

APPENDIX C

Well Construction Logs



Shaw Environmental, Inc.

Drilling Log

13 British-American Boulevard

Latham, NY 12110

Project Former Schenectady Army Depot owner Army Corps. / Mrs. Burns

Location Voorhesville, NY AOC2 Prof. No. 115215

Surface Elev. _____ Total Hole Depth 15 ft. Diameter 4.25"

Top of Casing _____ Water Level Initial 6.50 Static _____

Screen: Dia 2in Length 10 Type/Size Sch. 40 Slotted .01

Casing: Dia 2in Length 7 Type Sch. 40

Fill Material _____ Rig/Core All terrain Hollow-Stem Auger

Drill Co. Wathnagle Method Split Spoon

Driller Neil Short Log By R. Adams Date 2/13/07 Permit # _____

Checked By _____ License No. _____

Sample

See Site Map For Boring Location

COMMENTS:
PCMw-1

Depth (ft.)	PID (ppm)	Sample ID Blow Count X Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2					
0	0.0	11-5		PT	Hummocky Surface Brown Sand and Gravel, large Roots Black Clay, some silt, Root Traces (Frozen)
2	0.0	3-3		ML	moist Black Clayey Silt, Plasticity
4	0.0	2-2		SP	moist Black Clayey Silt, stiff
6	6.1	2-2		SC	Moist ^{black} M-C Sand, little silt Slight ODOR
8	0.0	8-12		OH	Damp Black Silt, some Clay
10	0.0	15-22		SC	Damp Gray/Black Clay, little silt, stiff
12		12-10		SC	Wet Gray Clay, some silt, Shale fragments
14		12-10/4			Wet Gray Silt, little Clay
16					
18					
20					
22					
24					

Screen 15-5' bgs
Casing 5' bgs to +2 Ags w/Riser



Shaw Environmental, Inc.

13 British American Boulevard

Latham, NY 12110

Drilling Log

Sample

Project Former Schenectady Army Depot Owner Army Corp./Mrs. Burns

Location Voorhesville, NY AOC2 Proj. No. 115215

Surface Elev. _____ Total Hole Depth 11.5 ft Diameter 2 1/2" 4.25"

Top of Casing _____ Water Level Initial 4.33 Static _____

Screen: Dia 2 in. Length 7 Type/Size Sch. 40 slotted .01

Casing: Dia 2 in. Length 4.5" + 2' Type Sch. 40

Fill Material _____ Rig/Core All terrain Hollow-Stem Auger

Drill Co. Nothnagle Method Split Spoon

Driller Neil Short Log By R. Adams Date 2/13/07 Permit # _____

Checked By _____ License No. _____

See Site Map
For Boring Location

COMMENTS:

PCMw-2

Depth (ft)	PTD (ppm)	Sample ID Blow Count/ X-Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2					
0		7-6			Grass, roots, Brown Sand and Gravel Black Black Clayey Silt (Frozen)
2	0.0	3-3	ML		Dark Brown Clayey Silt
4	0.0	1-1	SM		moist Light Brown Silt, little Clay
6	0.0	1-2	SP		wet Light Brown M-F Silty Sand
8	0.0	9-10			wet Black Coarse Sand, little Silt
10	0.0	14-100/4	MH		wet Gray Clay with shale fragments
12					Spoon Refusal
14					
16					
18					Screen 11.5" to 4.5" bgs
20					Casing 4.5" bgs to +2 Ags w/Riser
22					
24					



Shaw E&I
 13 British American Blvd.
 Latham, NY
 Telephone: (518)-783-1996
 Fax: (518)-783-8397

BORING NUMBER PCMW-1

PAGE 1 OF 1

PROJECT NUMBER	115215	DATE STARTED:	2/13/07
PROJECT NAME	Former Schenectady Army Depot	DATE COMPLETED	2/13/07
LOCATION	Voorhesville, NY AOC 2	CASING TYPE/DIAMETER	sch. 40 / 2 in.
DRILLING METHOD	HSA Split Spoon	SCREEN TYPE/SLOT	sch. 40 / .01
SAMPLING METHOD	N/A	GRAVEL PACK TYPE	Morie 1
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	Bentonite Pellets / 1 Bag
TOP OF CASING	N/A	DEPTH TO WATER	6.5
LOGGED BY	RA	GROUND WATER ELEVATION	

