUGER  
ST - PRESSED SHELBY TUBE RC - ROCK CORE

BORING METHOD  
HSA - HOLLOW STEM AUGERS DC - DRIVING CASING  
CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING



A RESOURCE ENGINEERING COMPANY

Sheet 1 of 1

# BORING LOG AND CONSTRUCTION OF MW- 49

Client CSX Transportation  
Project Name Solid Waste Phase III  
Project Location Waycross, GA  
Job No. 2130-001-003 Boring No. MW-49  
Logged By Cameron Teller  
Approved By \_\_\_\_\_  
Drilled By American - Tim Lohner

DRILLING AND SAMPLING INFORMATION  
Date Started 6-17-88 Date Completed 6-17-88  
Method Mud Rotary Total Depth 6 inches  
WELL COMPLETION INFORMATION  
Screen Dia. 2 inches Length 10 feet  
Slot Size 0.010 inches Type SS  
Casing Dia. 2 inches Length 13 feet

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	DEPTH RANGE (IN FEET)	BLOW COUNTS	HNu VALUE (IN UNITS)	WELL COMPLETION	REMARKS
0	SURFACE ELEVATION							
0	Medium dense gray fine sandy silt, little clay. (HL)	J-1	SS	5.0	2-3-3	7.0		
5	(8.5')							
10	Stiff gray fine sandy clay. (CL)	J-2	SS	8.5 10.0	4-5-5	25.0		
15	(13.5')							
15	Loose tan and orange bedded silty fine sand. (SH)	J-3	SS	13.5 15.0	2-1-2	0.0		
20	- 20' Light gray and pink bedded	J-4	SS	16.5 20.0	2-1-2			
25	(23.0')							
25	Stiff gray and yellow sandy clay, occasional sand partings. (CL)	J-5	SS	23.5 25.0	4-5-7			
30	(28.0')							
30	BORING TERMINATED AT 28.0 FEET BACKGROUND HNu = 0.0 UNITS							
35								
40								
45								
50								
55								

SAMPLER TYPE  
SS - DRIVEN SPLIT SPOON CA - CONTINUOUS FLIGHT AUGER  
ST - PRESSED SHELBY TUBE RC - ROCK CORE

BORING METHOD  
HSA - HOLLOW STEM AUGERS DC - DRIVING CASING  
CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING



A RESOURCE ENGINEERING COMPANY

Sheet 1 of 1

BORING LOG AND CONSTRUCTION  
OF MW- 50

Client CSX Transportation  
Project Name Solid Waste Phase III  
Project Location Waycross, GA  
Job No. 2130-001-003 Boring No. HW-50  
Logged By Cameron Teller  
Approved By \_\_\_\_\_  
Drilled By American - Tim Lohrer

DRILLING AND SAMPLING INFORMATION  
Date Started 6-16-88 Date Completed 6-16-88  
Method Mud Rotary Total Depth 6 inches  
WELL COMPLETION INFORMATION  
Screen Dia. 2 inches Length 10 feet  
Slot Size 0.010 inches Type SS  
Casing Dia. 2 inches Length 12.5 feet

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	DEPTH RANGE (IN FEET)	BLOW COUNTS	HNu VALUE (IN UNITS)	WELL COMPLETION	REMARKS
0	SURFACE ELEVATION							
0	Stiff gray, red, and yellow silty clay, some fine to medium sand. (CL)							
5		J-1	SS	3.5 5.0	3-6-9			
	(8.5')							
10	Dense light gray and pink streaked sandy silt, little to some clay. (ML)	J-2	SS	8.5 10.0	6-8-9			
	(12.0')							
15	Loose brown and tan fine to medium sand, some clay pockets. (SP)	J-3	SS	13.5 15.0	3-5-5			
20	- 18.5' Light gray and pink bedded, little to some silt.	J-4	SS	18.5 20.0	2-2-2	0.0		
	(23.0')							
25	Stiff yellow bedded sandy clay. (CL)	J-5	SS	23.5 25.0	3-3-4			
	(28.0')							
30	BORING TERMINATED AT 28.0 FEET BACKGROUND HNu = 0.0 UNITS							
35								
40								
45								
50								

SAMPLER TYPE  
SS - DRIVEN SPLIT SPOON CA - CONTINUOUS FLIGHT AUGER  
ST - PRESSED SHELBY TUBE RC - ROCK CORE

BORING METHOD  
HSA - HOLLOW STEM AUGERS DC - DRIVING CASING  
CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING



A RESOURCE ENGINEERING COMPANY

Sheet 1 of 1

BORING LOG AND CONSTRUCTION  
OF MW- 51

Client CSX Transportation  
Project Name Solid Waste Phase III  
Project Location Waycross, Georgia  
Job No. 2130-001-003 Boring No. MW-51  
Logged By Cameron Teller  
Approved By \_\_\_\_\_  
Drilled By American - Tim Lohner

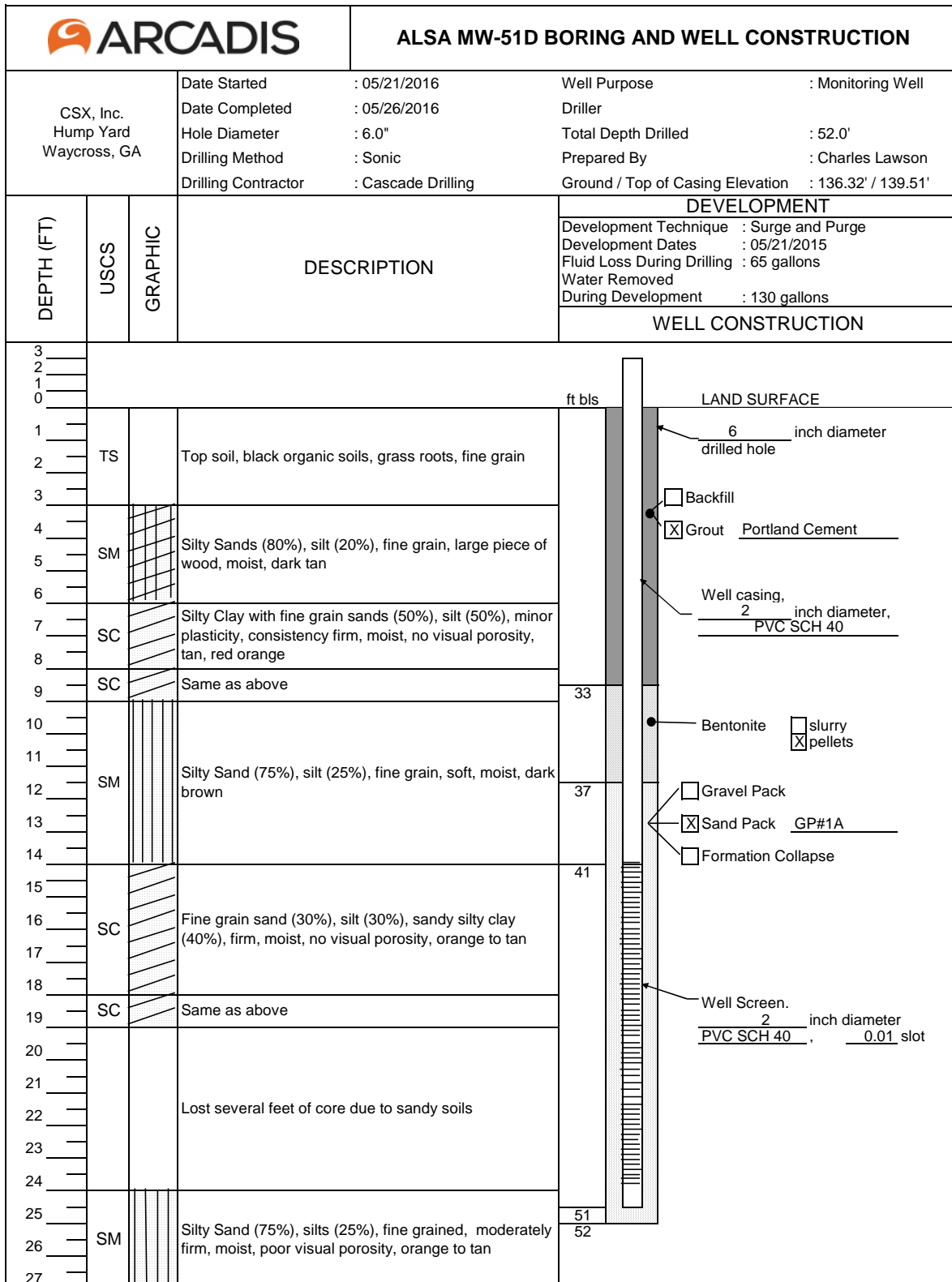
DRILLING AND SAMPLING INFORMATION  
Date Started 6-16-88 Date Completed 6-16-88  
Method Hud Rotary Total Depth 6 inches  
WELL COMPLETION INFORMATION  
Screen Dia. 2 inches Length 10 feet  
Slot Size 0.010 inches Type SS  
Casing Dia. 2 inches Length 17 feet

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	DEPTH RANGE (IN FEET)	BLOW COUNTS	HHV VALUE (IN UNITS)	WELL COMPLETION	REMARKS
0	SURFACE ELEVATION							
0	Medium dense tan and yellow fine sandy silt. (HL)							
5		J-1	SS	3.5 5.0	6-10-7	0.1		
10	- 10' Tan, yellow, and pink streaked, some clay.	J-2	SS	8.5 10.0	17-4-12	0.1		
15	(13.5') Stiff light gray clay, with occasional silty sand partings. Red streaks at partings. (CH)	J-3	SS	13.5 15.0	3-5-6	0.1		
20	(17.0') Loose light gray with pink streaks fine to medium sand, little to some silt. (SH)	J-4	SS	18.5 20.0	2-3-3	0.1		
25	- 25' Little clay in pockets	J-5	SS	23.5 25.0	3-4-5	0.1		
30	- 30' Light gray and yellow, little clay throughout. Little coarse sand grains.	J-6	SS	28.5 30.0	3-2-7	0.1		
35	(34.0') Stiff gray, yellow, and deep red clay, little fine sand grains. (CH)	J-7	SS	33.0 34.5	3-6-6	0.1		
40	(34.5') BORING TERMINATED AT 34.5 FEET BACKGROUND HHV = 0.1 UNITS							
45								
50								
55								







SAMPLER TYPE  
SS - DRIVEN SPLIT SPOON CA - CONTINUOUS FLIGHT AUGER  
ST - PRESSED SHELBY TUBE RC - ROCK CORE

BORING METHOD  
HSA - HOLLOW STEM AUGERS DC - DRIVING CASING  
CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING

ALSA Well Construction Logs - June 2016  
CSX Transportation, Inc.  
Waycross, Georgia



ALSA Well Construction Logs - June 2016  
CSX Transportation, Inc.  
Waycross, Georgia

	CL		Clay, small lens, consistency firm, moist, gray
28			
29			
30			
31	SM		Silty sands, fine to medium grain, density soft, saturated, moderate visual porosity, orange to tan
32			
33			
34			
35			
36	SM		Silty Sand (80%), silt (20%), with some clays, stiff/firm, moist, gray to orange
37	CH		Fat Clay, high plasticity, firm, moist, no visual porosity, gray
38			
39	CH		Same as above
40			
41			
42			
43			
44	SP		Silty Sand (80%), silt (20%), fine grained, soft, quartz feldspar, sub-angular, saturated, moderate visual porosity, yellow to orange
45			
46			
47			
48			
49			
50			

SUBSURFACE EXPLORATION

LITHOLOGIC LOG OF MW-52

Client : CSX TRANSPORTATION INC.  
 Project Name : PHASE IV - ACID LIME SLUDGE AREA  
 Project Location : WAYCROSS, GEORGIA  
 Job Number : 2130-001-004 Boring No : MW-52  
 Logged By : CAMERON TELLER  
 Approved By : RAAJ PATEL  
 Drilled By : AMERICAN DRILING - TIM LOHNER

DRILLING AND SAMPLING INFORMATION  
 Date Started : 1-25-89 Date Completed : 1-31-89  
 Method : MUD ROTARY Total Depth : 58 ft  
 WELL COMPLETION INFORMATION  
 Screen Dia : 2 inch Length : 15 ft  
 Slot Size : 0.010 inch Type : SS CONTINUOUS  
 Casing Dia : 2 inch Length : 38 ft

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	RECOVERY (FEET)	BLOW COUNT	HNu READING	PENETROMETER READING	GRAPHIC LOG	WELL COMPLETION	WATER LEVEL
	SURFACE ELEVATION :									
5	Compact light tan silty fine sand (SM).	J-1	SS	NA	6-15-5	0	NA			
10	Dense orange and tan silty fine to medium sand and stiff clay (SC-CL).	J-2	SS	NA	13-24-17	0	1.5			
	Loose light gray and tan silt (ML).	J-3	SS	NA	2-3-5	0	2.5			
15	Very stiff dark orange fine sandy clay (CL).	J-4	SS	NA	2-4-4	0	NA			
20	Loose pink, orange, and yellow silty fine to medium sand (SM), little clay in 1/2 inch seams.	J-5	SS	NA	5-7-0	NA	2.75			
25	Very stiff tan, gray, and orange fine to medium sandy clay (CL).	J-6	SS	NA	4-4-5	NA	2.75			
30	-- 28.5' gray with little orange in seams, little fine sand in 1/4 inch zones and partings.	J-7	SS	NA	2-4-1	NA	4.0			
35	-- 33.5' some medium to coarse sand in 6 inch sandy zones, consistency varies with depth.	J-8	SS	NA	9-17-12	NA	NA			
40	Compact gray silty fine to medium sand (SM); at the top of this stratum is a 1" black layer with pyrite coarse gravel.	J-9	SS	NA	27-30-36	NA	NA			
45	-- 43.5' very dense, little fine sand, little silt.	J-10	SS	NA	4-5-5	NA	NA			
50	-- 48.5' compact, some clay in 6" clayey zones grain size of sand decreases to fine sand at bottom of sample.	J-1	SS	NA	9-14-24	NA	NA			
55	Hard blue-gray medium to coarse sandy clay (CL).									
	Boring terminated at 58 ft.									

SAMPLER TYPE  
 SS - DRIVEN SPLIT SPOON RC - ROCK CORE  
 ST - PRESSED SHELBY TUBE CT - CONTINUOUS TUBE

BORING METHOD  
 HSA - HOLLOW STEM AUGER DC - DRIVING CASIN  
 CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING





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Sheet 1 of 1

## SUBSURFACE EXPLORATION

## LITHOLOGIC LOG OF MW-53

Client : CSX TRANSPORTATION INC.  
Project Name : PHASE IV - ACID LIME SLUDGE AREA  
Project Location : WAYCROSS, GEORGIA  
Job Number : 2130-001-004 Boring No : MW-53  
Logged By : CAMERON TELLER  
Approved By : RAAJ PATEL  
Drilled By : AMERICAN DRILING - TIM LOHNER

## DRILLING AND SAMPLING INFORMATION

Date Started : 1-27-89 Date Completed : 1-27-89  
Method : MUD ROTARY Total Depth : 30.5 ft

## WELL COMPLETION INFORMATION

Screen Dia : 2 inch Length : 10 ft  
Slot Size : 0.010 inch Type : SS CONTINUOUS  
Casing Dia : 2 inch Length : 15.5 ft

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	RECOVERY (FEET)	BLOW COUNT	MINI READING	PENETROMETER READING	GRAPHIC LOG	WELL COMPLETION	WATER LEVEL
	SURFACE ELEVATION :									
	Loose black and brown fine to coarse sand fill (SW).									
5	Loose tan silty fine sand (SM).	J-1	SS	NA	3-4-3	0	NA			
10	Dense gray, orange, and red clayey fine sand (SC) to fine sandy clay (CL).	J-2	SS	NA	11-21-22	0	3.25			
15	Dense light tan to light pink fine to medium sand (SP), some silt.	J-3	SS	NA	11-16-19	0	NA			
20	-- 18.5' compact	J-4	SS	NA	12-10-5	0	NA			
25	-- 23.5' tan and orange, little hard clay in 1/4" seams.	J-5	SS	NA	7-7-2	NA	NA			
30	Very stiff gray and yellow clay (CH), little silt, little fine to medium sand	J-6	SS	NA	7-9-2	NA	3.5			
	Boring terminated at 30.5 ft.									
35										
40										
45										
50										
55										

## SAMPLER TYPE

SS - DRIVEN SPLIT SPOON RC - ROCK CORE  
ST - PRESSED SHELBY TUBE CT - CONTINUOUS TUBE

## BORING METHOD

HSA - HOLLOW STEM AUGER DC - DRIVING CASING  
CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING



## ENSR CONSULTING &amp; ENGINEERING

## SUBSURFACE EXPLORATION

## LITHOLOGIC LOG OF MW-54

Client : CSX TRANSPORTATION INC.  
 Project Name : PHASE IV - ACID LIME SLUDGE AREA  
 Project Location : WAYCROSS, GEORGIA  
 Job Number : 2130-001-004 Boring No : MW-54  
 Logged By : CAMERON TELLER  
 Approved By : RAAJ PATEL  
 Drilled By : AMERICAN DRILING - TIM LOHNER

DRILLING AND SAMPLING INFORMATION  
 Date Started : 1-25-89 Date Completed : 1-25-89  
 Method : MUD ROTARY Total Depth : 32 ft  
 WELL COMPLETION INFORMATION  
 Screen Dia : 2 inch Length : 10 ft  
 Slot Size : 0.010 inch Type : SS CONTINUOUS  
 Casing Dia : 2 inch Length : 17 ft

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	RECOVERY (FEET)	BLOW COUNT	HMU READING	PENETROMETER READING	GRAPHIC LOG	WELL COMPLETION	WATER LEVEL
	SURFACE ELEVATION :									
5	Loose dark brown to black sandy silt and fine gravel fill (SM-GP). Moderate petroleum odor.	J-1	SS	NA	2-2-3	0.2	NA			
10	Dense brown silty fine sand (SM). Slight petroleum odor.	J-2	SS	NA	9-16-18	0.2	NA			
15	Dense white fine sand (SP), trace black grains. Slight odor. Trace soft white clay in 1/2 inch seams.	J-3	SS	NA	11-20-16	0.2	NA			
20	-- 18.5' loose, silty, some medium sand, trace clay; no odor.	J-4	SS	NA	8-4-3	0.0	NA			
25	-- 23.5' orange, clayey, fine to medium sand grains.	J-5	SS	NA	8-3-5	NA	NA			
30	Stiff light gray silty clay (CL), trace fine sandy seams.	J-6	SS	NA	3-4-4	NA	1.75			
35	Boring terminated at 32 ft.									
40										
45										
50										
55										

## SAMPLER TYPE

SS - DRIVEN SPLIT SPOON RC - ROCK CORE  
 ST - PRESSED SHELBY TUBE CT - CONTINUOUS TUBE

## BORING METHOD

HSA - HOLLOW STEM AUGER DC - DRIVING CASING  
 CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING

## ENSR CONSULTING &amp; ENGINEERING

## SUBSURFACE EXPLORATION

## LITHOLOGIC LOG OF MW-55

Client : CSX TRANSPORTATION INC.  
 Project Name : PHASE IV - ACID LIME SLUDGE AREA  
 Project Location : WAYCROSS, GEORGIA  
 Job Number : 2130-001-004 Boring No : MW-55  
 Logged By : CAMERON TELLER  
 Approved By : RAADJ PATEL  
 Drilled By : AMERICAN DRILLING - TIM LOHNER

DRILLING AND SAMPLING INFORMATION  
 Date Started : 1-25-89 Date Completed : 1-25-89  
 Method : MUD ROTARY Total Depth : 32 ft  
 WELL COMPLETION INFORMATION  
 Screen Dia : 2 inch Length : 10 ft  
 Slot Size : 0.010 inch Type : SS CONTINUOUS  
 Casing Dia : 2 inch Length : 17 ft

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	RECOVERY (FEET)	BLOW COUNT	HNu READING	PENETROMETER READING	GRAPHIC LOG	WELL COMPLETION	WATER LEVEL
	SURFACE ELEVATION :									
5	Compact brown and orange fine sandy silt (SM).	J-1	SS	NA	7-10-11	0.8	NA			
10	-- 8.5' little clay.	J-2	SS	NA	7-8-9	0	NA			
15	Loose gray, orange, and red layered silty fine sand (SM), little soft clay in 1/2 inch seams.	J-3	SS	NA	3-2-4	0	NA			
20	-- 18.5' very loose, light gray with only little red, no clay seams but trace clay throughout.	J-4	SS	NA	2-1-3	0	NA			
25	Loose light gray and orange silty fine to medium sand and stiff light gray and orange silty clay (SC-CL).	J-5	SS	NA	4-5	NA	1.3			
30	Very stiff light gray clay (CH).	J-6	SS	NA	4-5	NA	2.5			
35	Boring terminated at 32 ft.									
40										
45										
50										
55										

## SAMPLER TYPE

SS - DRIVEN SPLIT SPOON RC - ROCK CORE  
 ST - PRESSED SHELBY TUBE CT - CONTINUOUS TUBE

## BORING METHOD

HSA - HOLLOW STEM AUGER DC - DRIVING CASING  
 CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING



## ENSR CONSULTING &amp; ENGINEERING

## SUBSURFACE EXPLORATION

## LITHOLOGIC LOG OF MW-56

Client : CSX TRANSPORTATION INC.  
Project Name : PHASE IV - ACID LIME SLUDGE AREA  
Project Location : WAYCROSS, GEORGIA  
Job Number : 2130-001-004 Boring No : MW-56  
Logged By : CAMERON TELLER  
Approved By : RAAJ PATEL  
Drilled By : AMERICAN DRILING - TIM LOHNER

DRILLING AND SAMPLING INFORMATION  
Date Started : 1-24-89 Date Completed : 1-24-89  
Method : MUD ROTARY Total Depth : 32 ft  
WELL COMPLETION INFORMATION  
Screen Dia : 2 inch Length : 10 ft  
Slot Size : 0.010 inch Type : SS CONTINUOUS  
Casing Dia : 2 inch Length : 17 ft

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	RECOVERY (FEET)	BLOW COUNT	MINI READING	PENETROMETER READING	GRAPHIC LOG	WELL COMPLETION	WATER
	SURFACE ELEVATION :									
5	Loose brown fine sandy silt (SM).	J-1	SS	NA	8-5-5	0	NA			
10	Stiff gray silty clay (CL), some fine sand seams.	J-2	SS	NA	2-3-5	0	1.25			
15	Loose light gray silty fine sand (SM).	J-3	SS	NA	2-2-5	0	1.5			
20	-- 18.5' light gray and red.	J-4	SS	NA	4-1-5	0	NA			
25	Compact light gray and orange streaked clay and medium to coarse sand (CL-SC).	J-5	SS	NA	4-7-1	NA	4.25			
30	Very stiff gray with orange patches silty clay (CL), little to some medium sand seams.	J-6	SS	NA	4-7-3	NA	3.25			
35	Boring terminated at 32 ft.									
40										
45										
50										
55										

## SAMPLER TYPE

SS - DRIVEN SPUT SPOON RC - ROCK CORE  
CT - PRESSURE SLEEVE TUBE CT - CONTINUOUS TUBE

## BORING METHOD

HSA - HOLLOW STEM AUGER DC - DRIVING CASING  
CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING



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Sheet 1 of 1

SUBSURFACE EXPLORATION

LITHOLOGIC LOG OF MW-58

Client : CSX TRANSPORTATION INC.  
Project Name : PHASE IV - ACID LIME SLUDGE AREA  
Project Location : WAYCROSS, GEORGIA  
Job Number : 2130-001-004 Boring No : MW-58  
Logged By : CAMERON TELLER  
Approved By : RAAJ PATEL  
Drilled By : AMERICAN DRILLING - KEVIN DEGROOT

DRILLING AND SAMPLING INFORMATION  
Date Started : 6/1/89 Date Completed : 6/1/89  
Method : MUD RORARY Total Depth : 35.5 ft  
WELL COMPLETION INFORMATION  
Screen Dia : 2 inch Length : 10 ft  
Slot Size : 0.010 inch Type : SS CONTINUOUS  
Casing Dia : 2 inch Length : 20.5 ft

DEPTH IN FEET	DESCRIPTION.	SAMPLE NO.	SAMPLE TYPE	RECOVERY (FEET)	BLOW COUNT	H <sub>2</sub> O READING	PENETROMETER READING	GRAPHIC LOG	WELL COMPLETION	WATER LEVEL
	SURFACE ELEVATION :									
	Gravel, ballast fill material									
5	Loose dark brown to black fine sand, little silt, slight petroleum odor (SP).	J-1	SS	NA	4-5-5	0	NA			
10	Compact light gray fine sandy silt, trace clay (SM).	J-2	SS	NA	3-7-0	0	NA			
	Firm light gray silty clay (CL).									
15	Loose white silt (ML).	J-3	SS	NA	1-1-5	0	NA			
20	Loose, white, fine to medium sand, little coarse sand, little to trace silt (SP).	J-4	SS	NA	4-5-3	0	NA			
25	--23.5' orange and pink streaks with some coarse grains	J-5	SS	NA	4-5-5	0	NA			
30	-- coarse sand, some fine to medium sand, one 3" silty clay layer near 28.5'	J-6	SS	NA	4-9-0	0	NA			
	Firm light tan and yellow silty clay, little fine sand (CL).									
35		J-7	SS	NA	3-1-4	0	NA			
40	Boring terminated at 35.5 ft.									
45										
50										
55										

SAMPLER TYPE  
SS - DRIVEN SPLIT SPOON RC - ROCK CORE  
ST - PRESSED SHELBY TUBE CT - CONTINUOUS TUBE

BORING METHOD  
HSA - HOLLOW STEM AUGER DC - DRIVING CASING  
CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING

## SUBSURFACE EXPLORATION

## LITHOLOGIC LOG OF MW-59

Client : CSX TRANSPORTATION INC.  
 Project Name : PHASE IV - ACID LIME SLUDGE AREA  
 Project Location : WAYCROSS, GEORGIA  
 Job Number : 2130-001-004 Boring No : MW-59  
 Logged By : CAMERON TELLER  
 Approved By : RAAJ PATEL  
 Drilled By : AMERICAN DRILLING - KEVIN DEGROOT

DRILLING AND SAMPLING INFORMATION  
 Date Started : 6/1/89 Date Completed : 6/2/89  
 Method : MUD RORARY Total Depth : 35.5 ft  
 WELL COMPLETION INFORMATION  
 Screen Dia : 2 inch Length : 10 ft  
 Slot Size : 0.010 inch Type : SS CONTINUOUS  
 Casing Dia : 2 inch Length : 20.5 ft

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	RECOVERY (FEET)	BLOW COUNT	INCH READING	PENETROMETER READING	GRAPHIC LOG	WELL COMPLETION	WATER LEVEL
	SURFACE ELEVATION :									
5	Very loose dark brown silt, sand and gravel fill.	J-1	SS	NA	2-1-1	0	NA			
10	Loose light gray silt, little clay (ML).	J-2	SS	NA	1-2-5	0	NA			
15	Firm light gray and pink fine to medium sandy clay (CL).	J-3	SS	NA	3-5-4	0	NA			
20	Loose white, yellow and pink laminated silt (ML-SM) 2" orange fine to med sand seam at 20'.	J-4	SS	NA	2-1-5	0	NA			
25	Loose, white, fine to medium sand, some silt (SP).	J-5	SS	NA	3-5-5	0	NA			
30	--28.5' light gray and orange, some clay, occasional clay seams 1/2" thick.	J-6	SS	NA	3-5-5	0	NA			
35	Stiff light gray and yellow fine to medium sandy clay (CL).	J-7	SS	NA	7-11-11	0	NA			
40	Boring terminated at 35.5 ft.									
45										
50										
55										

## SAMPLER TYPE

SS - DRIVEN SPLIT SPOON RC - ROCK CORE  
 ST - PRESSED SHELBY TUBE CT - CONTINUOUS TUBE

## BORING METHOD

HSA - HOLLOW STEM AUGER DC - DRIVING CASING  
 CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING



## ENSR CONSULTING &amp; ENGINEERING

## SUBSURFACE EXPLORATION

## LITHOLOGIC LOG OF MW-61

Client : GSX TRANSPORTATION, INC.  
Project Name : GROUND WATER ASSESMENT - SHOP AREA  
Project Location : WAYCROSS, GA  
Job Number : 2130-016-004 Boring No : MW-61  
Logged By : DAVE CORNUE  
Approved By : RAAJ PATEL  
Drilled By : AMERICAN DRILLING, TAMPA, FL - KEVIN DEGROOT

DRILLING AND SAMPLING INFORMATION  
Date Started : 3-16-90 Date Completed : 3-17-90  
Method : HOLLOW STEM AUGER Total Depth : 30.5 FT  
WELL COMPLETION INFORMATION  
Screen Dia : 2" Length : 10 FT  
Slot Size : .010" Type : SS  
Casing Dia : 2" Length : 15.0 FT

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	RECOVERY (FEET)	BLOW COUNT	QW (PPH)	GRAPHIC LOG	WELL COMPLETION	WATER LEVEL
SURFACE ELEVATION :									
5	FILL Interlayered white caliche gravel and dark brown clayey silt 3.5 - 9.0 clayey silt(ML), loose, dark brown, saturated.	J-1	SS	NA	7.7	0.0			
		J-3	SS	NA	2.1	0.0			
10	CLAYEY SILT(ML) - Firm to stiff, medium to light brown, moist	J-5	SS	NA	7.1	0.0			
15	SILTY SAND(SM) - f.g., loose, medium gray to tan, saturated.	J-7	SS	NA	3.4	0.0			
20	CLAYEY SILT(ML) - Medium stiff, light gray, clay laminations approximately 1/8 IN, moist	J-9	SS	NA	3.3	0.0			
25	- 25.0 silty sand, orange, moist	J-11	SS	NA	1.2	0.0			
30	CLAY(CH) - Stiff, light gray with red mottling, moist	J-13	SS	NA	1.6	0.0			
35									
40									
45									
50									
55									

SAMPLER TYPE  
SS - DRIVEN SPLIT SPOON RC - ROCK CORE  
ST - PRESSED SHOULDER TUBE CT - CONTINUOUS TUBE

BORING METHOD  
HSA - HOLLOW STEM AUGER DC - DRIVING CASING  
CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING



## ENSR CONSULTING &amp; ENGINEERING

## SUBSURFACE EXPLORATION

## LITHOLOGIC LOG OF MW-62

Client : CSX TRANSPORTATION, INC.  
 Project Name : GROUND WATER ASSESSMENT - SIOP AREA  
 Project Location : WAYCROSS, GA  
 Job Number : 2130-016-004 Boring No : MW-62  
 Logged By : SHAWN EUBANKS  
 Approved By : RAAJ PATEL  
 Drilled By : AMERICAN DRILLING, TAMPA, FL - KEVIN DEGROOT

DRILLING AND SAMPLING INFORMATION  
 Date Started : 3-17-90 Date Completed : 3-17-90  
 Method : HOLLOW STEM AUGER Total Depth : 34 FT  
 WELL COMPLETION INFORMATION  
 Screen Dia : 2" Length : 10 FT  
 Slot Size : .010" Type : SS  
 Casing Dia : 2" Length : 18.5 FT

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	RECOVERY (FEET)	BLOW COUNT	OW (FPU)	GRAPHIC LOG	WELL COMPLETION	WATER LEVEL
	SURFACE ELEVATION :								
	FILL 0.0-4.0 Interlayered silty sand and caliche gravel	J-1	SS	NA	7.7	0.0			
5	4.0-8.0 fine sand, loose, tan to black, slight odor, moist	J-3	SS	NA	5.1	0.0			
10	SANDY CLAY(CL) - Compact, dark gray, moist - 9.2 color changes to tan and orange	J-5	SS	NA	5.7	0.0			
15	SILTY CLAY(CL) - Soft, gray, medium plasticity, moist - 14.5 occasional fine sand seams	J-7	SS	NA	13.6	0.0			
20		J-9	SS	NA	11.5	0.0			
25	SAND(SP) - med.g., loose, cream, saturated	J-11	SS	NA	25.1	0.0			
30	CLAYEY SAND(SC) - Slightly compact, tan and orange, some clay	J-13	SS	NA	WCH	0.0			
	SILTY CLAY(CL) - Compact, tan, moist	J-15	SS	NA	47.9	0.0			
35									
40									
45									
50									
55									

SAMPLER TYPE  
 SS - DRIVEN SPLIT SPOON RC - ROCK CORE  
 ST - PRESSED SHIELD TUBE CT - CONTINUOUS TUBE

BORING METHOD  
 HSA - HOLLOW STEM AUGER DC - DRIVING CASING  
 CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING



## SUBSURFACE EXPLORATION

## LITHOLOGIC LOG OF MW-63

Client : CSX TRANSPORTATION, INC.  
 Project Name : GROUND WATER ASSESMENT - SHOP AREA  
 Project Location : WAYCROSS, GA  
 Job Number : 2130-016-003 Boring No : MW-63  
 Logged By : DAVE CORNUÉ  
 Approved By : RAAJ PATEL  
 Drilled By : AMERICAN DRILLING, TAMPA, FL - KEVIN DEGROOT

DRILLING AND SAMPLING INFORMATION  
 Date Started : 3-18-90 Date Completed : 3-18-90  
 Method : HOLLOW STEM AUGER Total Depth : 35.5 FT  
 WELL COMPLETION INFORMATION  
 Screen Dia : 2" Length : 10 FT  
 Slot Size : .010" Type : SS  
 Casing Dia : 2" Length : 20.0 FT

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	RECOVERY (FEET)	BLOW COUNT	QW (PPH)	GRAPHIC LOG	WELL COMPLETION	WATER LEVEL
	SURFACE ELEVATION :								
	FILL Fine to medium grained sand(SP), brown, contains clnder, moist	J-1	SS	NA	NA	0.0			
		J-2	SS	NA	NA	0.0			
5	SILT(ML) - Loose, light brown, clayey near bottom, moist to saturated	J-3	SS	NA	1.1	0.0			
10	SANDY CLAY(CL) - Very stiff, dark red, damp.	J-5	SS	NA	4.10	0.0			
15	CLAYEY SILT(ML) - White, orange and red, clay laminations approximately 1-2mm thick, saturated.	J-7	SS	NA	2.2	0.0			
20	SILTY CLAY(CL) - Firm, orange to red, saturated	J-9	SS	NA	2.4	0.0			
	SILTY SAND(SM) - f.g., white, moist to saturated								
25	Interbedded silty clay(CL) and sandy silt(MS) - - clay is firm to stiff, - silty sand is loose, - both are buff to yellow in color	J-11	SS	NA	2.3	0.0			
30	SILTY SAND(SM) - med.g., loose, buff to orange, some sandy clay seams, saturated	J-13	SS	NA	5.5	0.0			
		J-15	SS	NA	12.0	0.0			
	CLAYEY SAND(SC) - med.g., very stiff, buff to yellow,	J-17	SS	NA	5.8	0.0			
35	SILTY CLAY (CL) - Stiff, white to buff, moist								
40									
45									
50									
55									

SAMPLER TYPE  
 SS - DRIVEN SPLIT SPOON RC - ROCK CORE  
 ST - PRESSED SHELBY TUBE CT - CONTINUOUS TUBE

BORING METHOD  
 HSA - HOLLOW STEM AUGER DC - DRIVING CASING  
 CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING

## SUBSURFACE EXPLORATION

## LITHOLOGIC LOG OF MW-64

Client : CSX TRANSPORTATION, INC.  
 Project Name : GROUND WATER ASSESMENT - SHOP AREA  
 Project Location : WAYCROSS, GA  
 Job Number : 2130-016-003 Boring No : MW-64  
 Logged By : SHAWN EUBANKS  
 Approved By : RAAJ PATEL  
 Drilled By : AMERICAN DRILLING, TAMPA, FL - KEVIN DEGROOT

DRILLING AND SAMPLING INFORMATION  
 Date Started : 3-18-90 Date Completed : 3-18-90  
 Method : HOLLOW STEM AUGER Total Depth : 35.5 FT  
 WELL COMPLETION INFORMATION  
 Screen Dia : 2" Length : 10 FT  
 Slot Size : .010" Type : SS  
 Casing Dia : 2" Length : 20 FT

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	RECOVERY (FEET)	BLOW COUNT	QW (PPM)	GRAPHIC LOG	WELL COMPLETION	WATER LEVEL
	SURFACE ELEVATION :								
	FILL 0.0-1.0 Sandy gravel(GP) - loose, black, dry 1.0-4.5 Sand(SP) f.g. - med.g., loose, tan, moist	J-1	SS	NA	NA	0.0			
5	CLAYEY SAND(SC) - f.g., slightly compact, tan and gray, saturated	J-2	SS	NA	1,1,1	0.0			
10	SANDY CLAY(CL) - Compact, reddish tan with some black stain, slight odor in stained areas, moist - 10.5 color changes to white, more silty	J-4	SS	NA	5,3,5	0.0			
15	CLAYEY SILT(ML) - Slightly compact, white with occasional red streaks, saturated	J-6	SS	NA	2,1,2	0.0			
20	SAND(SP) - f.g. - med.g., loose, white, some clay present, saturated	J-8	SS	NA	1,2,5	0.0			
25	- 24.9 compact sandy clay lense	J-10	SS	NA	2,5,7	0.0			
30	- 29.0 grades to med. g - coarse g. - 30.0 interbedded sandy clay and gravelly sand	J-12	SS	NA	1,1,3	0.0			
	CLAYEY SAND(SC) - med.g. - coarse g., slightly compact, - 32.5 Firm, compact, grains cemented	J-14	1.5	NA	5,7,1	0.0			
		J-16	SS	NA	1,5,5	0.0			
35									
40									
45									
50									
55									

SAMPLER TYPE  
 SS - DRIVEN SPLIT SPOON RC - ROCK CORE  
 ST - PRESSED SHELDY TUBE CT - CONTINUOUS TUBE

BORING METHOD  
 HSA - HOLLOW STEM AUGER DC - DRIVING CASING  
 CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING

## ENSR CONSULTING &amp; ENGINEERING

## SUBSURFACE EXPLORATION

## LITHOLOGIC LOG OF MW-66

Client : CSX TRANSPORTATION, INC  
 Project Name : PHASE 2 - SHOP AREA  
 Project Location : WAYCROSS, GA  
 Job Number : 2130-016-007 Boring No : MW-66  
 Logged By : SHAWN EUBANKS  
 Approved By : RAAJ PATEL  
 Drilled By : AMERICAN DRILLING, TAMPA FL - GENE WADE

DRILLING AND SAMPLING INFORMATION  
 Date Started : 6-26-90 Date Completed : 6-26-90  
 Method : HOLLOW STEM AUGER Total Depth : 35.5 FT  
 WELL COMPLETION INFORMATION  
 Screen Dia : 2.0 IN Length : 10.0 FT  
 Slot Size : 0.01 IN Type : STAINLESS STEEL  
 Casing Dia : 2.0 IN Length : 20.5 FT

