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Data Summary

**Pre-Design Groundwater
Characterization
P&S Boyd Ave Site
Solvay, New York**

BCP Site # C734102

January 2010

**PRE-DESIGN GROUNDWATER CHARACTERIZATION
BROWNFIELD CLEANUP PROGRAM
P&S BOYD AVE SITE
SOLVAY, NEW YORK**

Prepared for

PASS & SEYMOUR, INC
50 Boyd Avenue
Solvay, New York

Prepared by

S&W Redevelopment
of North America, LLC
430 East Genesee Street
Syracuse, New York 13202

January 2010

Project No. N0911

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Geologic Cross Sections (Plan View)

A – A' Cross Section

B – B' Cross Section

C – C' Cross Section

Competent Bedrock Surface Images

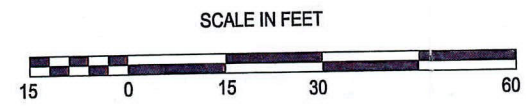
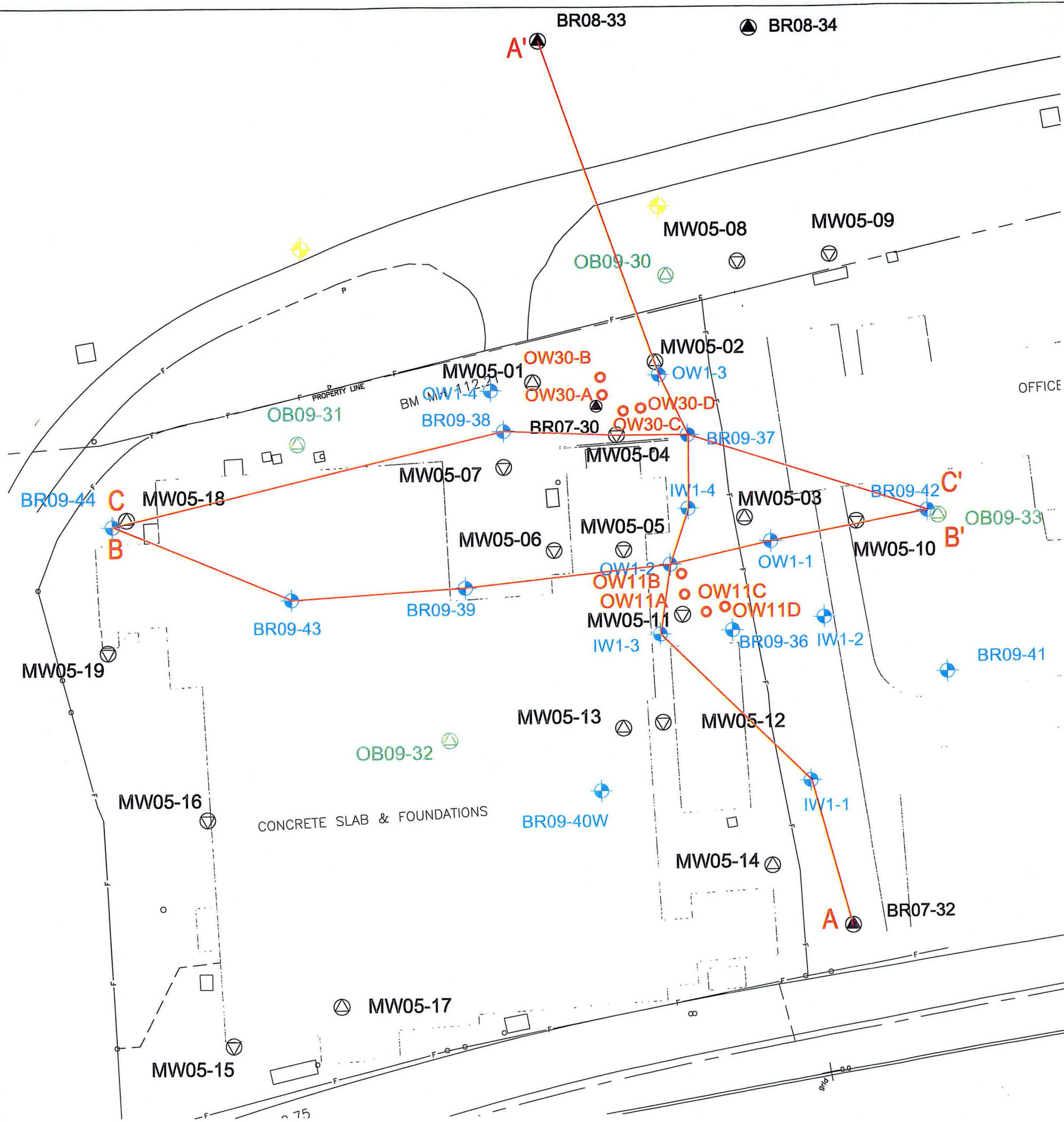
AOC-1 Competent Bedrock Groundwater Contours, Jan 2010

AOC-1 Competent Bedrock Groundwater Contours w/ TCE Concentrations (ppb)

Bedrock Groundwater Potentiometric Surface

AOC-2 Groundwater Contours

Boring Logs



SURVEY NOTE:
THE BOUNDARY AND TOPOGRAPHIC MAPPING OF THIS SURVEY WAS PERFORMED BY
DAVID W. HANNIG, L.S. 47411, LAST REVISED BY HANNIG ON JUNE 22, 1994.
DATUM CORRECTIONS AND MONITORING WELL LOCATIONS BY BRYANT ASSOCIATES,
P.C. ARE AS SURVEYED ON NOVEMBER 8, 2005.