REMARKS

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.0	11	48	SS					Hummocky surface, Black Silt some Gravel, large roots	0.5
	5					ML		Dry, Black Clay, some Silt, Root Traces (Frozen)	
	3								
	3								
0.0	2	48	SS					Moist, Black Clayey Silt, High Plasticity	4.0
	2				5	ML			
	2								
	2								
						SP		Moist, Black M-C Sand, little Silt, Slight Odor	6.0
6.1	8	48	SS					Damp, Black Silt, some Clay	8.0
	12					SC			
	15								
	22				10			Damp, Gray/Black Clay, little Silt, Slight Plasticity	10.0
						OH			
0.0	12	48	SS					Wet, Gray Silt, some Sand, little Clay	12.0
	10								
	12								
	100/4					SC			
		36	SS		15			Bottom of borehole at 15.0 feet.	15.0



Shaw E&I
 13 British American Blvd.
 Latham, NY
 Telephone: (518)-783-1996
 Fax: (518)-783-8397

BORING NUMBER PCMW-2

PAGE 1 OF 1

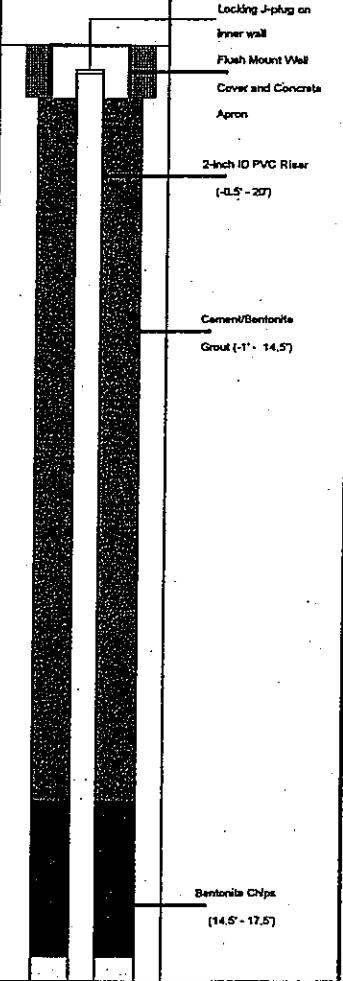
PROJECT NUMBER 115215 DATE STARTED: 2/13/07
 PROJECT NAME Former Schenectady Army Depot DATE COMPLETED 2/14/07
 LOCATION Voorhesville, NY AOC 2 CASING TYPE/DIAMETER sch. 40 / 2 in.
 DRILLING METHOD HSA Split Spoon SCREEN TYPE/SLOT sch. 40 / .01
 SAMPLING METHOD N/A GRAVEL PACK TYPE Moire 1
 GROUND ELEVATION N/A GROUT TYPE/QUANTITY Bentonite Pellets / 1 Bag
 TOP OF CASING N/A DEPTH TO WATER 4.3
 LOGGED BY RA GROUND WATER ELEVATION _____
 REMARKS _____

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.0	7	48	SS	X	0.5	ML		Brown/Black Sand and Silt, some Gravel, Grass and Roots	0.5
	6				1.0	ML		Dry, Black Clayey Silt (Frozen)	1.0
	3				3.0	MH		Dry, Dark Brown Clayey Silt	3.0
	3							Moist, Light Brown Silt, little Clay	
0.0	1	48	SS	X	5.0	SM		Wet, Light Brown M-F Silty Sand	5.0
	1				6.0	SM		Wet, Black Coarse Sand, little Silt	6.0
	2								
0.0	9	48	SS	X	9.0	SP		Wet, Gray Clay with Shale Fragments	9.0
	10				10	MH			
	14								
	100/4								
								Bottom of borehole at 11.5 feet.	11.5

Contractor: North Star Drilling	PARSONS	BORING/ WELL NO. GW-03 Sheet 1 of 2
Driller: Scott Breeds	DRILLING RECORD	Location Description:
Operator: Scott Dillman	PROJECT NAME: Schenectady Depot AOC-2	Near crest of hill. North of big lone tree and east of bottle disposal area.
Aug Type: CME-45B ATV	PROJECT NUMBER: 743440.03000	