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	RECOVERY (FEET)	BLOW COUNT	RNU (PPM)	GRAPHIC LOG	WELL COMPLETION	WATER LEVEL
	SURFACE ELEVATION :								
	FILL Sandy silt, loose, black and dark reddish brown, some metal slag material, dry	J-1	SS		212	0.0			
5	4.9' Clayey, tan and black, slight hydrocarbon odor	J-3	SS		22	0.0			
	(9.5')	J-5	SS		144	0.0			
10	SANDY CLAY(CL) Compact, white, orange, red, and yellow mix, some metal encountered in top six inches, moist	J-7	SS		13	0.0			
15	15.0' color is mainly white								
	(19.5')	J-9	SS		112	0.0			
20	SAND WITH A TRACE OF CLAY(SW) Fine to medium grained, very slightly compact, white with some orange and rose mottling in top six inches, saturated	J-11	SS		72	0.0			
25	23.5' Medium to coarse grained								
	(25.5')	J-13	SS		103	0.0			
30	SANDY CLAY(CL) Compact, stiff, gray, orange, and pink, moist	J-14	SS		212	0.0			
	(30.0')								
35	SAND(SP) Coarse grained, loose, gray and tan, saturated	J-16	SS		NA	0.0			
	- 32.8' Sandy clay lense								
	(35.5')								
	SANDY CLAY(CL) Compact, buff with red, and purple, moist								
	(36.0')								
40									
45									
50									
55									

SAMPLER TYPE  
 SS - DRIVEN SPLIT SPOON RC - ROCK CORE  
 ST - PRESSED SHELBY TUBE CT - CONTINUOUS TUBE

BORING METHOD  
 HSA - HOLLOW STEM AUGER DC - DRIVING CASING  
 CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING



## ENSR CONSULTING &amp; ENGINEERING

## SUBSURFACE EXPLORATION

## LITHOLOGIC LOG OF MW-68

Client : CSX TRANSPORTATION, INC.  
Project Name : SHOP AREA  
Project Location : WAYCROSS, GA  
Job Number : 2130-016-011 Boring No : MW-68  
Logged By : SHAWN EUBANKS  
Approved By : RAAJ PATEL  
Drilled By : AMERICAN DRILLERS, GENE WADE

DRILLING AND SAMPLING INFORMATION  
Date Started : 6-25-91 Date Completed : 6-25-91  
Method : HSA Total Depth : 28.0 FT  
WELL COMPLETION INFORMATION  
Screen Dia : 2.0 IN Length : 10.0 FT  
Slot Size : 0.01 IN Type : STAINLESS STEEL  
Casing Dia : 2.0 IN Length : 15.0 FT

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	RECOVERY (FEET)	BLOW COUNT	Q/M	GRAPHIC LOG	WELL COMPLETION	WATER LEVEL
	SURFACE ELEVATION :								
2	Alternating layers of silty clay(cl) and clayey silt(ml), compact, clay is brown to gray, silt is white to light gray, moist	J-1	SS	2	34.55	2			
4	4.0' SILTY CLAY(CL) - compact, stiff, dark gray, some iron oxide stain, moist	J-2	SS	2	48.81	4			
6									
8	8.0' CLAYEY SAND(SC) fine to medium grained with clay partings - olive gray and tan, moist	J-3	SS	2	23.45	0.9			
10									
12	13.0' Alternating layers of sand and clay, clay is 2 to 3 mm, sand is 1 to 2 inches, tan, moist	J-4	SS	2	02.12	0.9			
14									
16	18.0' SAND(SP) medium grained - loose occasional clay parting, gray, saturated	J-5	SS	2	01.22	0.3			
18		J-6	SS	2	12.20	0			
20		J-7	SS	2	03.55	0			
22	23.0'								

## SAMPLER TYPE

SS - DRIVEN SPLIT SPOON RC - ROCK CORE  
ST - PRESSED SHELBY TUBE CT - CONTINUOUS TUBE

## BORING METHOD

HSA - HOLLOW STEM AUGER DC - DRIVING CASING  
CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING

## ENSR CONSULTING & ENGINEERING

### SUBSURFACE EXPLORATION

### LITHOLOGIC LOG OF MW-68

Client : CSX TRANSPORTATION, INC.  
 Project Name : SHOP AREA  
 Project Location : WAYCROSS, GA  
 Job Number : 2130-016-011 Boring No :  
 Logged By : SHAWN EUBANKS  
 Approved By : RAAJ PATEL  
 Drilled By : AMERICAN DRILLERS, GENE WADE

DRILLING AND SAMPLING INFORMATION  
 Date Started : 6-25-91 Date Completed : 6-25-91  
 Method : HSA Total Depth : 28.0 FT  
 WELL COMPLETION INFORMATION  
 Screen Dia : 2.0 IN Length : 10.0 FT  
 Slot Size : 0.01 IN Type : STAINLESS STEEL  
 Casing Dia : 2.0 IN Length : 15.0 FT

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	RECOVERY (FEET)	BLOW COUNT	OWN	GRAPHIC LOG	WELL COMPLETION	WATER LEVEL
	SURFACE ELEVATION :								
	SANDY CLAY(CL) - stiff, light green, some med. grained sand pockets, moist	J-8	SS	2	5,5,7	0			
26	26.0'								
	SAND(SP) coarse grained - loose, light gray, saturated	J-9	SS	2	9,10,11,16	0			
27	27.8'								
28	28.0'								
	CLAY(CL/CH) - stiff, dark gray, moist								
	BORING TERMINATED AT 28.0 FT								
30									
32									
34									
36									
38									
40									
42									
44									
46									

SAMPLER TYPE  
 SS - DRIVEN SPLIT SPOON RC - ROCK CORE  
 ST - PRESSED SHELBY TUBE CT - CONTINUOUS TUBE

BORING METHOD  
 HSA - HOLLOW STEM AUGER DC - DRYING CASIN  
 CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING

## ENSR CONSULTING &amp; ENGINEERING

## SUBSURFACE EXPLORATION

## LITHOLOGIC LOG OF MW-69

Client : CSX TRANSPORTATION, INC.  
Project Name : SHOP AREA  
Project Location : WAYCROSS, GA  
Job Number : 2130-016-011 Boring No : MW-69  
Logged By : SHAWN EUBANKS  
Approved By : RAAJ PATEL  
Drilled By : AMERICAN DRILLERS, GENE WADE

DRILLING AND SAMPLING INFORMATION  
Date Started : 6-26-91 Date Completed : 6-26-91  
Method : HSA Total Depth : 28.0 FT  
WELL COMPLETION INFORMATION  
Screen Dia : 2.0 IN Length : 10.0 FT  
Slot Size : .001 IN Type : STAINLESS STEEL  
Casing Dia : 2.0 IN Length : 15.0 FT

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	RECOVERY (FEET)	BLOW COUNT	QMM	GRAPHIC LOG	WELL COMPLETION	WATER LEVEL
	SURFACE ELEVATION :								
2	SILTY CLAY(CL) - medium stiffness, gray, iron oxide stain, moist	J-1	SS	2	45,7,9	0			
4	4.5'								
6	SANDY CLAY(CL) - stiff, gray and tan, moist	J-2	SS	2	6,10,11,7	0.3			
8	8.0'								
10	SILTY SAND(SM) - slightly compact, occasional clay parting, very moist to saturated	J-3	SS	2	3,4,3,3	0			
12	13.0'								
14	CLAYEY SAND(SC) - light gray, saturated								
16	- 14.5' clay lense 2" thick	J-4	SS	2	2,3,3,2	0			
18	- 18.0' medium sand with less clay, tan and orange								
20		J-5	SS	2	1,1,3,2	0			
22		J-6	SS	2	4,4,4,5	0			
		J-7	SS	2	5,7	0			

SAMPLER TYPE  
SS - DRIVEN SPLIT SPOON RC - ROCK CORE  
ST - PRESSED SHELBY TUBE CT - CONTINUOUS TUBE

BORING METHOD  
HSA - HOLLOW STEM AUGER DC - DRIVING CASING  
CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING

## SUBSURFACE EXPLORATION

## LITHOLOGIC LOG OF MW-69

Client : CSX TRANSPORTATION, INC.  
 Project Name : SHOP AREA  
 Project Location : WAYCROSS, GA  
 Job Number : 2130-016-011 Boring No : MW-69  
 Logged By : SHAWN EUBANKS  
 Approved By : RAAJ PATEL  
 Drilled By : AMERICAN DRILLERS, GENE WADE

DRILLING AND SAMPLING INFORMATION  
 Date Started : 6-26-91 Date Completed : 6-26-91  
 Method : HSA Total Depth : 28.0 FT  
 WELL COMPLETION INFORMATION  
 Screen Dia : 2.0 IN Length : 10.0 FT  
 Slot Size : 0.01 IN Type : STAINLESS STEEL  
 Casing Dia : 2.0 IN Length : 15.0 FT

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	RECOVERY (FEET)	BLOW COUNT	OW	GRAPHIC LOG	WELL COMPLETION	WATER
	SURFACE ELEVATION :								
	24.5'	J-7	SS	2	10.12	0			
	SANDY CLAY(CL) WITH SILT - stiff, grayish green, moist								
26	26.0'	J-8	SS	2	4.547	0			
	CLAY(CL/CH) - stiff, olive gray, moist								
	27.0'								
28	SILTY SAND(SW) fine to medium grained, tan, some clay partings, moist	J-9	SS	2	5.9817	0			
	28.5'								
	CLAY(CL/CH) - stiff, olive gray, moist								
	29.0'								
30									
32									
34									
36									
38									
40									
42									
44									
46									

SAMPLER TYPE  
 SS - DRIVEN SPLIT SPOON RC - ROCK CORE  
 ST - PRESSED SHELBY TUBE CT - CONTINUOUS TUBE

BORING METHOD  
 HSA - HOLLOW STEM AUGER DC - DRIVING CASH  
 CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING

## ENSR CONSULTING & ENGINEERING

### SUBSURFACE EXPLORATION

### LITHOLOGIC LOG OF MW-70

Client : CSX TRANSPORTATION, INC.  
 Project Name : SHOP AREA  
 Project Location : WAYCROSS, GA  
 Job Number : 2130-016-011 Boring No :  
 Logged By : SHAWN EUBANKS  
 Approved By : RAAJ PATEL  
 Drilled By : AMERICAN DRILLERS, GENE WADE

DRILLING AND SAMPLING INFORMATION  
 Date Started : 6-26-91 Date Completed : 6-27-91  
 Method : HSA Total Depth : 23.0 FT  
 WELL COMPLETION INFORMATION  
 Screen Dia : 2.0 IN Length : 10.0 FT  
 Slot Size : 0.01 IN Type : STAINLESS STEEL  
 Casing Dia : 2.0 IN Length : 15.0 FT

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	RECOVERY (FEET)	BLOW COUNT	QW	GRAPHIC LOG	WELL COMPLETION	WATER LEVEL
	SURFACE ELEVATION :								
0	SILTY CLAY(CL) - dark brown and tan, roots in top two inches,  - 1.8' pocket of silty sand  4.0'	J-1	SS	2	2,3,4,5	0			
2									
4	CLAYEY SAND(SC) WITH SILT - dark tan and light gray, moist  9.0'	J-2	SS	2	11,10,9,8	3.0			
6									
8									
10	SILTY FINE SAND(SP) WITH SOME CLAY - dark brown,  - 17.0' clay layer 1" thick, sand is medium grained  - 20.5' clay layer 2" thick, sand is well saturated  23.0'	J-3	SS	2	2,3,3,4	0			
12									
14		J-4	SS	2	1,1,0,1	0			
16									
18									
20		J-5	SS	2	1,2,2,3	0.3			
22									

SAMPLER TYPE  
 SS - DRIVEN SPLIT SPOON RC - ROCK CORE  
 ST - PRESSED SHELBY TUBE CT - CONTINUOUS TUBE

BORING METHOD  
 HSA - HOLLOW STEM AUGER DC - DRIVING CASING  
 CFA - CONTINUOUS FLIGHT AUGERS MD - MUD DRILLING



## ENSR CONSULTING & ENGINEERING

### SUBSURFACE EXPLORATION

### LITHOLOGIC LOG OF MW-70

Client : CSX TRANSPORTATION, INC.  
 Project Name : SHOP AREA  
 Project Location : WAYCROSS, GA  
 Job Number : 2130-016-011 Boring No : MW-70  
 Logged By : SHAWN EUBANKS  
 Approved By : RAAJ PATEL  
 Drilled By : AMERICAN DRILLERS, GENE WADE

DRILLING AND SAMPLING INFORMATION  
 Date Started : 6-26-91 Date Completed : 6-27-91  
 Method : HSA Total Depth : 28.0 FT  
 WELL COMPLETION INFORMATION  
 Screen Dia : 2.0 IN Length : 10.0 FT  
 Slot Size : 0.01 IN Type : STAINLESS STEEL  
 Casing Dia : 2.0 IN Length : 15.0 FT

DEPTH IN FEET	DESCRIPTION	SAMPLE NO.	SAMPLE TYPE	RECOVERY (FEET)	BLOW COUNT	QVM	GRAPHIC LOG	WELL COMPLETION	WATER
	SURFACE ELEVATION :								
26	SANDY CLAY(CL) - slightly stiff, greenish gray, moist - 25.0' more silty, sand lense at 25.7' - 25.8' clayey sand	J-6	SS	2	1,7,16,14	0			
27		J-7	SS	2	12,13,13,15	0			
27.8'									
28	CLAY(CL/CH) WITH SOME SAND - stiff gray moist								
	BORING TERMINATED AT 28.0 FT								
30									
32									
34									
36									
38									
40									
42									
44									
46									

SAMPLER TYPE  
 SS - DRIVEN SPLIT SPOON RC - ROCK CORE  
 ST - PRESSED SHELBY TUBE CT - CONTINUOUS TUBE

BORING METHOD  
 HSA - HOLLOW STEM AUGER DC - DRIVING CAS  
 CFA - CONTINUOUS FLIGHT AUGERS MO - MUD DRILLIN



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## BORING & WELL CONSTRUCTION LOG

Date(s): 10/11/95 - 10/11/95

Well ID: MW-71

Client/Project Number: CSXT\560-58

Surface Elevation: 137.00'

Datum: Mean Sea Level

Project Name & Location: CSXT Waycross, Georgia

Total Borehole Depth: 28.00'

Well Completion Depth: 28.00'

Logged By: G. Bonn

Approved By: C. Mattair

Depth to Water: 8.16'

Borehole Dia.: 8.25in

Contractor/Driller: Gulf Atlantic-Ocala

Conductor Casing:

type: dia: .00in fm: .00' to: .00'

Drilling Method & Rig: Hollow Stem Auger, Ministar

Solid Pipe

type: Stainless dia: 2.00in fm: -.7' to: 13.00'

Well Location: ODSA

Purpose: Well

Screens:

type: Wire-wrap size: .020in dia: 2.00in fm: 13.00' to: 23.00'

Sampler Type: Split Spoon Sampler, 2" diameter, 2' length

Water Level Measured (Date & Time): (10-11-95)

Annular Fill:

type: Grout fm: .00' to: 8.50'

type: Bentonite fm: 8.50' to: 11.00'

type: Sand Filter fm: 11.00' to: 28.00'

type: fm: to:

Remarks: Developed by purging w/ 2" centrifugal pump at  
1.5 gpm. 25 gallons purged; clear after  
15 gallons.

Elevation (ft)	Depth (ft)	Sample ID/ Interval	Vapor	Moisture	Recovery	Blow Count	Graphic Log	USCS Code	Material Description Trace = 0-10% Little = 10-20% Some = 20-30% And = 35-50% D - dry, M - moist, S - saturated	Well Construction MP. EL. 137.67
								SC	0-4.0' VF-F sand with 20% silty clay. Gray, brown, homogeneous, soil.	
	5	4-6		M		19 36 41 49		SC/CL	5.0-6.0' VF-F sand with 40% silty clay. LL brown, yellow, gray, mottled, homogeneous, very dense.	
130	10	9-11		M		5 6 8 10		SC	10.0-11.0' VF-F sand with a trace of M sand and 30% silty clay. Lavender, homogeneous, semi-dense.	
	15	14-16		S		3 5 6 8			14.0-16.0' VF-C sand with 20% silty clay. LL gray, lavender, coarsely interlayered bedding, becomes coarser at 15.0', soil.	
120	20	19-21		S		3 4 9 12			19.3-21.0' VF-C sand with 30% silty clay. Gray and brown, coarsely interlayered bedding with a few dark gray clay layers, soil.	
	25	24-26		S		4 7 10 14			24.1-26.0' VF-C sand with 40% silty clay. Gray, brown, becomes green at 25.8', homogeneous, becomes coarsely interlayered with increasing clay at 25.8', semi-dense.	
110	26	26-28		S		3 7 8 7			26.8-28.0' Silty clay with 30% VF-F sand. Green, homogeneous, soil, abundant mica.	



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## BORING & WELL CONSTRUCTION LOG

Client/Project Number: CSXT\560-58

Date(s): 10/11/95 - 10/11/95

Well ID: MW-72

Project Name & Location: CSXT Waycross, Georgia

Surface Elevation: 137.00'

Datum: Mean Sea Level

Logged By: G. Bonn

Approved By: C. Mattair

Total Borehole Depth: 28.00'

Well Completion Depth: 28.00'

Contractor/Driller: Gulf Atlantic-Ocala

Conductor Casing:

type: dia: .00in fm: .00' to: .00'

Drilling Method & Rig: Hollow Stem Auger, Failing F-2

Solid Pipe

type: Stainless dia: 2.00in fm: -.8' to: 13.00'

Well Location: ODSA

Purpose: Well

Screens:

type: Wire-wrap size: .020in dia: 2.00in fm: 13.00' to: 23.00'

Sampler Type: Split spoon sampler, 2" diameter, 2' length

Water Level Measured (Date & Time): (10/13/95)

Annular Fill:

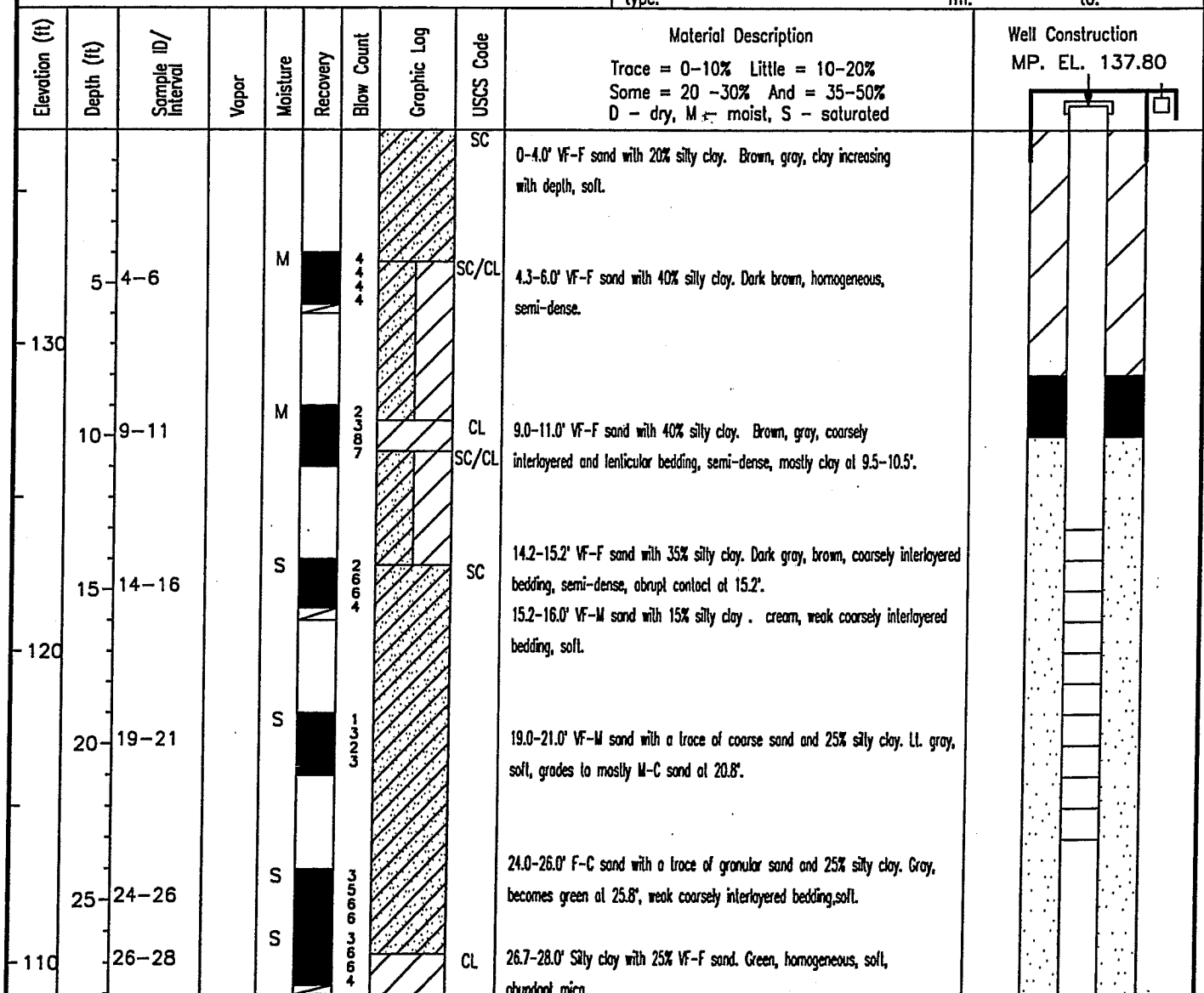
type: Grout fm: .00' to: 8.00'

type: Bentonite fm: 8.00' to: 10.00'

type: Sand Filter fm: 10.00' to: 28.00'

type: fm: to:

Remarks: Developed by purging with a 2" centrifugal pump  
at 2.0 gpm. 30 gallons purged; clear after  
15 gallons.





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## BORING & WELL CONSTRUCTION LOG

Date(s): 10/11/95 - 10/11/95

Well ID: MW-73

Client/Project Number: CSXT\560-58

Surface Elevation: 135.00'

Datum: Mean Sea Level

Project Name & Location: CSXT Waycross, Georgia

Total Borehole Depth: 28.00'

Well Completion Depth: 28.00'

Logged By: G. Bonn

Approved By: C. Mattair

Depth to Water: 4.27'

Borehole Dia.: 8.25in

Contractor/Driller: Gulf Atlantic-Ocala

Conductor Casing:

type: dia: .00in fm: .00' to: .00'

Drilling Method & Rig: Hollow Stem Auger, Failing F-2

Solid Pipe

type: Stainless dia: 2.00in fm: -.6' to: 13.00'

Well Location: ODSA - south of canal

Purpose: Well

Screens:

type: Wire-wrap size: .020in dia: 2.00in fm: 13.00' to: 23.00'

Sampler Type: Split spoon sampler, 2" diameter, 2' length.

Annular Fill:

type: Grout fm: .00' to: 9.00'

type: Bentonite fm: 9.00' to: 11.00'

type: Sand Filter fm: 11.00' to: 28.00'

type: fm: to:

Water Level Measured (Date & Time): (10/13/95)

Remarks: Developed by purging with a 2" centrifugal pump  
at 4 gpm. 75 gallons purged; clear after 20  
gallons.

Elevation (ft)	Depth (ft)	Sample ID/ Interval	Vapor	Moisture	Recovery	Blow Count	Graphic Log	USCS Code	Material Description Trace = 0-10% Little = 10-20% Some = 20-30% And = 35-50% D - dry, M ±- moist, S - saturated	Well Construction MP. EL. 135.62
130	5	4-6		M		2445		SC	0-2.0' VF-F sand with 20% silty clay. Gray, brown, homogeneous, soft.	
								CL	2.0-4.0' Silty clay with 30% VF-F sand. Dark brown, black, homogeneous, semi-dense.	
									4.8-6.0' Silty clay with 30% VF-F sand. Dark brown with yellow mottling, homogeneous, semi-dense.	
	10	9-11		M		4223		CL/SC	9.1-9.4' Same as 4.8-6.0'.	
								CL	9.4-10.8' Silty clay with 40% VF-F sand. Gray, brown, alternating thin beds of clay and sand, soft.	
									10.8-11.0' Silty clay with 5% VF sand. Gray, homogeneous, soft, plastic.	
120	15	14-16		S		3333		SC	14.0-14.8' Same as 9.4-10.8'.	
									14.8-16.0' VF-M sand with a trace of C sand and 25% silty clay. Gray, irregular bedding with clay spilling, bioturbated?, soft.	
	20	19-21		S		3333			19.0-21.0' F-C sand with a trace of VC sand and 10% silty clay. Lt. gray, beige, homogeneous, soft.	
								CL	24.0-26.0' Silty clay with 20% VF-C sand. Green-gray, homogeneous, soft, plastic.	
110	25	24-26		S		8101517		SC	26.0-28.0' F-VC sand with a trace of granular sand and 15% clay and sil.	
									Lt. green, gray, brown, abundant K-feld. granules at 27.5', clay content increasing and sand grain size decreasing with depth, soft.	
	26-28			S						



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## BORING & WELL CONSTRUCTION LOG

Client/Project Number: CSXT\560-58		Date(s): 10/11/95 - 10/11/95	Well ID: MW-74
Project Name & Location: CSXT Waycross, Georgia		Surface Elevation: 135.00'	Datum: Mean Sea Level
Logged By: G. Bonn		Total Borehole Depth: 28.00'	Well Completion Depth: 28.00'
Approved By: C. Mattair		Depth to Water: 4.07'	Borehole Dia.: 8.25in
Contractor/Driller: Gulf Atlantic-Ocala		Conductor Casing: type: dia: .00in fm: .00' to: .00'	
Drilling Method & Rig: Hollow Stem Auger, Ministar		Solid Pipe type: Stainless dia: 2.00in fm: -.7' to: 13.00'	
Well Location: ODSA - south of canal		Screens: type: Wire-wrap size: .020in dia: 2.00in fm: 13.00' to: 23.00'	
Purpose: Well		Annular Fill: type: Grout fm: .00' to: 9.00'	
Sampler Type: Split Spoon Sampler, 2" diameter, 2' length		type: Bentonite fm: 9.00' to: 11.00'	
Water Level Measured (Date & Time): (10/13/95)		type: Sand Filter fm: 11.00' to: 28.00'	
Remarks: Developed by purging with 2" centrifugal pump at 0.75 gpm. 20 gallons purged; clear after 15 gallons.		type: fm: to:	

Elevation (ft)	Depth (ft)	Sample ID/ Interval	Vapor	Moisture	Recovery	Blow Count	Graphic Log	USCS Code	Material Description Trace = 0-10% Little = 10-20% Some = 20 -30% And = 35-50% D - dry, M = moist, S - saturated	Well Construction MP. EL. 135.74
130	5	4-6		M		4 9 10 13		SC	0-2.0' VF-F sand with 20% silty clay. Gray, homogeneous, soft.	
								CL	2.0-4.0' Silty clay with 40% VF-F sand. Dark brown, block, homogeneous, semi-dense.	
								SC/CL	4.5-5.3' VF-F sand with 40% silty clay. Yellow, dark gray, brown, mottled, homogeneous, semi-dense.	
									5.3-6.0' VF-M sand with a trace of C sand and 40% silty clay. Yellow, gray, mottled, coarsely interlayered bedding, soft.	
10	9-11		S		3 5 6 7		SC	10.0-11.0' VF-F sand with a trace M sand and 25% silty clay. Gray, weak coarsely interlayered bedding, soft.		
120	15	14-16		S		5 6 6 8			14.3-16.0' VF-M sand with a trace of C sand and 25% silty clay. Gray, well-defined coarsely interlayered bedding, soft.	
20	19-21		S		2 3 3 3 3			19.2-21.0' VF-C sand with 15% silty clay. LL gray, cream, homogeneous with occasional clay laminations, grain size increasing with depth, soft.		
110	25	24-26		S		4 6 7 6 3 5 6 6			24.0-26.0' F-C sand with a trace of granular sand and 15 % silty clay. LL gray, brown, grain size increasing with depth, soft.	
		26-28		S		3 5 6 6 6		SP/SC	26.0-28.0' M-VC sand with a trace of granular sand and 10% silty clay. LL gray, homogeneous, soft.	



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## BORING & WELL CONSTRUCTION LOG

Client/Project Number: CSXT\560-58		Date(s): 10/10/95 - 10/10/95	Well ID: MW-75
Project Name & Location: CSXT Waycross, Georgia		Surface Elevation: 135.00'	Datum: Mean Sea Level
Logged By: G. Bonn		Approved By: C. Mattair	
Contractor/Driller: Gulf Atlantic-Ocala		Depth to Water: 4.71'	Borehole Dia.: 8.25in
Drilling Method & Rig: Hollow Stem Auger, Failing F-2		Conductor Casing: type: dia: .00in fm: .00' to: .00'	
Well Location: ODSA		Solid Pipe type: Stainless dia: 2.00in fm: -.9' to: 13.00'	
Purpose: Well		Screens: type: Wire-wrap size: .020in dia: 2.00in fm: 13.00' to: 23.00'	
Sampler Type: Split Spoon Sampler, 2" diameter, 2' length		Annular Fill: type: Grout fm: .00' to: 9.00'	
Water Level Measured (Date & Time): (10/13/95)		type: Bentonite fm: 9.00' to: 11.00'	
Remarks: Developed by purging with 2" centrifugal pump at 4 gpm. 50 gallons purged; clear after 15 gallons.		type: Sand Filter fm: 11.00' to: 28.00'	
		type: fm: to:	

Elevation (ft)	Depth (ft)	Sample ID/Interval	Vapor	Moisture	Recovery	Blow Count	Graphic Log	USCS Code	Material Description Trace = 0-10% Little = 10-20% Some = 20-30% And = 35-50% D - dry, M - moist, S - saturated	Well Construction MP. EL. 135.86
130	5	4-6		M		4		SP/SC	0-2.0' VF-F sand with 10% silty clay. Gray, brown, homogeneous, soft.	
	6			M		10		SC	2.0-4.0' VF-F sand with 15% silty clay. Gray, brown, homogeneous, soft.	
	8			M		8		SC/CL	4.8-6.0' VF-F sand with 45% silty clay. Gray, yellow, orange, mottled, clay content increasing with depth, semi-dense.	
	10			M		15		SC	7.1-8.0' VF-F sand with 40% silty clay. Pink, cream, mottled, homogeneous, semi-dense.	
	12			M		4			8.4-10.0' VF-M sand with 30% silty clay. Pink, cream, coarsely interlayered bedding, soft.	
	14			S		6			10.5-12.0' Same as 8.4-10.0'.	
	16			S		6			12.4-14.0' VF-M sand with 20% silty clay. Yellow, pink, cream, coarsely interlayered bedding, soft.	
	18			S		6		SW/SC	14.2-16.0' F-C sand with 10% silty clay. Lt. gray, cream, homogeneous, soft.	
	20			S		4			16.0-18.0' F-VC sand with 10% silty clay. Lt. gray, homogeneous, soft.	
	22			S		6			18.2-20.2' F-VC sand with 10% silty clay. Lt. gray, homogeneous, soft.	
	24			S		4		SC	20.6-22.0' F-granular sand with 20% silty clay. Lt. gray, a few thin beds of clay and granular sand, soft.	
	26			S		4		SW/SC	22.4-24.0' F-granular sand with a trace of pea gravel and 10% silty clay. Lt. gray, coarsest at 23.0-23.5'. soft.	
	28			S		4			24.0-26.0' F-granular sand with 10% silty clay. Lt. gray, tan, homogeneous, soft.	
	30			S		4			26.9-28.0' F-granular sand with 5% silty clay. Lt. gray, cream, homogeneous, soft.	



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## BORING & WELL CONSTRUCTION LOG

Client/Project Number: CSXT\560-58		Date(s): 10/11/95 - 10/11/95	Well ID: MW-76
Project Name & Location: CSXT Waycross, Georgia		Surface Elevation: 136.00'	Datum: Mean Sea Level
Logged By: G. Bonn	Approved By: C. Mattair	Total Borehole Depth: 28.00'	Well Completion Depth: 28.00'
Contractor/Driller: Gulf Atlantic-Ocala		Depth to Water: 4.98'	Borehole Dia.: 8.25in
Drilling Method & Rig: Hollow Stem Auger, Failing F-2		Conductor Casing: type: dia: .00in fm: .00' to: .00'	
Well Location: ODSA		Solid Pipe type: Stainless dia: 2.00in fm: -.8' to: 13.00'	
Purpose: Well		Screens: type: Wire-wrap size: .020in dia: 2.00in fm: 13.00' to: 23.00'	
Sampler Type: Split Spoon Sampler, 2" diameter, 2' length		Annular Fill: type: Grout fm: .00' to: 9.00'	
Water Level Measured (Date & Time): (10/13/95)		type: Bentonite fm: 9.00' to: 11.00'	
Remarks: Developed by purging with 2" centrifugal pump at 2.5 gpm. 45 gallons purged; clear after 20 gallons.		type: Sand Filter fm: 11.00' to: 28.00'	
		type: fm: to:	

Elevation (ft)	Depth (ft)	Sample ID/Interval	Vapor	Moisture	Recovery	Blow Count	Graphic Log	USCS Code	Material Description Trace = 0-10% Little = 10-20% Some = 20-30% And = 35-50% D - dry, M - moist, S - saturated	Well Construction MP. EL. 136.78
130	5	4-6		M		6		SC	0-4.0' VF-F sand with 35% silty clay. Gray, dark brown, clay content increasing with depth, soft.	
						10		SC/CL	4.7-6.0' VF-F sand with 40% silty clay. Dark brown with gray and yellow mottling, homogeneous, semi-dense.	
	10	9-11		S		4		SC	9.2-11.0' VF-C sand with 25% silty clay. Gray, brown, homogeneous sand with a few small clay lenses, changes to coarsely interlayered bedding at 10' soft.	
						9				
	15	14-16		S		2			14.3-16.0' VF-M sand with a trace C-sand and 30% silty clay. Brown, gray, cream, coarsely interlayered bedding, soft.	
						5				
	20	19-21		S		3			19.0-21.0' F-C sand with 15% silty clay. Lt. gray, contains a few thick clay laminations, becomes slightly coarser with depth, soft.	
						4				
	25	24-26		S		4			24.0-25.0' F-C sand with 15% silty clay. Lt. gray, homogeneous, soft.	
						7				
	26	26-28		S		5		SW/SC	26.0-27.0' F-VC sand with a trace of granular sand and 10% silty clay. Lt. gray, homogeneous, some K-feld. granules.	
						7				



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## BORING & WELL CONSTRUCTION LOG

Date(s): 10/11/95 - 10/11/95

Well ID: MW-77

Client/Project Number: CSXT\560-58

Surface Elevation: 135.50'

Datum: Mean Sea Level

Project Name & Location: CSXT Waycross, Georgia

Total Borehole Depth: 28.00'

Well Completion Depth: 28.00'

Logged By: G. Bonn

Approved By: C. Mattair

Depth to Water: 4.18'

Borehole Dia.: 8.25in

Contractor/Driller: Gulf Atlantic-Ocala

Conductor Casing:

type: NA dia: .00in fm: .00' to: .00'

Drilling Method & Rig: Hollow Stem Auger, Ministar

Solid Pipe

type: Stainless dia: 2.00in fm: -.7' to: 13.00'

Well Location: ODSA

Purpose: Well

Screens:

type: Wire-wrap size: .020in dia: 2.00in fm: 13.00' to: 23.00'

Sampler Type: Split Spoon Sampler, 2" diameter, 2' length

Water Level Measured (Date & Time): (10-13-95)

Annular Fill:

type: Grout fm: .00' to: 9.00'

type: Bentonite fm: 9.00' to: 11.00'

type: Sand Filter fm: 11.00' to: 28.00'

type: fm: to:

type: fm: to:

Remarks: Developed by purging with 2" centrifugal pump at 4 GPM. 60 gallons purged; clear after 10 gallons.