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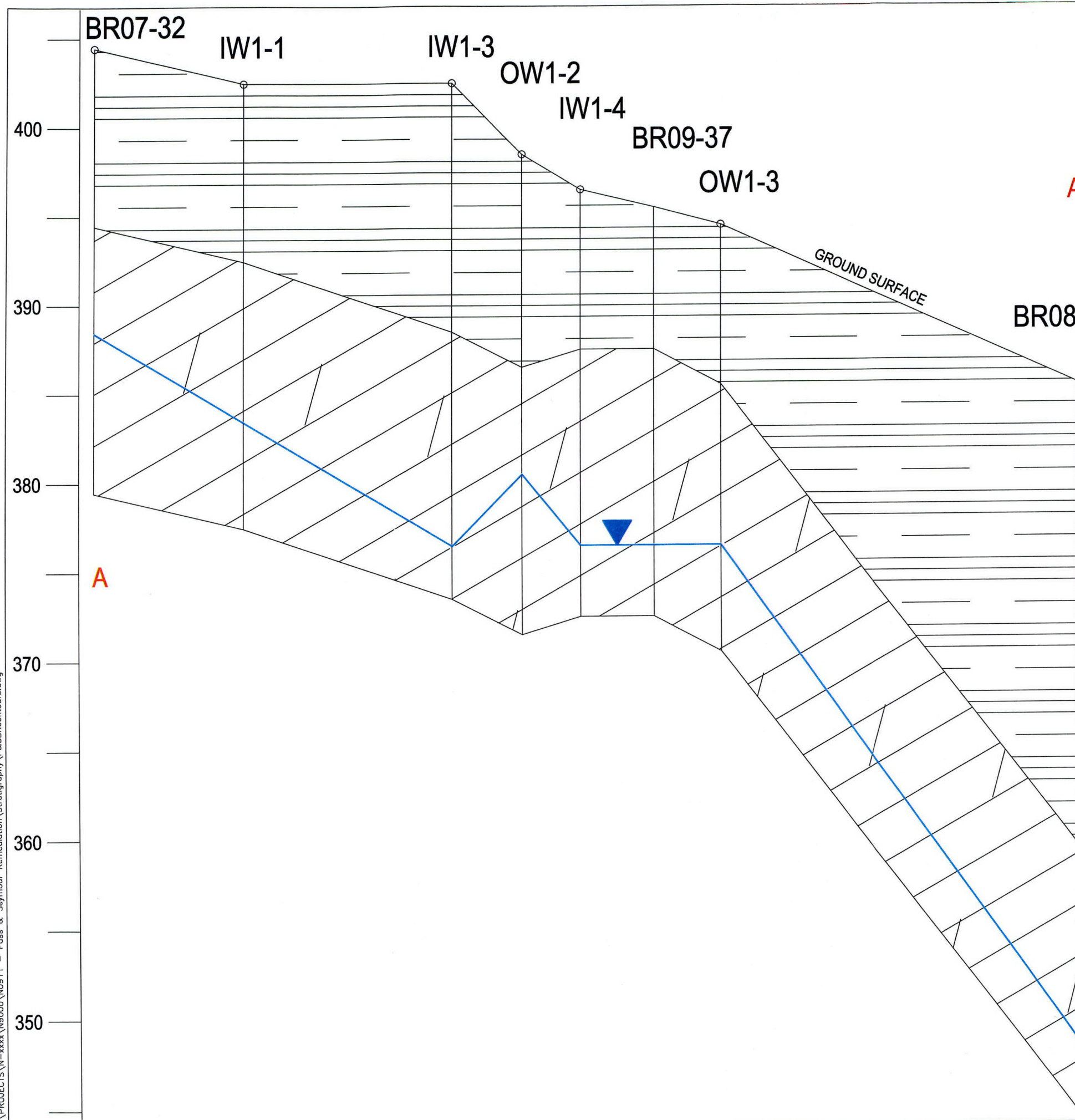
Syracuse, New York
DATE: 1/2010 JOB No: N0911

Pass & Seymour, Inc./Boyd Avenue
50 Boyd Avenue
Solvay, New York
Pre-Design Monitoring Well Installation




AOC - 1
Geologic Cross-sections Plan View

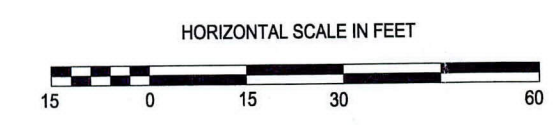
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06/Sept/Syr/am
J:\PROJECTS\N-xxxx\N9000\N0911 - Pass & Seymour Remediation\Stratigraphy\Pls&BRcontours.dwg

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J:\PROJECTS\N9000\N0911 - Pass & Seymour Remediation\Stratigraphy\A-A' Contours.dwg



Horizontal exaggeration x0
Vertical exaggeration x10
Overburden consists of till intermixed with highly weathered shale near competent bedrock contact.
Bedrock contact based on sample spoon refusal & auger refusal.

-  Overburden
-  Competent Shale Bedrock
-  measured groundwater level, Jan. 8, 2010.



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DATE:1/2010 JOB No: N0911

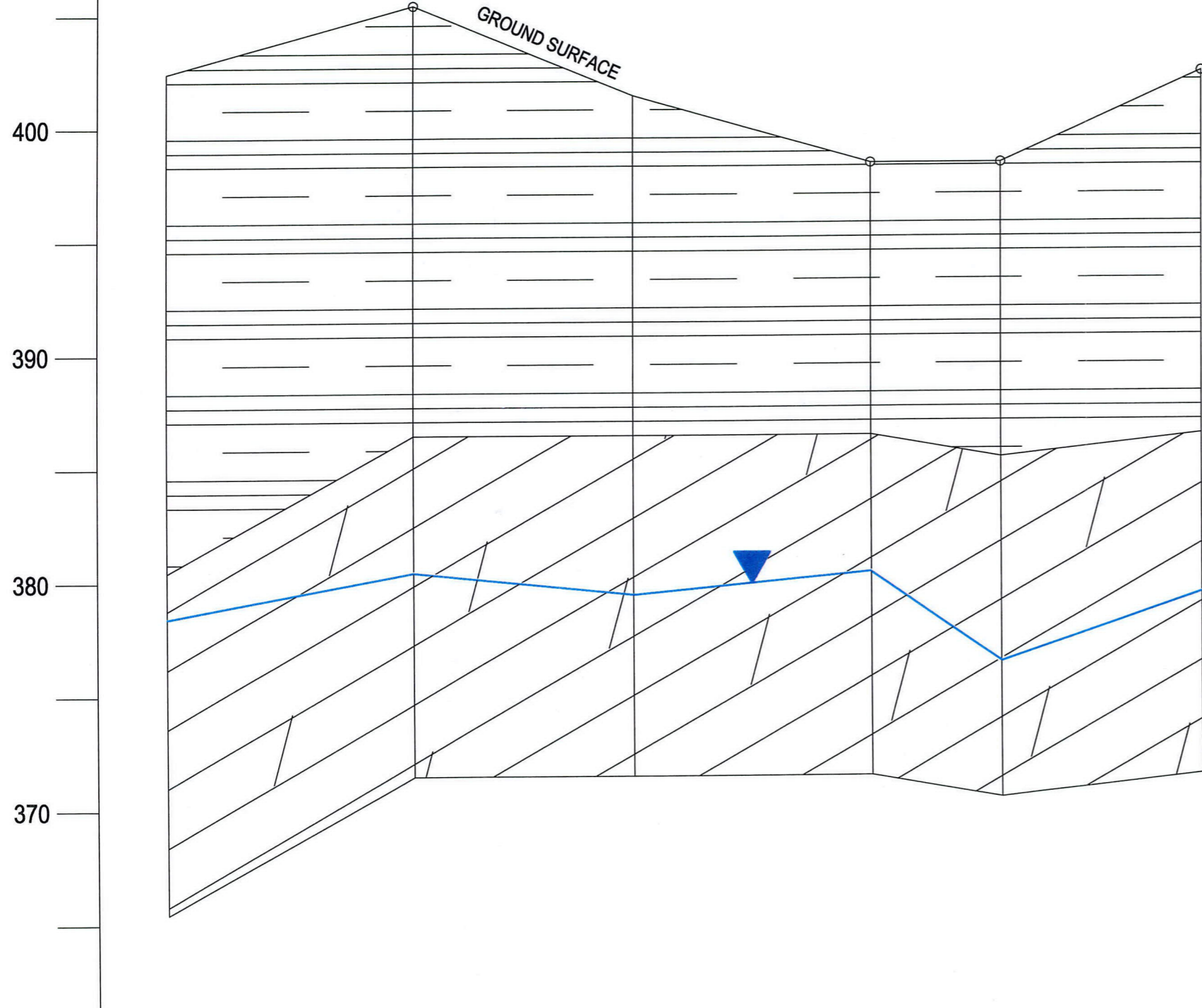
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50 Boyd Avenue
Solvay, New York
Pre-Design Monitoring Well Installation

AOC - 1
Geologic Cross-section A-A'

B

B'

BR09-44 BR09-43 BR09-39 OW1-2 OW1-1 BR09-42



Horizontal exaggeration x0

Vertical exaggeration x10

Overburden consists of till intermixed with highly weathered shale near competent bedrock contact.