GROUNDWATER OBSERVATIONS					Weather: Light rain, 70 degrees, calm.	Location Plan See Site Plan ↑ N
Water Level					Date/Time Start: June 17, 2004 0800	
Date					Date/Time Finish: June 17, 2004 1530	
Time						
Meas. From	TOC					

Sample Depth	Sample I.D.	SPT	% Rec.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	SCHEMATIC	COMMENTS
+3							
+2							
+1							
0							
1		3	60	0.7	Brown Silt (0-8")		
2		4			Tan-brown silt, trace coarse sand-very fine gravel, trace clay, moist, dense, semi-stiff. Weathered till.		
3		6			No odor, no stain.		
4		4			Tan silty till as above, damp, no odor, no stain, stiff.		
5		5	95	0.8			
6		7					
7		8					
8		12					
9		6	75	1.0	Tan-light brown silt, some gravel, trace clay, dense, stiff, damp. Till		
10		9			No odor, no stain.		
11		10					
12		14					
13		20	95	0.9	As above		
14		22					
15		26					
16		30					
17		8	100	0.6	As above		
18		15					
19		15					
20		24					
21		22	95	1.1	As above		
22		17					
23		18					
24		24					
25		24	100	1.1	As above		
26		28			Hard drilling with augers.		
27		30					
28		30					
29		10	100	0.9	As above. Dense, stiff.		
30		15					
31		17					
32		25					
33		33	100	1.2	As above grading to tan-light brown silt, trace coarse sand, damp-moist, stiff. Till		
34		33					
35		32					
36		29					



SAMPLING METHOD
SS = SPLIT SPOON
A = AUGER CUTTINGS
C = CORED

COMMENTS:

Contractor: North Star Drilling Driller: Scott Breeds Inspector: Scott Dillman Rig Type: CME-45B ATV	PARSONS DRILLING RECORD PROJECT NAME: Schenectady Depot AOC-2 PROJECT NUMBER: 743440.03000	Sheet <u>2</u> of <u>2</u> BORING/ WELL NO. GW-03 Location Description: Near crest of hill. North of big lone tree and east of bottle disposal area.
---	---	---

GROUNDWATER OBSERVATIONS				
Water Level				
Date				
Time				
Meas. From				

Weather: Light rain, 70 degrees, calm.

Date/Time Start: June 17, 2004 0800

Date/Time Finish: June 17, 2004 1530

Location Plan

See Site Plan

↑
N

Sample Depth	Sample I.D.	SPT	% Rec.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	SCHEMATIC	COMMENTS
19		10 50/0.3	100	0.6	Tan-light brown Silt, trace coarse sand, damp-moist, stiff grading to tan-brown Silt, some gravel, dense, stiff, damp. Till		
20							
21		20 55 50/0.3	100	0.8	Tan-brown Silt, some sand and gravel, shale cobbles, wet lenses. Black-dark gray weathered Shale in end of sampler from cobble. -1.5 feet of free water in augers.		
22							
23		12 35 50/0.1	89	1.4	Gray-dark gray Silt, some gravel and cobbles, moist, dense. Till Wet lenses.		
24							
25		100/0.2	100	2.0	Dark gray Shale, wet, thin horizontal bedding. Bedrock.		
26							
27		100/0.2	100	0.5	As above.		
28					Boring terminated at 26.2 feet.		
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							

SAMPLING METHOD
 SS = SPLIT SPOON
 A = AUGER CUTTINGS
 C = CORED

COMMENTS:

Contractor: North Star Drilling Operator: Scott Breeds Supervisor: Scott Dillman Rig Type: CME-45B ATV	PARSONS DRILLING RECORD	BORING/ WELL NO. GW-05 Sheet 1 of 2 Location Description: Between defoliated pill bottle area and brush/woods near power lines.
PROJECT NAME: Schenectady Depot AOC-2 PROJECT NUMBER: 743440.03000		Location Plan

GROUNDWATER OBSERVATIONS	Weather: Cloudy, 60's to 80 degrees/Sunny, light breeze, 50's to 70's.	Location Plan
Water Level Date Time Meas. From	Date/Time Start: June 18, 2004 1100 Date/Time Finish: June 21, 2004 1450	See Site Plan