Elevation (ft)	Depth (ft)	Sample ID/Interval	Vapor	Moisture	Recovery	Blow Count	Graphic Log	USCS Code	Material Description Trace = 0-10% Little = 10-20% Some = 20-30% And = 35-50% D - dry, M +/- moist, S - saturated	Well Construction MP. EL. 136.17
130	5	4-6		M		4		SC	0-4.0' VF-F sand with 20% silty clay. Gray brown, homogeneous, soft.	
								SC/CL	4.5-5.5' VF-F sand with 40% silty clay. brown, gray, homogeneous, abrupt contact with clay at 5.5', soft.	
								CL	5.5-6.0' Silty clay with 20% VF-F sand. Lt. gray, mottled, homogeneous, soft.	
	10	9-11		S		5		SC	9.3-11.0' VF-C sand with 20% silty clay. Gray, well-defined coarsely interlayered bedding, soft.	
						10				
						4				
	15	14-16		S		2			14.0-16.0' VF-M sand with a trace of coarse sand and 20% silty clay. Gray, coarsely interlayered bedding, soft.	
						5				
	20	19-21		S		3			19.0-21.0' VF-C sand with 20% silty clay. Gray, cream, coarsely interlayered bedding, soft.	
						4				
						7				
						7				
	25	24-26		S		4		SW/SC	24.0-26.0' F-VC sand with a trace of granular sand and 10% silty clay. Lt. gray, becomes slightly coarser with depth, soft.	
						6				
						9				
						12				
	26	26-28		S		5		SC	26.0-28.0' F-VC sand with a trace of granular sand and 20% silty clay. Olive gray, poorly-defined coarsely interlayered bedding, soft.	
						7				
						7				
						10				





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## BORING & WELL CONSTRUCTION LOG

Date(s): 10/12/95 - 10/12/95		Well ID: MW-79
Client/Project Number: CSXT\560-58		Surface Elevation: 130.00'
Project Name & Location: CSXT Waycross, Georgia		Datum: Mean Sea Level
Total Borehole Depth: 28.00'		Well Completion Depth: 28.00'
Logged By: G. Bonn	Approved By: C. Mattair	Depth to Water:
Borehole Dia.: 8.25in		
Contractor/Driller: Gulf Atlantic-Ocala		Conductor Casing:
Drilling Method & Rig: Hollow Stem Auger, Failing F-2		type: dia: .00in fm: .00' to: .00'
Well Location: ASB, south of canal		Solid Pipe
Purpose: Well		type: Stainless dia: 2.00in fm: .5' to: 13.00'
Sampler Type: Split spoon sampler, 2" diameter, 2' length.		Screens:
Water Level Measured (Date & Time): (10/13/95)		type: Wire-wrap size: .020in dia: 2.00in fm: 13.00' to: 23.00'
Remarks: Developed by purging with a 2" centrifugal pump at 3 gpm. 35 gallons purged; clear after 15 gallons.		Annular Fill:
		type: Grout fm: .70' to: 9.00'
		type: Bentonite fm: 9.00' to: 11.00'
		type: Sand Filter fm: 11.00' to: 28.00'
		type: fm: to:

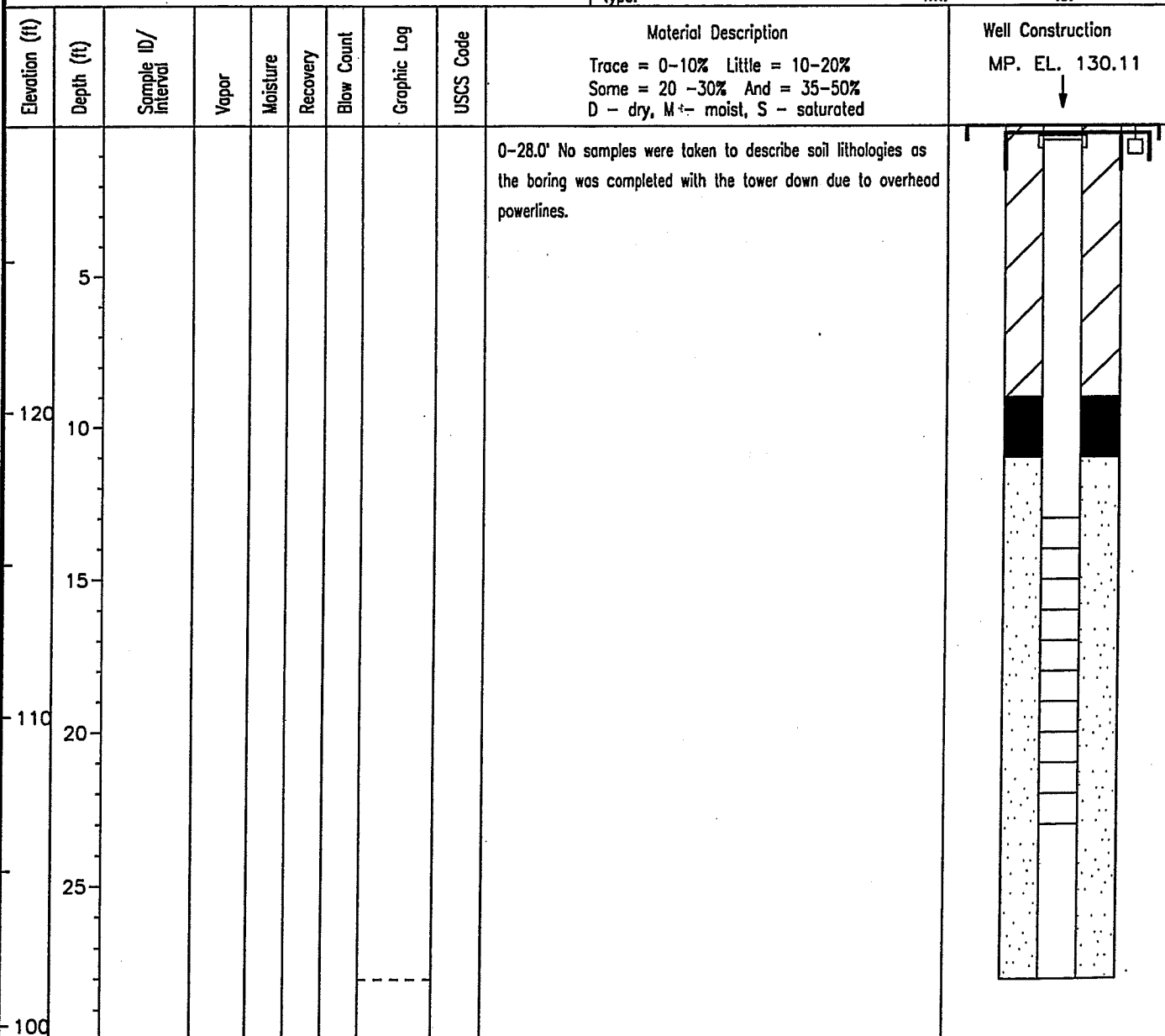
Elevation (ft)	Depth (ft)	Sample ID/ Interval	Vapor	Moisture	Recovery	Blow Count	Graphic Log	USCS Code	Material Description Trace = 0-10% Little = 10-20% Some = 20-30% And = 35-50% D - dry, M - moist, S - saturated	Well Construction MP. EL. 130.91 ↓
130									0-28.0' No samples were taken to describe soil lithologies as the boring was completed with the tower down due to overhead powerlines.	



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## BORING & WELL CONSTRUCTION LOG

Client/Project Number: CSXT\560-58		Surface Elevation: 129.50'	Datum: Mean Sea Level
Project Name & Location: CSXT Waycross, Georgia		Total Borehole Depth: 28.00'	Well Completion Depth: 28.00'
Logged By: G. Bonn	Approved By: C. Moltair	Depth to Water:	Borehole Dia.: 8.25in
Contractor/Driller: Gulf Atlantic-Ocala		Conductor Casing: type: dia: .00in fm: .00' to: .00'	
Drilling Method & Rig: Hollow Stem Auger, Failing F-2		Solid Pipe type: Stainless dia: 2.00in fm: .5' to: 13.00'	
Well Location: ASB, south of canal		Screens: type: Wire-wrap size: .020in dia: 2.00in fm: 13.00' to: 23.00'	
Purpose: Well		Annular Fill: type: Grout fm: .00' to: 9.00'	
Sampler Type:		type: Bentonite fm: 9.00' to: 11.00'	
Water Level Measured (Date & Time): (10/13/95)		type: Sand Filter fm: 11.00' to: 28.00'	
Remarks: Developed by purging with a 2" centrifugal pump at 5 gpm. 45 gallons purged; clear after 20 gallons.		type: fm: to:	





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## BORING & WELL CONSTRUCTION LOG

Date(s): 10/10/95 - 10/10/95

Well ID: **MW-81**

Client/Project Number: CSXT\560-58

Surface Elevation: 132.00'

Datum: Mean Sea Level

Project Name & Location: CSXT Waycross, Georgia

Total Borehole Depth: 28.00'

Well Completion Depth: 28.00'

Logged By: G. Bonn

Approved By: C. Mattair

Depth to Water: 9.56'

Borehole Dia.: 8.25in

Contractor/Driller: Gulf Atlantic-Ocala

Conductor Casing:

Drilling Method & Rig: Hollow Stem Auger, Failing F-2

type: dia: .00in fm: .00' to: .00'

Well Location: ASB, south of canal

Solid Pipe  
type: Stainless dia: 2.00in fm: -.7' to: 13.00'

Purpose: Well

Screens:  
type: Wire-wrap size: .020in dia: 2.00in fm: 13.00' to: 23.00'

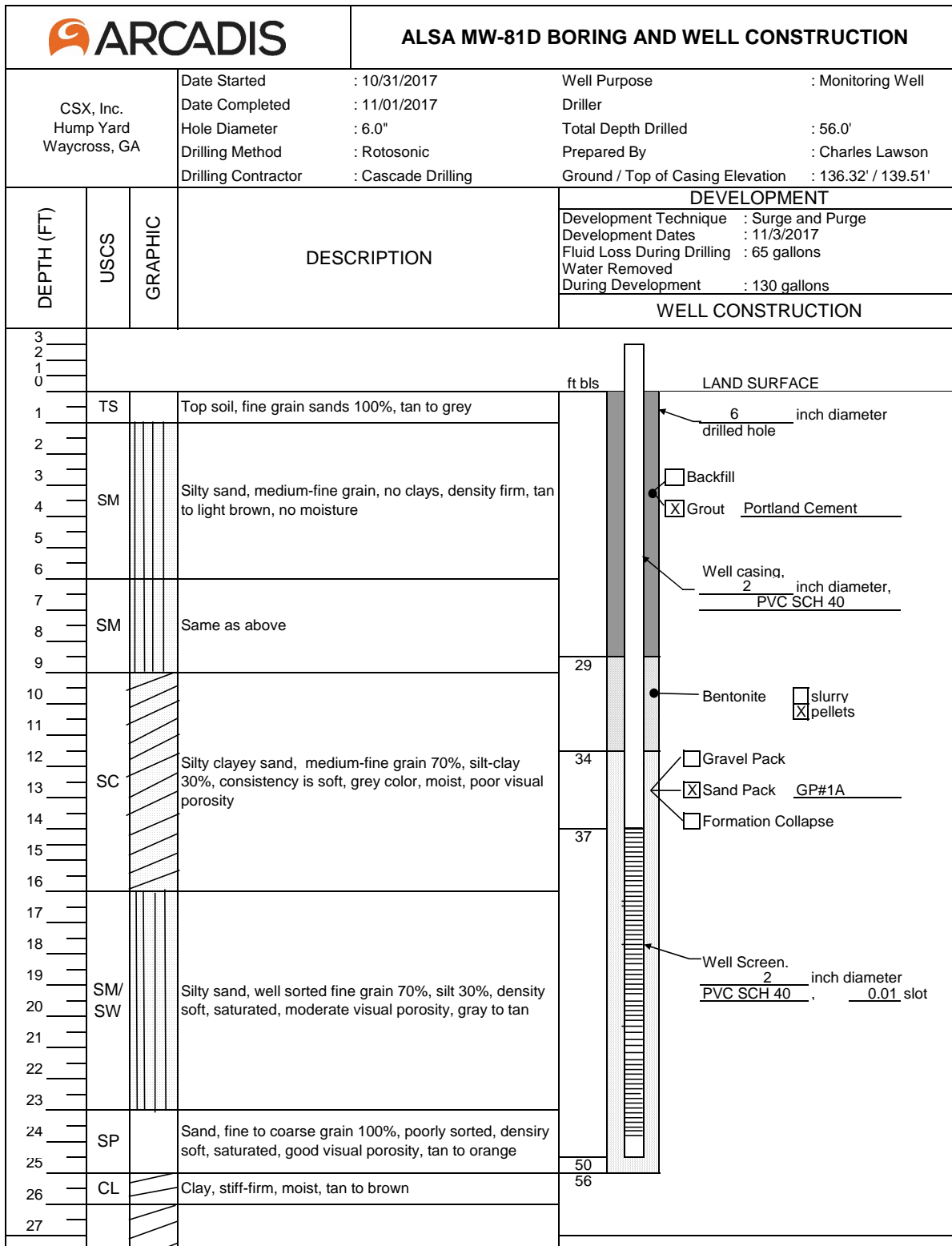
Sampler Type: Split Spoon sampler, 2" diameter, 2' length



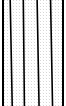

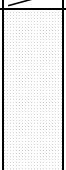

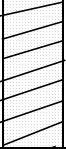

Water Level Measured (Date & Time): (10-13-95)

Annular Fill:  
type: Grout fm: .00' to: 8.00'  
type: Bentonite fm: 8.00' to: 10.00'  
type: Sand Filter fm: 10.00' to: 28.00'  
type: fm: to:  
type: fm: to:

Remarks: Developed by purging with a centrifugal pump at 3  
gpm. 60 gallons purged; clear after 25 gallons.

Elevation (ft)	Depth (ft)	Sample ID/ Interval	Vapor	Moisture	Recovery	Blow Count	Graphic Log	USCS Code	Material Description Trace = 0-10% Little = 10-20% Some = 20-30% And = 35-50% D - dry, M +/- moist, S - saturated	Well Construction MP. EL. 132.22
130	4-6			M	17 14 15 15			SC	0-4.0' VF-F sand with 20% silty clay. Gray, homogeneous, soft.	
								SC/CL	5.0-6.0' VF-F sand with 40% silty clay. Gray, yellow, homogeneous, semi-dense.	
	10-11			S	4 5 5 5			SC	9.2-11.0' F-C sand with 30% silty clay. Yellow, gray, cream, coarsely interlayered bedding, sand size and content increasing with depth, TCE odor, soft.	
120	14-16			S	4 3 3 2				14.3-16.0' F-VC sand with a trace pea gravel and 20% silty clay. Yellow, cream, orange, coarsely interlayered bedding, TCE odor, pea gravel lens at 15.0', soft.	
	19-21			S	3 4 5 6				19.1-21.0' F-VC sand with 30% silty clay. Lt. gray, homogeneous, soft, TCE odor, semi-dense.	
110	24-26			S	11 11 19 14				24.1-26.0' F-VC sand with a trace of pea gravel and 15% silty clay. Cream, beige, homogeneous, semi-dense.	
	26-28			S	8 4 5 5				27.0-28.0' Same as 24.0-26.0'	



28			
29			
30			
31	CL		Sam as above, stiff clay, green
32			
33			
34			
35			
36	SM		Silty sand, fine grain 70%, silt 25%, minor amounts of clays 5%. density soft, saturated, poor visual porosity.
37			
38	SM		Same as above
39			
40	CL		Clay, consistency firm-stiff, dark grey to black
41			
42			
43	SW		Sand, well sorted fine to coarse 100%, density soft, all grey, saturated, good visual porosity
44			
45			
46	SC		Silty-clayey sand, fine grain 70%, silt-clays ~30%
47			
48	SC		Same as above
49			
50			
51			
52			
53	CL		Clay, hard, blue-green, no moisture
54			
55			
56			



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## BORING & WELL CONSTRUCTION LOG

Date(s): 10/11/95 - 10/11/95

Well ID: MW-82

Client/Project Number: CSXT\560-58

Surface Elevation: 130.00'

Datum: Mean Sea Level

Project Name & Location: CSXT Waycross, Georgia

Total Borehole Depth: 27.50'

Well Completion Depth: 27.50'

Logged By: G. Bonn

Approved By: C. Mattair

Depth to Water:

Borehole Dia.: 8.25in

Contractor/Driller: Gulf Atlantic-Ocala

Conductor Casing:

type:

dia: .00in fm: .00'

to: .00'

Drilling Method & Rig: Hollow Stem Auger, Failing F-2

Solid Pipe

type: Stainless

dia: 2.00in fm: .5'

to: 12.50'

Well Location: ASB, south of canal

Purpose: Well

Screens:

type: Wire-wrap size: .020in

dia: 2.00in fm: 12.50'

to: 22.50'

Sampler Type:

Water Level Measured (Date & Time): (10/13/95)

Annular Fill:

type: Grout

fm: .70'

to: 8.50'

type: Bentonite

fm: 8.50'

to: 10.50'

type: Sand Filter

fm: 10.50'

to: 27.50'

type:

fm:

to:

Remarks: Developed by purging with a 2" centrifugal pump  
at 3 gpm. 35 gallons purged; clear after 30  
gallons.

Elevation (ft)	Depth (ft)	Sample ID/ Interval	Vapor	Moisture	Recovery	Blow Count	Graphic Log	USCS Code	Material Description Trace = 0-10% Little = 10-20% Some = 20-30% And = 35-50% D - dry, M - moist, S - saturated	Well Construction MP. EL. 130.74 ↓
130									0-28.0' No samples were taken to describe soil lithologies as the boring was completed with the tower down due to overhead powerlines.	



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## BORING & WELL CONSTRUCTION LOG

Date(s): 10/09/95 - 10/09/95

Well ID: MW-83

Client/Project Number: CSXT\560-58

Surface Elevation: 130.00'

Datum: Mean Sea Level

Project Name & Location: CSXT Waycross, Georgia

Total Borehole Depth: 28.00'

Well Completion Depth: 28.00'

Logged By: G. Bonn

Approved By: C. Mattair

Depth to Water: 8.84'

Borehole Dia.: 8.25in

Contractor/Driller: Gulf Atlantic-Ocala

Conductor Casing:

type: dia: .00in fm: .00' to: .00'

Drilling Method & Rig: Hollow Stem Auger, Ministar

Solid Pipe

type: Stainless dia: 2.00in fm: -.7' to: 13.00'

Well Location: ASB

Purpose: Well

Screens:

type: Wire-wrap size: .020in dia: 2.00in fm: 13.00' to: 23.00'

Sampler Type: Split Spoon sampler, 2" diameter, 2' length

Water Level Measured (Date & Time): (10-09-95)

Annular Fill:

type: Grout fm: .00' to: 9.00'

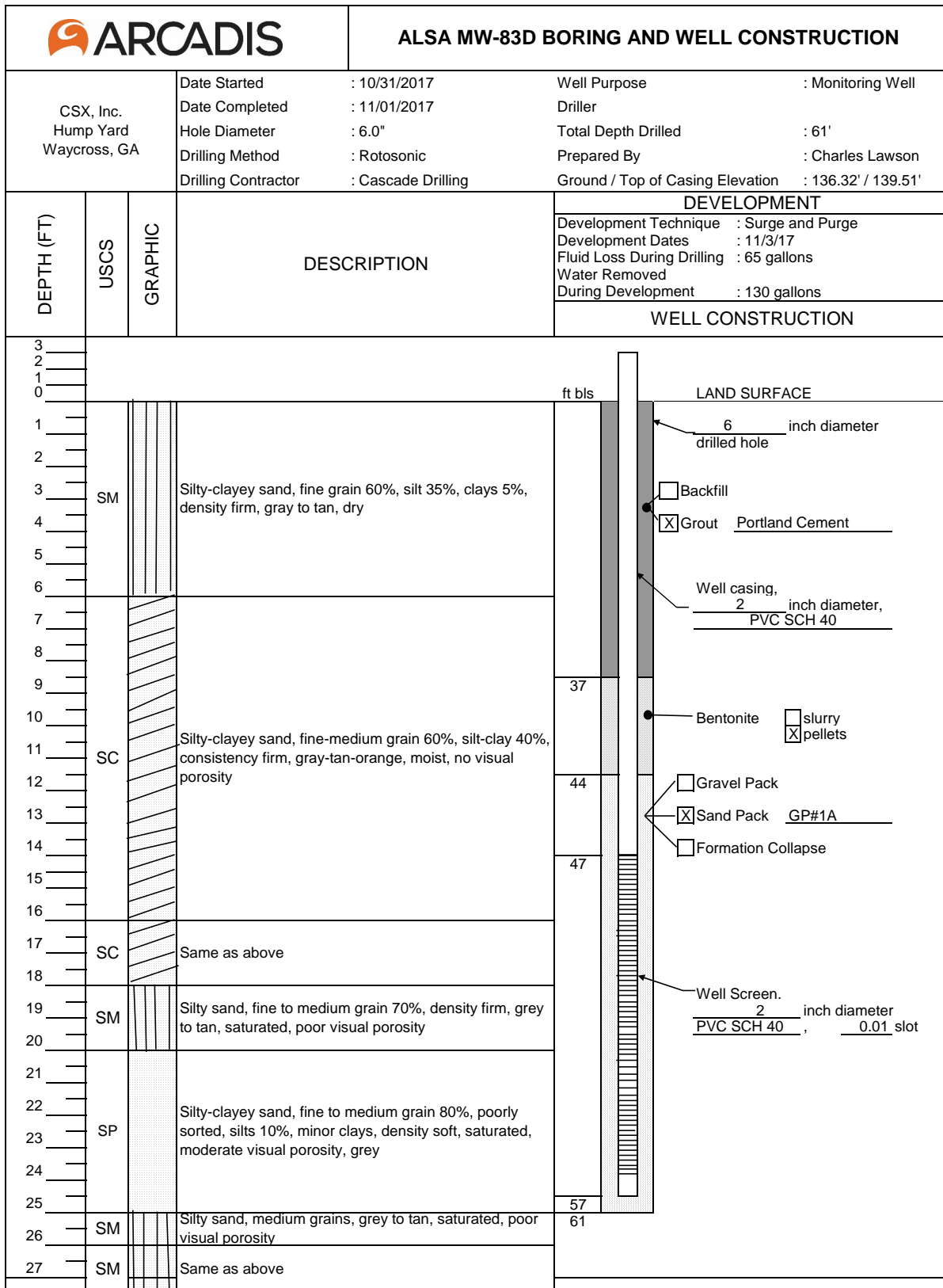
type: Bentonite fm: 9.00' to: 11.00'

type: Sand Filter fm: 11.00' to: 28.00'

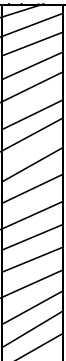

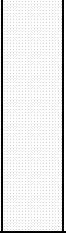
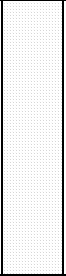




type: fm: to:

Remarks: Developed by purging with a centrifugal pump for 15 minutes at 2.5 gpm. Clear after 12 gallons.

Elevation (ft)	Depth (ft)	Sample ID/ Interval	Vapor	Moisture	Recovery	Blow Count	Graphic Log	USCS Code	Material Description Trace = 0-10% Little = 10-20% Some = 20-30% And = 35-50% D - dry, M = moist, S - saturated	Well Construction MP. EL. 130.65
130								SP/SC	0-2.0' VI-F sand with 10% silty clay. Lt. brown, gray, homogeneous, soft.	
								SC	2.0-4.0' VF-F sand with 25% silty clay. Yellow, brown, gray, clay increasing with depth, soft.	
	5	4-6		M		2		CL/SC	5.0-6.0 Silty clay with 45% VF-F sand. Gray-brown, purple, clay increasing with depth, soft.	
				M		2			7.1-8.0' Silty clay with 45% VF-C sand. Brown, gray, yellow, sand content increasing and coarser with depth, semi-dense.	
	6	6-8		S		2			8.3-10.0' F-C sand with 30% silty clay. Brown, gray, yellow, becomes coarser with less clay at 10.0', soft, nonplastic.	
				S		2		SC	10.0-12.0' F-VC sand with 15% silty clay. Lt. brown, pink, orange, becomes coarser with less clay with depth, soft.	
	8	8-10		S		2			12.0-14.0' F-vc sand with 20% silty clay. Pink, lt brown, gray, orange, clay increasing and grain size decreasing with depth, soft.	
				S		2			14.0-16.0' F-VC sand with 45% silty clay. Cream, gray, beige, weak coarsely interlayered bedding, soft.	
	10	10-12		S		2			16.0-18.0' F-C sand with 35% silty clay. Gray, cream, beige, weak coarsely interlayered bedding, soft.	
				S		2			18.0-20.0' F-VC sand with 30% silty clay. Cream, beige, weak coarsely interlayered bedding, soft.	
	12	12-14		S		2			20.0-22.0' F-VC sand with a trace of pea gravel and 30% silty clay. Cream, beige, weak coarsely interlayered bedding, soft.	
				S		2			22.0-24.0' F-VC sand with 30% silty clay. Cream, beige, homogeneous, semi-dense, trace K-feldspar.	
	14	14-16		S		2			24.0-26.0' F-VC sand with 20% clay and silt. Cream, beige, homogeneous, semi-dense, trace K-feldspar.	
				S		2			26.0-28.0' F-VC sand with a trace pea gravel and 15% silty clay. Cream, orange, homogeneous, semi-dense.	
	15	15-16		S		2				
				S		2				
	16	16-18		S		2				
				S		2				
	18	18-20		S		2				
				S		2				
	20	20-22		S		2				
				S		2				
	22	22-24		S		2				
				S		2				
	24	24-26		S		2				
				S		2				
	25	25-26		S		2				
				S		2				
	26	26-28		S		2				
				S		2				
	27			S		2				
				S		2				
	28			S		2				
				S		2				





28			
29			
30			
31			
32	CL		Stiff clay, grey, very little fines, consistency hard, very little moisture, good confining unit
33			
34			
35			
36			
37			
38	CL		Same as above
39			
40			
41			
42			
43	SW		Well sorted silty sand, fine to coarse grain, density soft, grey, sub-angular, quartz and feldspar, minor silts, good visual porosity, saturated
44			
45			
46			
47			
48			
49			
50	SW		Same as above
51			
52			
53			
54	SM		Silty sand, fine to medium grain 80%, density firm, grey to light green, saturated, poor visual porosity
55	SW		Well sorted sands, fine to coarse grain, density soft, light green, saturated, good visual porosity
56			
57	SW		Same as above
58			
59	CL		Clay, consistency is hard, green, minor amounts of fines, moist, no visual porosity
60			
61			



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## BORING & WELL CONSTRUCTION LOG

Client/Project Number: CSXT\560-58		Date(s): 10/10/95 - 10/10/95	Well ID: MW-84
Project Name & Location: CSXT Waycross, Georgia		Surface Elevation: 132.00'	Datum: Mean Sea Level
Logged By: G. Bonn		Total Borehole Depth: 28.00'	Well Completion Depth: 28.00'
Approved By: C. Mattair		Depth to Water: 7.14'	Borehole Dia.: 8.25in
Contractor/Driller: Gulf Atlantic-Ocala		Conductor Casing: type: dia: .00in fm: .00' to: .00'	
Drilling Method & Rig: Hollow Stem Auger, Ministar		Solid Pipe type: Stainless dia: 2.00in fm: -.4' to: 13.00'	
Well Location: ASB		Screens: type: Wire-wrap size: .020in dia: 2.00in fm: 13.00' to: 23.00'	
Purpose: Well		Annular Fill: type: Grout fm: .00' to: 9.00'	
Sampler Type: Split Spoon Sampler, 2" diameter, 2' length		type: Bentonite fm: 9.00' to: 11.00'	
Water Level Measured (Date & Time): (10-13-95)		type: Sand Filter fm: 11.00' to: 28.00'	
Remarks: Developed by purging using a 2" centrifugal pump at 5 gpm. 30 gallons purged; clear after 15 gallons.		type: fm: to:	

Elevation (ft)	Depth (ft)	Sample ID/Interval	Vapor	Moisture	Recovery	Blow Count	Graphic Log	USCS Code	Material Description Trace = 0-10% Little = 10-20% Some = 20-30% And = 35-50% D - dry, M ± moist, S - saturated	Well Construction MP. EL. 132.40
130								SC	0-2.0' VF-F sand with 20% silty clay. Lt. brown, homogeneous, soft.	
	5	4-6		M	2	4		CL	4.9-6.0' Silty clay with 30% VF-F sand. Gray, blue, yellow, mottled, clay content increasing slightly with depth, soft, no odor.	
	10	9-11		S	3	4		SC	10.1-11.0' VF-M sand with a trace of C sand and 20% silty clay. Lt. gray, cream, ll. brown, homogeneous with a trace of coarsely interlayered bedding, soft, no odor.	
120									14.5-16.0' VF-M sand with a trace of coarse sand and 20% silty clay. Lt. gray, cream, Fine to coarsely interlayered bedding, soft, no odor.	
	15	14-16		S	2	5			19.1-20.1' VF-M sand with 40% silty clay. Lt. Gray, homogeneous with a trace coarsely interlayered bedding, soft.	
	20	19-21		S	2	1			20.1-22.0' VF-C sand with a trace of VC sand and 25% silty clay. Pink, well-defined coarsely interlayered bedding, soft.	
110									24.3-25.6' Same as 20.1-22.0'.	
	25	24-26		S	3	4		SW/SC	25.6-26.0' Granular sand with 10% silty clay. Cream, pink, clay content increasing with depth, homogeneous, soft.	
	26	26-28		S	2	3			26.9-28.0' F-VC sand with a trace of pea gravel and 15% silty clay. Pink, cream, a little coarsely interlayered bedding, soft."	



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## BORING & WELL CONSTRUCTION LOG

Date(s): 10/09/95 - 10/09/95

Well ID: MW-85

Client/Project Number: CSXT\560-58

Surface Elevation: 134.00'

Datum: Mean Sea Level

Project Name & Location: CSXT Waycross, Georgia

Total Borehole Depth: 28.00'

Well Completion Depth: 28.00'

Logged By: G. Bonn

Approved By: C. Mattair

Depth to Water: 7.11'

Borehole Dia.: 8.25in

Contractor/Driller: Gulf Atlantic-Ocala

Conductor Casing:

type: dia: .00in fm: .00' to: .00'

Drilling Method & Rig: Hollow Stem Auger, Failing F-2

Solid Pipe

type: Stainless dia: 2.00in fm: -.4' to: 13.00'

Well Location: ASB

Purpose: Well

Screens:

type: Wire-wrap size: .020in dia: 2.00in fm: 13.00' to: 23.00'

Sampler Type: Split Spoon sampler, 2" diameter, 2' length

Annular Fill:

type: Grout fm: .00' to: 9.00'

type: Bentonite fm: 9.00' to: 11.00'

type: Sand Filter fm: 11.00' to: 28.00'

type: fm: to:

type: fm: to:

Water Level Measured (Date & Time): (10-13-96)

Remarks: Developed by purging with a centrifugal pump at 3.5 gpm. 35 gallons purged; clear after 20 gallons.

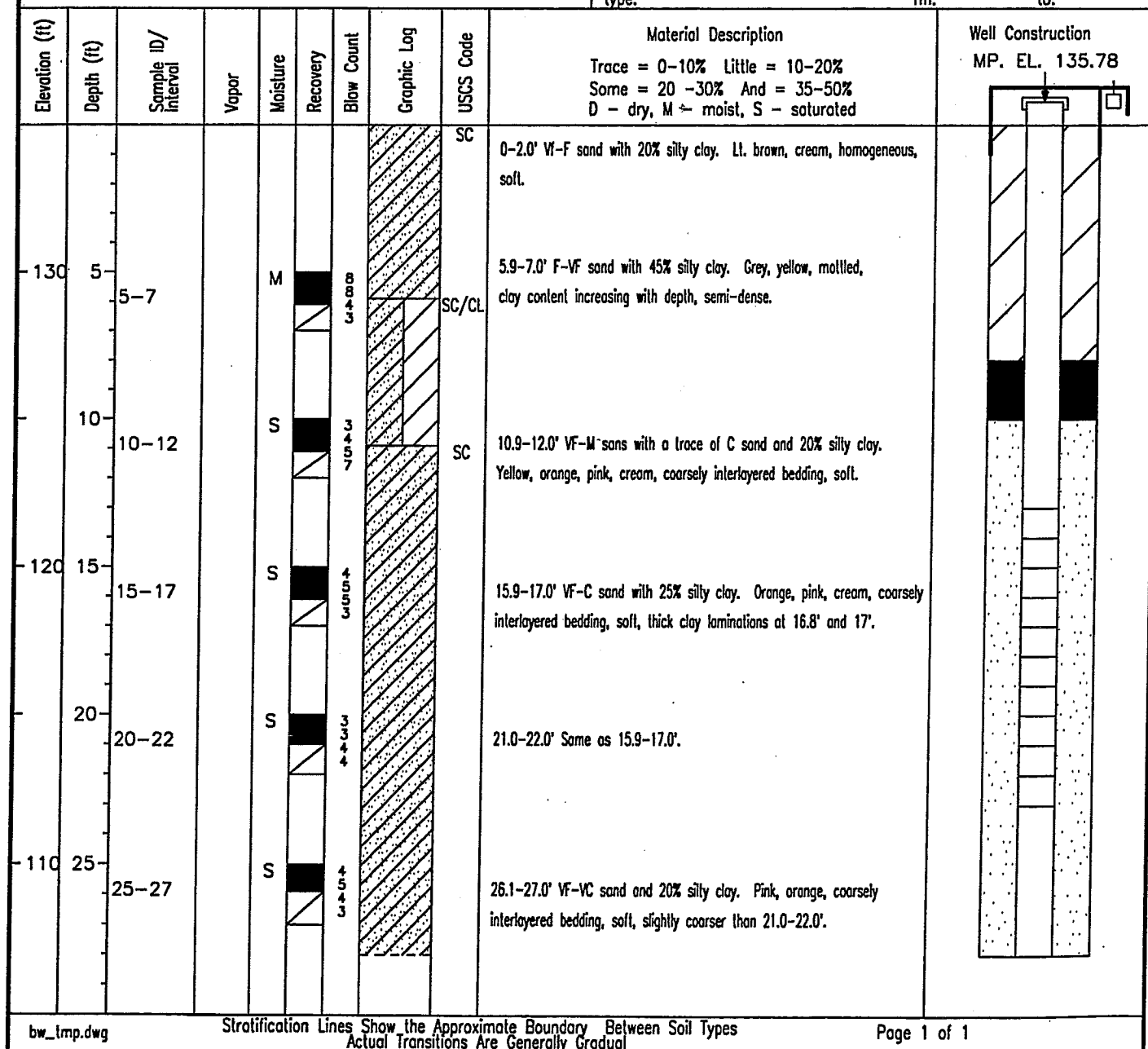
Elevation (ft)	Depth (ft)	Sample ID/Interval	Vapor	Moisture	Recovery	Blow Count	Graphic Log	USCS Code	Material Description	Well Construction
									Trace = 0-10% Little = 10-20% Some = 20-30% And = 35-50% D - dry, M - moist, S - saturated	MP. EL. 134.44
	0-2					1		SP/SC	0-2.0' VF-F sand with 10% silty clay. Gray, homogeneous, soft.	
	2-4					3		SC/CL	2.0-4.0' VF-F sand with 40% silty clay. Lt. brown, gray, clay increasing with depth, dense, plastic.	
130	4-6			M		6			4.8-6.0' Silty clay with 30% VF-F sand. Yellow, gray, clay and density increasing with depth, dense, plastic.	
	6-8			M		8		CL/SC	6.0-8.0' Silty clay with 40% VF-F sand. Lt. grey, yellow, mottled, homogeneous, semi-dense.	
	8-10			M		10		SC/CL	8.2-10.0' VF-M sand with 40% silty clay. Brown, beige, grain size decreasing with depth, semi-dense.	
	10-12			M		12		CL/SC	10.0-12.0' Silty clay with 40% VF-F sand. Lt. brown, orange, red, mottled, weak interlayered bedding, soft.	
	12-14			S		14		SC	12.0-14.0' VF-F sand with 35% silty clay. Pink, orange, cream, well-defined coarsely interlayered bedding, soft.	
120	14-16			S		16			14.0-16.0' Same as 12.0-14.0'.	
	16-18			S		18			16.0-18.0' Same as 14.0-16.0' with a trace of medium sand.	
	18-20			S		20			18.5-20.0' VF-M sand with a trace of C-sand and 15% silty clay. Pink, orange, homogeneous changing to interlayered bedding, soft.	
	20-22			S		22			20.5-22.5' VF-C sand with trace of VC sand and pea gravel at 21.9' and 30% silty clay. pink, orange, coarsely interlayered bedding, soft.	
	22-24			S		24			22.6-24.0' F-C sand with 25% silty clay. Orange, pink, clay decreasing and grain size increasing with depth, interlayered, soft.	
110	24-26			S		26			24.5-26.0' Same as 22.6-24.0' with 35% silty clay.	
	26-28			S		28			26.3-28.0' F-C sand with 20% silty clay. Orange, pink, cream, weak interlayered bedding, soft.	



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## BORING & WELL CONSTRUCTION LOG

Client/Project Number: CSXT\560-58		Surface Elevation: 135.00'	Datum: Mean Sea Level
Project Name & Location: CSXT Waycross, Georgia		Total Borehole Depth: 28.00'	Well Completion Depth: 28.00'
Logged By: G. Bonn	Approved By: C. Mattair	Depth to Water: 10.49'	Borehole Dia.: 8.25in
Contractor/Driller: Gulf Atlantic-Ocala		Conductor Casing: type: dia: .00in fm: .00' to: .00'	
Drilling Method & Rig: Hollow Stem Auger, Failing F-2		Solid Pipe type: Stainless dia: 2.00in fm: -.8' to: 13.00'	
Well Location: ASB		Screens: type: Wire-wrap size: .020in dia: 2.00in fm: 13.00' to: 23.00'	
Purpose: Well		Annular Fill: type: Grout fm: .00' to: 8.00' type: Bentonite fm: 8.00' to: 10.00' type: Sand Filter fm: 10.00' to: 28.00' type: fm: to: type: fm: to:	
Sampler Type: Split Spoon sampler, 2" diameter, 2' length			
Water Level Measured (Date & Time): (10-13-95)			
Remarks: Developed by purging with a 2" centrifugal pump at 4 gpm. 50 gallons purged; clear after 25 gallons.			





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## BORING & WELL CONSTRUCTION LOG

Client/Project Number: CSXT\560-58		Date(s): 10/11/95 - 10/11/95	Well ID: MW-87
Project Name & Location: CSXT Waycross, Georgia		Surface Elevation: 135.00'	Datum: Mean Sea Level
Logged By: G. Bonn	Approved By: C. Mattair	Total Borehole Depth: 28.00'	Well Completion Depth: 28.00'
Contractor/Driller: Gulf Atlantic-Ocala		Depth to Water: 12.25'	Borehole Dia.: 8.25in
Drilling Method & Rig: Hollow Stem Auger, Ministar		Conductor Casing: type: dia: .00in fm: .00' to: .00'	
Well Location: ASB		Solid Pipe type: Stainless dia: 2.00in fm: -.7' to: 13.00'	
Purpose: Well		Screens: type: Wire-wrap size: .020in dia: 2.00in fm: 13.00' to: 23.00'	
Sampler Type: Split Spoon Sampler, 2" diameter, 2' length		Annular Fill: type: Grout fm: .00' to: 9.00' type: Bentonite fm: 9.00' to: 11.00' type: Sand Filter fm: 11.00' to: 28.00' type: fm: to: type: fm: to:	
Water Level Measured (Date & Time): (10-13-95)			
Remarks: Developed by purging with a 2" centrifugal pump at 2 gpm. 50 gallons purged; clear after 30 gallons.			

Elevation (ft)	Depth (ft)	Sample ID/ Interval	Vapor	Moisture	Recovery	Blow Count	Graphic Log	USCS Code	Material Description Trace = 0-10% Little = 10-20% Some = 20-30% And = 35-50% D - dry, M ± moist, S - saturated	Well Construction MP. EL. 135.70
130	5	5-7		M	4 8 12 20			SC	0-3.0' VF-F sand with 25% silty clay. Cream, yellow, clay content increasing with depth, soft.	
	10	10-12		S	6 8 10 13			SC/CL	6.0-7.0' VF-F sand with 45% silty clay. Mustard, gray, mottled, clay content increasing with depth, semi-dense.	
	15	15-17		S	4 7 12 16			SC	11.6-12.0' VF-M sand with a little coarse sand and 20% silty clay. Orange, Pink, cream, mottled, coarsely interlayered bedding, soft, strong TCE smell at 12.0'.	
	20	20-22		S	2 4 10 9				15.2-17.0' VF-C sand with 35% silty clay. Ll. gray, pink, coarsely interlayered bedding, semi-dense.	
	25	25-27		S	2 3 4 7				20.5-22.0' VF-C sand with 25% silty clay. Orange, pink, coarsely interlayered bedding, soft.	
									26.0-27.0' VF-C sand with a little granular sand and 20% silty clay. Pink, cream, coarsely interlayered bedding, soft.	



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## BORING & WELL CONSTRUCTION LOG

Date(s): 10/12/95 - 10/12/95

Well ID: **MW-88**

Client/Project Number: CSXT\560-58

Surface Elevation: 131.00'

Datum: Mean Sea Level

Project Name & Location: CSXT Waycross, Georgia

Total Borehole Depth: 28.00'

Well Completion Depth: 28.00'

Logged By: G. Bonn

Approved By: C. Mattair

Depth to Water:

Borehole Dia.: 8.25in

Contractor/Driller: Gulf Atlantic-Ocala

Conductor Casing:

type: dia: .00in fm: .00' to: .00'

Drilling Method & Rig: Hollow Stem Auger, Failing F-2

Solid Pipe

type: Stainless dia: 2.00in fm: .5' to: 13.00'

Well Location: Locomotive Shop - South of Canal

Purpose: Well

Screens:

type: Wire-wrap size: .020in dia: 2.00in fm: 13.00' to: 23.00'

Sampler Type:

Water Level Measured (Date & Time): (10-13-96)

Annular Fill:

type: Grout fm: .70' to: 8.50'

type: Bentonite fm: 8.50' to: 10.50'

type: Sand Filter fm: 10.50' to: 28.00'

type: fm: to:

Remarks: Developed by purging with a 2" centrifugal pump  
at 3 gpm. 35 gallons purged; clear after 20  
gallons.