Bedrock contact based on sample spoon refusal & auger refusal.



Overburden

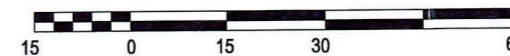


Competent Shale Bedrock



measured groundwater level, Jan. 8, 2010.

HORIZONTAL SCALE IN FEET



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Syracuse, New York

DATE:1/2010

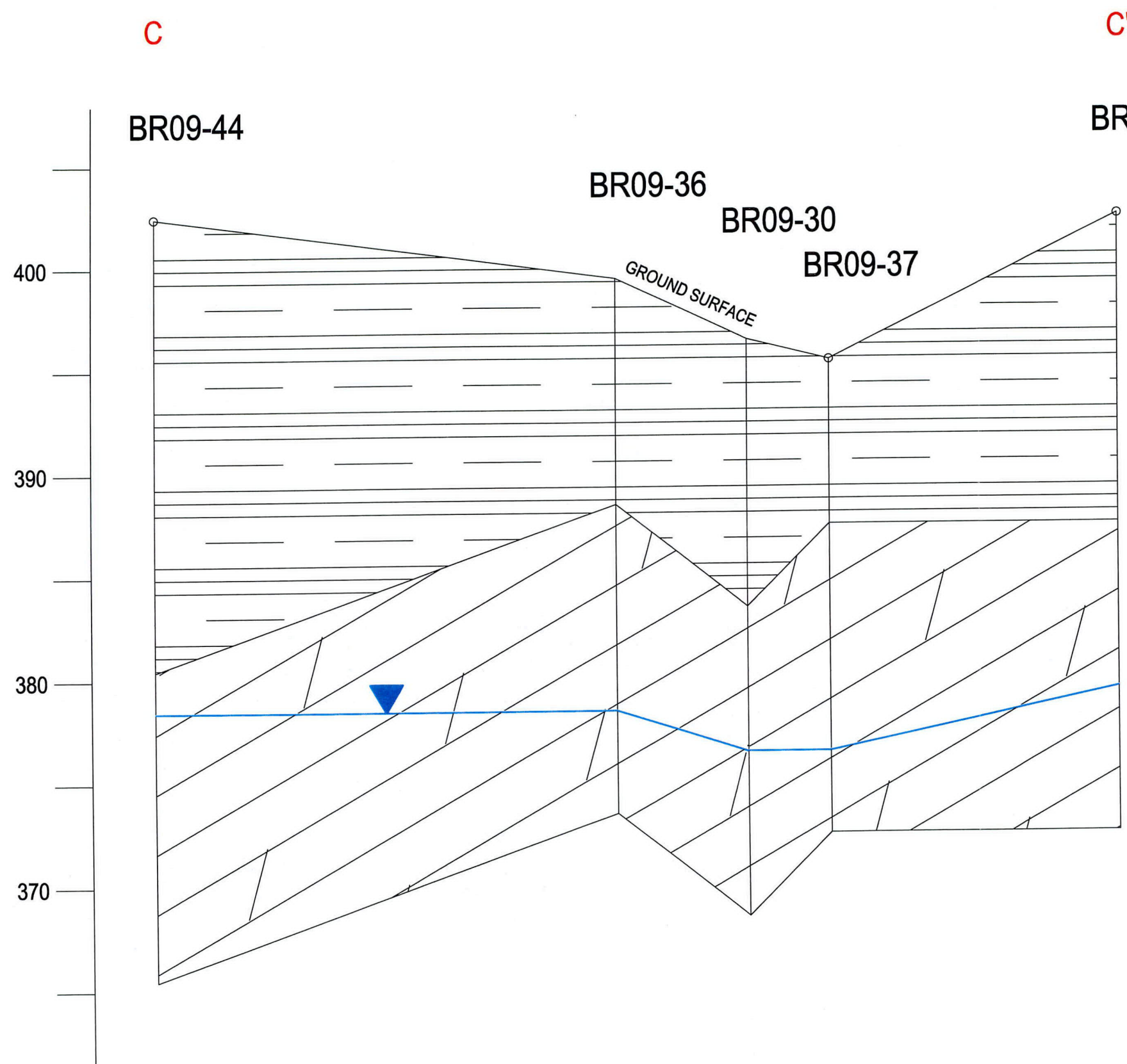
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Pre-Design Monitoring Well Installation

AOC - 1
Geologic Cross-sections B-B'

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08/Sep/10/Syr/dm
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C'

BR09-42

C




BR09-44

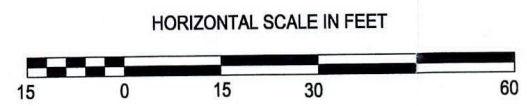
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Vertical exaggeration x10

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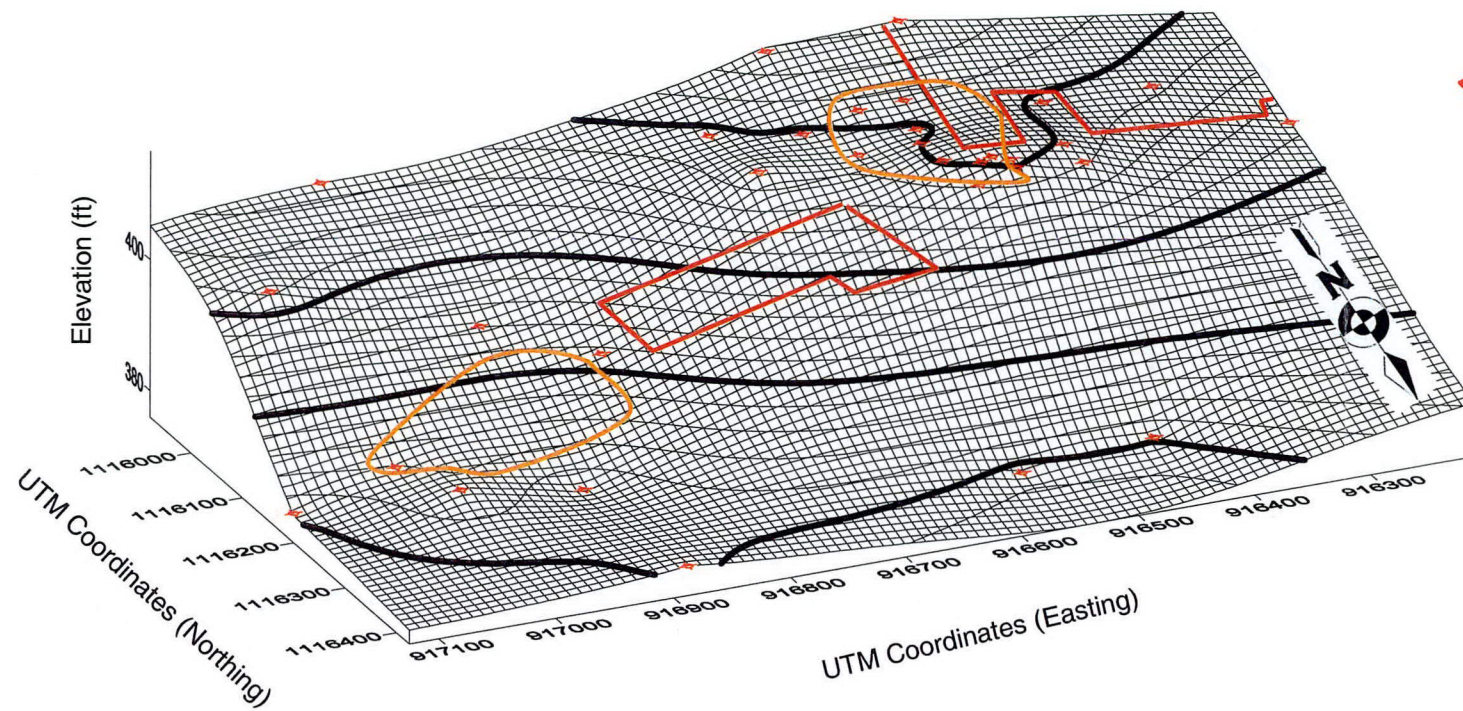
Syracuse, New York