Sample Depth	Sample I.D.	SPT	% Rec.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	SCHEMATIC	COMMENTS
+3							
+2							
+1							
0							
1					Continuous split spoon samples were collected from nearby GW-05 boring. This boring was drilled to find a better developed water-bearing zone. See the log for GW-05 boring for detailed information.		
2							
3							
4							
5							
		10			Tan Silt, some coarse sand and gravel, dry, stiff. Till. No odor, no stain.		
		16					
		18					
		22					
8					As above.		
9							
10							
		9			As above 15-16.5', dry-damp.		
11		21					
12		22					
		30			Dark gray Till, trace clay, slight increase in moisture, slight plasticity (16.5-17') Tan and gray Till (17-17.5')		
13							
14							
15							
16							
		27					
		35					
		35					
17		40					
		30					
18		35					

SAMPLING METHOD SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED	COMMENTS: <hr/> <hr/> <hr/>
---	---------------------------------------

PARSONS					Sheet 2 of 2		
DRILLING RECORD					BORING/ WELL NO. GW-05		
Contractor: North Star Drilling Driller: Scott Breeds Inspector: Scott Dillman Rig Type: CME-45B ATV			PROJECT NAME: Schenectady Depot AOC-2 PROJECT NUMBER: 743440.03000		Location Description: Between defoliated pill bottle area and brush/woods near power lines.		
GROUNDWATER OBSERVATIONS					Location Plan		
Water Level					Weather: Cloudy, 60's to 80 degrees/Sunny, light breeze, 50's to 70's. Date/Time Start: June 18, 2004 1100 Date/Time Finish: June 21, 2004 1450 See Site Plan		
Date							
Time							
Meas. From							
Sample Depth	Sample I.D.	SPT	% Rec.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	SCHEMATIC	COMMENTS
		44			Dark gray Till, trace clay, damp-moist.		
19		50/0.3			Thinly bedded dark gray Shale, some rusty stain on bedding planes.		
20		80/6 ⁿ			Wet-moist.		
21		A			Boring terminated at 20 feet.		
22					Auger refusal at 20 feet.		
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
					COMMENTS: _____ _____ _____		
SAMPLING METHOD SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED							

Contractor: North Star Drilling Operator: Scott Breeds Director: Scott Dillman Aug Type: CME-45B ATV	PARSONS DRILLING RECORD	BORING/ WELL NO. GW-05 boring Location Description: Between defoliated pill bottle area and brush/woods near power lines.
PROJECT NAME: Schenectady Depot AOC-2 PROJECT NUMBER: 743440.03000		Sheet 1 of 2

GROUNDWATER OBSERVATIONS	Weather: Light rain, 70 degrees, calm. Date/Time Start: June 17, 2004 1635 Date/Time Finish: June 18, 2004 0935	Location Plan See Site Plan
---------------------------------	--	---

Sample Depth	Sample I.D.	SPT	% Rec.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	SCHEMATIC	COMMENTS
+3							
+2							
+1							
0							
1		3	75	0.8	Tan Silt (top soil) grading to semi-stiff tan Silt, little coarse rounded sand. Till		
2		4			No odor, no stain, damp.		
3		3					
4		6					
5		5	90	0.5	Tan Silt, some coarse sand to fine gravel, trace clay, stiff, damp. Till		
6		6			No odor or stain.		
7		6					
8		9					
9		6	95	0.3	As above. Less moist.		
10		9					
11		11					
12		15					
13		20	100	0.6	As above.		
14		22					
15		50/0.3					
16		A					
17		10	100	0.0	Tan-brown Silt, some coarse sand and gravel, dense, stiff, damp. Till.		
18		17			No odor, no stain.		
19		22					
20		32					
21		17	90	0.0	As above.		
22		18					
23		22					
24		32					
25		30	75	0.0	As above.		
26		28					
27		44					
28		52					
29		10	100	0.0	Tan Silt, less coarse sand and gravel than above grading back to material		
30		12			as above at bottom of sample. No stain or odor. Till		
31		15					
32		22					
33		25	100	0.0	Tan Silt, little to trace of coarse sand and gravel.		
34		28					
35		30					
36		30			Bottom 8 inches of sample is gray to dark gray Silt,		
37					some gravel, slightly more moist. Till. No odor or stain.		