Elevation (ft)	Depth (ft)	Sample ID/ Interval	Vapor	Moisture	Recovery	Blow Count	Graphic Log	USCS Code	Material Description Trace = 0-10% Little = 10-20% Some = 20-30% And = 35-50% D - dry, M - moist, S - saturated	Well Construction MP. EL. 130.59
130									0-28.0' No samples were taken to describe soil lithologies. The boring was completed with the tower down due to overhead powerlines.	



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## WELL AND BORING LOG

Location: Waycross, Georgia	Date(s): 03/27/99 - 04/26/99	Site Id: MW-89
Project Number: CSXT9415589	Project Name: RCRA Part B	Permit No.: N/A
Logged By: Fred Pirkle	Certified By: C. Mattair	Purpose: Monitoring Well, Shallow
Contractor: Env. Exploration	Drilling Method: Hollow Stem Auger	Total Depth: 44.00'
Elevation: 139.65'	Borehole Dia.: 10.00in	Completed Depth: 39.00'
Remarks: Exploratory boring completed with a Geoprobe. GC data is sum of trichloroethylene, cis-1,2-dichloroethylene, and 1,1-dichloroethylene. Developed by pumping until clear.		Blank Casing: type: Stainless dia: 2.00in fm: .0' to: 24.00'
		Screens: type: Wire-wrap size: .010in dia: 2.00in fm: 24.00' to: 34.00'
		Annular Fill: type: Grout fm: .00' to: 20.00' type: Bentonite fm: 20.00' to: 22.00' type: Sand Filter fm: 22.00' to: 40.00'

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
0 - 2.7'			Dry, black (5YR 2.5/1), sand, silt, gravel, fill; a little limrock with upper 1'.	
2.7 - 4'			Moist, brownish yellow (10YR 5/8), fine sand (SP), a 7" interbed of slightly finer brownish yellow (10YR 5/8) mottled with dark gray (10YR 4/1) sand occurs at 3'.	
4 - 4.5'			Moist, brownish yellow (10YR 5/8), fine sand (SP).	
4.5 - 5.8'			Wet, light gray (10YR 7/2) grading into light brownish gray (10YR 6/2), fine sand (SP).	<5
5.8 - 8'			Wet, black (7.5YR 2.5/1) grading into gray (7.5YR 5/1), very fine sand with a little silt.	
8 - 12'			Moist, gray (10YR 5) mottled with yellowish brown (10YR 5/8), very fine sand (SP), fines content increasing with depth.	<5
12 - 13.6'			Moist, gray (2.5Y 5/1), very fine sand (SP), only a trace of silt, laminae of light bluish gray (5B7/1) clay present.	
13.6 - 14'			Wet, light brownish gray (10YR 6/2), very fine sand with < 10% fines (SP).	<5
14 - 16'			Moist, light greenish gray (5GY 8/1), very fine sand.	
16 - 20'			Wet, light greenishish gray (10Y 8/1), very fine sand (SP), with occasional bands up to 15 mm in thickness of gray (10YR 5/1), very fine sand.	<5
20 - 24'			Wet, white (5Y 8/1), fine sand (SP) with a few laminae up to 10 mm in thickness of light gray (5Y 7/1) clay.	<5
24 - 28'			Wet, white (5Y 8/1), fine sand (SP) with some medium grains and a little very fine gravel, between 25.5' and 26.7' fines increase and a few gray (5Y 6/1) clay laminae up to 10 mm in thickness occur.	<5
28 - 32'			Wet, light greenish gray (5GY 8/1), fine sand (SP), some very fine gravel (increasing with depth).	<5



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## WELL AND BORING LOG

Location: Waycross, Georgia	Date(s): 03/27/99 - 04/26/99	Site Id: <b>MW-89</b>	
Project Number: CSXT9415589	Project Name: RCRA Part B	Permit No.: N/A	Purpose: Monitoring Well, Shallow
Logged By: Fred Pirkle	Certified By: C. Mattair	Total Depth: 44.00'	Completed Depth: 39.00'
Contractor: Env. Exploration	Drilling Method: Hollow Stem Auger	Blank Casing: type: Stainless dia: 2.00in fm: .0' to: 24.00'	
Elevation: 139.65'	Borehole Dia.: 10.00in	Screens: type: Wire-wrap size: .010in dia: 2.00in fm: 24.00' to: 34.00'	
Remarks: Exploratory boring completed with a Geoprobe. GC data is sum of trichloroethylene, cis-1,2-dichloroethylene, and 1,1-dichloroethylene. Developed by pumping until clear.		Annular Fill: type: Grout fm: .00' to: 20.00' type: Bentonite fm: 20.00' to: 22.00' type: Sand Filter fm: 22.00' to: 40.00'	

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
32			32 - 36' Wet, white (2.5Y 8/1), fine sand (SP) with medium grains, some intervals contain very fine gravel, deeper portions appear to contain less very fine gravel.	<5
35			36 - 37.5' Moist, greenish gray (10Y 6/1), clay (CH).	
			37.5 - 40' Wet, light greenish gray (10Y 7/1), fine sand (SP), with some medium size sand, 10 mm thick occasional lenses of greenish gray (10Y 6/1) clay.	<5
40			40 - 43' Wet, light greenish gray (10Y 7/1), fine sand (SP) with some medium sand in the lower one foot, 40 mm thick lenses of greenish gray (10Y 6/1) clay occur.	
45			43 - 44' Moist, pale yellow (2.5Y 8/3), fine sand (SP).	
50				
55				



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Location: Waycross, Georgia	Date(s): 03/27/99 - 04/27/99	Site Id: <b>MW-90</b>	
Project Number: CSXT9415589	Project Name: RCRA Part B	Permit No.: N/A	Purpose: Monitoring Well, Shallow
Logged By: Fred Pirkle	Certified By: C. Mattair	Total Depth: 44.00'	Completed Depth: 41.00'
Contractor: Env. Exploration	Drilling Method: Hollow Stem Auger	Blank Casing: type: Stainless dia: 2.00in fm: 0' to: 26.00'	
Elevation: 139.81'	Borehole Dia.: 10.00in	Screens: type: Wire-wrap size: .010in dia: 2.00in fm: 26.00' to: 36.00'	
Remarks: Exploratory boring completed with a Geoprobe. GC data is sum of trichloroethylene, cis-1,2-dichloroethylene, and 1,1-dichloroethylene. Developed by pumping until clear.		Annular Fill: type: Grout fm: .00' to: 22.00' type: Bentonite fm: 22.00' to: 24.00' type: Sand Filter fm: 24.00' to: 41.00'	

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
0 - 2.5'			Moist, very dark gray (2.5Y 3/1), with some dark reddish brown (5YR 3/3), sand, silt, and gravel; fill.	
2.5 - 3.1'			Moist, brownish yellow (10YR 6/6), sand gravel, and silt; fill.	
3.1 - 7.2'			Wet, very dark gray (2.5Y 3/1), sand and gravel fill, very little recovery.	
7.2 - 8'			Wet, gray (5Y 5/1), very fine sand (SP).	
8 - 9'			Wet, gray (5Y 5/1), very fine sand (SP).	<5
9 - 12'			Wet, dark gray (7.5YR 4/1) mottled with light olive brown (2.5Y 5/6), very fine sand with clay and silt (SC), fines increase with depth.	<5
12 - 13'			Wet, gray (5YR 5/1) grading into light gray (5Y 7/1), very fine sand (SP).	
13 - 13.2'			Wet, white (10YR 8/1), very fine sand with 10% silt and clay (SC).	
13.2 - 15.2'			Wet, gray (10YR 6/1) grading into white (5Y 8/1), very fine sand with some fine sand (SP).	<5
15.2 - 16'			Wet, light brownish gray (2.5Y 6/2) grading into white (10YR 8/1), very fine sand with some silt (SP) grading into a very fine sand with some fine grains and less silt.	<5
16 - 18.1'			Wet, gray (10YR 6/1) grading into white (10YR 8/1), fine sand (SP) grading into a very fine sand with silt and clay (SC), fines increasing with depth, 20-30 mm thick lenses of light greenish gray (10Y 7/1) clay (CH) are present in the lower 1'.	<5
18.1 - 20'			Wet, white (5Y 8/1) grading into gray (10YR 6/1), very fine sand with some silt (SC) grading into about 1' of very fine sand with some fine sand and less silt (SP) and then back into very fine sand with some silt (SC).	
20 - 23.5'			Moist, greenish gray (10Y 6/1), clay (CH) with lamina (2-4 mm thick) of light greenish gray (10Y 8/1), very fine sand.	<5
23.5 - 24'			Wet, light greenish gray (10Y 8/1), fine sand (SP) with some very fine sand grains, coarsening with depth, in lower 1 some coarse grains and a little fine gravel are present.	
24 - 28'				



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## WELL AND BORING LOG

Location: Waycross, Georgia		Date(s): 03/27/99 - 04/27/99		Site Id: <b>MW-90</b>									
Project Number: CSXT9415589		Project Name: RCRA Part B		Permit No.: N/A									
Logged By: Fred Pirkle		Certified By: C. Mattair		Purpose: Monitoring Well, Shallow									
Contractor: Env. Exploration		Drilling Method: Hollow Stem Auger		Total Depth: 44.00'									
Elevation: 139.81'		Borehole Dia.: 10.00in		Completed Depth: 41.00'									
Remarks: Exploratory boring completed with a Geoprobe. GC data is sum of trichloroethylene, cis-1,2-dichloroethylene, and 1,1-dichloroethylene. Developed by pumping until clear.				Blank Casing: type: Stainless		dia: 2.00in		fm: .0'		to: 26.00'			
				Screens: type: Wire-wrap		size: .010in		dia: 2.00in		fm: 26.00'		to: 36.00'	
				Annular Fill: type: Grout				fm: .00'		to: 22.00'			
				type: Bentonite				fm: 22.00'		to: 24.00'			
				type: Sand Filter				fm: 24.00'		to: 41.00'			

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
28 - 30.5'			Wet, light greenish gray (10Y 8/1), fine sand with some very fine gravel (SP).	<5
30.5 - 32'			Wet, light greenish gray (10Y 8/1), fine sand with an increase in very fine sand, occasional white clay ball (possible kaolinized feldspar).	
32 - 36'			Wet, light greenish gray (10Y 8/1), fine sand with some intervals containing more fines than others, some as being described since 24'. This zone also contains what appears to be feldspar grains that have weathered to kaolinite.	<5
36 - 40'			Wet, same as above.	
40 - 41.5'			Same as above.	<5
41.5 - 44'			Moist, dark greenish gray (10Y 4/1), clay (CH), plastic, massive.	<5



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## WELL AND BORING LOG

Location: Waycross, Georgia	Date(s): 03/27/99 - 04/26/99	Site Id: MW-91	
Project Number: CSXT9415589	Project Name: RCRA Part B	Permit No.: N/A	Purpose: Monitoring Well, Shallow
Logged By: Fred Pirkle	Certified By: C. Mattair	Total Depth: 40.00'	Completed Depth: 38.00'
Contractor: Env. Exploration	Drilling Method: Hollow Stem Auger	Blank Casing: type: Stainless	

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
0 - 1'			Moist, gray (2.5Y 5/1) mottled with olive yellow (2.5Y 6/8), fine sand; probably fill.	
1 - 2'			Moist, black (2.5Y 2.5/1), sand, silt, and gravel; probably fill.	
2 - 2.5'			Moist, dark grayish brown (2.5Y 4/2), sand, silt, and gravel.	
4 - 5.5'			Wet, black (10YR 2/1), fine sand (SP), at 4.3' a 2" zone of what appears to be cement contamination; this material may be fill material.	<5
5.5 - 7'			Wet, very dark gray (10YR 3/1) grading into grayish brown (10YR 5/2), fine sand (SP).	
7 - 8'			Wet, very dark gray (5YR 3/1), very fine sand with <10% silt (SP).	<5
8 - 8.3'			Wet, very dark gray (5YR 3/1), very fine sand, some light gray (7.5YR 7/1) very fine sand is present.	
8.3 - 12'			Wet, gray (7.5YR 6/1) mottled with brownish yellow (10YR 6/8), very fine sand (SP), dense.	
12 - 12.5'			Moist, gray (7.5YR 6/1) mottled with brownish yellow (10YR 6/8), very fine grains with silt and clay, a clayey sand (SC).	<5
12.5 - 13.5'			Moist, gray (5YR 8/1) mottled with light gray (10YR 7/1), very fine sand with a little silt.	
13.5 - 14'			Wet, dark grayish brown (10YR 4/2), very fine sand with some fine sand (SP).	<5
14 - 16'			Moist, light gray (7.5YR 7/1), very fine sand with some silt and a trace of clay (SC), compacted when probed.	
16 - 19'			Wet, grayish brown (10YR 5/2), fine sand (SP).	
19 - 20'			Moist, light brown gray (10YR 6/2), very fine sand (SP) with some silt, 10 mm thick lenses of interbedded greenish gray (5GY 6/1) clay are present, 2-5 mm thick laminae of white (10YR 8/1), very fine sand are also present.	<5
20 - 21'			Same as above, at base of unit is a clay lens 60 mm thick.	
21 - 22'			Wet, light gray (2.5Y 7/1), fine sand (SP) with some medium sand.	<5
22 - 24'			Moist, greenish gray (10Y 6/1), very fine sand with lenses up to 50 mm thick greenish gray (5GY 6/1) clay interbedded.	
24 - 28'			Wet, greenish gray (10Y 6/1), medium sand with coarse grains and some very fine gravel.	<5



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## WELL AND BORING LOG

Location: Waycross, Georgia	Date(s): 03/27/99 - 04/26/99	Site Id: <b>MW-91</b>	
Project Number: CSXT9415589	Project Name: RCRA Part B	Permit No.: N/A	Purpose: Monitoring Well, Shallow
Logged By: Fred Pirkle	Certified By: C. Mattair	Total Depth: 40.00'	Completed Depth: 38.00'
Contractor: Env. Exploration	Drilling Method: Hollow Stem Auger	Blank Casing: type: Stainless      dia: 2.00in    fm: .0'      to: 23.00'	
Elevation: 139.09'	Borehole Dia.: 10.00in	Screens: type: Wire-wrap      size: .010in dia: 2.00in    fm: 23.00'    -to: 33.00'	
Remarks: Exploratory boring completed with a Geoprobe. GC data is sum of trichloroethylene, cis-1,2-dichloroethylene, and 1,1-dichloroethylene. Developed by pumping until clear.		Annular Fill: type: Grout      fm: .00'      to: 18.75' type: Bentonite    fm: 18.75'    to: 20.75' type: Sand Filter    fm: 20.75'    to: 40.00'	

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
28 - 31'			Wet, same as above.	
31 - 32'			Moist, greenish gray (5G 6/1), clay (CH).	
35				
40				
45				
50				
55				

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Location: Waycross, Georgia	Date(s): 03/26/99 - 04/27/99	Site Id: <b>MW-92</b>	
Project Number: CSXT9415589	Project Name: RCRA Part B	Permit No.: N/A	Purpose: Monitoring Well, Shallow
Logged By: C. Mattair	Certified By: C. Mattair	Total Depth: 48.00'	Completed Depth: 41.00'
Contractor: Env. Exploration	Drilling Method: Hollow Stem Auger	Blank Casing: type: Stainless dia: 2.00in fm: .0' to: 26.00'	
Elevation: 139.08'	Borehole Dia.: 10.00in	Screens: type: Wire-wrap size: .010in dia: 2.00in fm: 26.00' to: 36.00'	
Remarks: Exploratory boring completed with a Geoprobe. GC data is sum of trichloroethylene, cis-1,2-dichloroethylene, and 1,1-dichloroethylene. Developed by pumping until clear.		Annular Fill: type: Grout fm: .00' to: 22.00' type: Bentonite fm: 22.00' to: 24.00' type: Sand Filter fm: 24.00' to: 42.00'	

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
0 - 4'			Moist, greenish gray to mostly black (7.5YR 2.5/1) sand, silt, and gravel; fill.	
4 - 8'			Moist to wet, very dark brown (7.5YR 2.5/2) to black (7.5YR 2.5/1), sand, silt, gravel, and slag fill.	
8 - 9.5'			Wet to moist, gray (7.5YR 6/1), fine sand (SP) and dark gray (7.5YR 4/1), fine sand with 10-15% clay (SP-SC), slightly plastic, with a few fragments of white ceramic and sheet metal.	<5
12 - 14'			Moist, dark grayish brown (10YR 4/2) changing to light greenish gray (5BG 8/1) with mottling of above colors, fine sand with 10% clay (SP-SC), firm.	
14 - 16'			Wet, dark grayish brown (10YR 4/2), fine sand (SP), 5-10% clay, soft to firm.	<5
16.5 - 17.3'			Wet, dark grayish brown (10YR 4/2), fine to medium sand (SP), trace clay.	
17.3 - 19.3'			Moist, light greenish gray (10Y 7/1), alternating 1-5 mm thick lamina of clayey fine sand (SC), 10-15% clay and sandy clay (CH), plastic, soft to firm.	
19.3 - 20'			Moist, light greenish gray (10Y 7/1), fine sand (SP) with a few 1-2 mm thick lamina of sandy clay and one 80mm thick layer of wet, fine sand (SP).	<5
20 - 24'			Mostly moist, with a few 10-50 mm thick wet layers, light greenish gray (10Y 7/1), fine sand (SP), trace clay with some to many lamina to 20 mm thick layers of moist, greenish gray (10Y 6/1), very sand clay (CH), plastic.	<5
24 - 26'			Same as above, fewer clay layers, some medium sand.	
26 - 28'			Wet, light greenish gray (10Y 7/1), fine to medium sand (SP), mostly fine sand, trace clay or silt, trace coarse sand (coarsening downward).	<5
28 - 32'			Wet, light greenish gray, fine to medium sand (SP), mostly fine sand, trace silt or clay, soft.	



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## WELL AND BORING LOG

Location: Waycross, Georgia	Date(s): 03/26/99 - 04/27/99	Site Id: <b>MW-92</b>	
Project Number: CSXT9415589	Project Name: RCRA Part B	Permit No.: N/A	Purpose: Monitoring Well, Shallow
Logged By: C. Mattair	Certified By: C. Mattair	Total Depth: 48.00'	Completed Depth: 41.00'
Contractor: Env. Exploration	Drilling Method: Hollow Stem Auger	Blank Casing: type: Stainless      dia: 2.00in    fm: .0'      to: 26.00'	
Elevation: 139.08'	Borehole Dia.: 10.00in	Screens: type: Wire-wrap      size: .010in    dia: 2.00in    fm: 26.00'      to: 36.00'	
Remarks: Exploratory boring completed with a Geoprobe. GC data is sum of trichloroethylene, cis-1,2-dichloroethylene, and 1,1-dichloroethylene. Developed by pumping until clear.		Annular Fill: type: Grout      fm: .00'      to: 22.00'	
		type: Bentonite      fm: 22.00'      to: 24.00'	
		type: Sand Filter      fm: 24.00'      to: 42.00'	

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
32 - 37'			Wet, light greenish gray (10Y 7/1), fine to medium sand (SP), trace silt or clay, coarsening downward to mostly medium sand with some coarser sand and trace fine gravel, loose.	<5
37 - 41'			Wet, light greenish gray (10Y 7/1), medium sand (SP), trace fine sand, trace coarse sand, trace silty or clay, loose.	<5
44 - 48'			Moist, greenish gray (5GY 5/1), very sandy clay (CH), mostly plastic clay and some fine sand with a few 10-60 mm thick layers or lenses of moist, light greenish gray (5GY 7/1), clayey fine sand (SC).	<5

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Location: Waycross, Georgia	Date(s): 03/26/99 - 05/03/99	Site Id: <b>MW-93</b>
Project Number: CSXT9415589	Project Name: RCRA Part B	Permit No.: N/A
Logged By: Fred Pirkle	Certified By: C. Mattair	Purpose: Monitoring Well, Shallow
Contractor: Env. Exploration	Drilling Method: Hollow Stem Auger	Total Depth: 48.00'
Elevation: 139.15'	Borehole Dia.: 10.00in	Completed Depth: 40.00'
Remarks: Exploratory boring completed with a Geoprobe. GC data is sum of trichloroethylene, cis-1,2-dichloroethylene, and 1,1-dichloroethylene. Developed by pumping until clear.		Blank Casing: type: Stainless                      dia: 2.00in    fm: .0'                      to: 25.00'
		Screens: type: Wire-wrap                      size: .010in dia: 2.00in    fm: 25.00'                      to: 35.00'
		Annular Fill: type: Grout    fm: .00'                      to: 20.00' type: Bentonite    fm: 20.00'                      to: 22.50' type: Sand Filter    fm: 22.50'                      to: 41.00'

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
0 - 0.3'			Moist, light gray (10YR 7/2) mottled with pale yellow (2.5Y 8/3) to yellow (2.5Y 7/8), sand and silt; fill.	
0.3 - 4'			Moist, black (2.5YR 2.5/1), sand, silt, and gravel; fill.	
4 - 6.5'			Moist, black (2.5YR 2.5), sand, silt, and gravel; fill.	
6.5 - 8'			Wet, light gray (10YR 7/2), very fine sand with streaks of organic (SM), organic streaks are not present in lower 0.5'.	
8 - 8.5'			Moist, light gray (10YR 7/2), very fine sand with silt (SP).	
8.5 - 9'			Moist, dark olive brown (2.5Y 4/3), very fine sand, with 5% silt and clay (SC).	<5
9 - 11.5'			Moist, dark gray (2.5Y 4/1), very fine sand, with <10% silt and clay (SC), plastic.	
11.5 - 12'			Moist, dark gray (2.5Y 4/1) mottled with light olive brown (2.5Y 5/6), very fine sand, with <10% silt and clay (SC), plastic.	
12 - 12.5'			Moist, light olive brown (2.5Y 5/6), very fine sand with 10% silt and clay (SP-SC), plastic.	<5
12.5 - 13'			Moist, dark gray (7.5YR 4/1), very fine sand (SP) with 5% clay.	
13 - 15'			Moist, white (5Y 8/1) mottled with gray (5Y 5/1), very fine sand, with < 10% clay (SP-SC).	<5
15 - 16'			Not recovered.	
16 - 19.5'			Wet, light brownish gray (2.5Y 6/2) grading down to gray (2.5Y 5/1), fine sand (SP), trace clay.	189
19.5 - 20'			Moist, gray (2.5Y 6/1), fine sand (SP), with a few 5 mm thick lamina or lenses of greenish gray (5GY 6/1) sandy clay (CH).	
20 - 21.5'			Wet, light greenish gray (10Y 7/1) grading into greenish gray (10Y 6/1) at 20.5', very fine sand with 10% silt and clay (SP-SC), clay content increases at 21.3'.	
21.5 - 22.2'			Moist, greenish gray (10Y 6/1), clay (CH), upper 0.3' of interval contains lamina of moist, white (5Y 8/1), fine sand (SP).	31,164
22.2 - 24'			Moist, greenish gray (10Y 6/1), clay (CH) interbedded with fine sand (SP), clay lenses increasing with depth.	
24 - 27'			Wet, white (5Y 8/1) fine sand (SP) coarsening downward.	



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## WELL AND BORING LOG

Location: Waycross, Georgia		Date(s): 03/26/99 - 05/03/99		Site Id: <b>MW-93</b>											
Project Number: CSXT9415589		Project Name: RCRA Part B		Permit No.: N/A											
Logged By: Fred Pirkle		Certified By: C. Maltair		Purpose: Monitoring Well, Shallow											
Contractor: Env. Exploration		Drilling Method: Hollow Stem Auger		Total Depth: 48.00'											
Elevation: 139.15'		Borehole Dia.: 10.00in		Completed Depth: 40.00'											
Remarks: Exploratory boring completed with a Geoprobe. GC data is sum of trichloroethylene, cis-1,2-dichloroethylene, and 1,1-dichloroethylene. Developed by pumping until clear.				Blank Casing: type: Stainless		dia: 2.00in		fm: .0'		to: 25.00'					
				Screens:		type: Wire-wrap		size: .010in		dia: 2.00in		fm: 25.00'		to: 35.00'	
				Annular Fill:		type: Grout		fm: .00'		to: 20.00'		type: Bentonite		fm: 20.00'	
				type: Sand Filter		fm: 22.50'		to: 41.00'							

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
27 - 28'			Moist, white (5Y 8/1), fine sand (SP).	<5
28 - 30.5'			Wet, gray (2.5Y 6/1), fine sand (SP), some medium size grains, may contain kaolinized feldspar grains.	
30.5 - 31'			Moist, gray (2.5Y 5/1), fine sand (SP) with 5% fines and a few coarse sand grains, may contain kaolinized feldspar grains.	168
31 - 32'			Moist, gray (2.5Y 6/1), fine sand (SP), may contain kaolinized feldspar grains.	
32 - 36'			Wet, greenish gray (10Y 6/1), mostly medium sand with some coarse sand and a trace of fine gravel (SP), possible kaolinized feldspar grains.	382
36 - 38'			Moist, greenish gray (5GY 6/1), very fine dense sand (SP), with three 82 mm thick lenses of greenish gray (5GY 5/1) clay (CH); possible kaolinized feldspar grains.	
38 - 40'			Not recovered.	
40 - 42'			Moist to wet, greenish gray (5GY 6/1), very fine sand, dense; possible kaolinized feldspar grains.	160
45 - 48'				<5





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## WELL AND BORING LOG

Location: Waycross, Georgia	Date(s): 03/28/99 - 05/03/99	Site Id: <b>MW-94</b>	
Project Number: CSXT9415589	Project Name: RCRA Part B	Permit No.: N/A	Purpose: Monitoring Well, Shallow
Logged By: Fred Pirkle	Certified By: C. Mattair	Total Depth: 44.00'	Completed Depth: 41.00'
Contractor: Env. Exploration	Drilling Method: Hollow Stem Auger	Blank Casing: type: Stainless      dia: 2.00in    fm: .0'      to: 26.00'	
Elevation: 138.53'	Borehole Dia.: 10.00in	Screens: type: Wire-wrap      size: .010in dia: 2.00in    fm: 26.00'      to: 36.00'	
Remarks: Exploratory boring completed with a Geoprobe. GC data is sum of trichloroethylene, cis-1,2-dichloroethylene, and 1,1-dichloroethylene. Developed by pumping until clear.		Annular Fill: type: Grout      fm: .00'      to: 22.00' type: Bentonite      fm: 22.00'      to: 23.75' type: Sand Filter      fm: 23.75'      to: 42.00'	

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
0 - 1.5'			Dry, grayish brown (10YR 5/2) grading into black (10YR 2/1), sand, silt, and gravel; fill.	
1.5 - 3'			Moist, dark gray (10YR 4/1), very fine sand (SP) with < 10% silt.	222
3 - 4'			Moist, black (7.5YR 2.5/1), very fine sand with some fine grains and a little silt (SP), smells like asphalt.	
4 - 5.8'			Wet, grayish brown (2.5Y 5/2), fine sand (SP), possible fill.	<5
5.8 - 8'			Wet, gray (2.5Y 5/1), very fine grained, dense sand (SP), appears about 2' ran out of core tube.	
8 - 12'			Wet, dark gray (7.5YR 4/1), very fine dense sand, upper 4" is a grayish brown (2.5Y 5/2) very fine sand.	<5
12 - 12.5'			Wet, light greenish gray (10Y 8/1), very fine sand with < 10% silt (SP).	
12.5 - 13.5'			Wet, grayish brown (2.5Y 5/2), very fine sand with some silt (SP).	
13.5 - 14.8'			Wet, grayish brown (10YR 5/2), fine sand (SP).	<5
14.8 - 16'			Wet, light gray (10YR 7/2), fine sand with some very fine sand (SP).	
16 - 17'			Same as above.	
17 - 20'			Wet, white (5Y 8/1), very fine sand with some silt (SP).	<5
20 - 23'			Moist, light brownish gray (2.5Y 6/2), very fine sand (SP) with some medium sand, lenses up to 100 mm in thickness of greenish gray (10Y 6/1), plastic clay are present throughout.	
23 - 24'			Moist, white (5Y 8/1), very fine sand with some silt (SP), lenses up to 40 mm in thickness of greenish gray (10Y 6/1) clay are present.	<5
24 - 28'			Wet, light greenish gray (10Y 8/1), fine sand (SP) with some very fine sand, some medium sand, and a trace of very fine gravel.	<5
28 - 32'			Wet, same as above.	



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## WELL AND BORING LOG

Location: Waycross, Georgia	Date(s): 03/28/99 - 05/03/99	Site Id: <b>MW-94</b>	
Project Number: CSXT9415589	Project Name: RCRA Part B	Permit No.: N/A	Purpose: Monitoring Well, Shallow
Logged By: Fred Pirkle	Certified By: C. Mattair	Total Depth: 44.00'	Completed Depth: 41.00'
Contractor: Env. Exploration	Drilling Method: Hollow Stem Auger	Blank Casing: type: Stainless      dia: 2.00in    fm: .0'      to: 26.00'	
Elevation: 138.53'	Borehole Dia.: 10.00in	Screens: type: Wire-wrap    size: .010in    dia: 2.00in    fm: 26.00'      to: 36.00'	
Remarks: Exploratory boring completed with a Geoprobe. GC data is sum of trichloroethylene, cis-1,2-dichloroethylene, and 1,1-dichloroethylene. Developed by pumping until clear.		Annular Fill: type: Grout      fm: .00'      to: 22.00' type: Bentonite    fm: 22.00'      to: 23.75' type: Sand Filter    fm: 23.75'      to: 42.00'	

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
32 - 36'			Wet, same as above, vapors were emanating from drill rod.	<5
36 - 40'			Wet, same as above; at 38.7', a 40mm thick zone of increased silt content; lower 0.5' may be fining slightly; at 38.5', color changes to light greenish gray (10Y 7/1) for about 25mm.	<5
40 - 43.5'			Wet, same as above.	<5
43.5 - 44'			Moist, dark greenish gray (5GY 4/1), clay (CH); the clay was removed from the catcher and put in a plastic bag; it is not seen in the core tube.	<5



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## WELL AND BORING LOG

Location: Waycross, Georgia

Date(s): 03/29/99 - 05/02/99

Site Id:

**MW-95**

Project Number: CSXT9415589

Project Name: RCRA Part B

Logged By: Fred Pirkle

Certified By: C. Mattair

Permit No.: N/A

Purpose: Monitoring Well, Shallow

Contractor: Env. Exploration

Drilling Method: Hollow Stem Auger

Total Depth: 56.00'

Completed Depth: 43.00'

Elevation: 134.81'

Borehole Dia.: 10.00in

Blank Casing:

type: Stainless

dia: 2.00in fm: 0'

to: 28.00'

Remarks: Exploratory boring completed with a Geoprobe.  
GC data is sum of trichloroethylene, cis-1,2-  
dichloroethylene, and 1,1-dichloroethylene.  
Developed by pumping until clear.

Screens:

type: Wire-wrap

size: .010in dia: 2.00in fm: 28.00'

to: 38.00'

Annular Fill:

type: Grout

fm: .00'

to: 24.00'

type: Bentonite

fm: 24.00'

to: 26.00'

type: Sand Filter

fm: 26.00'

to: 44.00'

Depth (ft)

Graphic Log

Construction

Material Description

GC (ppb)

0 - 0.5'	Dry, grayish brown (2.5Y 5/2), fine sand.	
0.5 - 1'	Moist, pale yellow (2.5Y 7/4), fine sand.	
1 - 1.5'	Moist, black (5Y 2.5/1), very fine sand with a little silt.	<5
1.5 - 4'	Wet, light brownish gray (2.5Y 6/2), very fine sand, dense, appears to have some organics present.	
4 - 8'	Wet, dark gray (2.5Y 4/1), very fine sand with some silt (SP), a few laminae up to 10mm in thickness of light olive brown (2.5Y 5/6), very fine sand are present; at 7.5', a single 5 mm thick lens of greenish gray (10Y 6/1) clay exists.	<5
8 - 9.3'	Wet, light greenish gray (10Y 8/1), very fine sand with some silt (SP), occasional patch of dark gray (2.5Y 4/1) finer sand is present.	<5
9.3 - 12'	Wet, gray (10YR 6/1), fine sand, unit contains some light greenish gray (5GY 8/1), 10 mm thick silty layers and light gray (2.5Y 7/4) 100mm thick layers of fine sand with some medium sized grains.	
12 - 16'	Wet, light greenish gray (10Y 8/1), very fine sand with some silt (SP), at 14.2' a 50 mm thick zone of gray (10YR 5/1), very fine sand with some silt, starting at 14.8', 10-20 mm thick lenses of greenish gray (10Y 6/1) clay are present.	<5
16 - 20'	Wet, light greenish gray (10Y 8/1), fine sand with some zones being finer and some being coarser; occasional 10-20 mm thick lenses of greenish gray (10Y 6/1) clay are present.	<5
20 - 24'	Wet, light greenish gray (10Y 8/1), fine sand (SP) with some very fine and some medium sand sized grains and a trace of very fine gravel; same unit as above.	<5
24 - 28'	Wet, same as above, occasional 10 mm thick lenses of greenish gray (10Y 6/1) clay present.	
28 - 32'	Wet, light greenish gray (10Y 8/1), fine sand with some medium sized sand (SP), same unit as above, only a little coarser.	<5



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## WELL AND BORING LOG

Location: Waycross, Georgia	Date(s): 03/29/99 - 05/02/99	Site Id: <b>MW-95</b>	
Project Number: CSXT9415589	Project Name: RCRA Part B	Permit No.: N/A	Purpose: Monitoring Well, Shallow
Logged By: Fred Pirkle	Certified By: C. Mattair	Total Depth: 56.00'	Completed Depth: 43.00'
Contractor: Env. Exploration	Drilling Method: Hollow Stem Auger	Blank Casing: type: Stainless      dia: 2.00in    fm: .0'      to: 28.00'	
Elevation: 134.81'	Borehole Dia.: 10.00in	Screens: type: Wire-wrap      size: .010in dia: 2.00in    fm: 28.00'      to: 38.00'	
Remarks: Exploratory boring completed with a Geoprobe. GC data is sum of trichloroethylene, cis-1,2-dichloroethylene, and 1,1-dichloroethylene. Developed by pumping until clear.		Annular Fill: type: Grout      fm: .00'      to: 24.00' type: Bentonite      fm: 24.00'      to: 26.00' type: Sand Filter      fm: 26.00'      to: 44.00'	

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
32 - 36'			Wet, some as above.	<5
36 - 40'			Wet, some as above.	<5
40 - 44'			Wet, some as above.	<5
44 - 48'			Wet, greenish gray (10GY 5/1), basically same unit as above, but slightly coarser (coarsening downward) and lessening of silt content.	<5
48 - 52'			Wet, greenish gray (10Y 6/1), sand (SP), mostly fine, occasional 10 mm thick lenses of dark greenish gray (5GY 4/1) clay are present; lower 0.5' a little finer.	<5
52 - 53.7'			Same as above.	
53.7 - 56'			Wet, grayish brown (2.5Y 5/2), fine sand with silt and clay (SC).	<5



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## WELL AND BORING LOG

Location: Waycross, Georgia

Date(s): 03/28/99 - 04/28/99

Site Id:

**MW-97**

Project Number: CSXT9415589

Project Name: RCRA Part B

Logged By: Fred Pirkle

Certified By: C. Mattair

Permit No.: N/A

Purpose: Monitoring Well, Shallow

Contractor: Env. Exploration

Drilling Method: Hollow Stem Auger

Total Depth: 48.00'

Completed Depth: 43.00'

Elevation: 137.73'

Borehole Dia.: 10.00in

Blank Casing:

type: Stainless

dia: 2.00in fm: .0'

to: 28.00'

Remarks: Exploratory boring completed with a Geoprobe.  
GC data is sum of trichloroethylene, cis-1,2-  
dichloroethylene, and 1,1-dichloroethylene.  
Developed by pumping until clear.

Screens:

type: Wire-wrap

size: .010in dia: 2.00in fm: 28.00'

to: 38.00'

Annular Fill:

type: Grout

fm: .00'

to: 24.00'

type: Bentonite

fm: 24.00'

to: 26.00'

type: Sand Filter

fm: 26.00'

to: 44.00'

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
0 - 1'			Moist, greenish gray (10Y 5/1), very fine sand (SP), strong odor (creosote?).	
1 - 2'			Moist, very dark gray (10YR 3/1), very fine sand with <10% silt (SP), upper 2" slightly coarser, strong odor.	<5
2 - 2.1'			Moist, light gray (2.5Y 7/1), very fine sand with some silt and laminae of very dark gray (2.5Y 3/1), organic material.	
2.1 - 2.9'			Moist, black (2.5Y 3/1), fine sand, silt, and gravel; strong odor.	<5
2.9 - 4'			Moist, gray (2.5Y 5/1) mottled with olive yellow (2.5Y 6/8), clayey sand (SC).	
4 - 4.8'			Same as above.	
4.8 - 5.2'			Wet, gray (2.5Y 5/1), very fine grained, dense sand (SP), strong odor.	
5.2 - 8'			Not recovered; probably same as 4.8 - 5.2, but ran out of core tube.	
8 - 10'			Moist, gray (2.5Y 5/1) mottled with olive yellow (2.5Y 6/8), clayey sand (SC).	<5
10 - 12'			Moist, dark grayish brown (2.5Y 4/2), fine sand (SP), very dense, odor still prevalent.	
12 - 13.5'			Moist, same as above.	<5
13.5 - 16'			Moist, light brownish gray (2.5Y 6/2), fine sand (SP) with a little very fine sand and silt.	
16 - 18.2'			Wet, white (5Y 8/1), very fine sand (SP) with <10% silt; very strong odor.	
18.2 - 20'			Wet, light brown gray (10YR 6/2), fine sand with a little very fine sand and silt.	<5
20 - 20.5'			Wet, same as above.	
20.5 - 24'			Wet, light greenish gray (10Y 7/1), very fine sand with some silt (SP), some lenses up to 50 mm in thickness of greenish gray (5GY 6/1) clay are present; the water immediately on top of this unit had a sheen on it; odor is not as great as on the 16 - 20' core.	<5
24 - 26.8'			Wet, same as above, except clay lenses have a maximum thickness of 100 mm.	
26.8 - 28'			Wet, light greenish gray (10Y 7/1), fine sand (SP) with 20 mm thick lenses of greenish gray (5GY 6/1) clay.	<5
28 - 32'			Wet, light greenish gray (10Y 7/1), fine sand (SP) with some very fine sand, some medium sand, and a trace of very fine gravel; strong odor.	