DATE:1/2010 JOB No: N0911

Pass & Seymour, Inc./Boyd Avenue
50 Boyd Avenue
Solvay, New York
Pre-Design Monitoring Well Installation

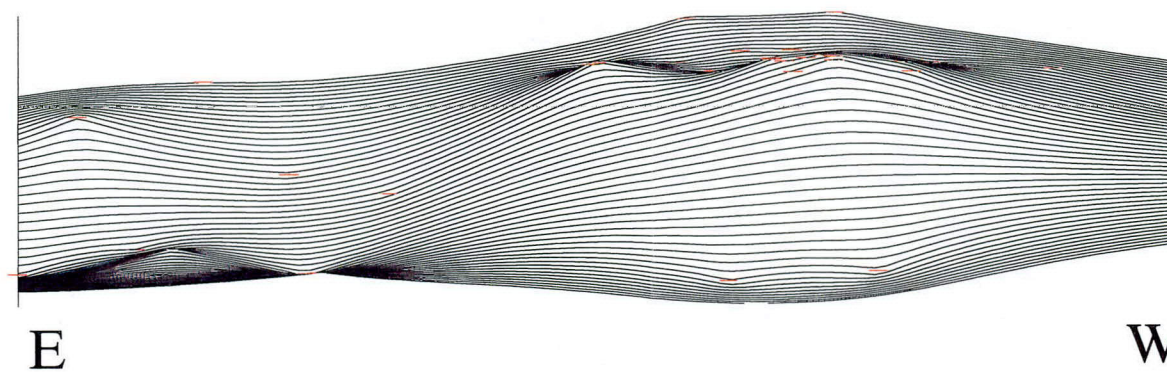
AOC - 1
Geologic Cross-section C-C'

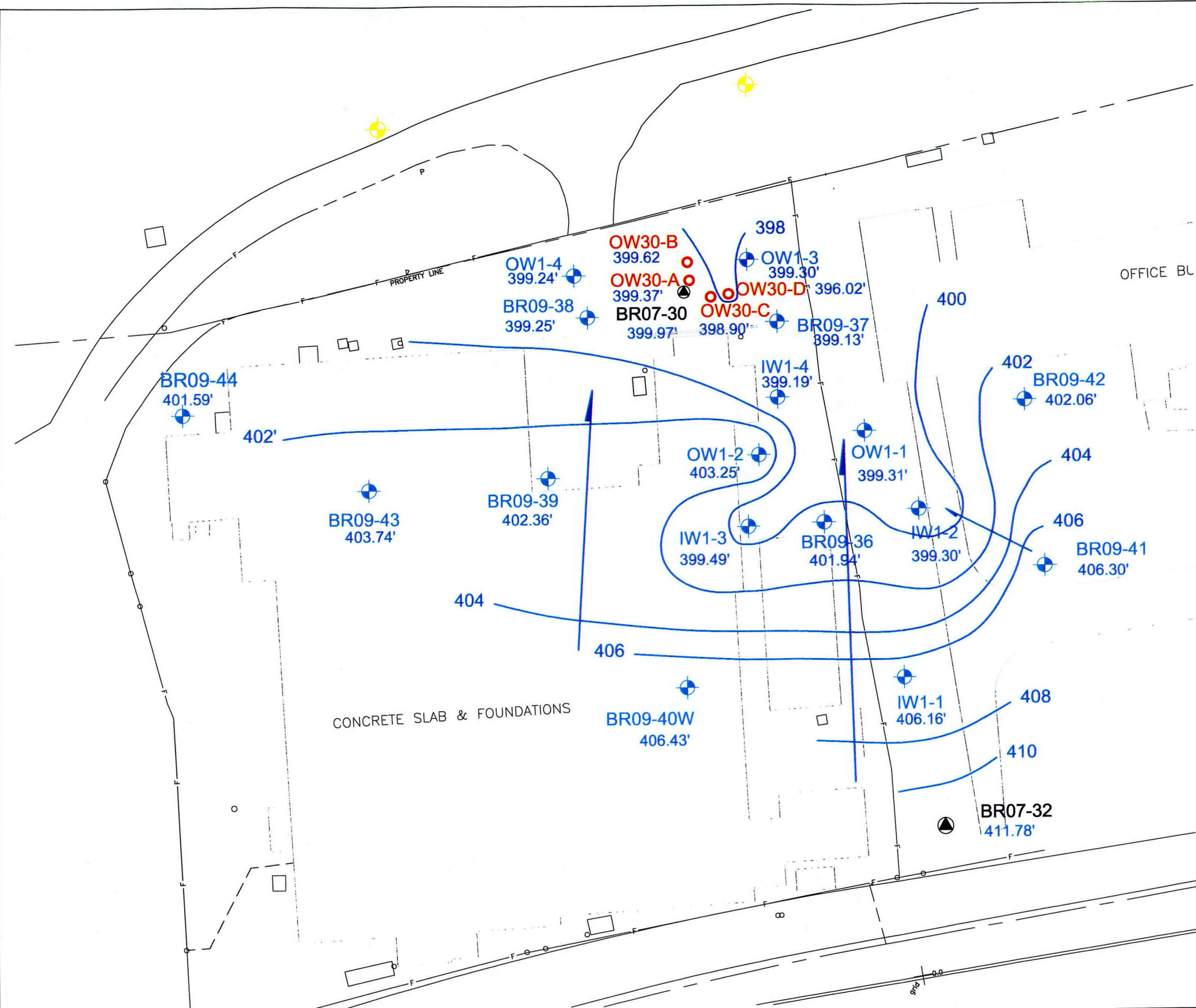
Profile View



-  Approximate building footprint
-  Approximate area of bedrock groundwater contamination (TCE > 1,000 ppb)
- Well locations shown in red

View from N, looking S

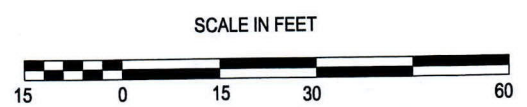




Groundwater elevation contours & flow direction, January 2010.

Groundwater monitoring well I.D. and groundwater elevation. Well locations surveyed Jan, 2010.