COMMENTS:

SAMPLING METHOD
 SS = SPLIT SPOON
 A = AUGER CUTTINGS
 C = CORED

Corneil/Bentonsite
 Grou4 (0 - 21.5)

Contractor: <u>North Star Drilling</u>					PARSONS DRILLING RECORD		BORING/ WELL NO. <u>GW-05 boring</u> Sheet <u>2</u> of <u>2</u>	
Driller: <u>Scott Breeds</u>					PROJECT NAME: <u>Schenectady Depot AOC-2</u>		Location Description: <u>Between defoliated pill bottle area and brush/woods near power lines.</u>	
Inspector: <u>Scott Dillman</u>					PROJECT NUMBER: <u>743440.03000</u>		Location Plan ↑ N	
Rig Type: <u>CME-45B ATV</u>					Weather: <u>Light rain, 70 degrees, calm.</u>		See Site Plan	
GROUNDWATER OBSERVATIONS					FIELD IDENTIFICATION OF MATERIAL		SCHEMATIC	
Water Level	Date	Time	Meas. From	Sample Depth	Sample I.D.	SPT	% Rec.	PID (ppm)
				19		15 75	100	0
				20		A 100/0.2	90	0
				21		A		
				22		A		
				23				
				24				
				25				
				26				
				27				
				28				
				29				
				30				
				31				
				32				
				33				
				34				
				35				
				36				
				37				
				38				
				39				

SAMPLING METHOD SS - SPLIT SPOON A - AUGER CUTTINGS C = CORED	COMMENTS: <hr/> <hr/> <hr/>
--	--------------------------------

PARSONS DRILLING RECORD					BORING/ WELL NO GW-07	Sheet 1 of 1
Contractor: <u>NorthStar Drilling, Inc.</u>					Location Description:	
Driller: <u>Scott Breeds</u>					See site plan	
Inspector: <u>Scott Dillman</u>						
Rig Type: <u>ATV-CME-45B</u>						
PROJECT NAME: <u>AOC-2, Schoenectady Army Depot</u>						
PROJECT NUMBER: <u>743440.00000</u>						
GROUNDWATER OBSERVATIONS					Location Plan	
Weather: <u>Mostly Clear, light breeze, low 50's</u>					See site plan	
Date/Time Start: <u>November 15, 2004 at 1328</u>						
Date/Time Finish: <u>November 16, 2004 at 0900</u>						
Water Level	Date	Time	Meas. From	FIELD IDENTIFICATION OF MATERIAL		
Z.10	12/06/04	11:22	TOC			
Sample Depth	Sample I.D.	SPT	Rec. %	PID (ppm)	SCHEMATIC Stickup Casing	COMMENTS
0						Locking Protective Casing (Stickup Not To Scale)
		2	75	154		0'-4": Dark brown top soil.
1		2				4"-2": Tan, Silt, some clay, mottled with reddish brown, moist, slight to moderate odor, medium to soft, (weathered Till), no stain.
2		3				
		4				2'-4": Mottled tan reddish brown, Silt, some clay, damp, semi-stiff, trace coarse sand, fine gravel (weathered Till), no odor or stain.
3		4	95	2.2		
		5				
4		7				4'-6": Tan Till, silt, little clay, trace to little coarse sand, mostly gray fine gravel, not mottled, damp, little moisture, semistiff, no odor or stain.
		9				
5		7	100	0.1		
		8				6'-8": Same as above, Till, stiff and damp to dry.
6		14				
		10				
7		18	100	4.8		
		16				8'-10": Same as above, Till, stiff, damp to dry.
8		14				
		9	100	1		
9		12				10'-12": Till as above, damp.
		16				
10		20				12'-14": Till as above, dense, damp.
		8	100	56*		
11		18			14'-16": Split spoon refusal. No penetration.	
		25			Note: Augered to 17 ft. bgs.	
12		25				
		28	100	150*		
13		28			17'-17.9": Dark gray, shale, some silty clay (weathered zones), wet, no odor or stain.	
		43			Note: Augered to 19.5 ft. bgs. Soil cuttings dark gray shale bedrock.	
14		50/3				
		50/0	0	0		
15		A				
		A				
16		A				
		A				
17		A				
		20	80	0		
18		50/4				
		A				
19		A				
		A				
20					Boring terminated at 19.5 feet	
SAMPLING METHOD SS = SPLIT SPOON A = AUGER CUTTINGS GP = GEOPROBE - DIRECT PUSH					COMMENTS: * - Elevated PID measurement potentially caused by water vapor in sample container at the time of measurement.	