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## WELL AND BORING LOG

Location: Waycross, Georgia	Date(s): 03/28/99 - 04/28/99	Site Id: <b>MW-97</b>	
Project Number: CSXT9415589	Project Name: RCRA Part B	Permit No.: N/A	Purpose: Monitoring Well, Shallow
Logged By: Fred Pirkle	Certified By: C. Mattair	Total Depth: 48.00'	Completed Depth: 43.00'
Contractor: Env. Exploration	Drilling Method: Hollow Stem Auger	Blank Casing: type: Stainless      dia: 2.00in    fm: .0'      to: 28.00'	
Elevation: 137.73'	Borehole Dia.: 10.00in	Screens: type: Wire-wrap      size: .010in dia: 2.00in    fm: 28.00'      to: 38.00'	
Remarks: Exploratory boring completed with a Geoprobe. GC data is sum of trichloroethylene, cis-1,2-dichloroethylene, and 1,1-dichloroethylene. Developed by pumping until clear.		Annular Fill: type: Grout      fm: .00'      to: 24.00'	
		type: Bentonite      fm: 24.00'      to: 26.00'	
		type: Sand Filter      fm: 26.00'      to: 44.00'	

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
32 - 36'			Wet, same as above; possible kaolinized feldspar grains; strong odor.	<5
36 - 40'			Wet, same as above; possible kaolinized feldspar grains; strong odor.	<5
40 - 44'			Wet, same as above; possible kaolinized feldspar grains; strong odor.	<5
44 - 45'			Moist, greenish gray (5GY 5/1), very fine sand (SP), fining downward; slight odor.	<5
45 - 48'			Moist, dark greenish gray (5GY 4/1), clay (CH), in the lower 4" the very fine sand content increases.	<5



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## WELL AND BORING LOG

Location: Wayccorss, Georgia

Date(s): 03/28/99 - 04/28/99

Site Id: **MW-97**

Project Number: CSXT9415589

Project Name: RCRA Part B

Logged By: Fred Pirkle

Certified By: C. Mattair

Contractor: Env. Exploration

Drilling Method: Hollow Stem Auger

Elevation: 137.73'

Borehole Dia.: 10.00in

Permit No.: N/A

Purpose: Monitoring Well, Shallow

Total Depth: 48.00'

Completed Depth: 43.00'

Blank Casing:  
type: Stainless

dia: 2.00in fm: .0'

to: 28.00'

Screens:

type: Wire-wrap

size: .010in dia: 2.00in fm: 28.00'

to: 38.00'

Annular Fill:

type: Grout

fm: .00'

to: 24.00'

type: Bentonite

fm: 24.00'

to: 26.00'

type: Sand Filter

fm: 26.00'

to: 44.00'

Remarks: Exploratory boring completed with a Geoprobe.  
GC data is sum of trichloroethylene, cis-1,2-  
dichloroethylene, and 1,1-dichloroethylene.  
Developed by pumping until clear.

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
32 - 36'			Wet, same as above; possible kaolinized feldspar grains; strong odor.	<5
36 - 40'			Wet, same as above; possible kaolinized feldspar grains; strong odor.	<5
40 - 44'			Wet, same as above; possible kaolinized feldspar grains; strong odor.	<5
44 - 45'			Moist, greenish gray (5GY 5/1), very fine sand (SP), fining downward; slight odor.	<5
45 - 48'			Moist, dark greenish gray (5GY 4/1), clay (CH), in the lower 4" the very fine sand content increases.	<5



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## WELL AND BORING LOG

Location: Waycross, Georgia	Date(s): 03/29/99 - 04/27/99	Site Id: <b>MW-98</b>
Project Number: CSXT9415589	Project Name: RCRA Part B	Permit No.: N/A
Logged By: Fred Pirkle	Certified By: C. Mattair	Purpose: Monitoring Well, Shallow
Contractor: Env. Exploration	Drilling Method: Hollow Stem Auger	Total Depth: 36.00'
Elevation: 136.09'	Borehole Dia.: 10.00in	Completed Depth: 36.00'
Remarks: Exploratory boring completed with a Geoprobe. GC data is sum of trichloroethylene, cis-1,2-dichloroethylene, and 1,1-dichloroethylene. Developed by pumping until clear.		Blank Casing: type: Stainless      dia: 2.00in    fm: .0'      to: 21.00'
		Screens: type: Wire-wrap      size: .010in dia: 2.00in    fm: 21.00'      to: 31.00'
		Annular Fill: type: Grout      fm: .00'      to: 17.00' type: Bentonite    fm: 17.00'      to: 19.00' type: Sand Filter    fm: 19.00'      to: 36.00'

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
0 - 2'			Moist, grayish brown (2.5Y 5/2) contacting black (5Y 2.5/1), sand, silt, gravel; fill.	
2 - 4'			Wet, dark gray (5Y 4/1), very fine sand (SP), some dark (probably organic) inclusions, occasional 10 mm thick lenses of olive (5Y 5/6), very fine sand.	<5
4 - 5.5'			Moist, gray (2.5Y 6/1), very fine sand.	
5.5 - 8'			Wet, dark gray (2.5Y 4/1), very fine sand (SP), dense, lower 0.5' mottled with light olive brown (2.5Y 5/6).	<5
8 - 12'			Wet, dark gray (10YR 4/1), very fine sand (SP), with up to 10 mm thick lenses that seem to contain a little more silt.	<5
12 - 13.5'			Wet, gray (5YR 6/1), very fine sand (SP) with 5-60 mm thick lenses of light greenish gray (10Y 7/1) clay.	
13.5 - 16'			Wet, light greenish gray (10Y 8/1), very fine sand with silt, occasional 5 mm thick laminae of light greenish gray (10Y 7/1) clay.	<5
16 - 20'			Wet, light greenish gray (10Y 8/1), very fine sand with silt, up to 100 mm thick lenses of greenish gray (10Y 6/1) clay present; lenses are thicker with depth.	<5
20 - 24'			Wet, light greenish gray (10Y 8/1), very fine sand with some zones of more fine sand grains, lenses up to 100 mm in thickness of greenish gray (10Y 6/1) clay present.	<5
24 - 28'			Wet, greenish gray (10Y 6/1), fine sand, up to 90 mm thick lenses of greenish gray (5GY 5/1) clay are present in the lower 1'.	
28 - 31'			Some as above except clay is more prominent with one lens reaching a thickness of 140 mm.	<5.





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## WELL AND BORING LOG

Location: Waycross, Georgia	Date(s): 03/29/99 - 04/27/99	Site Id: <b>MW-98</b>	
Project Number: CSXT9415589	Project Name: RCRA Part B	Permit No.: N/A	Purpose: Monitoring Well, Shallow
Logged By: Fred Pirkle	Certified By: C. Mattair	Total Depth: 36.00'	Completed Depth: 36.00'
Contractor: Env. Exploration	Drilling Method: Hollow Stem Auger	Blank Casing: type: Stainless      dia: 2.00in   fm: .0'      to: 21.00'	
Elevation: 136.09'	Borehole Dia.: 10.00in	Screens: type: Wire-wrap      size: .010in dia: 2.00in   fm: 21.00'      to: 31.00'	
Remarks: Exploratory boring completed with a Geoprobe. GC data is sum of trichloroethylene, cis-1,2-dichloroethylene, and 1,1-dichloroethylene. Developed by pumping until clear.		Annular Fill:	
		type: Grout      fm: .00'      to: 17.00'	
		type: Bentonite      fm: 17.00'      to: 19.00'	
		type: Sand Filter      fm: 19.00'      to: 36.00'	

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
35			31 - 32'      Moist greenish gray (5G 6/1), clay (CH)	
40				
45				
50				
55				



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## WELL AND BORING LOG

Location: Waycross, Georgia	Date(s): 03/30/99 - 05/05/99	Site Id: <b>MW-99</b>	
Project Number: CSXT9415589	Project Name: RCRA Part B	Permit No.: N/A	Purpose: Monitoring Well, Shallow
Logged By: Fred Pirkle	Certified By: C. Mattair	Total Depth: 68.00'	Completed Depth: 33.00'
Contractor: Env. Exploration	Drilling Method: Hollow Stem Auger	Blank Casing: type: Stainless dia: 2.00in fm: .0' to: 18.00'	
Elevation: 135.24'	Borehole Dia.: 10.00in	Screens: type: Wire-wrap size: .010in dia: 2.00in fm: 18.00' to: 28.00'	
Remarks: Exploratory boring completed with a Geoprobe. GC data is sum of trichloroethylene, cis-1,2-dichloroethylene, and 1,1-dichloroethylene. Developed by pumping until clear.		Annular Fill: type: Grout fm: .00' to: 14.00' type: Bentonite fm: 14.00' to: 16.00' type: Sand Filter fm: 16.00' to: 34.00'	

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
0 - 2'			Moist, grayish brown (10YR 5/2) to light red (2.5YR 6/8) mottled with brownish yellow (10YR 6/8) to pale yellow (2.5Y 8/2) to black (5YR 2.5/1), sand, clayey sand, limerock; fill.	
2 - 3'			Wet, black (7.5YR 2.5/1), very fine sand with a little silt (SP).	<5
3 - 4'			Wet, light gray (10YR 7/1), very fine sand (SP).	
4 - 7.5'			Wet, light gray (10YR 7/1), very fine sand, some patches of yellowish brown (10YR 5/8).	<5
7.5 - 8'			Moist, gray (10YR 5/1) mottled with yellowish brown (10YR 5/8), clayey sand (SC).	
8 - 8.5'			Wet, dark gray (2.5Y 4/1), clayey sand (SC).	<5
8.5 - 10.5'			Wet, grayish brown (2.5Y 5/2), very fine sand (SP).	
10.5 - 12'			Wet, light brownish gray (2.5Y 6/2), very fine sand with < 10% silt (SP).	
12 - 16'			Wet, light brownish gray (10YR 6/2), fine sand (SP), some layers up to 10 mm thick of gray (10YR 5/1), fine sand present; in the lower 1' lenses up to 10 mm thick of light greenish gray clay (10Y 7/1) occur.	85
16 - 20'			Wet, light greenish gray (10Y 8/1), very fine sand with some silt (SP), some intervals are a little coarser and lenses up to 20 mm thick of light greenish gray (10Y 7/1) clay occur throughout.	181
20 - 21.7'			Wet, same as above.	
21.7 - 24'			Wet, light greenish gray (10Y 8/1), fine sand with some silt, very fine sand, and a trace of very fine gravel (SP).	60
24 - 26'			Wet, same as above.	
26 - 28'			Lost sample as happened at 26-28' on boring B-101.	<5
28 - 32'			Wet, light greenish gray (5GY 8/1), fine sand with some silt, very fine sand and a trace of very fine gravel (SP), some intervals are slightly coarser while others are slightly finer.	



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## WELL AND BORING LOG

Location: Waycross, Georgia

Date(s): 03/30/99 - 05/05/99

Site Id: **MW-99**

Project Number: CSXT9415589

Project Name: RCRA Part B

Logged By: Fred Pirkle

Certified By: C. Mattair

Permit No.: N/A

Purpose: Monitoring Well, Shallow

Contractor: Env. Exploration

Drilling Method: Hollow Stem Auger

Total Depth: 68.00'

Completed Depth: 33.00'

Elevation: 135.24'

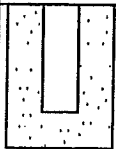
Borehole Dia.: 10.00in

Blank Casing:  
type: Stainless dia: 2.00in fm: .0' to: 18.00'

Remarks: Exploratory boring completed with a Geoprobe.  
GC data is sum of trichloroethylene, cis-1,2-  
dichloroethylene, and 1,1-dichloroethylene.  
Developed by pumping until clear.

Screens:  
type: Wire-wrap size: .010in dia: 2.00in fm: 18.00' to: 28.00'

Annular Fill:  
type: Grout fm: .00' to: 14.00'  
type: Bentonite fm: 14.00' to: 16.00'  
type: Sand Filter fm: 16.00' to: 34.00'

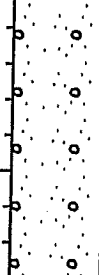
Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
32 - 36'			Wet, same as above.	<5
36 - 39'			Wet, same as above, some intervals recovered very poorly.	71
39 - 40'			Wet, light brownish gray (10YR 6/2), very fine sand with silt (SM).	
40 - 43'			Wet, light gray (2.5Y 7/2), medium sand (SP) with some silt, some very fine sand, some fine sand, and a trace of very fine gravel; some portions are finer than others while some are coarser than others.	43
43 - 44'			Wet, gray (5Y 6/1), medium sand (SP) with some fine sand, some very fine sand, and a trace of very fine gravel.	92
44 - 47.5'			Wet, light gray (2.5Y 7/1), medium sand with some fine sand, some very fine sand, some silt (SP), and a trace of very fine gravel. At 47.5' wood was encountered.	
47.5 - 48'			Wet, gray (5Y 6/1), very fine sand (SP), 5 mm thick laminae of greenish gray (10Y 5/1) clay are present.	140
48 - 49'			Wet, same as above.	
49 - 52'			Wet, light gray (2.5Y 7/1), mostly fine sand with some silt, very fine sand and a trace of very fine gravel (SP); at 50.3' a 30 mm thick lens of dark gray (2.5Y 4/1), fine sand occurs; at 50.8' a 10 mm thick lens of greenish gray (10Y 5/1) clay occurs.	63
52 - 54'			Wet, same as above except medium sand.	
54 - 56'			Wet, dark grayish brown (2.5Y 4/2), fine sand with some very fine sand (SP), a 5 mm thick lens of black (5Y 2.5/1) clay is present.	29
56 - 60'			Lost core; the little that was recovered appeared to be the same as from 55.5 - 56'.	<5
60 - 64'			No recovery	



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## WELL AND BORING LOG

Location: Waycross, Georgia	Date(s): 03/30/99 - 05/05/99	Site Id: <b>MW-99</b>	
Project Number: CSXT9415589	Project Name: RCRA Part B	Permit No.: N/A	Purpose: Monitoring Well, Shallow
Logged By: Fred Pirkle	Certified By: C. Mattair	Total Depth: 68.00'	Completed Depth: 33.00'
Contractor: Env. Exploration	Drilling Method: Hollow Stem Auger	Blank Casing: type: Stainless      dia: 2.00in   fm: .0'      to: 18.00'	
Elevation: 135.24'	Borehole Dia.: 10.00in	Screens: type: Wire-wrap      size: .010in dia: 2.00in   fm: 18.00'      to: 28.00'	
Remarks: Exploratory boring completed with a Geoprobe. GC data is sum of trichloroethylene, cis-1,2-dichloroethylene, and 1,1-dichloroethylene. Developed by pumping until clear.		Annular Fill:	
		type: Grout      fm: .00'      to: 14.00'	
		type: Bentonite      fm: 14.00'      to: 16.00'	
		type: Sand Filter      fm: 16.00'      to: 34.00'	

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
64 - 68'			Wet, greenish gray (5GY 6/1), fine sand with some medium sand, some very fine sand, some silt, and a trace of very fine gravel; at 64.2', a 50 mm thick lens of greenish gray (5GY 5/1) plastic clay exists.	<5

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Location: Waycross, Georgia	Date(s): 03/30/99 - 05/02/99	Site Id: <b>MW-100</b>	
Project Number: CSXT9415589	Project Name: RCRA Part B	Permit No.: N/A	Purpose: Monitoring Well, Shallow
Logged By: Fred Pirkle	Certified By: C. Mattair	Total Depth: 44.00'	Completed Depth: 43.00'
Contractor: Env. Exploration	Drilling Method: Hollow Stem Auger	Blank Casing: type: Stainless dia: 2.00in fm: 0' to: 28.00'	
Elevation: 133.85'	Borehole Dia.: 10.00in	Screens: type: Wire-wrap size: .010in dia: 2.00in fm: 28.00' to: 38.00'	
Remarks: Exploratory boring completed with a Geoprobe. GC data is sum of trichloroethylene, cis-1,2-dichloroethylene, and 1,1-dichloroethylene. Developed by pumping until clear.		Annular Fill: type: Grout fm: .00' to: 24.00' type: Bentonite fm: 24.00' to: 26.00' type: Sand Filter fm: 26.00' to: 44.00'	

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
0 - 0.5'			Dry, light olive brown (2.5Y 5/3), very fine sand (SP).	
0.5 - 1.5'			Moist, light gray (2.5Y 7/2) mottled with strong brown (7.5YR 5/8), very fine sand with < 10% silt (SP).	<5
1.5 - 3.5'			Wet, gray (2.5Y 5/1), very fine sand with < 10% silt (SP), occasional patch of strong brown (7.5YR 7/8).	<5
3.5 - 4'			Wet, light gray (7.5YR 7/1), very fine sand with > 10% silt (SP).	
4 - 6'			Wet, gray (10YR 5), clayey sand (SC).	
6 - 7'			Wet, light greenish gray (10Y 8/1), very fine sand with <10% silt (SP).	
7 - 8'			Wet, light brownish gray (2.5Y 6/2), very fine sand with some silt, some fine sand grains (SP).	<5
8 - 10.5'			Wet, brown (7.5YR 5/2), fine sand with a little silt and very fine sand (SP), zones of strong brown (7.5YR 5/8), yellowish red (5YR 4/6), and dusky red (7.5R 3/4) exist toward base, an occasional 2 mm thick lamina of very pale brown (10YR 8/2) clay exist.	<5
10.5 - 12'			Wet, white (2.5Y 8/1), very fine sand with a little silt (SP).	
12 - 13'			Wet, light yellowish brown (2.5Y 6/3), fine sand (SP).	
13 - 16'			Wet, light gray (2.5Y 7/1) grading into white (10YR 8/1), fine sand (SP) with varying amounts of very fine sand and silt, 4 mm thick lamina of light greenish gray (10Y 8/1) clay are present; a trace of very fine gravel is present.	<5
16 - 20'			Wet, same as above except clay is occurring in lenses up to 100 mm in thickness; in the lower portion, clay lenses are becoming more frequent.	
20 - 23.3'			Wet, same as above except slightly coarser and clay lenses have disappeared.	<5
23.3 - 24'			Wet, light gray (2.5Y 8/1) mottled with yellow (10YR 7/8), fine sand with a little silt and very fine sand and a trace of very fine gravel, the lower 50 mm is a light greenish gray clay lens.	
24 - 28'			Wet, light gray (2.5Y 8/1), occasional reddish yellow (7.5YR 7/8), fine sand with some silt and very fine sand and a trace of very fine gravel, occasional 10 mm thick lenses of light greenish gray (10Y8/1) clay.	<5
28 - 28.3'			Wet, reddish yellow (7.5YR 7/8), fine sand, colored with iron oxide.	
28.3 - 32'			Wet white (10YR 8/1) with abundant iron oxide [reddish yellow (7.5YR 7/8)]	



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## WELL AND BORING LOG

Location: Waycross, Georgia	Date(s): 03/30/99 - 05/02/99	Site Id: <b>MW-100</b>	
Project Number: CSXT9415589	Project Name: RCRA Part B	Permit No.: N/A	Purpose: Monitoring Well, Shallow
Logged By: Fred Pirkle	Certified By: C. Mattair	Total Depth: 44.00'	Completed Depth: 43.00'
Contractor: Env. Exploration	Drilling Method: Hollow Stem Auger	Blank Casing: type: Stainless      dia: 2.00in    fm: .0'      to: 28.00'	
Elevation: 133.85'	Borehole Dia.: 10.00in	Screens: type: Wire-wrap    size: .010in dia: 2.00in    fm: 28.00'      to: 38.00'	
Remarks: Exploratory boring completed with a Geoprobe. GC data is sum of trichloroethylene, cis-1,2-dichloroethylene, and 1,1-dichloroethylene. Developed by pumping until clear.		Annular Fill: type: Grout      fm: .00'      to: 24.00' type: Bentonite    fm: 24.00'      to: 26.00' type: Sand Filter    fm: 26.00'      to: 44.00'	

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
32 - 36'			staining, clayey sand (SC) with 100 mm thick lenses of light greenish gray clay (10Y 8/1). Wet, light greenish gray (5GY 7/1), fine sand with some very fine sand (SP), trace of very fine gravel.	30
36 - 38'			Wet, light greenish gray (5GY 7/1), fine sand with some very fine sand and silt (SP), upper 5" is light gray (2.5Y 7/2).	65
38 - 40'			Moist, dark greenish gray (5GY 4/1), clay (CH).	759



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## WELL AND BORING LOG

Location: Waycross, Georgia

Date(s): 03/30/99 - 05/05/99

Site Id:

**MW-101**

Project Number: CSXT9415589

Project Name: RCRA Part B

Logged By: Fred Pirkle

Certified By: C. Mattair

Permit No.: N/A

Purpose: Monitoring Well, Shallow

Contractor: Env. Exploration

Drilling Method: Hollow Stem Auger

Total Depth: 52.00'

Completed Depth: 37.00'

Elevation: 133.35'

Borehole Dia.: 10.00in

Blank Casing:  
type: Stainless

dia: 2.00in fm: 5'

to: 22.00'

Remarks: Exploratory boring completed with a Geoprobe.  
GC data is sum of trichloroethylene, cis-1,2-  
dichloroethylene, and 1,1-dichloroethylene.  
Developed by pumping until clear.

Screens:

type: Wire-wrap

size: .010in dia: 2.00in fm: 22.00'

to: 32.00'

Annular Fill:

type: Grout

fm: 1.00'

to: 18.00'

type: Bentonite

fm: 18.00'

to: 19.75'

type: Sand Filter

fm: 19.75'

to: 38.00'

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
0 - 1.3'			Dry, grayish brown (10YR 5/2) to very dark grayish brown (10YR 3/2) to grayish brown (10YR 5/2) to pale yellow (2.5Y 8/2), sand, silt, and some limeroack, fill.	<5
1.3 - 4'			Moist, grayish brown (2.5Y 5/2) mottled with yellow brown (10YR 5/8), very fine sand with <10% silt (SP).	
4 - 8'			Wet, gray (7.5YR 5/1) mottled with yellow brown (10YR 5/8), clayey sand (SC), mottling becomes more prevalent with depth.	<5
8 - 9'			Wet, light gray (2.5Y 7/1), very fine sand with a little silt (SP), near the top is a 15 mm thick lens of very dark gray (2.5Y 3/1) clay.	
9 - 9.7'			Wet, grayish brown (10YR 5/2), very fine sand with a little silt (SP).	<5
9.7 - 9.9'			Wet, light brownish gray (10YR 6/2), clayey sand (SC).	
9.9 - 12'			Moist, greenish gray (10Y 7/1), clay (CH).	
12 - 12.5'			Moist, greenish gray (10Y 7/1), clay (CH), some sand laminae present.	
12.5 - 13.5'			Wet, grayish brown (10YR 5/2), fine sand with a little silt (SP).	<5
13.5 - 14.5'			Wet, grayish brown (10YR 5/2) with lenses of greenish gray (10Y 6/1), fine sand with alternating laminae (up to 10 mm thick) of clay.	
14.5 - 16'			Moist, greenish gray (10Y 6/1), clay (CH), with laminae of sand.	
16 - 16.2'			Moist, greenish gray (10Y 6/1), clay (CH).	
16.2 - 20'			Wet, light brownish gray (2.5Y 6/2), fine sand with very fine sand and silt (SP), lenses up to 50 mm thick of greenish gray (10Y 6/1) clay are present, organic material.	372
20 - 24'			Same as above, one clay lens was 90 mm thick.	3,963
24 - 26'			Same as above.	
26 - 28'			Wet, ran out of core tube as happened at 26-28' on boring B-99, seemed to be a very fine sand.	1,864
28 - 32'			Wet, light gray (2.5Y 7/2), fine sand with very fine sand, silt, and a trace of very fine gravel (SP).	



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## WELL AND BORING LOG

Location: Waycross, Georgia	Date(s): 03/30/99 - 05/05/99	Site Id: <b>MW-101</b>	
Project Number: CSXT9415589	Project Name: RCRA Part B	Permit No.: N/A	Purpose: Monitoring Well, Shallow
Logged By: Fred Pirkle	Certified By: C. Mattair	Total Depth: 52.00'	Completed Depth: 37.00'
Contractor: Env. Exploration	Drilling Method: Hollow Stem Auger	Blank Casing: type: Stainless      dia: 2.00in    fm: .5'      to: 22.00'	
Elevation: 133.35'	Borehole Dia.: 10.00in	Screens: type: Wire-wrap      size: .010in dia: 2.00in    fm: 22.00'      to: 32.00'	
Remarks: Exploratory boring completed with a Geoprobe. GC data is sum of trichloroethylene, cis-1,2-dichloroethylene, and 1,1-dichloroethylene. Developed by pumping until clear.		Annular Fill: type: Grout      fm: 1.00'      to: 18.00' type: Bentonite      fm: 18.00'      to: 19.75' type: Sand Filter      fm: 19.75'      to: 38.00'	

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
32 - 36'			Same as above.	80
36 - 40'			Same as above, one 10 mm thick lens of very dark gray (2.5Y 3/1) material (appears to be organic staining of fine sand); possible kaolinized feldspar.	416
40 - 44'			Same as above though possible a little coarser, lower 0.5' is gray (2.5Y 5/1); possible kaolinized feldspar.	41
44 - 46.5'			Same as above.	<5
46.5 - 48'			Wet, light yellowish brown (2.5Y 6/3), very fine sand (SP).	<5
48 - 52'			Wet, light yellowish brown (2.5Y 6/3), sand, silt, and very fine gravel (SM).	<5





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## WELL AND BORING LOG

Location: Waycross, Georgia	Date(s): 03/31/99 - 04/28/99	Site Id: MW-102	
Project Number: CSXT9415589	Project Name: RCRA Part B		
Logged By: Fred Pirkle	Certified By: C. Mattair	Permit No.: N/A	Purpose: Monitoring Well, Shallow
Contractor: Env. Exploration	Drilling Method: Hollow Stem Auger	Total Depth: 40.00'	Completed Depth: 39.00'
Elevation: 134.86'	Borehole Dia.: 10.00in	Blank Casing: type: Stainless	

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
0 - 0.3'			Dry, pale yellow (2.5Y 8/3), limrock; fill.	
0.3 - 1.6'			Moist, dark yellowish brown (10YR 3/6) mottled with yellowish brown (10YR 5/8), very fine sand with < 5% silt (SP).	<5
1.6 - 2.1'			Moist, grayish brown (10YR 5/2), silty sand (SM), very dense.	
2.1 - 4'			Moist, greenish gray (10Y6/1), clay (CH) with lenses up to 50 mm thick of grayish brown (10YR 5/2), very fine sand with <10% silt, clay contains 5 mm thick laminae of what appears to be organic material; entire interval smells of diesel.	<5
4 - 4.2'			Wet, dark gray (2.5Y 4/1), very fine sand (SP).	
4.2 - 4.9'			Wet, black (2.5Y 2.5/1), very fine sand with some wood and an occasional piece of fine gravel.	<5
4.9 - 8'			Wet, light brownish gray (2.5Y 6/2), very fine sand with some silt (SP), occasional lenses of slightly more silt, occasional streaks of light olive brown (2.5Y 5/6).	<5
8 - 12'			Wet, gray (10YR 6/1), very fine sand with < 10% silt (SP), a 200 mm thick lens of dark gray (5YR 4/1) clay occurs at 8.8'; in upper 8", 10 mm thick lenses of greenish gray (10Y 6/1) clay occur.	<5
12 - 16'			Wet, light brownish gray (10YR 6/2), very fine sand with silt (SP), fines content increases with depth, in the lower foot lenses up to 30 mm thick of greenish gray (10Y 6/1) clay occur.	<5
16 - 20'			Wet, light greenish gray (10Y 7/1), fine sand with some very fine sand and silt (SP), 10 mm thick lenses of greenish gray (10Y 6/1) clay occur; some intervals are slightly coarser and some are slightly finer.	<5
20 - 24'			Wet, same as above; water that came up had a sheen.	
24 - 24.3'			Wet, same as above.	
24.3 - 28'			Wet, light greenish gray (10Y 8/1), fine sand with some very fine sand, silt and a trace of very fine gravel (SP); water in this interval had a sheen.	<5
28 - 32'			Wet, same as above.	



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## WELL AND BORING LOG

Location: Waycross, Georgia Date(s): 03/31/99 - 04/28/99

Site Id: **MW-102**

Project Number: CSXT9415589 Project Name: RCRA Part B

Logged By: Fred Pirkle Certified By: C. Mattair

Permit No.: N/A Purpose: Monitoring Well, Shallow

Contractor: Env. Exploration Drilling Method: Hollow Stem Auger

Total Depth: 40.00' Completed Depth: 39.00'

Elevation: 134.86' Borehole Dia.: 10.00in

Blank Casing:  
type: Stainless dia: 2.00in fm: .0' to: 24.00'

Remarks: Exploratory boring completed with a Geoprobe.  
GC data is sum of trichloroethylene, cis-1,2-  
dichloroethylene, and 1,1-dichloroethylene.  
Developed by pumping until clear.

Screens:  
type: Wire-wrap size: .010in dia: 2.00in fm: 24.00' to: 34.00'

Annular Fill:  
type: Grout fm: .00' to: 20.00'  
type: Bentonite fm: 20.00' to: 21.75'  
type: Sand Filter fm: 21.75' to: 40.00'

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
32 - 36'			Did not recover; looking at what little was captured and the little on the end of the 36 - 40' sample seems to be the same material as above.	25
36 - 40'			Wet, greenish gray (5GY 5/1), clay (CH), lower 6" a little very fine sand appeared.	
35				
40				
45				
50				
55				



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Jacksonville FL; Tampa, FL; Trenton, NJ; Stoneham, MA

## WELL AND BORING LOG

Location: Waycross, Georgia	Date(s): 03/31/99 - 04/28/99	Site Id: <b>MW-103</b>	
Project Number: CSXT9415589	Project Name: RCRA Part B	Permit No.: N/A	Purpose: Monitoring Well, Shallow
Logged By: Fred Pirkle	Certified By: C. Mattair	Total Depth: 35.00'	Completed Depth: 34.00'
Contractor: Env. Exploration	Drilling Method: Hollow Stem Auger	Blank Casing: type: Stainless      dia: 2.00in    fm: .5'      to: 19.00'	
Elevation: 132.83'	Borehole Dia.: 10.00in	Screens: type: Wire-wrap      size: .010in dia: 2.00in    fm: 19.00'      to: 29.00'	
Remarks: Exploratory boring completed with a Geoprobe. GC data is sum of trichloroethylene, cis-1,2-dichloroethylene, and 1,1-dichloroethylene. Developed by pumping until clear.		Annular Fill: type: Grout      fm: 1.00'      to: 15.00' type: Bentonite      fm: 15.00'      to: 17.00' type: Sand Filter      fm: 17.00'      to: 35.00'	

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
0 - 0.3'			Dry, light yellowish brown (10YR 6/4), very fine sand; fill.	
0.3 - 0.8'			Moist, reddish yellow (7.5YR 7/8), fine sand with some medium sand; fill.	
0.8 - 1.1'			Moist, grayish brown (2.5Y 5/2) grading into light yellowish brown (2.5Y 6/3), very fine sand and silt; fill.	<5
1.1 - 1.8'			Moist, black (5Y 2.5/1), sand, silt, and gravel; fill.	
1.8 - 4'			Wet, dark gray (2.5Y 4/1) very fine sand, dense, a 10 mm thick lens of light gray (5Y 7/1), silty, sand occurs at 31"; lumps of light grayish brown (2.5Y 6/2) very fine sand also exist; a few intervals of black (2.5Y 2.5/1), very fine sand, swamp complex.	<5
4 - 4.8'			Wet, same as above.	
4.8 - 5.8'			Wet, olive yellow (2.5Y 6/8), silty sand (SM), in lower portion a zone of light gray (5Y 7/1) very fine sand occurs.	<5
5.8 - 6.6'			Moist, brown (7.5YR 5/2), very fine sand (SP).	
6.6 - 8'			Moist, very dark gray (2.5Y 3/1), clayey sand (SC), contains <10% silt.	<5
8 - 9'			Wet, very dark gray (2.5Y 3/1), silty sand (SM).	
9 - 12'			Wet, dark grayish brown (10YR 4/2), very fine sand, occasional 10 mm thick lenses of gray (10YR 5) clay.	
12 - 12.5'			Wet, same as above.	
12.5 - 16'			Wet, greenish gray (10Y 6/1), very fine sand with some silt (SP).	<5
16 - 16.8'			Wet, same as above, silt increases slightly in last 2".	
16.8 - 20'			Wet, grayish brown (2.5Y 5/2), very fine sand with < 10% silt (SP), laminae up to 10 mm thick of light greenish gray (10Y 8/1), very fine sand with slightly more silt are present.	<5
20 - 22.5'			Wet, same as above.	
22.5 - 24'			Wet, light greenish gray (5GY 7/1), fine sand with some silt (SP), lenses up to 40 mm thick of greenish gray (10Y 6/1) clay are present.	
24 - 28'			Wet, light greenish gray (5GY 7/1), fine sand with some very fine sand, silt and a trace of very fine gravel (SP); at 28' 60 mm thick lens of greenish gray (5GY 5/1) clay is present.	<5
28 - 29'			Wet, same as above.	



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## WELL AND BORING LOG

Location: Waycross, Georgia

Date(s): 03/31/99 - 04/28/99

Site Id: **MW-103**

Project Number: CSXT9415589

Project Name: RCRA Part B

Logged By: Fred Pirkle

Certified By: C. Mottair

Permit No.: N/A

Purpose: Monitoring Well, Shallow

Contractor: Env. Exploration

Drilling Method: Hollow Stem Auger

Total Depth: 35.00'

Completed Depth: 34.00'

Elevation: 132.83'

Borehole Dia.: 10.00in

Blank Casing:  
type: Stainless

dia: 2.00in fm: .5'

to: 19.00'

Remarks: Exploratory boring completed with a Geoprobe.  
GC data is sum of trichloroethylene, cis-1,2-  
dichloroethylene, and 1,1-dichloroethylene.  
Developed by pumping until clear.

Screens:

type: Wire-wrap

size: .010in dia: 2.00in fm: 19.00'

to: 29.00'

Annular Fill:

type: Grout

fm: 1.00'

to: 15.00'

type: Bentonite

fm: 15.00'

to: 17.00'

type: Sand Filter

fm: 17.00'

to: 35.00'

Depth (ft)

Graphic Log

Construction

Material Description

GC (ppb)

35

40

45

50

55

29 - 32'

Wet, pale green (5G 6/2), clayey sand (SM) with intervals of greenish gray (5BG 6/1), fine sand, clay concentration increases with depth; at 31', becomes a sandy clay.

<5



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## WELL AND BORING LOG

Location: Waycross, Georgia

Date(s): 03/29/99 - 05/03/99

Site Id:

**MW-104**

Project Number: CSXT9415589

Project Name: RCRA Part B

Logged By: Fred Pirkle

Certified By: C. Mattair

Permit No.: N/A

Purpose: Monitoring Well, Shallow

Contractor: Env. Exploration

Drilling Method: Hollow Stem Auger

Total Depth: 36.00'

Completed Depth: 35.00'

Elevation: 135.83'

Borehole Dia.: 10.00in

Blank Casing:  
type: Stainless

dia: 2.00in fm: .0'

to: 20.00'

Remarks: Exploratory boring completed with a Geoprobe.  
GC data is sum of trichloroethylene, cis-1,2-  
dichloroethylene, and 1,1-dichloroethylene.  
Developed by pumping until clear.

Screens:

type: Wire-wrap

size: .010in dia: 2.00in fm: 20.00'

to: 30.00'

Annular Fill:

type: Grout

fm: .00'

to: 16.00'

type: Bentonite

fm: 16.00'

to: 18.00'

type: Sand Filter

fm: 18.00'

to: 36.00'

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
0 - 0.5'			Moist, olive brown (2.5Y 4/3), fine sand (SP).	
0.5 - 1'			Moist, black (10YR 2/1), fine sand with some very fine sand and silt.	
1 - 2'			Moist, very dark gray (10YR 3/1), very fine sand with some silt.	
2 - 3.8'			Moist, gray (2.5Y 5/1) mottled with olive yellow (2.5Y 6/8), very fine sand with silt and clay (SC).	<5
3.8 - 4'			Moist, grayish brown (2.5Y 5/2), fine sand with some very fine sand and a little silt (SP).	<5
4 - 6'			Moist, grayish brown (2.5Y 5/2), fine sand with some very fine sand and a little silt (SP) grades into gray (2.5Y 5/1) mottled with olive yellow (2.5Y 6/8), very fine sand with silt and clay (SC).	<5
6 - 6.3'			Moist, dark olive brown (2.5Y 3/3), very fine sand with a little silt (SP), very dense.	<5
6.3 - 8'			Moist, gray (2.5Y 5/1), very fine sand with some fine sand (SP).	
8 - 12'			Wet, gray (2.5Y 5/1) mottled with yellowish brown (10YR 5/8), very fine sand with some silt, very dense.	<5
12 - 12.5'			Same as above.	
12.5 - 16'			Wet, grayish brown (10YR 5/2), very fine sand with silt and clay (SC), in the lower 1' some intervals up to 50 mm in thickness contain more medium sand and less silt, some lenses up to 100 mm in thickness of greenish gray (10Y 6/1) clay are present.	<5
16 - 20'			Wet, greenish gray (10Y 6/1), very fine sand with some silt and some clay (SC), laminae up to 10 mm in thickness of light greenish gray (10Y 7/1) clay are present.	<5
20 - 24'			Wet, greenish gray (10Y 6/1), fine sand with some silt, lenses up to 90 mm thick of greenish gray (10Y 7/1) clay are present.	<5
24 - 28'			Wet, greenish gray (10Y 6/1), fine sand with some very fine sand; when core was pulled lower 3' flowed from tube.	



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## WELL AND BORING LOG

Location: Waycross, Georgia	Date(s): 03/29/99 - 05/03/99	Site Id: <b>MW-104</b>	
Project Number: CSXT9415589	Project Name: RCRA Part B	Permit No.: N/A	Purpose: Monitoring Well, Shallow
Logged By: Fred Pirkle	Certified By: C. Mattair	Total Depth: 36.00'	Completed Depth: 35.00'
Contractor: Env. Exploration	Drilling Method: Hollow Stem Auger	Blank Casing: type: Stainless      dia: 2.00in    fm: .0'      to: 20.00'	
Elevation: 135.83'	Borehole Dia.: 10.00in	Screens: type: Wire-wrap      size: .010in dia: 2.00in    fm: 20.00'      to: 30.00'	
Remarks: Exploratory boring completed with a Geoprobe. GC data is sum of trichloroethylene, cis-1,2-dichloroethylene, and 1,1-dichloroethylene. Developed by pumping until clear.		Annular Fill: type: Grout      fm: .00'      to: 16.00'	
		type: Bentonite      fm: 16.00'      to: 18.00'	
		type: Sand Filter      fm: 18.00'      to: 36.00'	

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
35			28 - 32' Wet, light greenish gray (10Y 7/1), fine sand with lenses of greenish gray (10Y 6/1) clay (CH); 1.2' of greenish gray (5G 6/1) clay occurs (30 - 31.2').	<5
			32 - 33.5' Moist, greenish gray (5G 6/1), fine sand with some very fine sand. Lenses of greenish gray (5G 5/1) clay are present.	
			33.5 - 36' Moist, dark greenish gray (5G 4/1) clay (CH), a few streaks of brownish yellow (10YR 6/8).	