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08/25/09/Syr/dm
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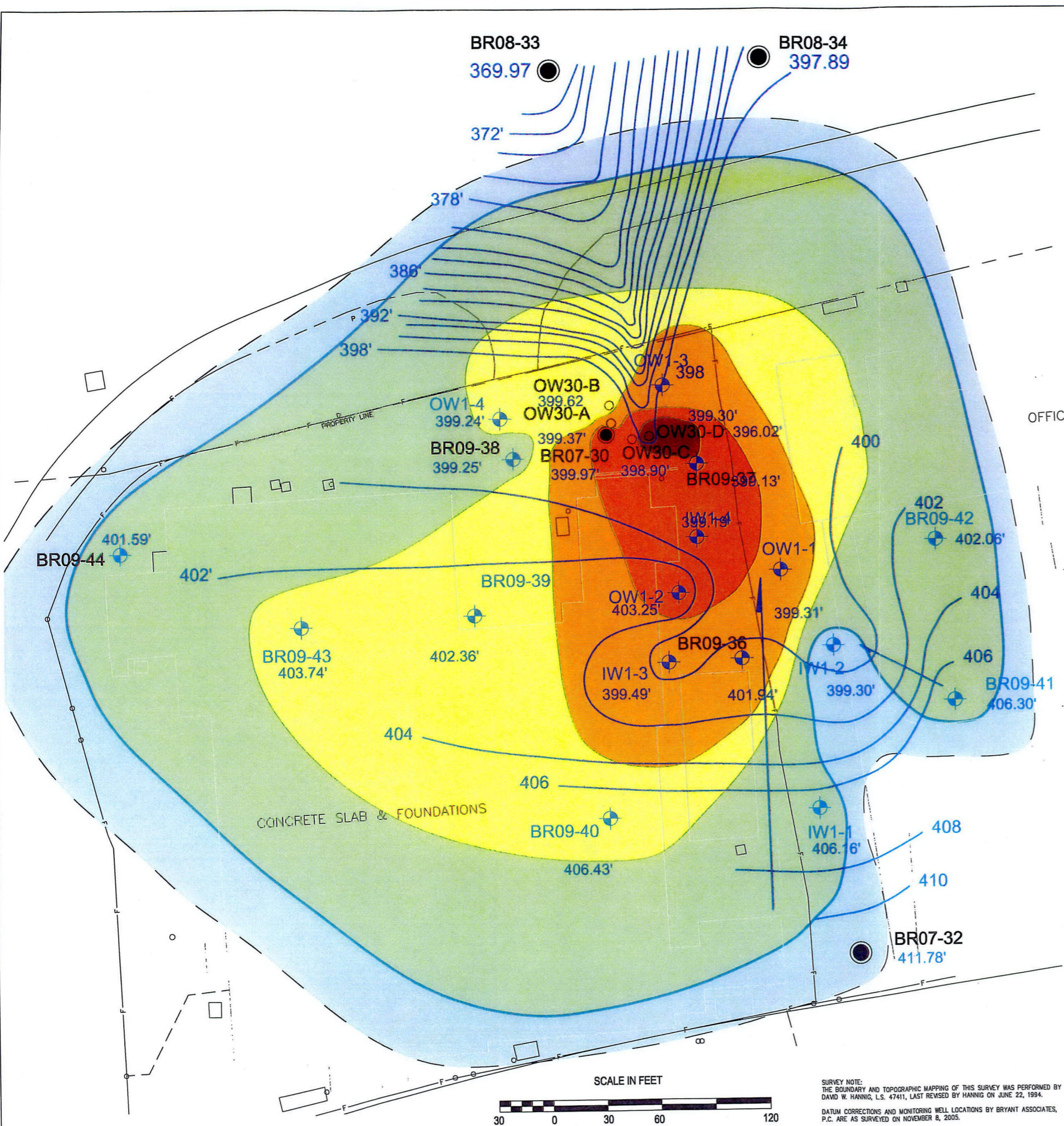
Syracuse, New York

DATE:12/2009 JOB No:N0911

Pass & Seymour, Inc./Boyd Avenue
50 Boyd Avenue
Solvay, New York
Pre-Design Monitoring Well Installation

AOC 1
Bedrock Groundwater Elevations Jan, 2010

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 MES?



GW TCE Concentration		
Well ID	Conc. (ug/l)	Date
OW30B	960	Jul-09
OW30D	150,000	Jul-09
BR07-30	34,000	Nov-07
BR07-32	7.6	Nov-07
	ND	Jul-08
	5.4	Nov-09
BR08-33	3.3	Jul-08
	ND	Nov-09
BR08-34	ND	Jul-08
	ND	Nov-09
BR09-36	2,600	Jul-09
BR09-37	78,000	Jul-09
BR09-38	100	Jul-09
	77	Nov-09
BR09-39	290	Nov-09
BR09-40	100	Nov-09
BR09-41	37	Nov-09
BR09-42	14	Nov-09
BR09-43	260	Nov-09
OW1-1	2,700	Oct-09
OW1-2	49,000	Oct-09
OW1-3	2,700	Oct-09
OW1-4	320	Oct-09
IW1-1	17	Oct-09
IW1-2	8.4	Oct-09
IW1-3	2,300	Oct-09
IW1-4	16,000	Oct-09
BR09-44	40	Dec-09



LEGEND

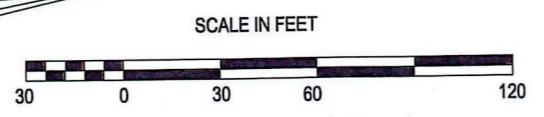
- TCE > 100,000 ppb
- TCE > 10,000 ppb
- TCE > 1,000 ppb
- TCE > 100 ppb
- TCE > 10 ppb
- TCE > 5 ppb (inferred)
- BR07-29 Monitoring Well used as ISCO Pilot Test Injection Well
- Pilot Test Observation Well Location
- Pilot Test Monitoring Well (Bedrock)
- MW05-26 Year of Installation-Well I.D. Number
- New monitoring well
- ISCO observation (OW) or injection well (IW)
- Bedrock GW flow contours, Jan, 2010.