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## WELL AND BORING LOG

Location: Waycross, Georgia

Date(s): 03/31/99 - 05/04/99

Site Id: **MW-105**

Project Number: CSX79415589

Project Name: RCRA Part B

Logged By: Fred Pirkle

Certified By: C. Mattair

Permit No.: N/A

Purpose: Monitoring Well, Shallow

Contractor: Env. Exploration

Drilling Method: Hollow Stem Auger

Total Depth: 48.00'

Completed Depth: 37.00'

Elevation: 132.44'

Borehole Dia.: 10.00in

Blank Casing:  
type: Stainless dia: 2.00in fm: .5' to: 22.00'

Remarks: Exploratory boring completed with a Geoprobe.  
GC data is sum of trichloroethylene, cis-1,2-  
dichloroethylene, and 1,1-dichloroethylene.  
Developed by pumping until clear.

Screens:  
type: Wire-wrap size: .010in dia: 2.00in fm: 22.00' to: 32.00'

Annular Fill:  
type: Grout fm: 1.00' to: 18.00'  
type: Bentonite fm: 18.00' to: 20.00'  
type: Sand Filter fm: 20.00' to: 39.00'

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
0 - 0.5'			Dry, pale yellow (2.5Y 7/4), fine and very fine sand.	
0.5 - 1.5'			Moist, red (2.5YR 4/8) mottled with brownish yellow (10YR 6/8), clayey sand.	
1.5 - 1.8'			Moist, very dark gray (5Y 3/1), very fine sand with silt; fill.	
1.8 - 4'			Moist, gray (2.5Y 5/1), very fine sand; dense; occasional patches of yellow (2.5Y 5/1) or white (2.5Y 8/1), very fine sand.	<5
4 - 6'			Wet, grayish brown (10YR 5/2), very fine sand (SP), occasional brownish yellow (10YR 6/8), dark organic looking material is present.	<5
6 - 8'			Wet, grayish brown (2.5Y 5/2), very fine sand with a little silt.	
8 - 10'			Wet, dark grayish brown (2.5Y 4/2), very fine sand (SP), 25 mm lens of very dark grayish brown (2.5Y 3/2) plastic clay is present along with a 15 mm thick lens of light gray (2.5Y 7/2), very fine sand.	<5
10 - 12'			Not recovered.	
12 - 12.8'			Wet, dark gray (10YR 4/1), very fine sand and silt with a 40 mm thick very dark gray (10YR 3/1) organic clay lens present.	
12.8 - 15.3'			Wet, dark gray brown (2.5Y 4/2), very fine sand with laminae up to 10 mm thick of light greenish gray (10Y 7/1) plastic clay.	<5
15.3 - 16'			Wet, greenish gray (10Y 6/1) plastic clay (CH).	
16 - 20'			Wet, light greenish gray (10Y 7/1), very fine sand with some silt (SP), lenses up to 60 mm in thickness of greenish gray (10Y 6/1) plastic clay are present.	2,621
20 - 24'			Wet, same as above, trace of very fine gravel in lower 6".	
24 - 28'			Wet, light greenish gray (10Y 7/1), fine sand with some very fine sand and some silt along with a trace of very fine gravel (SP).	<5
28 - 32'			Wet, same as above; lost about 1' of recovery, probably the finer intervals.	12
				<5



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## WELL AND BORING LOG

Location: Waycross, Georgia

Date(s): 03/31/99 - 05/04/99

Site Id:

MW-105

Project Number: CSXT9415589

Project Name: RCRA Part B

Logged By: Fred Pirkle

Certified By: C. Mattair

Permit No.: N/A

Purpose: Monitoring Well, Shallow

Contractor: Env. Exploration

Drilling Method: Hollow Stem Auger

Total Depth: 48.00'

Completed Depth: 37.00'

Elevation: 132.44'

Borehole Dia.: 10.00in

Blank Casing:

type: Stainless

dia: 2.00in fm: .5'

to: 22.00'

Screens:

type: Wire-wrap

size: .010in dia: 2.00in fm: 22.00'

to: 32.00'

Annular Fill:

type: Grout

fm: 1.00'

to: 18.00'

type: Bentonite

fm: 18.00'

to: 20.00'

type: Sand Filter

fm: 20.00'

to: 39.00'

Remarks: Exploratory boring completed with a Geoprobe.  
GC data is sum of trichloroethylene, cis-1,2-  
dichloroethylene, and 1,1-dichloroethylene.  
Developed by pumping until clear.

Depth (ft)	Graphic Log	Construction	Material Description	GC (ppb)
32 - 36'			Wet, same as above.	
36 - 38.5'			Wet, light brownish gray (2.5Y 6/2), silty sand (SM) with lenses up to 120 mm thick of greenish gray (10Y 7/1) plastic clay.	<5
38.5 - 40'			Wet, gray (2.5Y 5/1), fine sand (SP); upper 3" is a little finer.	<5
40 - 44'			Wet, greenish gray (10Y 6/1), fine sand with very fine sand, silt, and a trace of very fine gravel; some zones are finer than others.	
44 - 48'			Wet, same as above, the finer portions want to run out of the core tube.	<5
				<5





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## WELL AND BORING LOG

Location: Waycross, Georgia

Date(s): 03/26/99 - 05/07/99

Site Id:

**MW-107**

Project Number: CSXT9415589

Project Name: RCRA Part B

Logged By: Fred Pirkle

Certified By: C. Mattair

Conductor Casing:  
type: PVC

dia: 6.00in fm: .00'

to: 47.00'

Contractor: Env. Exploration

Drilling Method: Mud Rotary

Blank Casing:  
type: Stainless

dia: 2.00in fm: .0'

to: 48.00'

Elevation: 139.15'

Borehole Dia.: 6.00in

Screens:

type: Wire-wrap

size: .010in dia: 2.00in fm: 48.00'

to: 58.00'

Remarks: Exploratory boring completed with a Geoprobe.  
GC data is sum of trichloroethylene, cis-1,2-  
dichloroethylene, and 1,1-dichloroethylene.  
Developed by pumping until clear.

Annular Fill:

type: Grout

fm: .00'

to: 44.00'

type: Bentonite

fm: 44.00'

to: 46.00'

type: Sand Filter

fm: 46.00'

to: 64.00'

Depth (ft)	Graphic Log	Well Construction	Material Description	GC (ppb)
0 - 0.3'			Moist, light gray (10YR 7/2) mottled with pale yellow (2.5Y 8/3) to yellow (2.5Y 7/8), sand and silt; fill.	
0.3 - 4'			Moist, black (2.5YR 2.5/1), sand, silt, and gravel; fill.	
4 - 6.5'			Moist, black (2.5YR 2.5), sand, silt, and gravel; fill.	
6.5 - 8'			Wet, light gray (10YR 7/2), very fine sand with streaks of organic (SM), organic streaks are not present in lower 0.5'.	
8 - 8.5'			Moist, light gray (10YR 7/2), very fine sand with silt (SP).	
8.5 - 9'			Moist, dark olive brown (2.5Y 4/3), very fine sand, with 5% silt and clay (SC).	
9 - 11.5'			Moist, dark gray (2.5Y 4/1), very fine sand, with <10% silt and clay (SC), plastic.	<5
11.5 - 12'			Moist, dark gray (2.5Y 4/1) mottled with light olive brown (2.5Y 5/6), very fine sand, with <10% silt and clay (SC), plastic.	
12 - 12.5'			Moist, light olive brown (2.5Y 5/6), very fine sand with 10% silt and clay (SP-SC), plastic.	<5
12.5 - 13'			Moist, dark gray (7.5YR 4/1), very fine sand (SP) with 5% clay.	
13 - 15'			Moist, white (5Y 8/1) mottled with gray (5Y 5/1), very fine sand, with < 10% clay (SP-SC).	
15 - 16'			Not recovered.	<5
16 - 19.5'			Wet, light brownish gray (2.5Y 6/2) grading down to gray (2.5Y 5/1), fine sand (SP), trace clay.	
19.5 - 20'			Moist, gray (2.5Y 6/1), fine sand (SP), with a few 5 mm thick lamina or lenses of greenish gray (5GY 6/1) sandy clay (CH).	189
20 - 21.5'			Wet, light greenish gray (10Y 7/1) grading into greenish gray (10Y 6/1) at 20.5', very fine sand with 10% silt and clay (SP-SC), clay content increases at 21.3'.	
21.5 - 22.2'			Moist, greenish gray (10Y 6/1), clay (CH), upper 0.3' of interval contains lamina of moist, white (5Y 8/1), fine sand (SP).	31,164
22.2 - 24'			Moist, greenish gray (10Y 6/1), clay (CH) interbedded with fine sand (SP), clay lenses increasing with depth.	
24 - 27'			Wet white (5Y 8/1) fine sand (SP) coarsening downward	



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## WELL AND BORING LOG

Location: Waycross, Georgia	Date(s): 03/26/99 - 05/07/99	Site Id: <b>MW-107</b>
Project Number: CSXT9415589	Project Name: RCRA Part B	
Logged By: Fred Pirkle	Certified By: C. Mattair	Conductor Casing: type: PVC dia: 6.00in fm: .00' to: 47.00'
Contractor: Env. Exploration	Drilling Method: Mud Rotary	Blank Casing: type: Stainless dia: 2.00in fm: .0' to: 48.00'
Elevation: 139.15'	Borehole Dia.: 6.00in	Screens: type: Wire-wrap size: .010in dia: 2.00in fm: 48.00' to: 58.00'
Total Depth: 64.00'	Completed Depth: 63.00'	Annular Fill: type: Grout fm: .00' to: 44.00' type: Bentonite fm: 44.00' to: 46.00' type: Sand Filter fm: 46.00' to: 64.00'
Remarks: Exploratory boring completed with a Geoprobe. GC data is sum of trichloroethylene, cis-1,2-dichloroethylene, and 1,1-dichloroethylene. Developed by pumping until clear.		

Depth (ft)	Graphic Log	Well Construction	Material Description	GC (ppb)
27 - 28'			Moist, white (5Y 8/1), fine sand (SP).	<5
28 - 30.5'			Wet, gray (2.5Y 6/1), fine sand (SP), some medium size grains, may contain kaolinized feldspar grains.	
30.5 - 31'			Moist, gray (2.5Y 5/1), fine sand (SP) with 5% fines and a few coarse sand grains, may contain kaolinized feldspar grains.	168
31 - 32'			Moist, gray (2.5Y 6/1), fine sand (SP), may contain kaolinized feldspar grains.	
32 - 36'			Wet, greenish gray (10Y 6/1), mostly medium sand with some coarse sand and a trace of fine gravel (SP), possible kaolinized feldspar grains.	382
36 - 38'			Moist, greenish gray (5GY 6/1), very fine dense sand (SP), with three 82 mm thick lenses of greenish gray (5GY 5/1) clay (CH); possible kaolinized feldspar grains.	
38 - 40'			Not recovered.	
40 - 42'			Moist to wet, greenish gray (5GY 6/1), very fine sand, dense; possible kaolinized feldspar grains.	160
42 - 44'			Moist, light greenish gray (5GY 7/1), fine sand (SP), not as dense as above; possible kaolinized feldspar grains.	
44 - 44.5'			Moist, light greenish gray (5GY 7/1), fine sand (SP).	
44.5 - 45.5'			Moist, dark greenish gray (5GY 4/1), clay (CH), plastic.	<5
45.5 - 46'			Moist, greenish gray (5GY 6/1), fine sand (SP).	
46 - 47.5'			Moist, greenish gray (5GY 5/1), clay (CH) with some very fine sand.	
47.5 - 48'			Moist, greenish gray (5GY 4/1), clay (CH).	
48 - 52'			Moist, light gray (2.5Y 7/1), medium sand (SP) coarsening slightly with depth, one 70 mm thick lens of light gray (2.5Y 7/1), fine sand (SP) at 49.5'.	<5
52 - 54.5'			Moist to wet, gray (2.5Y 5/1) with a few pale yellow (2.5Y 8/3) .50 mm diameter patches, mostly medium sand (SP).	
54.5 - 55.5'			Moist, light gray (2.5Y 7/2) grading to gray (2.5Y 6/1), fine sand (SP).	<5
55.5 - 57'			Wet, dark bluish gray (5PB 4/1), fine sand with some medium sand (SP).	
57 - 57.5'			Wet, bluish black mottled with light greenish gray (10Y 8/1), very fine sand with clay (OH).	
57.5 - 59'			Wet, greenish gray (10Y 6/1), very fine sand (SP) with some 10 - 20 mm thick greenish gray (10Y 5/1) clay (CH) lenses.	<5



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## WELL AND BORING LOG

Location: Waycross, Georgia

Date(s): 03/26/99 - 05/07/99

Site Id:

**MW-107**

Project Number: CSXT9415589

Project Name: RCRA Part B

Logged By: Fred Pirkle

Certified By: C. Mattair

Conductor Casing:  
type: PVC

dia: 6.00in fm: .00'

to: 47.00'

Contractor: Env. Exploration

Drilling Method: Mud Rotary

Blank Casing:  
type: Stainless

dia: 2.00in fm: .0'

to: 48.00'

Elevation: 139.15'

Borehole Dia.: 6.00in

Screens:

type: Wire-wrap

size: .010in dia: 2.00in fm: 48.00'

to: 58.00'

Total Depth: 64.00'

Completed Depth: 63.00'

Remarks: Exploratory boring completed with a Geoprobe.  
GC data is sum of trichloroethylene, cis-1,2-  
dichloroethylene, and 1,1-dichloroethylene.  
Developed by pumping until clear.

Annular Fill:

type: Grout

fm: .00'

to: 44.00'

type: Bentonite

fm: 44.00'

to: 46.00'

type: Sand Filler

fm: 46.00'

to: 64.00'

Depth (ft)

Graphic Log

Well Construction

Material Description

GC (ppb)

61 - 63'

Moist, greenish gray (5GY 5/1), very fine, very clayey sand with dark greenish gray (5GY 4/1) clay (SC/CH).

<5

Elevation (NGVD of 1929)	Ground	135.00 ft	Logged	From	11/12/00	To	11/12/00	MW-108-10-20
	TOC	134.42 ft	Constructed	From	11/21/00	To	11/21/00	
Casing (stainless steel)	Length	10 ft	Developed	From	11/21/00	To	11/25/01	
	Diameter	2 in	Logged By	Fredric L. Pirkle, P.G.				
Screen (stainless steel, v-wire)	From	10.0 ft	Reviewed By	Christopher J. Mattair, P.G.				
	To	20.0 ft	Drilling Company	Moretrench, Inc.				
	Diameter	2 in	Lead Driller	David Sanford				
	Slot Size	0.02 in	Drilling Equipment	Rig No. 0494				
	Open	%	Drilling Method	Sonic, continuous 3" diameter core				
Grout	From	1.0 ft	Well developed by purging followed by air lifting and purging.					
	To	6.0 ft						
Bentonite	From	6.0 ft	Location bored to 100 feet below grade and cluster wells installed in individual boreholes.					
	To	8.0 ft						
Sand (20/30)	From	8.0 ft						
	To	20.0 ft						
Borehole Diameter	10 in							
Surface Completion	flush to surface manhole with 2'x2' concrete pad; locking expandable plug							

LOCATION		Waycross, Georgia					
PROJECT		Y: Part B Permit RCRA					
CLIENT		CSX Transportation, Inc.					
		MW-103 (10-20)					
		GRAPHICS					
Depth (ft)	Recovery	Moisture	Well	Annulus	Soil Column	From (ft)	SOIL DESCRIPTION
		dry				0	Lime rock fill.
							Sand with silt; dark gray (5YR 4/1)
		moist				0.5	
5						3.0	Silty Sand; 30% silt; gray (10YR 5/1) mottled with olive yellow (2.4Y 6/8)
		wet				4.5	Clayey Sand, very fine, 15% clay; gray (10YR 5/1) mottled with olive yellow (2.5Y 6/8)
		moist				6.5	Clayey Sand very fine, 30% clay; gray (10YR 5/1) mottled with yellow brown (10YR 5/6); from 8-8.5 feet the color is brownish yellow (10YR 6/8); below 8.5 feet the color is gray (2.5Y 6/1)
10						9.3	Silty Sand, very fine, 15% silt; light gray (10YR 7/1)
							Sand, fine, light brownish gray (2.5Y 6/2) grading with depth to white (5Y 8/1) interbedded with....
15		wet					Clay beds, up to 50 mm thick; greenish gray (10Y 6/1); clay beds decreasing in frequency with depth
							muscovite is present throughout the interval...
20						10.0	
25							

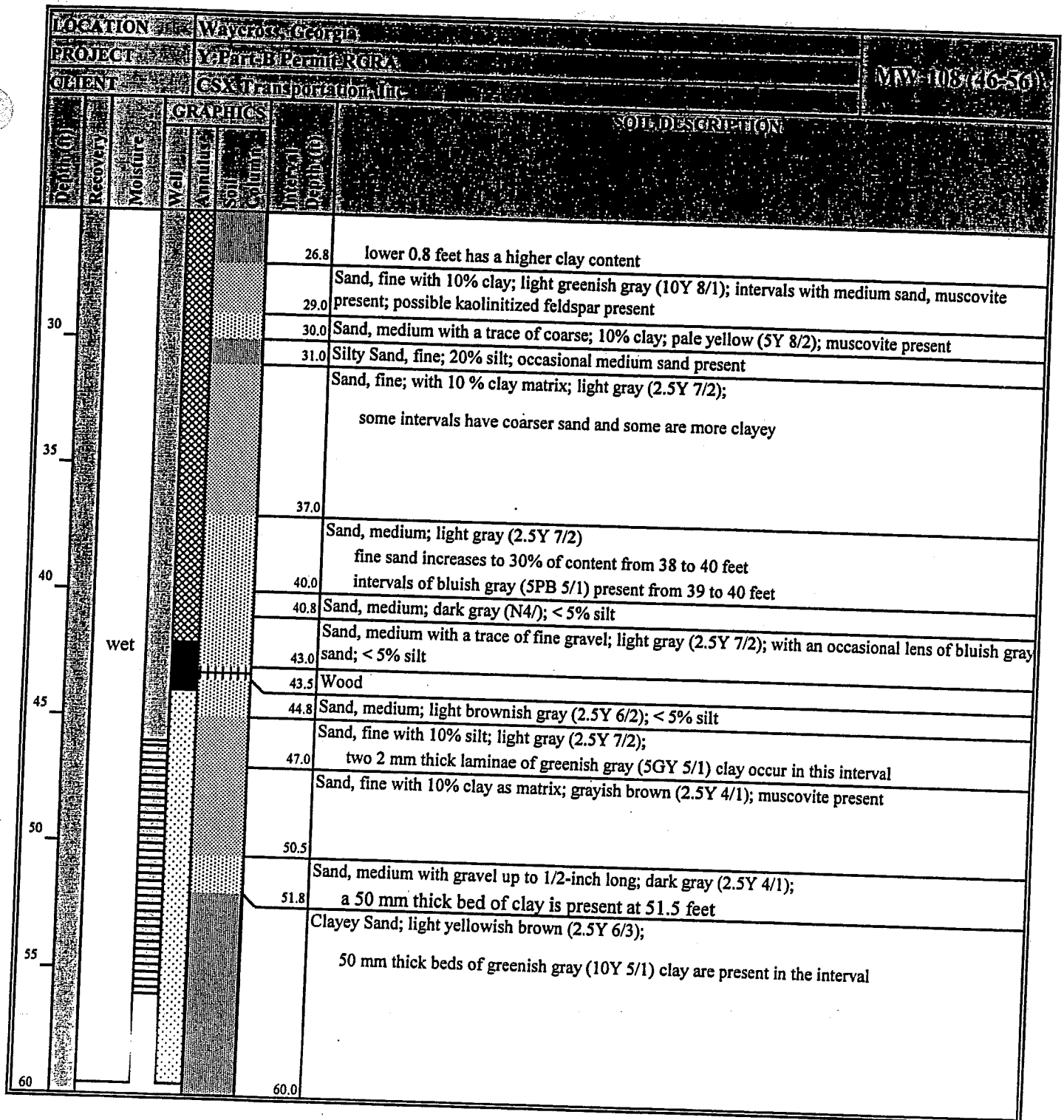
Elevation (NGVD of 1929)	Ground	135.00 ft	Logged	From	11/12/00	To	11/12/00
	TOC	134.43 ft	Constructed	From	11/20/00	To	11/20/00
Casing (stainless steel)	Length	35 ft	Developed	From	11/21/00	To	11/25/00
	Diameter	2 in	Logged By	Fredric L. Pirkle, P.G.			
Screen (stainless steel v-wire)	From	35.0 ft	Reviewed By	Christopher J. Mattair, P.G.			
	To	45.0 ft	Drilling Company	Moretrench, Inc.			
	Diameter	2 in	Lead Driller	David Sanford			
	Slot Size	0.02 in	Drilling Equipment	Rig No. 0494			
	Open	%	Drilling Method	Sonic, continuous 3" diameter core			
Grout	From	1.0 ft	Well developed by purging followed by air lifting and purging.				
	To	31.0 ft					
Bentonite	From	31.0 ft	Location bored to 100 feet below grade and cluster wells installed in individual boreholes.				
	To	33.0 ft					
Sand (20/30)	From	33.0 ft					
	To	45.0 ft					
Borehole Diameter	10 in						
Surface Completion	flush to surface manhole with 2'x2' concrete pad; locking expandable plug						

LOCATION		Waycross, Georgia					
PROJECT		Y-Part-B Permit RCRA					
CLIENT		CSX Transportation, Inc.					
		MW-108 (35-45)					
Depth (ft)	Recovery	Moisture	GRAPHICS			Interval Depth (ft)	SOIL DESCRIPTION
			Well	Annulus	Soil Column		
5	dry					0.5	Lime rock fill.
							Sand with silt; dark gray (5YR 4/1)
	moist					3.0	
						4.5	Silty Sand; 30% silt; gray (10YR 5/1) mottled with olive yellow (2.4Y 6/8)
	wet					6.5	Clayey Sand, very fine, 15% clay; gray (10YR 5/1) mottled with olive yellow (2.5Y 6/8)
10	moist						Clayey Sand very fine, 30% clay; gray (10YR 5/1) mottled with yellow brown (10YR 5/6); from 8-8.5 feet the color is brownish yellow (10YR 6/8); below 8.5 feet the color is gray (2.5Y 6/1)
						9.3	
						10.0	Silty Sand, very fine, 15% silt; light gray (10YR 7/1)
15	wet						Sand, fine, light brownish gray (2.5Y 6/2) grading with depth to white (5Y 8/1) interbedded with....
							Clay beds. up to 50 mm thick; greenish gray (10Y 6/1); clay beds decreasing in frequency with depth
							muscovite is present throughout the interval...
20						20.5	
							Sand, fine with a trace of coarse; pale yellow (2.5Y 8/2); < 5% silt
25						23.0	Clayey Sand, fine, 15% clay; light gray (2.5Y 7/2); muscovite present throughout entire core

**Gannett Fleming, Inc.**  
**Jacksonville, Florida**

Elevation (NGVD of 1929)	Ground	135.00 ft	Logged	From	11/12/00	To	11/12/00	MW-108 (46-56)
	TOC	134.27 ft	Constructed	From	11/20/00	To	11/20/00	
Casing (stainless steel)	Length	46 ft	Developed	From	11/21/00	To	11/25/00	
	Diameter	2 in	Logged By	Fredric L. Pirkle, P.G.				
Screen (stainless steel, v-wire)	From	46.0 ft	Reviewed By	Christopher J. Mattair, P.G.				
	To	56.0 ft	Drilling Company	Moretrench, Inc.				
	Diameter	2 in	Lead Driller	David Sanford				
	Slot Size	0.02 in	Drilling Equipment	Rig No. 0494				
	Open	%	Drilling Method	Sonic, continuous 3" diameter core				
Grout	From	1.0 ft	Well developed by purging followed by air lifting and purging.					
	To	42.0 ft						
Bentonite	From	42.0 ft	Location bored to 100 feet below grade and cluster wells installed in individual boreholes.					
	To	44.0 ft						
Sand (20/30)	From	44.0 ft						
	To	60.0 ft						
Borehole Diameter	10 in							
Surface Completion	flush to surface manhole with 2'x2' concrete pad; locking expandable plug							

LOCATION		Waycross, Georgia					
PROJECT		Y:Part-B Permit RCRA					
CLIENT		CSX Transportation, Inc.					
		MW-108 (46-56)					
		GRAPHICS		SOIL DESCRIPTION			
Depth (ft)	Recovery	Moisture	Well	Annulus	Soil Column	Interval	Depth (ft)
							0.5
		dry					Lime rock fill.
							Sand with silt; dark gray (5YR 4/1)
		moist					3.0
							4.5
		wet					Silty Sand; 30% silt; gray (10YR 5/1) mottled with olive yellow (2.4Y 6/8)
							6.5
		moist					Clayey Sand, very fine, 15% clay; gray (10YR 5/1) mottled with olive yellow (2.5Y 6/8)
							9.3
							10.0
							Clayey Sand very fine, 30% clay; gray (10YR 5/1) mottled with yellow brown (10YR 5/6); from 8-8.5 feet the color is brownish yellow (10YR 6/8); below 8.5 feet the color is gray (2.5Y 6/1)
							20.5
		wet					Silty Sand, very fine, 15% silt; light gray (10YR 7/1)
							Sand, fine, light brownish gray (2.5Y 6/2) grading with depth to white (5Y 8/1) interbedded with....
							Clay beds, up to 50 mm thick; greenish gray (10Y 6/1); clay beds decreasing in frequency with depth
							muscovite is present throughout the interval...
							23.0
							Sand, fine with a trace of coarse; pale yellow (2.5Y 8/2); < 5% silt
							Clayey Sand, fine, 15% clay; light gray (2.5Y 7/2); muscovite present throughout entire core





Elevation (NGVD of 1929)	Ground	134.50 ft	Logged	From	11/12/00	To	11/12/00	MW-108 (70-75)
	TOC	133.99 ft	Constructed	From	11/12/00	To	11/13/00	
Casing (stainless steel)	Length	70 ft	Developed	From	11/21/00	To	11/25/00	
	Diameter	2 in	Logged By	Fredric L. Pirkle, P.G.				
Screen (stainless steel, v-wire)	From	70.0 ft	Reviewed By	Christopher J. Mattair, P.G.				
	To	75.0 ft	Drilling Company	Moretrench, Inc.				
	Diameter	2 in	Lead Driller	David Sanford				
	Slot Size	0.02 in	Drilling Equipment	Rig No. 0494				
	Open	%	Drilling Method	Sonic, continuous 3" diameter core				
Grout	From	1.0 ft	Well developed by purging followed by air lifting and purging.					
	To	66.0 ft						
Bentonite	From	66.0 ft	Location bored to 100 feet below grade and cluster wells installed in individual boreholes. The 70-75 feet well screen was place in the 100 foot borehole after grouting the bottom of the borehole from 79 to 100 feet and allowing the grout to cure.					
	To	68.0 ft						
Sand (20/30)	From	68.0 ft						
	To	79.0 ft						
Borehole Diameter	10 in							
Surface Completion	flush to surface manhole with 2'x2' concrete pad; locking expandable plug							

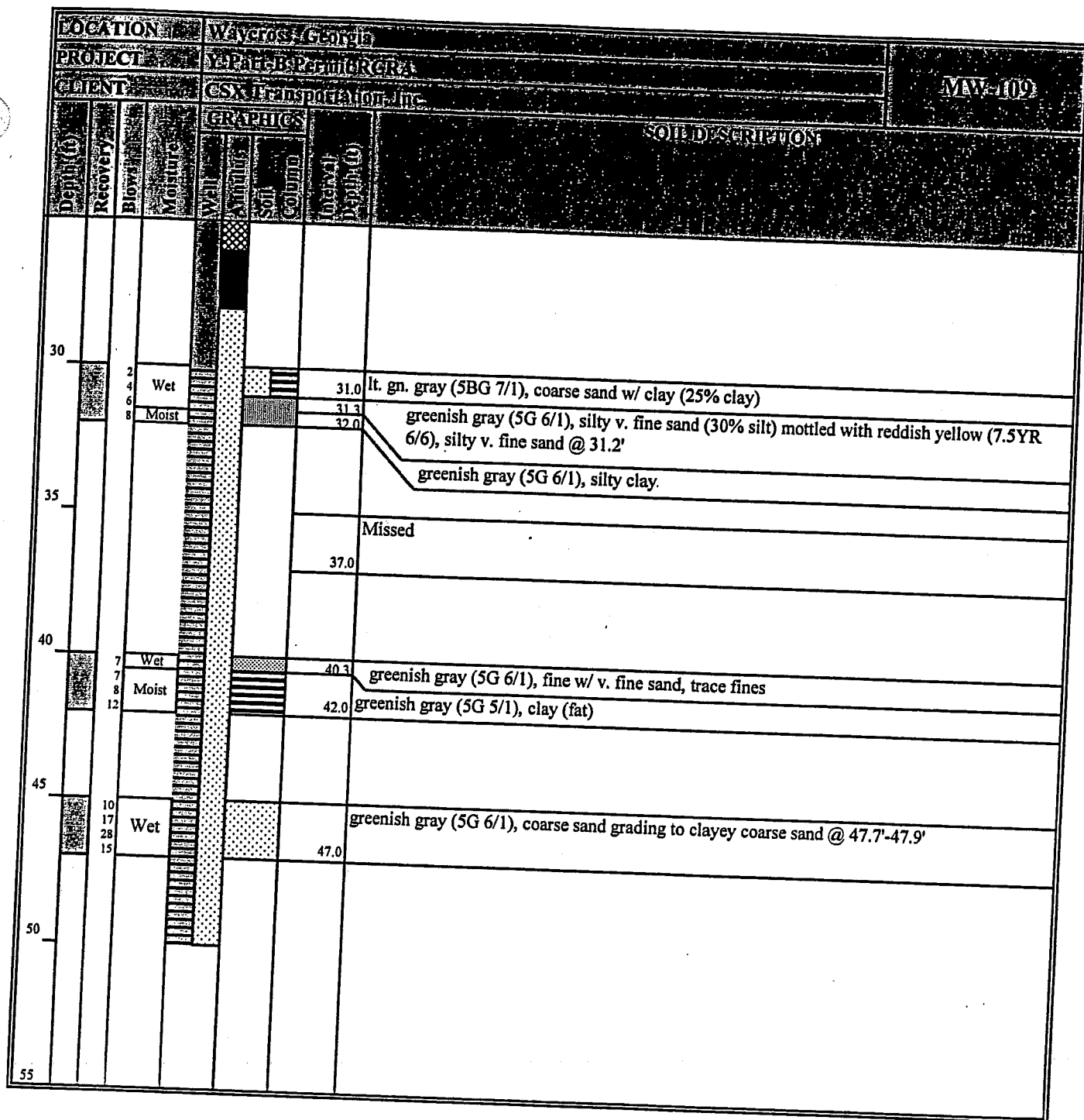
LOCATION		Waycross, Georgia					
PROJECT		Y-Part-B Permit RCRA					
CLIENT		CSX Transportation, Inc.					
		MW-108 (70-75)					
Depth (ft)	Recovery	Moisture	GRAPHICS			SOIL DESCRIPTION	
			Well	Annulus	Soil Column	Interval Depth (ft)	
5	dry					0.5	Lime rock fill.
							Sand with silt; dark gray (5YR 4/1)
	moist					3.0	
						4.5	Silty Sand; 30% silt; gray (10YR 5/1) mottled with olive yellow (2.4Y 6/8)
	wet					6.5	Clayey Sand, very fine, 15% clay; gray (10YR 5/1) mottled with olive yellow (2.5Y 6/8)
10	moist					9.3	Clayey Sand very fine, 30% clay; gray (10YR 5/1) mottled with yellow brown (10YR 5/6); from 8-8.5 feet the color is brownish yellow (10YR 6/8); below 8.5 feet the color is gray (2.5Y 6/1)
						10.0	Silty Sand, very fine, 15% silt; light gray (10YR 7/1)
							Sand, fine, light brownish gray (2.5Y 6/2) grading with depth to white (5Y 8/1) interbedded with....
15							Clay beds. up to 50 mm thick; greenish gray (10Y 6/1); clay beds decreasing in frequency with depth
							muscovite is present throughout the interval...
	wet					20.5	
20							Sand, fine with a trace of coarse; pale yellow (2.5Y 8/2); < 5% silt
						23.0	
25							Clayey Sand, fine, 15% clay; light gray (2.5Y 7/2); muscovite present throughout entire core



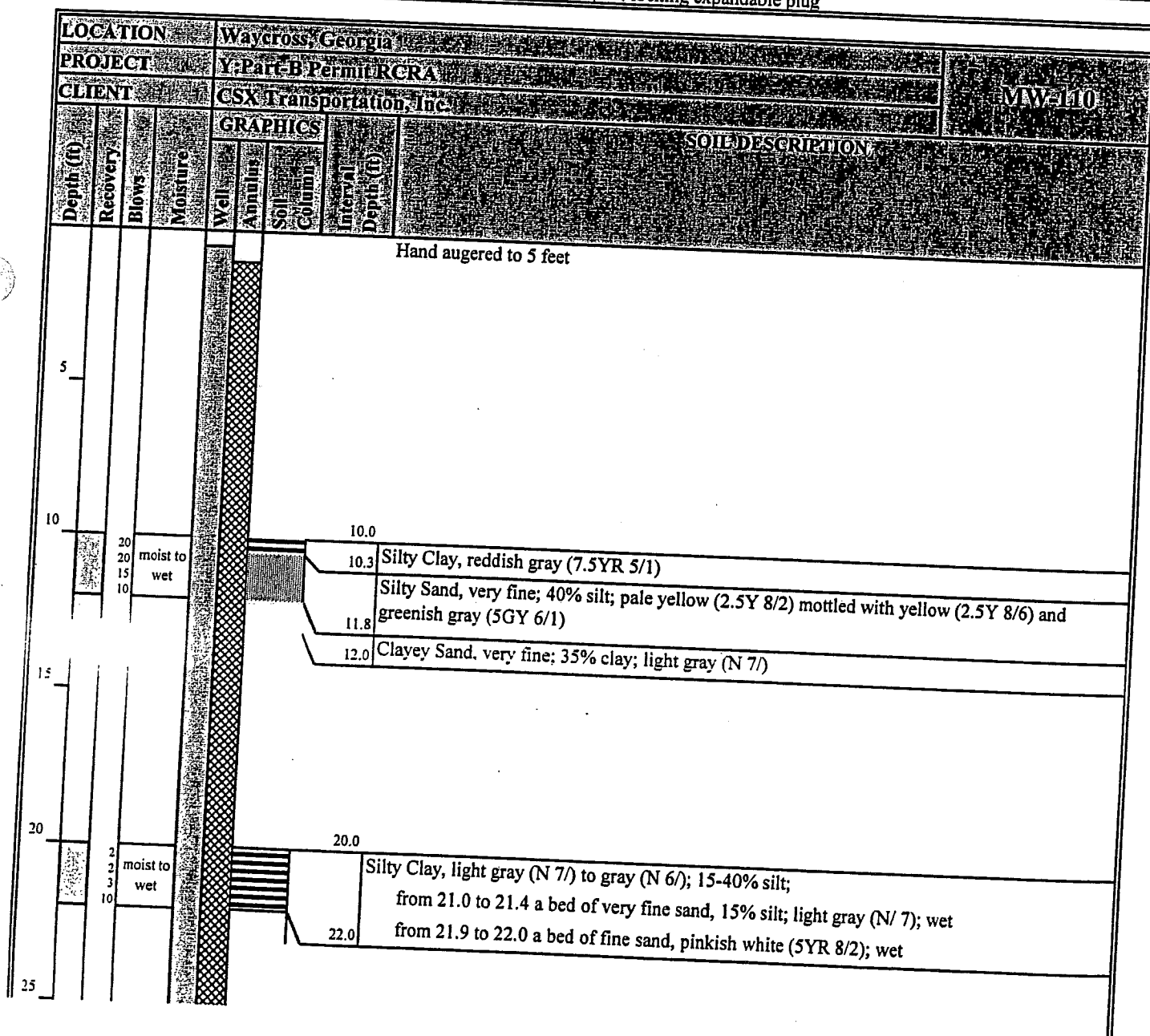
LOCATION		Waycross, Georgia			
PROJECT		Y-Patt-B Permi R/GRA			
CLIENT		CSX Transportation, Inc.			
		MAY-10870-759			
Depth (ft)	Recovery	Moisture	GRAPHICS		SOIL DESCRIPTION
			Well	Soil Column	
75		wet			Lost core
					72.0
75					Sand, fine with 10-15% matrix clay; pale yellow (5Y 8/2); at 72.5 feet a 30 mm thick bed of same soil with gray (5Y 5/1) color occurs
					74.0
75					Sand, fine with medium; light greenish gray (10Y 7/1); < 5% silt
					76.0
80					Clayey Sand; light gray (2.5Y 7/2); with a 1 foot thick bed of greater clay matrix that is greenish gray (5GY 6/1)
					78.8
80					bottom .3 feet is black (N 2.5/) with bog iron suggesting swamp complex
					80.0
80		moist			Clayey Sand; greenish gray (5GY 5/1); clay increasing with depth
					81.5
85					Fat Clay; greenish gray (10Y 6/1)
					84.0
90					Fat Clay; dark bluish green (5B 4/1)
					90.0
90		wet			Clayey Sand, 20% clay; greenish gray (10Y 6/1);
					93.5
95					a 2-inch thick swamp complex bed is present at 87 feet the sand content increases with depth
					99.0
95		moist			Clayey Sand, 30% clay; pale olive (5Y 6/3)
					100.0
100					Sandy Clay; greenish gray (5GY 6/1)
					100.0
100		dry			Clayey Sand; pale olive (5Y 6/3); streaks of black organics and piece of bog iron present
					100.0

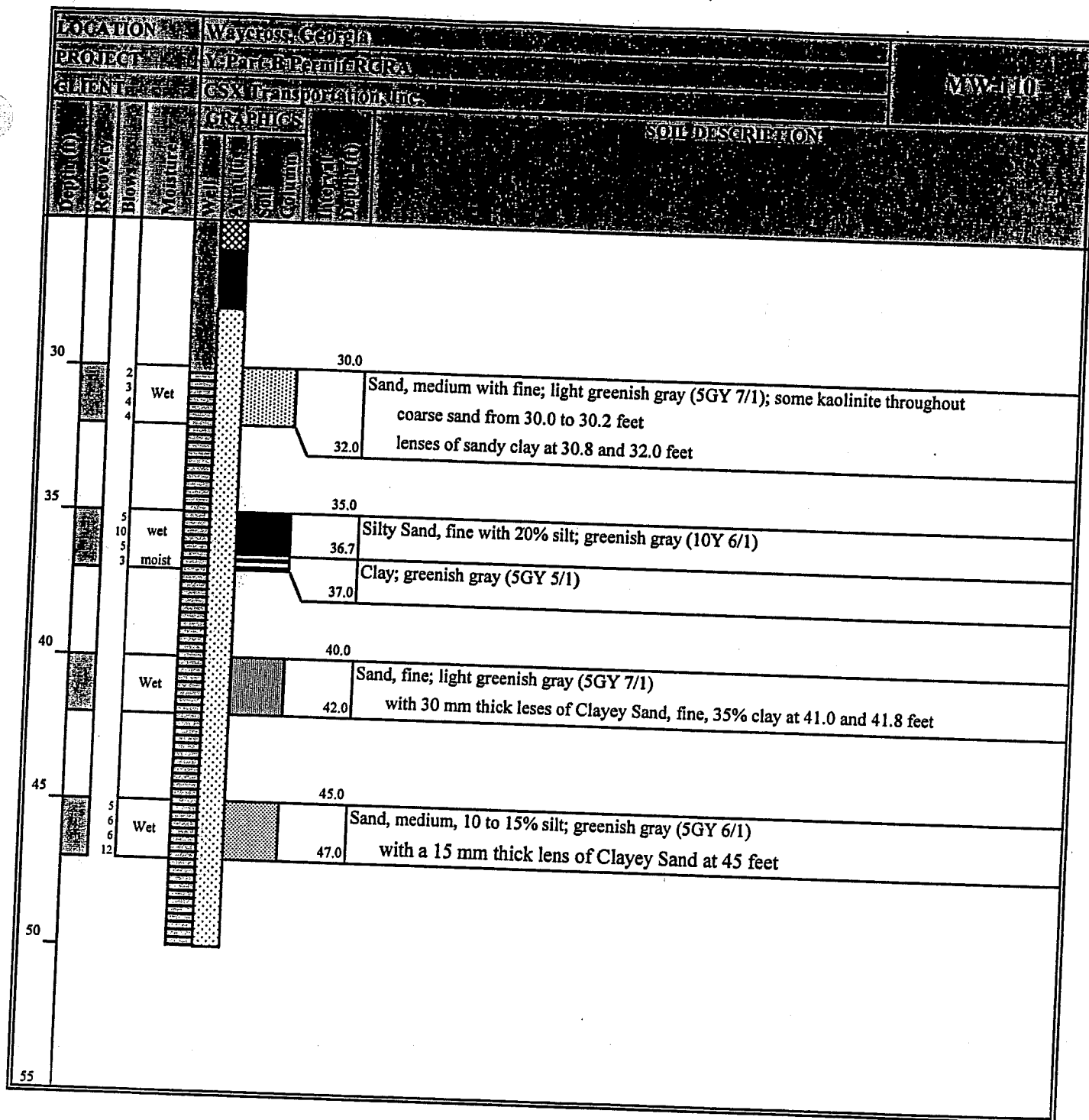
Elevation (NGVD of 1929)	Ground	133.00 ft	Logged	From	8/27/01	To	
Casing (SCH 40 PVC)	TOC	133.54 ft	Constructed	From		To	
	Length	30 ft	Developed	From		To	
	Diameter	2 in	Logged by	Oren Reedy			
Screen (SCH 40 PVC slotted)	From	30.0 ft	Reviewed by	Christopher J. Mattair, P.G.			
	To	50.0 ft	Drilling Company	Partridge			
	Diameter	2 in	Lead Driller	Allan Kelly & Gary Oakes			
	Slot Size	0.02 in	Drilling Equipment	Drilmaster 400			
	Open	%	Drilling Method	Mud Rotary			
Grout	From	1.0 ft	Well developed by purging.				
	To	26.0 ft					
Bentonite	From	26.0 ft					
	To	28.0 ft					
Sand (20/30)	From	28.0 ft					
	To	50.0 ft					
Borehole Diameter	8 in						
Surface Completion	flush to surface manhole with 2'x2' concrete pad; locking expandable plug						

LOCATION		Waycross, Georgia					
PROJECT		Y-Part-B Permit RCRA					
CLIENT		CSX Transportation, Inc.					
		GRAPHICS			SOIL DESCRIPTION		
Depth (ft)	Recovery	Blows	Moisture	Well	Annulus	Soil Column	Interval Depth (ft)
5							Hand auger
10							
11.0		5	Wet				lt. brn. gray (10YR 6/2), silty v. fine sand (45% silt)
12.0		6	Moist				greenish gray (10Y 6/1), sandy clay, with 25 mm thick lens of dk. red gray (7.5R 4/1), silty v. fine sand @ 11.8'
12.0		9					
20							
22.0		2	Moist				lt. gn. gray (5GY 7/1), clayey sand (35% clay) w/ 5mm thick lens of clay throughout
22.0		2					
22.0		3					
22.0		3					
25							



Elevation (NGVD of 1929)	Ground	133.00 ft	Logged	From	8/28/01	To	8/28/01	MW-110	
Casing (SCH 40 PVC)	TOC	132.71 ft	Constructed	From	8/28/01	To	8/28/01		
	Length	30 ft	Developed	From	8/28/01	To	8/28/01		
	Diameter	2 in	Logged By	Oren Reedy					
Screen (SCH 40 PVC slotted)	From	30.0 ft	Reviewed By	Christopher J. Mattair, P.G.					
	To	50.0 ft	Drilling Company	Partridge					
	Diameter	2 in	Lead Driller	Allan Kelly & Gary Oakes					
	Slot Size	0.02 in	Drilling Equipment	Drilmaster 400					
	Open	%	Drilling Method	Mud Rotary					
Grout	From	1.0 ft	Well developed by purging.						
	To	26.0 ft							
Bentonite	From	26.0 ft							
	To	28.0 ft							
Sand (20/30)	From	28.0 ft							
	To	50.0 ft							
Borehole Diameter	8 in								
Surface Completion	flush to surface manhole with 2'x2' concrete pad; locking expandable plug								



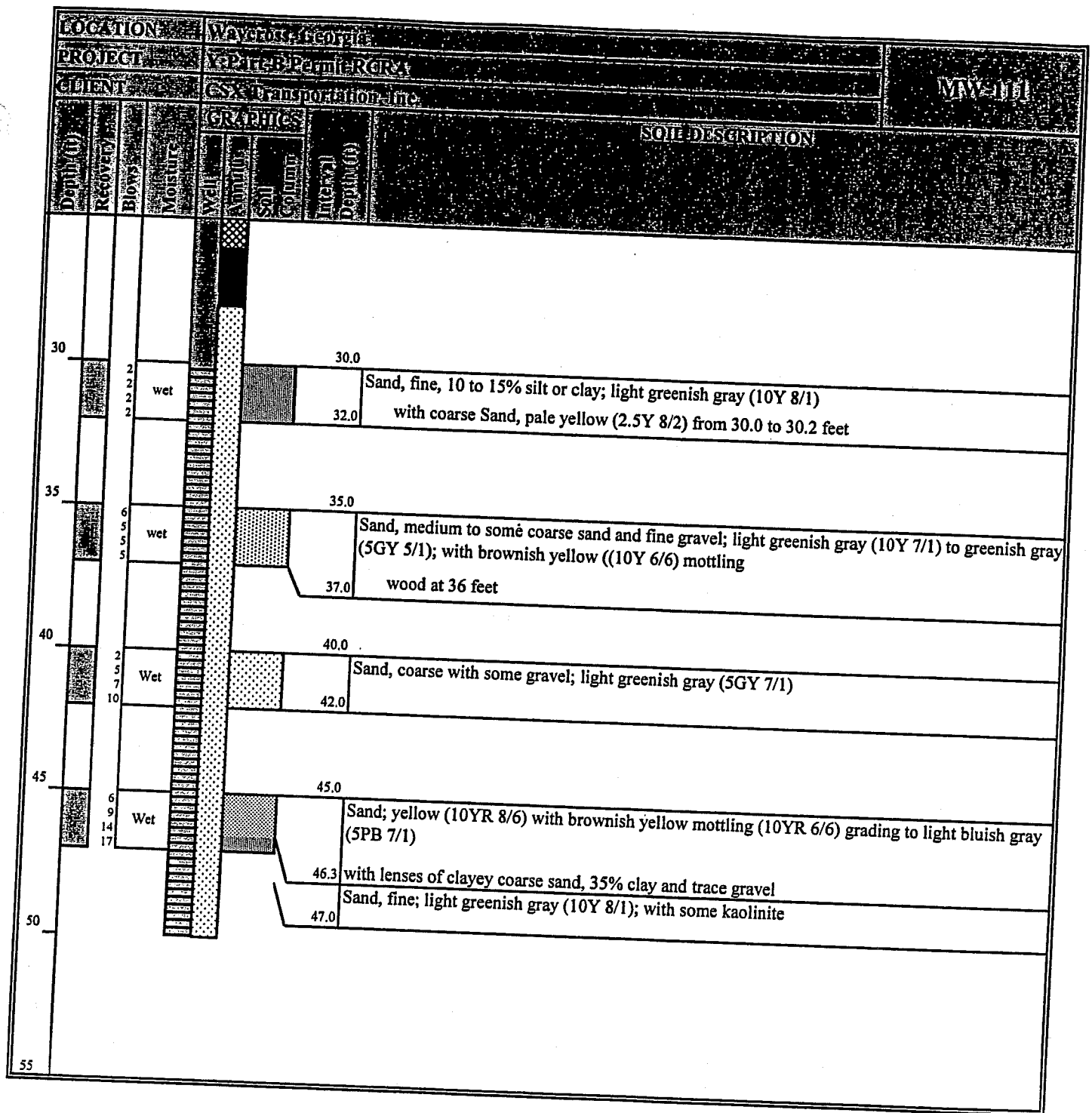




Elevation (NGVD of 1929)	Ground	133.00 ft	Logged By	From	8/29/01	To	8/29/01	MW-1a1
	TOC	132.71 ft	Constructed	From	8/29/01	To	8/29/01	
Casing (SCH 40 PVC)	Length	30 ft	Developed	From	8/29/01	To	8/29/01	
	Diameter	2 in	Logged By	Oren Reedy				
Screen (SCH 40 PVC slotted)	From	30.0 ft	Reviewed By	Christopher J. Mattair, P.G.				
	To	50.0 ft	Drilling Company	Partridge				
	Diameter	2 in	Lead Driller	Allan Kelly & Gary Oakes				
	Slot Size	0.02 in	Drilling Equipment	Drilmaster 400				
	Open	%	Drilling Method	Mud Rotary				
Grout	From	1.0 ft	Well developed by purging.					
	To	26.0 ft						
Bentonite	From	26.0 ft						
	To	28.0 ft						
Sand (20/30)	From	28.0 ft						
	To	50.0 ft						
Borehole Diameter	8 in							
Surface Completion	flush to surface manhole with 2'x2' concrete pad; locking expandable plug							

LOCATION		Waycross, Georgia							MW-111
PROJECT		Y: Part-B Permit RCRA							
CLIENT		CSX Transportation, Inc.							
Depth (ft)	Recovery	Blows	Moisture	GRAPHICS			Interval Depth (ft)	SOIL DESCRIPTION	
				Well	Annulus	Soil Column			
5								Hand augered to 5 feet	
10		3 4 4 4	moist				10.0	Clayey Sand, 35-45% clay and silt; light greenish gray (5GY 8/1) to greenish gray (10Y 5/1)	
							11.7	clay bed from 10.3 to 10.5 feet and 5 mm thick clay lamina from 10.5 to 11.7 feet	
							12.0	Silty Sand, very fine, 30% silt; greenish gray (10Y 6/1)	
15									
20		2 1 1 3	wet				20.0	Clayey Sand, very fine, 20 to 45% silt and clay; light greenish gray ((10Y 7/1) to greenish gray (10Y 6/1)	
							22.0		
25									





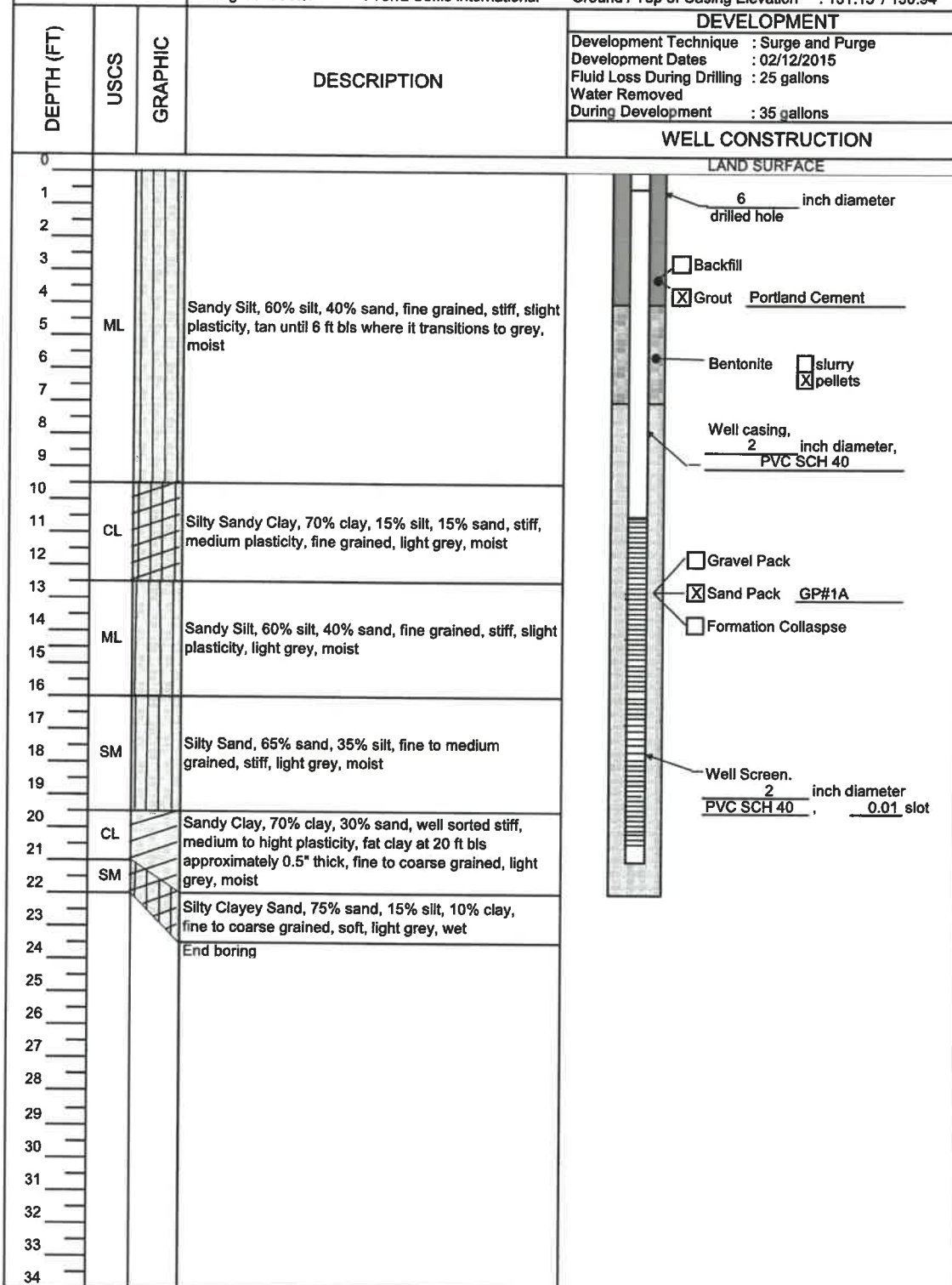


# LPABS MW-111(10'-20") BORING AND WELL CONSTRUCTION

CSX, Inc.  
Hump Yard  
Waycross, GA

Date Started : 02/10/2015  
Date Completed : 02/10/2015  
Hole Diameter : 6.0"  
Drilling Method : Sonic  
Drilling Contractor : Terra Sonic International

Well Purpose : Monitoring Well  
Driller : Adam Marshall  
Total Depth Drilled : 22.0'  
Prepared By : Glenn Skawski  
Ground / Top of Casing Elevation : 131.15' / 130.94'



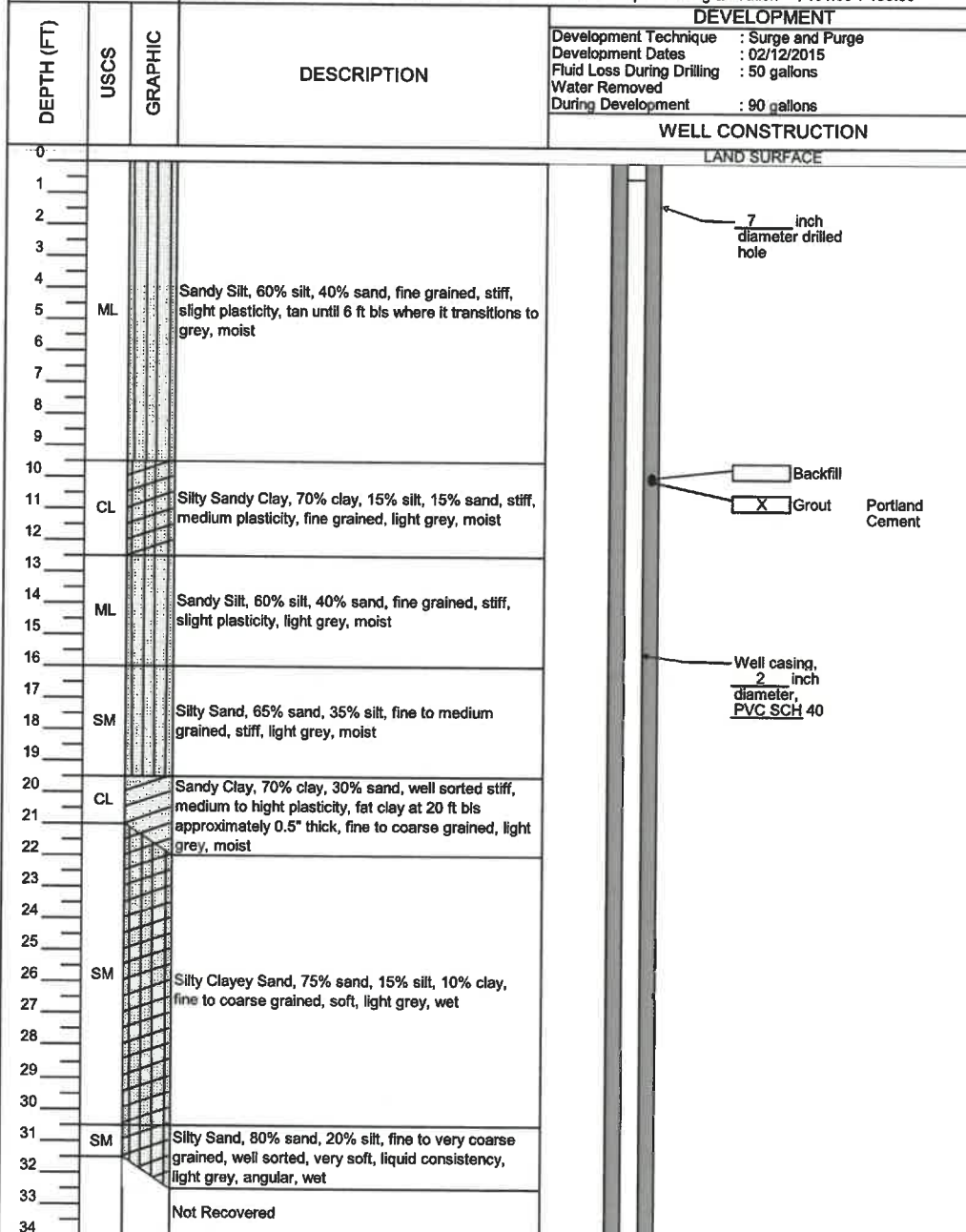


# LPABS MW-111(70'-80') BORING AND WELL CONSTRUCTION

CSX, Inc.  
Hump Yard  
Waycross, GA

Date Started : 02/10/2015  
Date Completed : 02/11/2015  
Hole Diameter : 6.0"  
Drilling Method : Sonic  
Drilling Contractor : Terra Sonic International

Well Purpose : Monitoring Well  
Driller : Adam Marshall  
Total Depth Drilled : 79.5'  
Prepared By : Glenn Skawski  
Ground / Top of Casing Elevation : 131.05' / 130.80'





# LPABS MW-111(70'-80') BORING AND WELL CONSTRUCTION

CSX, Inc.  
Hump Yard  
Waycross, GA

Date Started : 02/10/2015  
Date Completed : 02/11/2015

Prepared By : Glenn Skawski  
Ground / Top of Casing Elevation : 131.05' / 130.80'

DEPTH (FT)	USCS	GRAPHIC	DESCRIPTION	WELL CONSTRUCTION	
35					
36					
37			Not Recovered		
38					
39					
40					
41					
42					
43					
44					
45	SM		Silty Sand, 90% sand, 10% silt, fine to very coarse, angular, soft, color transitions from light grey to dark grey to light grey from top to bottom, well sorted, wet		
46					
47					
48					
49					
50					
51	SP		Poorly Graded Sands, fine to medium pebble size, angular, soft, grey and black		
52					
53					
54					
55	CL		Sandy Clay, 70% Clay, 30% sand, stiff, medium plasticity, fine to very coarse, angular, poorly sorted, green, wet		
56					
57					
58					
59					
60					
61					
62	CH		Fat Clay, very stiff, high plasticity, green, wet		
63					
64					
65					
66					
67	SP		Poorly Graded Sands, fine to very coarse grains, angular, soft, tan, moist		
68					
69	SC		Clayey Sand, 85% sand, 15% clay, mica schist, fine to very coarse grained, green, very hard, wet		
70					
71					
72					
73					
74	SP		Poorly Graded Sands, medium to granule grains, trace clay <10% to 73.5' bls then all sand, angular, soft, greyish green, wet		
75					
76					
77					
78	SP/CH		Lenses of fat clay and poorly graded coarse sand, very hard/stiff, grey wet, high plasticity in clays		
79	SC		Clayey Sand, 70% sand, 30% clay, fine grained, stiff/hard, none to slight plasticity, greenish tan, wet		
80	CH		Fat Clay, very stiff, high plasticity, greenish grey, moist		

6 inch  
diameter drilled  
hole

Bentonite

slurry  
pellets

Gravel Pack













Sand Pack GP#1A

Formation Collapse

Well Screen.

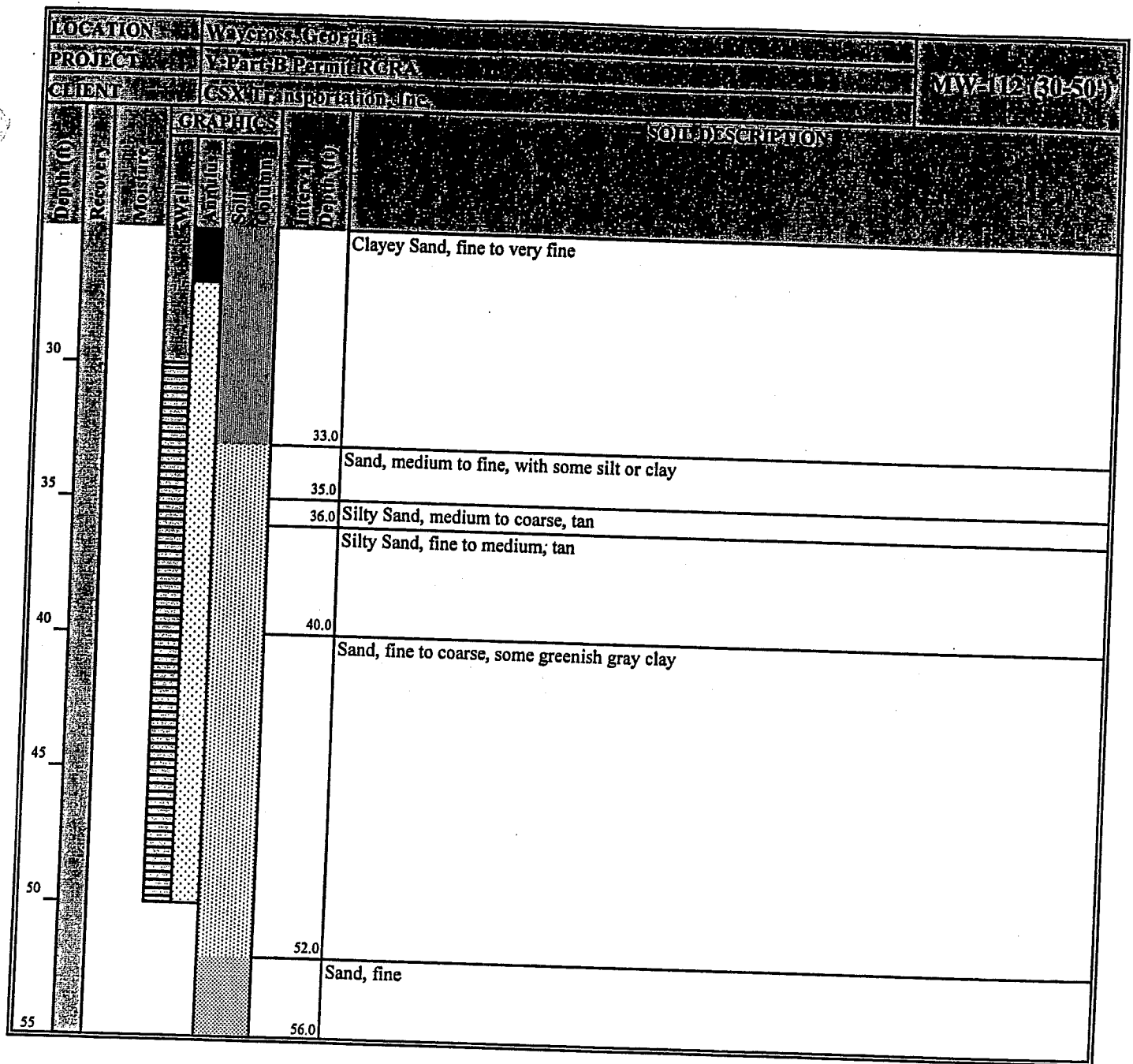
2 inch diameter  
PVC SCH 40, 0.01 slot

Elevation (NGVD of 1929)	Ground	133.50 ft	Logged	From	8/30/01	To	8/30/01	MW-112/10-203
	TOC	133.24 ft	Constructed	From	8/30/01	To	8/30/01	
Casing (stainless steel)	Length	10 ft	Developed	From	8/30/01	To	8/30/01	
	Diameter	2 in	Logged By	David Pirkle				
Screen (stainless steel, v-wire)	From	10.0 ft	Reviewed By	Christopher J. Mattair, P.G.				
	To	20.0 ft	Drilling Company	Partridge				
	Diameter	2 in	Lead Driller	Allan Kelly & Gary Oakes				
	Slot Size	0.02 in	Drilling Equipment	Drilmaster 400				
	Open	%	Drilling Method	Mud Rotary				
Grout	From	1.0 ft	Well developed by purging.					
	To	6.0 ft						
Fine Sand Seal	From	6.0 ft						
	To	8.0 ft						
Sand (20/30)	From	8.0 ft						
	To	20.0 ft						
Borehole Diameter	8 in							
Surface Completion	flush to surface manhole with 2'x2' concrete pad; locking expandable plug							

LOCATION		Waycross, Georgia					MW-112 (10-203)	
PROJECT		Y-Part B Permit RCRA						
CLIENT		CSX Transportation, Inc.						
Depth (ft)	Recovery	Moisture	GRAPHICS			Interval Depth (ft)	SOIL DESCRIPTION	
			Well	Annulus	Soil Column			
5						5.0	Clayey Sand, very fine; up to 45% clay, tan	
10						12.0	Sandy Clay; 20% fine sand; tan; dense	
15						20.0	Clayey Sand, fine to medium; up to 40% clay, tan; dense	
20						33.0	Clayey Sand, fine to very fine; up to 40% clay, tan; dense	
25								

Elevation (NGVD of 1929)	Ground	133.50 ft	Logged	From	8/30/01	To	8/30/01	VW-12 (30-50)
	TOC	133.04 ft	Constructed	From	8/30/01	To	8/30/01	
Casing (stainless steel)	Length	30 ft	Developed	From	8/30/01	To	8/30/01	
	Diameter	2 in	Logged By	David Pirkle				
Screen (stainless steel, v-wire)	From	30.0 ft	Reviewed By	Christopher J. Mattair, P.G.				
	To	50.0 ft	Drilling Company	Partridge				
	Diameter	2 in	Lead Driller	Allan Kelly & Gary Oakes				
	Slot Size	0.02 in	Drilling Equipment	Drillmaster 400				
	Open	%	Drilling Method	Mud Rotary				
Grout	From	1.0 ft	Well developed by purging.					
	To	24.0 ft						
Fine Sand Seal	From	24.0 ft						
	To	27.0 ft						
Sand (20/30)	From	27.0 ft						
	To	50.0 ft						
Borehole Diameter	8 in							
Surface Completion	flush to surface manhole with 2'x2' concrete pad; locking expandable plug							

LOCATION			Waycross, Georgia					
PROJECT			Y: Part B Permit RCRA					
CLIENT			CSX Transportation, Inc.					
			MW-112 (80-509)					





Elevation (NGVD of 1929)	Ground	133.50 ft	Logged	From	8/30/01	To	8/30/01	MW-112 (70-80)	
Casing (stainless steel)	TOC	132.90 ft	Constructed	From	8/30/01	To	8/30/01		
	Length	70 ft	Developed	From	8/30/01	To	8/30/01		
	Diameter	2 in	Logged By	David Pirkle					
Screen (stainless steel, v-wire)	From	70.0 ft	Reviewed By	Christopher J. Mattair, P.G.					
	To	80.0 ft	Drilling Company	Partridge					
	Diameter	2 in	Lead Driller	Allan Kelly & Gary Oakes					
	Slot Size	0.02 in	Drilling Equipment	Drilmaster 400					
	Open	%	Drilling Method	Mud Rotary					
Grout	From	1.0 ft	Well developed by purging.						
	To	64.0 ft							
Fine Sand Seal	From	64.0 ft							
	To	67.0 ft							
Sand (20/30)	From	67.0 ft							
	To	80.0 ft							
Borehole Diameter	8 in								
Surface Completion	flush to surface manhole with 2'x2' concrete pad; locking expandable plug								

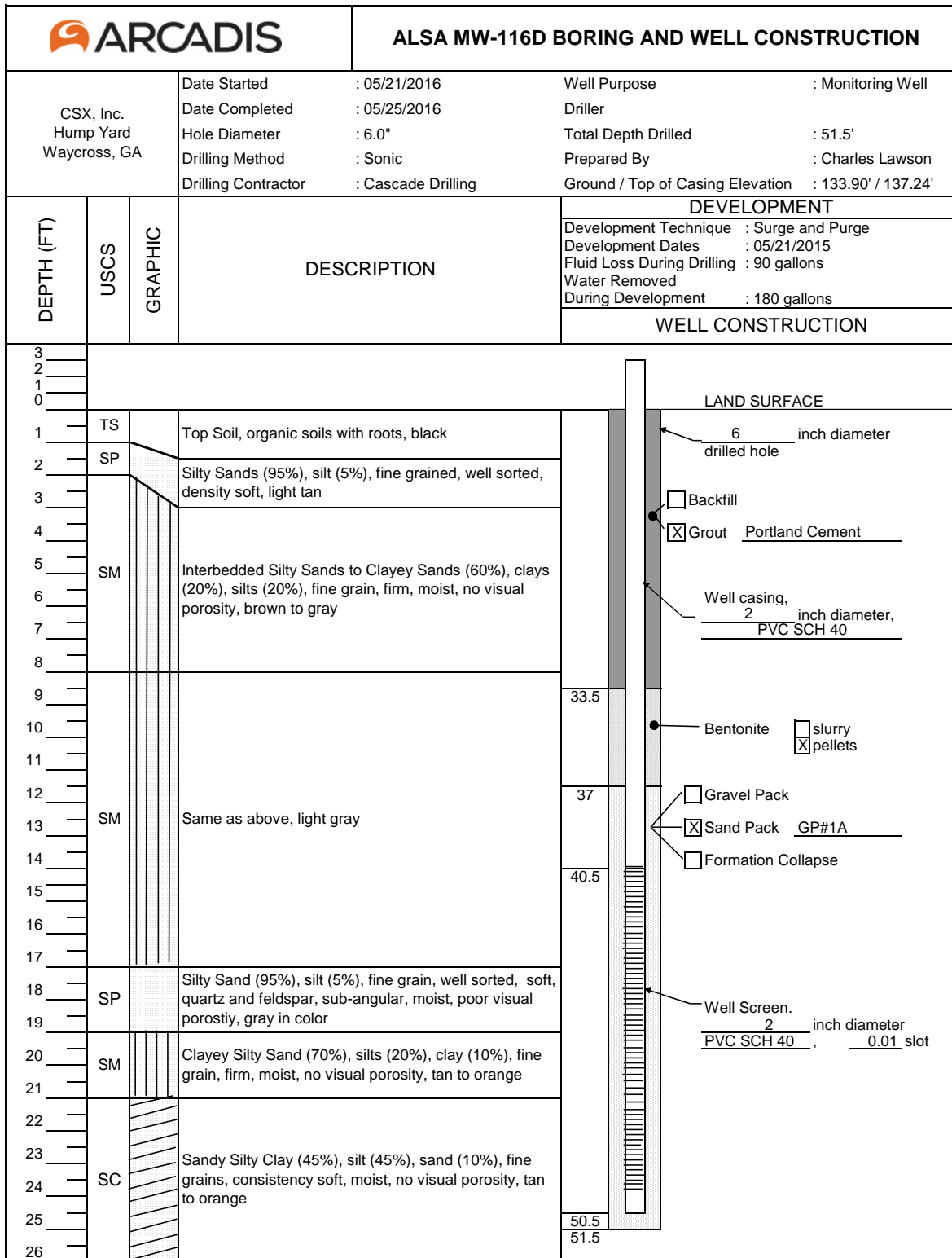
LOCATION		Waycross, Georgia					MW-112 (70-80)	
PROJECT		Y-Part B Permit RCRA						
CLIENT		CSX Transportation, Inc.						
Depth (ft)	Recovery	Moisture	GRAPHICS			Interval Depth (ft)	SOIL DESCRIPTION	
			Well	Annulus	Soil Column			
5						5.0	Clayey Sand, very fine; up to 45% clay, tan	
10						12.0	Sandy Clay; 20% fine sand; tan; dense	
15							Clayey Sand, fine to medium; up to 40% clay, tan; dense	
20						20.0		
25							Clayey Sand, fine to very fine; up to 40% clay, tan; dense	








LOCATION		Waycross, Georgia			
PROJECT		Y-Part-B-Permit/RGRA			
CLIENT		CSX Transportation, Inc.			
		MAW 112 (70-30)			
Depth (ft)	Recovery	GRAPHICS			SOIL DESCRIPTION
		Moisture	Well	Annular	
30					Clayey Sand, fine to very fine
33.0					
35					Sand, medium to fine, with some silt or clay
35.0					
36.0					Silty Sand, medium to coarse, tan
					Silty Sand, fine to medium, tan
40					
40.0					
					Sand, fine to coarse, some greenish gray clay
45					
50					
52.0					
					Sand, fine
55					
56.0					
					Sand, fine to very fine
60					
60.0					
					Clayey Sand, fine to medium
65					
70					
70.0					

LOCATION		Waycross, Georgia				PROJECT		Y-Parcel Permit RCPA				CLIENT		CSX Transportation, Inc.				WAY-165, 70-80			
DEPTH (ft)		RECOVERY		MOISTURE		WELL		ANNULAR		SOIL		CORRECTION		INTERVAL DEPTH (ft)		SOIL DESCRIPTION					
75														76.0		Silty Sand, fine					
80														80.0		Very clayey Sand, medium; clay is dense, greenish blue					
85																					

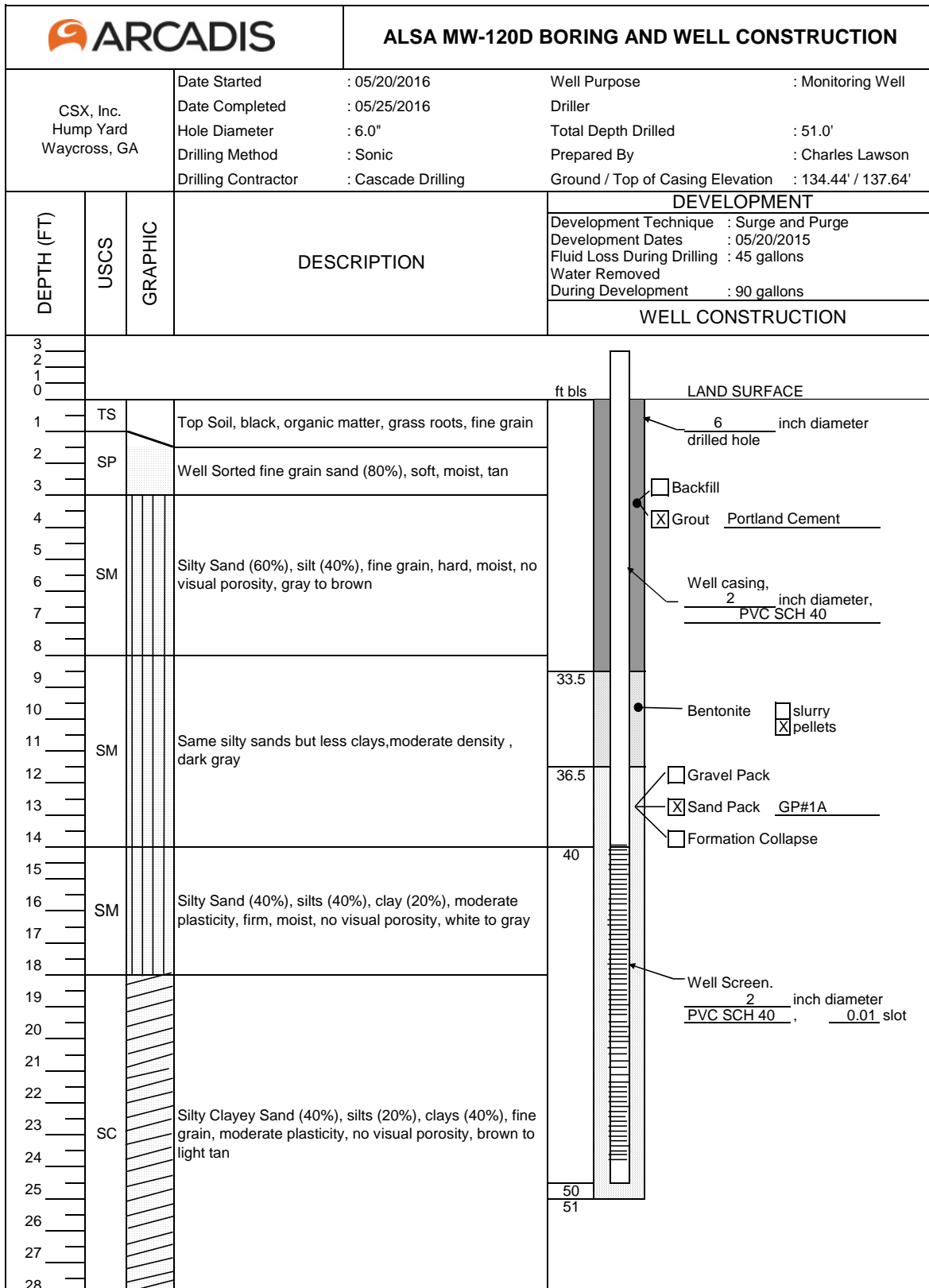
ALSA Well Construction Logs - June 2016  
CSX Transportation, Inc.  
Waycross, Georgia