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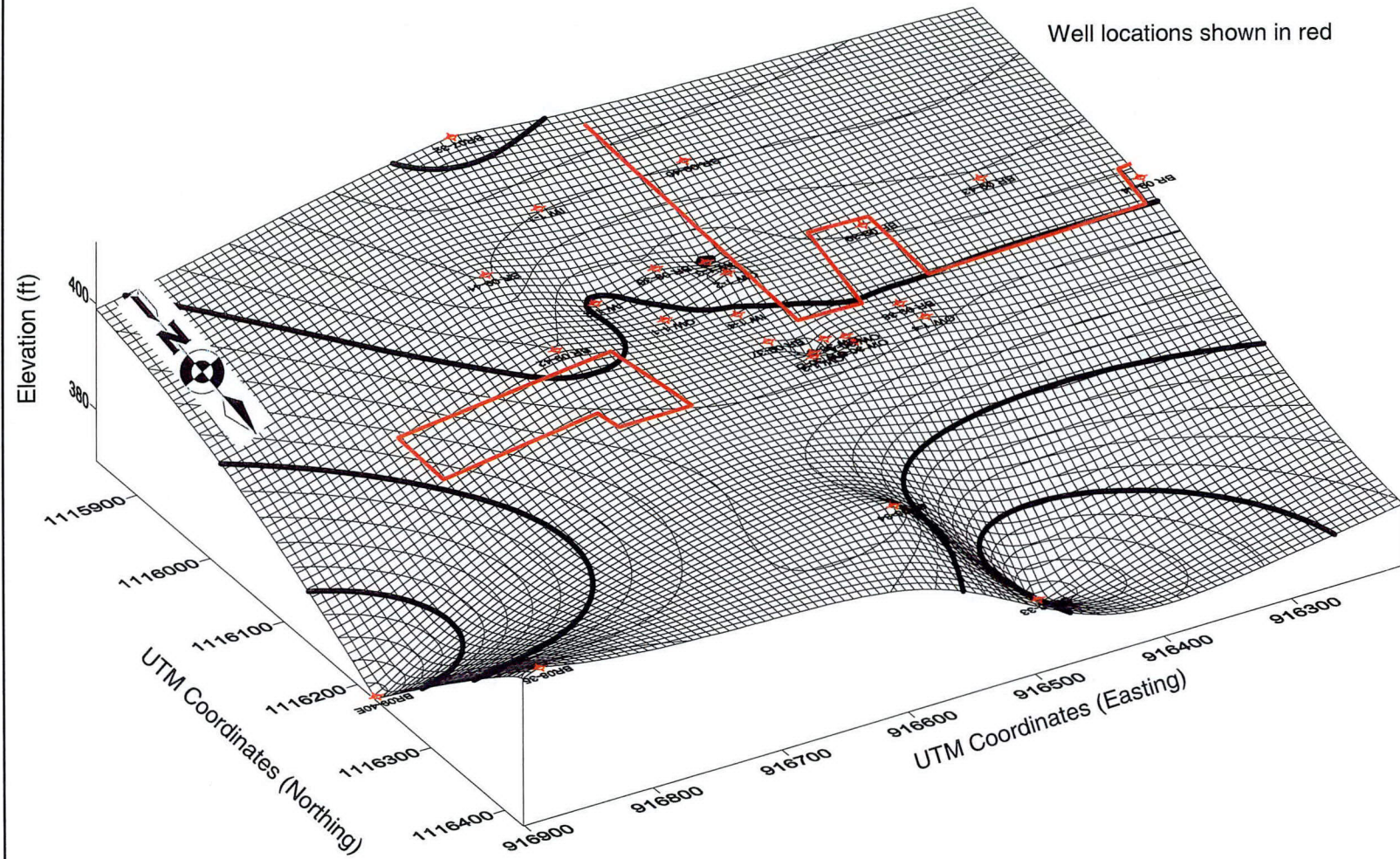
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50 Boyd Avenue
Solvay, New York
Pre-Design Monitoring Well Installation

Syracuse, New York
DATE:12/2009 JOB No:N0911

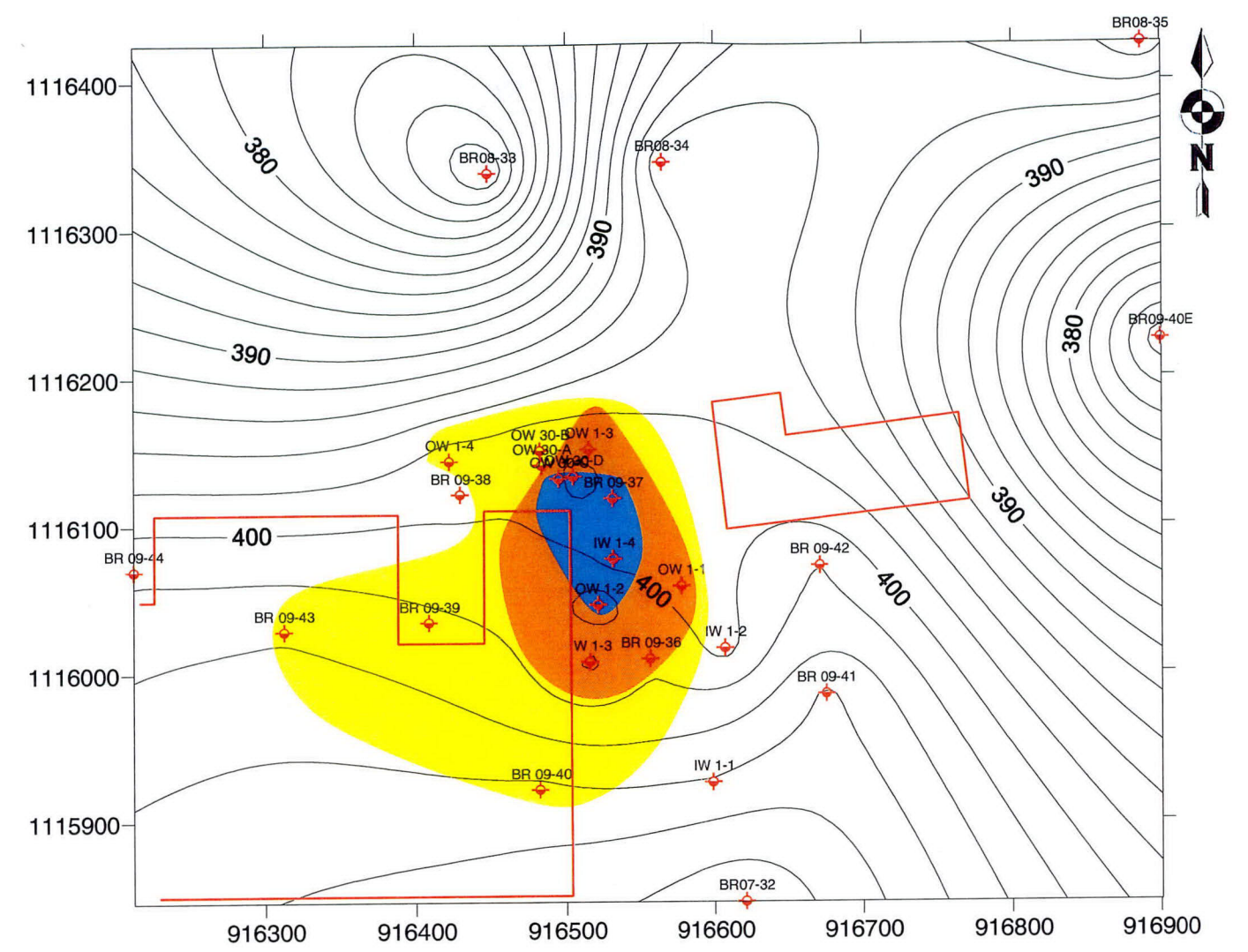
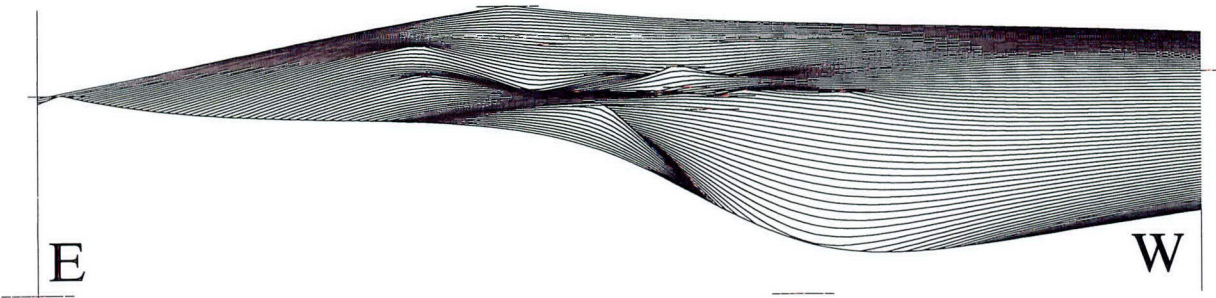
AOC - 1
Bedrock GW TCE Concentrations (ug/L)