ALSA Well Construction Logs - June 2016  
 CSX Transportation, Inc.  
 Waycross, Georgia

27	CH		Fat Clay, stiff, moist, gray
28			
29	CH		Same as above
30			
31			
32	CH		Stiff Green Clay, no fines, consistency is hard, no visual porosity
33			
34			
35			
36	SM		Silty Sands (70%), silt (<30%), minor amounts of clays, fine grain, consistency soft, moist, no visual porosity, green
37			
38			
39	SM		Same as above
40			
41			
42			
43			
44			
45			Lost core due to fine and coarse sand, light green to gray
46			
47			
48			
49			
50			

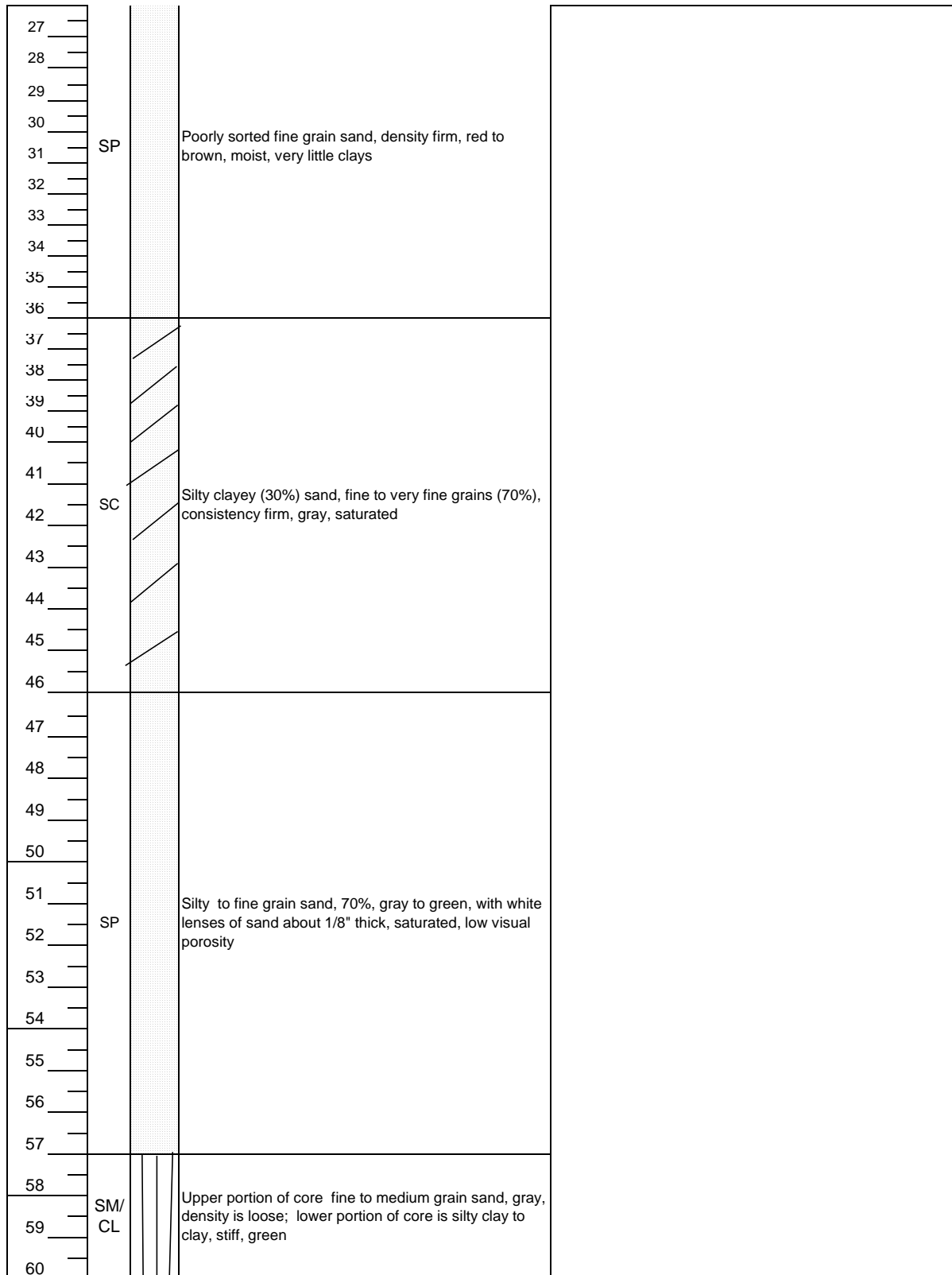
ALSA Well Construction Logs - June 2016  
CSX Transportation, Inc.  
Waycross, Georgia



ALSA Well Construction Logs - June 2016  
 CSX Transportation, Inc.  
 Waycross, Georgia

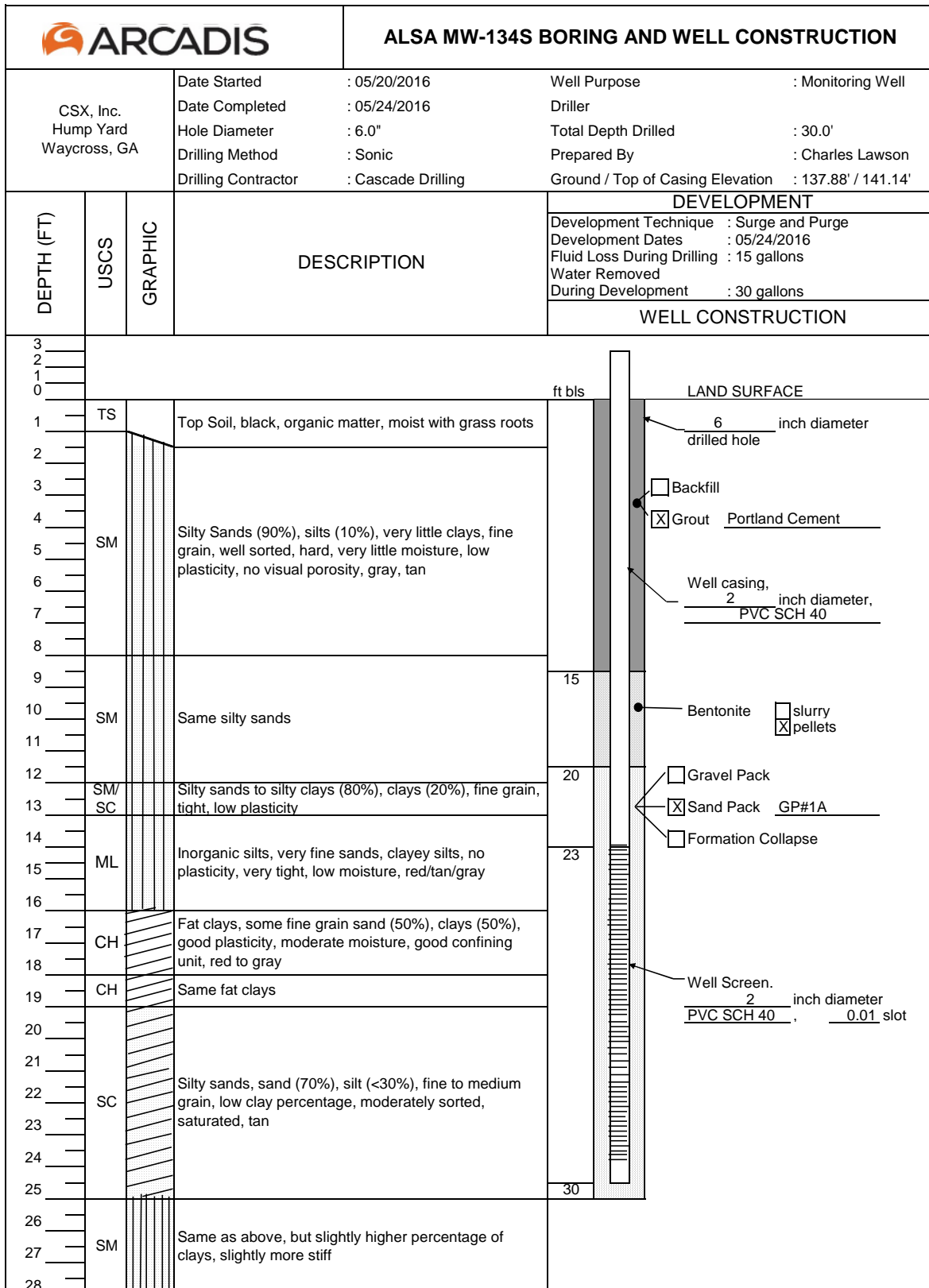
29			
30			
31			
32			
33	CH		Silty Clays to Fat Clays (90%), minor amounts of fine grain sands (10%), moderate plasticity, soft, very little moisture, bluish/greenish in color
34			
35			
36			
37			
38			
39	SM		Same as above
40			
41			
42			
43			
44			
45	SP		Silty Sand (95%), silt (5%), fine to coarse grained, poorly sorted, quartz and feldspar, sub-angular, good visual porosity, saturated, gray to light green
46			
47			
48			
49			
50			







ALSA Well Construction Logs - June 2016  
CSX Transportation, Inc.  
Waycross, Georgia

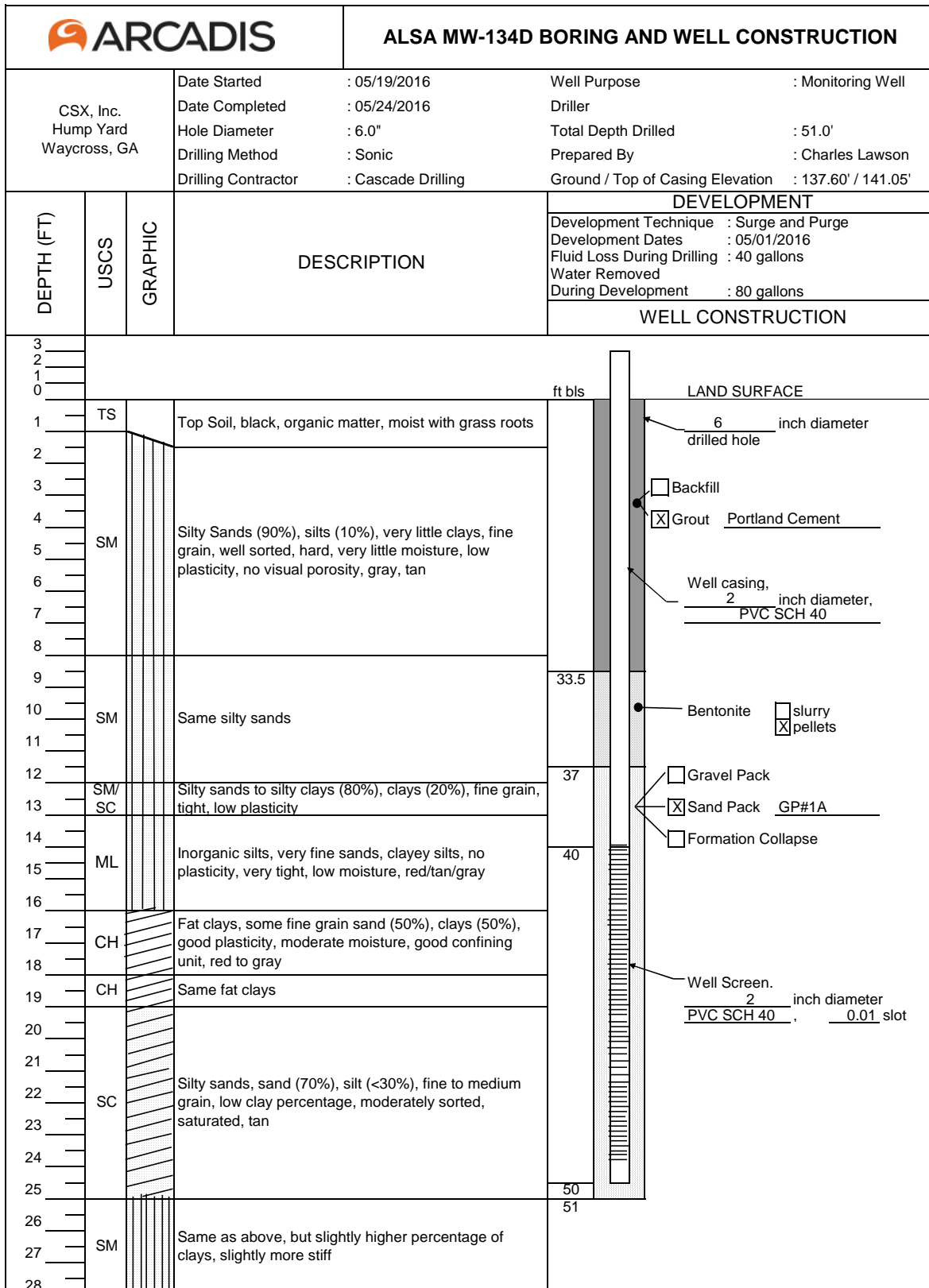


ALSA Well Construction Logs - June 2016  
CSX Transportation, Inc.  
Waycross, Georgia



29	SM	Same as above
30		

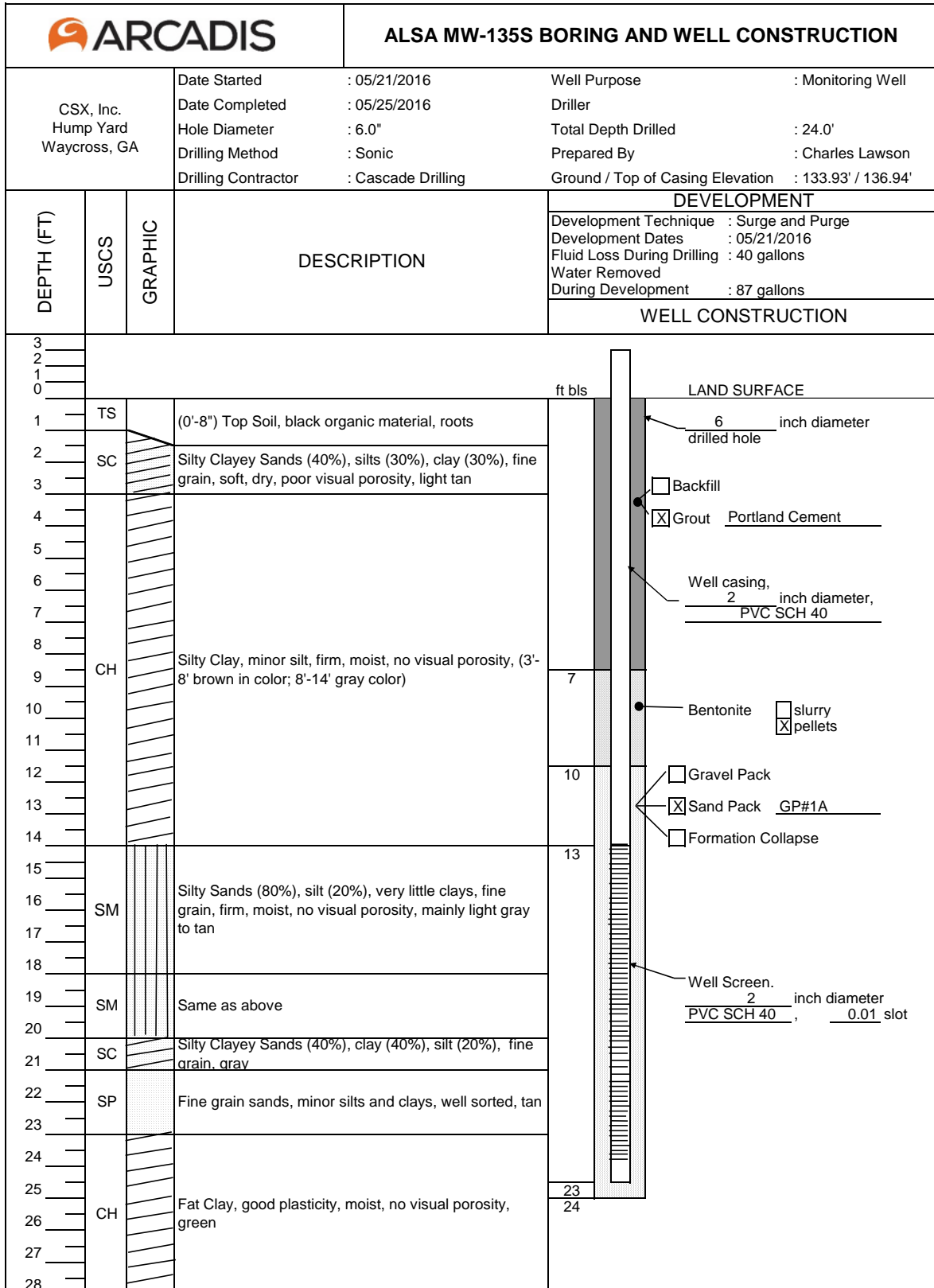
ALSA Well Construction Logs - June 2016  
CSX Transportation, Inc.  
Waycross, Georgia



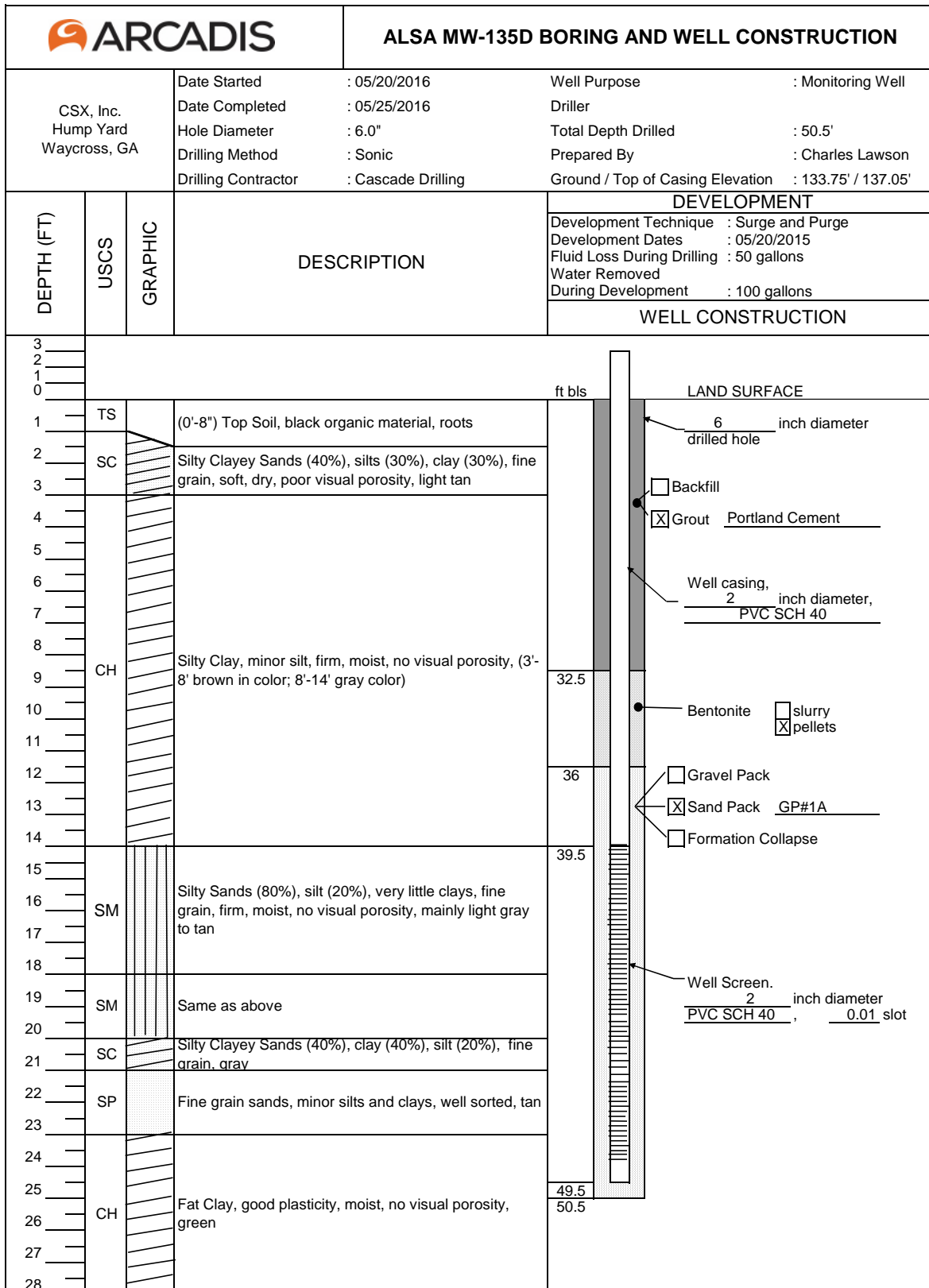
ALSA Well Construction Logs - June 2016  
CSX Transportation, Inc.  
Waycross, Georgia

29	SM		Same as above
30			
31	SC		Fine grain sands (60%), silty clays (40%), moderate plasticity, no visual porosity, moist, tan with gray streaks
32			
33			
34			
35	SM		Silty sands, fine to medium grain sand (70%), silt (<30%), low percentage of clays, moderately well sorted, moderate visual porosity, saturated, density firm, light tan
36			
37			
38	SP		Some gravel, fine to coarse grain sands, some silts, poorly sorted, quartz and feldspar, sub-angular, good visual porosity, density soft, tan/gray/yellow
39			
40			
41			
42			
43			
44			
45			
46	SP		Some gravel, very coarse sands, quartz and feldspar, sub-angular, poorly sorted, gray
47			
48			
49	SP		Same as above
50			

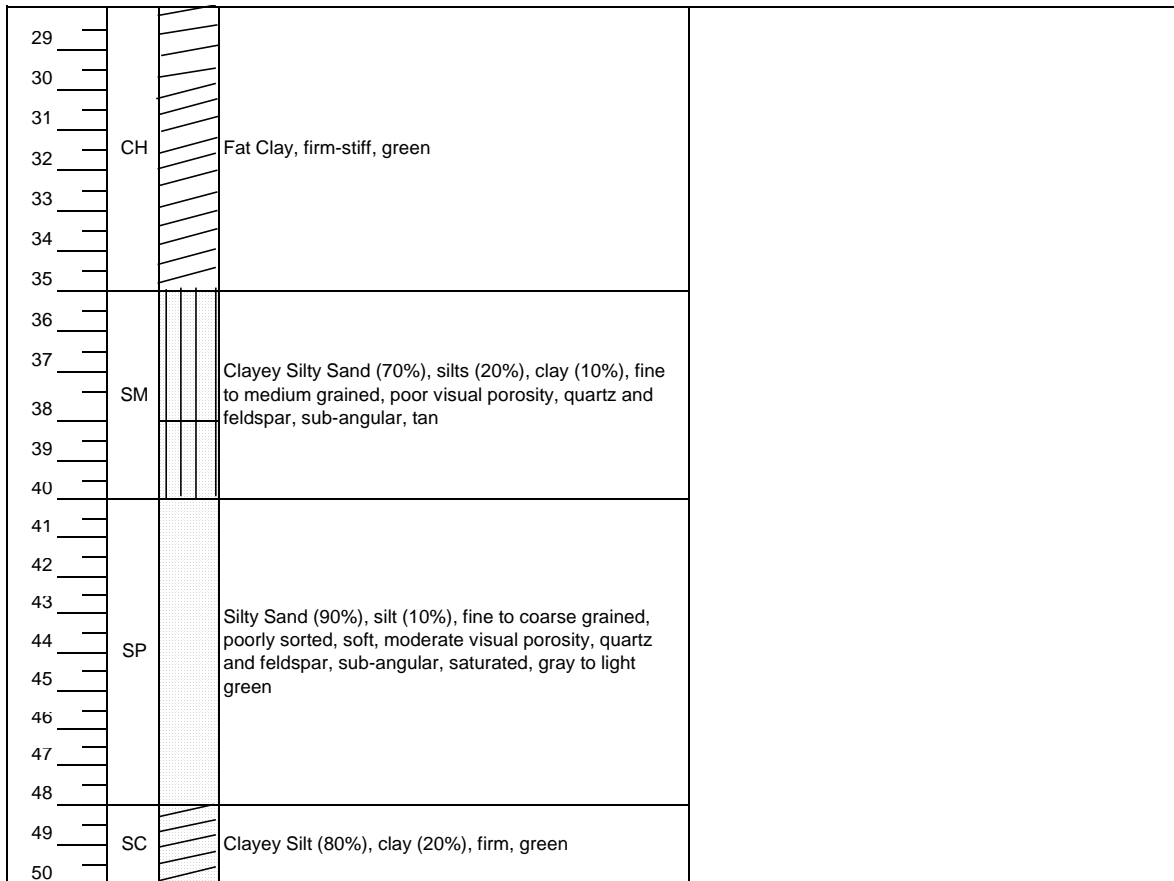
ALSA Well Construction Logs - June 2016  
CSX Transportation, Inc.  
Waycross, Georgia

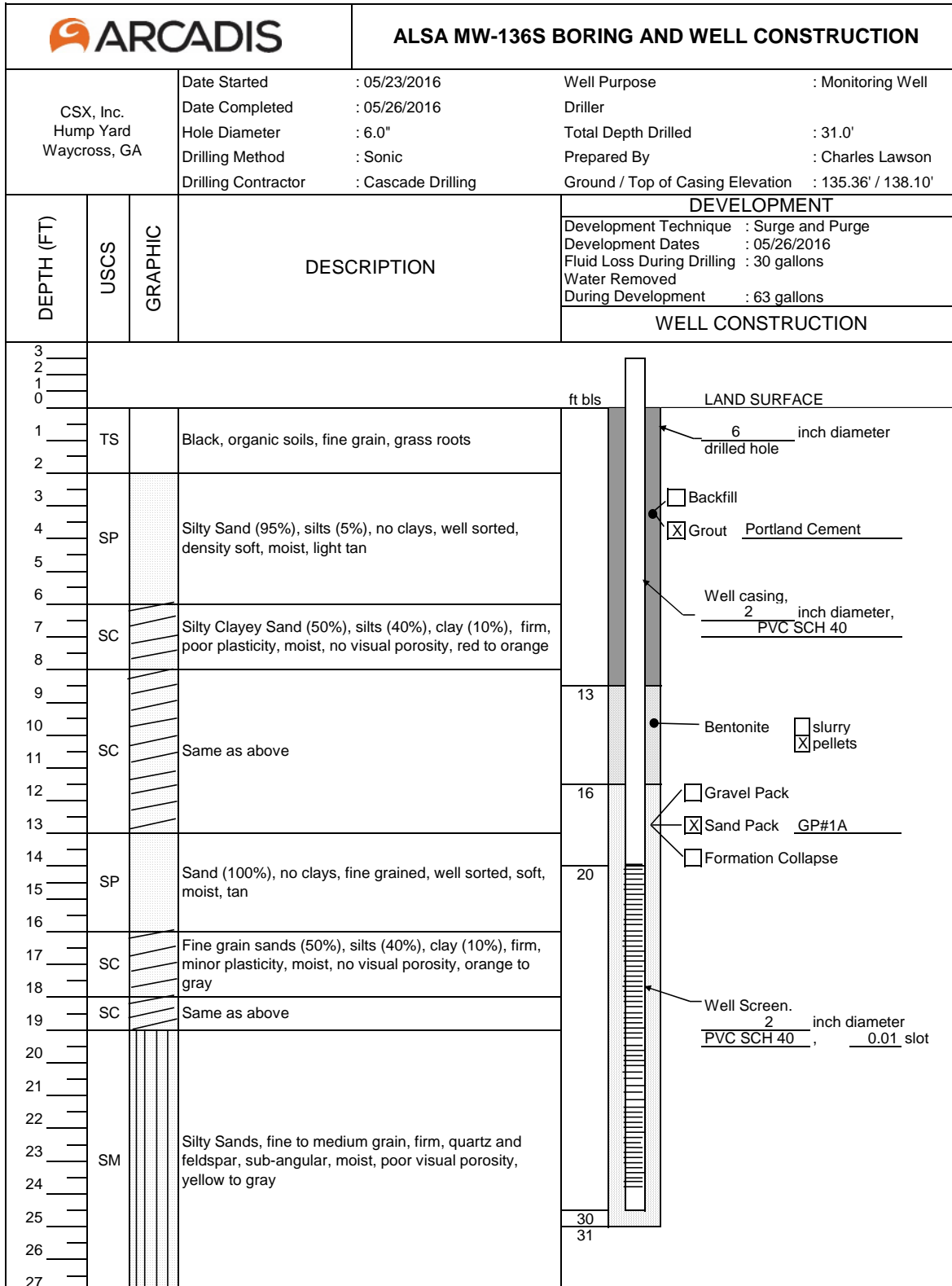


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CSX Transportation, Inc.  
Waycross, Georgia



ALSA Well Construction Logs - June 2016  
 CSX Transportation, Inc.  
 Waycross, Georgia



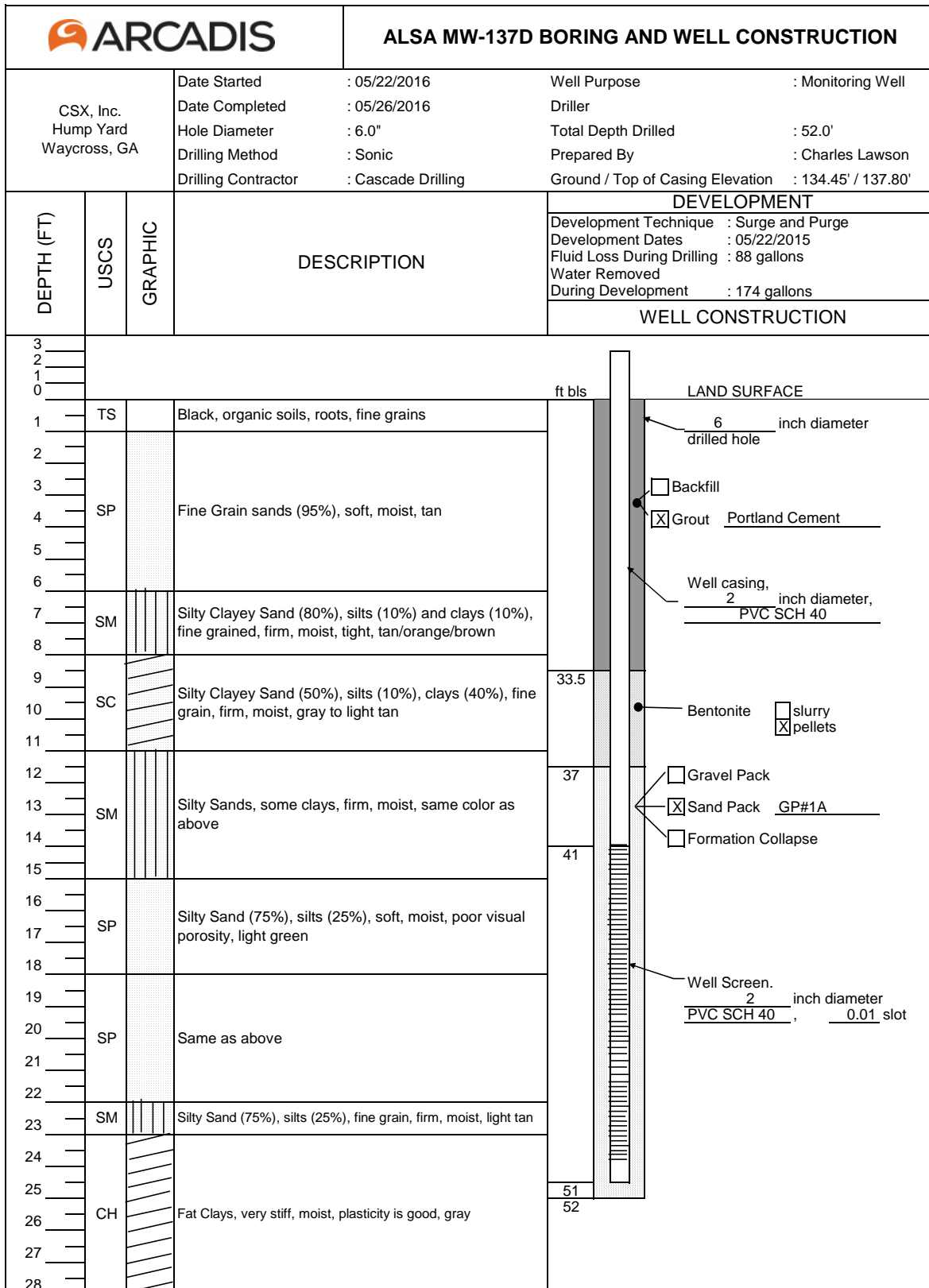






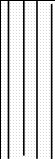


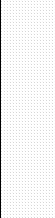

ALSA Well Construction Logs - June 2016  
 CSX Transportation, Inc.  
 Waycross, Georgia

28	—	SP		Well Sorted sands (80%), silts (20%), no clays, density soft, moist, poor visual porosity, gray to light gray
29	—			
30	—			
31	—			
32	—	ML		Silty Clay, some fine grain sands, hard and stiff, moist, low visual porosity, slight plasticity, tan/gray/greenish color
33	—			
34	—			
35	—			
36	—			

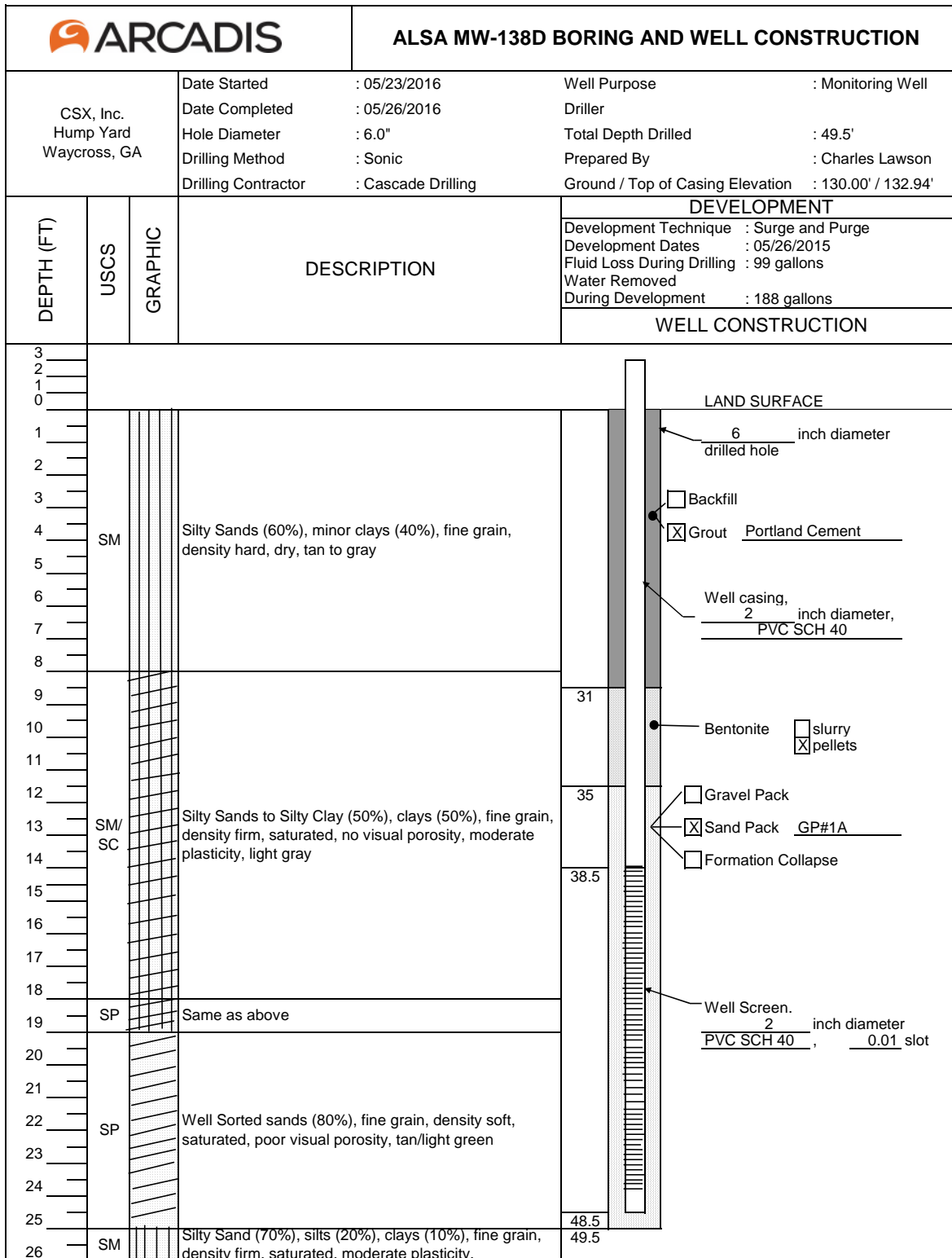
ALSA Well Construction Logs - June 2016  
CSX Transportation, Inc.  
Waycross, Georgia



ALSA Well Construction Logs - June 2016  
CSX Transportation, Inc.  
Waycross, Georgia

29	CH		Same as above
30			
31	SC		Clayey Sand, fine grains, firm, moist, low visual porosity, increasing clay content with depth, gray to tan
32			
33			
34	ML		Clay, inorganic, very tight, hard, low moisture, low plasticity, green
35			
36			
37			
38	SC		Clayey Sand (80%), clays (20%), fine grained, soft, saturated, green
39			
40	SP		Clayey Sand (80%), clays (20%), fine grained, firm, moist, poor visual porosity, green/gray color
41			
42			
43	SP		Sand (100%), fine to coarse grained, soft, quartz and feldspar, sub-angular, saturated, moderate visual porosity, orange to yellow
44			
45			
46			
47			
48	SP		Same as above but decreasing grain size, saturated, color change to greenish/gray
49			
50			

ALSA Well Construction Logs - June 2016  
CSX Transportation, Inc.  
Waycross, Georgia



ALSA Well Construction Logs - June 2016  
CSX Transportation, Inc.  
Waycross, Georgia

27	ML		All clays, no fine grains, stiff, consistency firm, greenish/bluish
28			
29	ML		Same as above, some fine grains, consistency hard, minor plasticity, greenish/bluish color
30			
31			
32			
33			
34	ML		Same stiff clays, with fine grains, same color
35			
36			
37			
38			
39	SM		Silty sands (75%), clays (25%), consistency firm, saturated, same color (bluish/greenish)
40			
41	SM/		Silty Sands (80%), silts (20%), well sorted, fine to medium grain, density firm, saturated, no visual porosity, greenish/bluish
42	SP		
43			
44	SP		Sands (95%), silts (5%), fine to coarse grain, poorly sorted, density soft, quartz and feldspar, sub-angular, saturated, good visual porosity
45			
46			
47			
48			
49			
50			