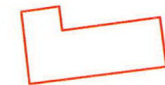
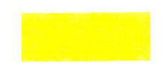


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View from N, looking S



Map View, Groundwater Elevation Contours (ft)

-  Approximate building footprint
-  TCE > 100 ppb
-  TCE > 1,000 ppb
-  TCE > 10,000 ppb

Images created by Surfer® 8
Golden Software, Inc. 2002

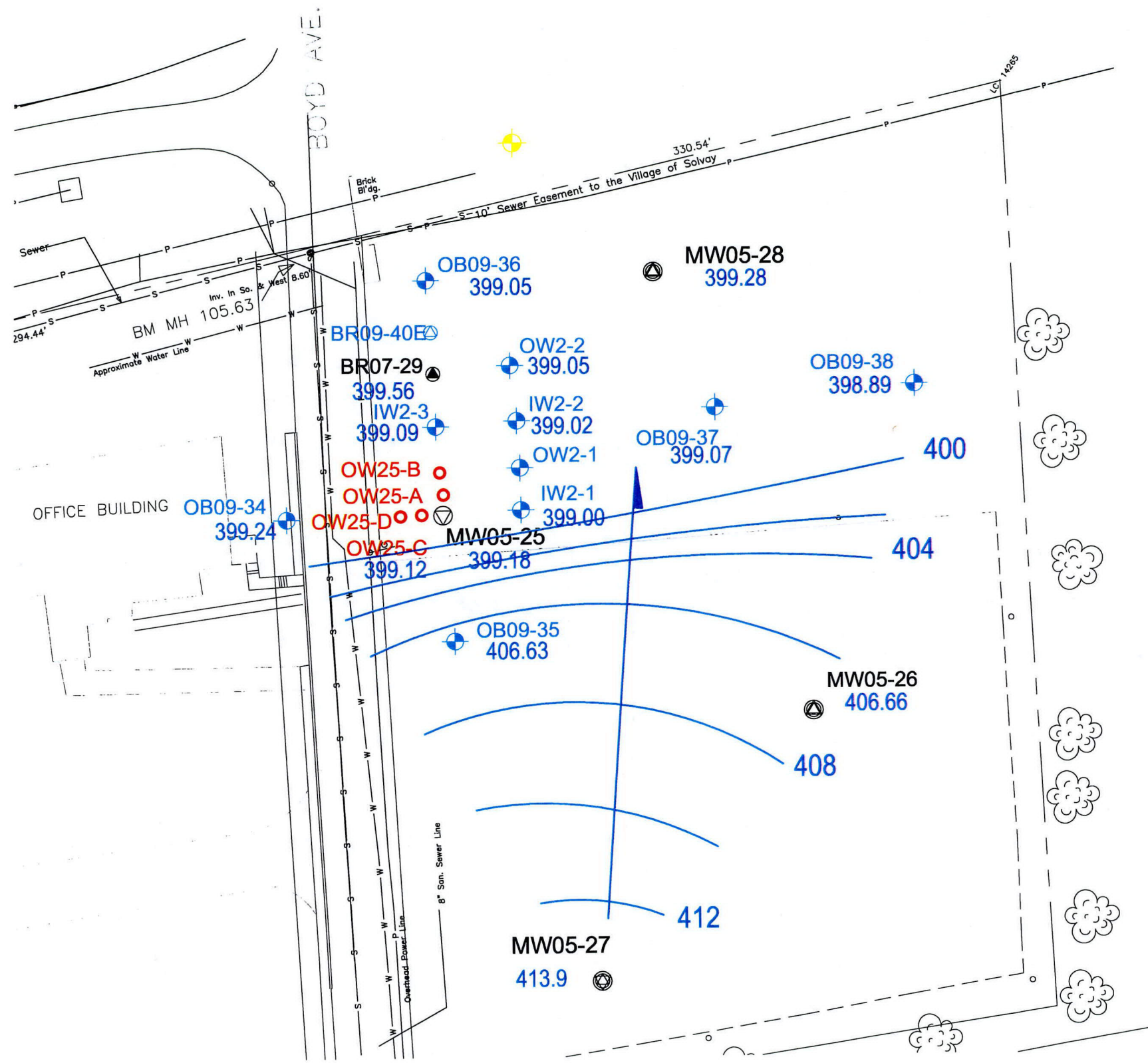


Pass & Seymour BCP Site
C734102

**Bedrock Groundwater
Potentiometric Surface**

N0911

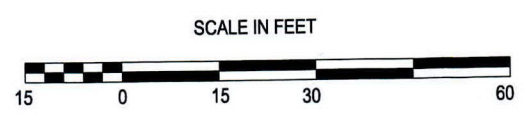
Jan 10



Groundwater monitoring well I.D. & measured groundwater elevation, Jan, 2010.



Groundwater elevation contours & general flow direction, Jan, 2010.



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	<p>AOC - 2</p> <p>Groundwater Elevation Contours Jan, 2010</p>

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 08/Sept/Syz/cam
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S&W Redevelopment of North America, LLC

Pass & Seymour
Off-site Groundwater Investigation
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005

Depth of Boring : 40-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : IR-A300
Driller : Doug Toma
Drilling Method : Hollow Stem Augers/Core
Hydraulic Hammer : N/A
Sampling Method : Cores
Logged By : AM
Surveyed By : Bryant Assoc, P.C.

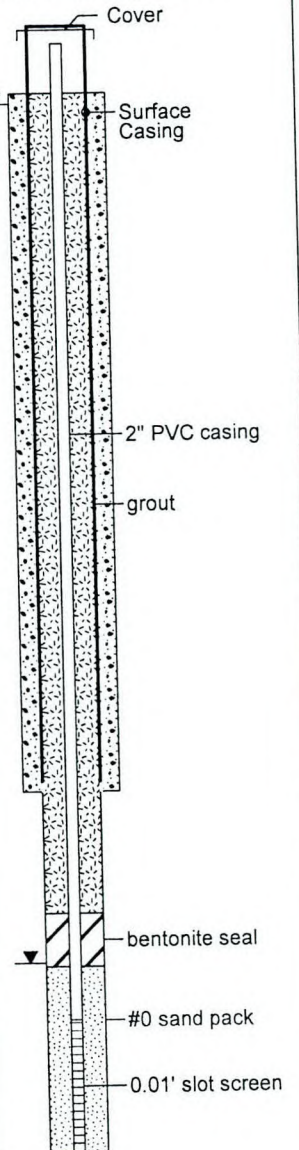
LOG OF BORING BR08-33

(Page 1 of 1)

Date Started : 6/19/08
Time : 10:00am
Date Completed : 6/20/08
Time : 11:15am
Weather : Partly Cloudy, 65F
Boring Location : North of site

Depth in Feet (bgs)	Surf. Elev.	Sample Interval (Feet)	Recovery (Inches)	Water Level		DESCRIPTION	PID Reading
				▼ After Completion	▽ During Drilling		
0	406					No Samples taken from 0-28'	
10	396						
20	386					Bedrock at 26', auger refusal	
30	376					Run#1 28-33' Rec-60" RQD-33.3% mechanical and natural breaks vertical and horizontal gypsum veins vertical fracture at 30.75' bgs	
						Run#2 33-36' Rec-36" RQD-50% mechanical and natural breaks vertical and horizontal gypsum veins red sandstone at 37 - 38' bgs	
40						Run #3 36-40' Rec-48" RQD-83.3% mechanical and natural breaks vertical and horizontal gypsum veins reddish brown color	
						End of Boring	

Monitoring Well: BR08-33
TOC Elevation: 408.11



NOTES:

bgs - below ground surface
NR - no recovery
RQD - rock quality designation (%)

LOG OF BORING BR08-33

(Page 1 of 1)

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Pass & Seymour
Off-site Groundwater Investigation
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005

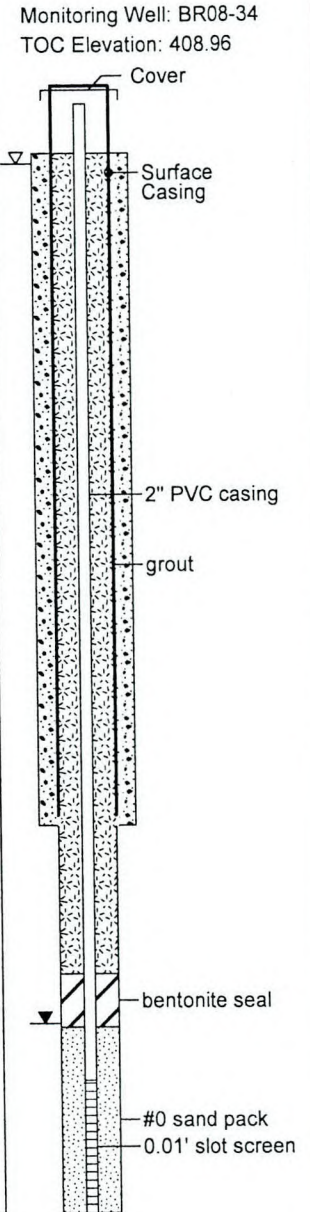
Depth of Boring : 40-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : IR-A300
Driller : Doug Toma
Drilling Method : Hollow Stem Augers/Core
Hydraulic Hammer : N/A
Sampling Method : Cores
Logged By : AM
Surveyed By : Bryant Assoc, P.C.

LOG OF BORING BR08-34

(Page 1 of 1)

Date Started : 6/20/08
Time : 12:45pm
Date Completed : 6/23/08
Time : 11:30am
Weather : Partly Cloudy, 65F
Boring Location : North of site

Depth in Feet (bgs)	Surf. Elev.	Sample Interval (Feet)	Recovery (Inches)	Water Level		DESCRIPTION	PID Reading
				▼ After Completion	▽ During Drilling		
0	406					No Samples taken from 0-28'	
10	396						
20	386					Bedrock at 25' bgs, auger refusal at 28'	
30	376					Run#1 28 - 33' bgs Rec - 60" RQD - 53.3%	
						SHALE Mechanical and natural breaks vertical and horizontal gypsum and quartz veins	
						Run#2 33-36' Rec-36" RQD-27.7%	
						mechanical breaks vertical and horizontal gypsum veins only able to recover 3'	
40						Run #3 36-40' Rec-48" RQD-85.3%	
						mechanical breaks vertical and horizontal gypsum veins reddish brown color at 38.5' bgs	
						End of Boring	



NOTES:
bgs - below ground surface
NR - no recovery
RQD - rock quality designation (%)

LOG OF BORING BR08-34

(Page 1 of 1)

S&W Redevelopment of North America, LLC

Pass & Seymour
Off-site Groundwater Investigation
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005

Depth of Boring : 31-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : IR-A300
Driller : Doug Toma
Drilling Method : Hollow Stem Augers/Core
Hydraulic Hammer : N/A
Sampling Method : Cores
Logged By : AM
Surveyed By : Bryant Assoc, P.C.

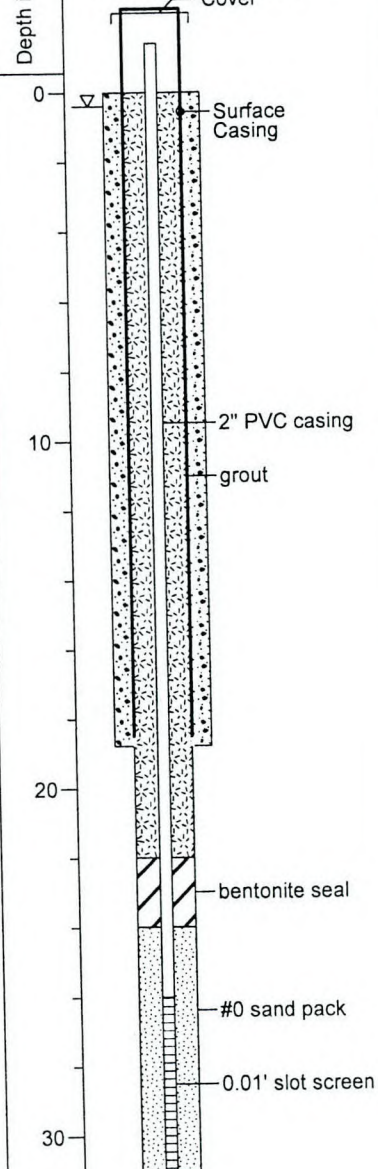
LOG OF BORING BR08-35

(Page 1 of 1)

Date Started : 6/24/08
Time : 10:00am
Date Completed : 6/25/08
Time : 11:00am
Weather : Sunny, 65F
Boring Location : Northeast of site

Depth in Feet (bgs)	Surf. Elev.	Sample Interval (Feet)	Recovery (Inches)	Water Level		DESCRIPTION	PID Reading	Depth in Feet (bgs)
				▼ After Completion	▽ During Drilling			
0	406					No Samples taken from 0-18.5'		0
10	396							10
20	386					Bedrock at 16', auger refusal at 18.5'		20
						Run#1 18.5 - 23.5' bgs Rec - 60" RQD - 16.6%		
						SHALE natural and mechanical breaks horizontal gypsum veins		
						Run#2 23.5' - 29.0' bgs Rec - 60" RQD - 46.9%		
						SHALE mechanical breaks vertical gypsum veins		
30						Run#3 29.0 - 31.0' bgs Rec - 24" RQD - 85.3%		30
						SHALE mechanical breaks horizontal and vertical gypsum veins		
						End of Boring		

Monitoring Well: BR08-35
TOC Elevation: 408.39
Cover



NOTES:
bgs - below ground surface
NR - no recovery
RQD - rock quality designation (%)

LOG OF BORING BR08-35

(Page 1 of 1)



Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

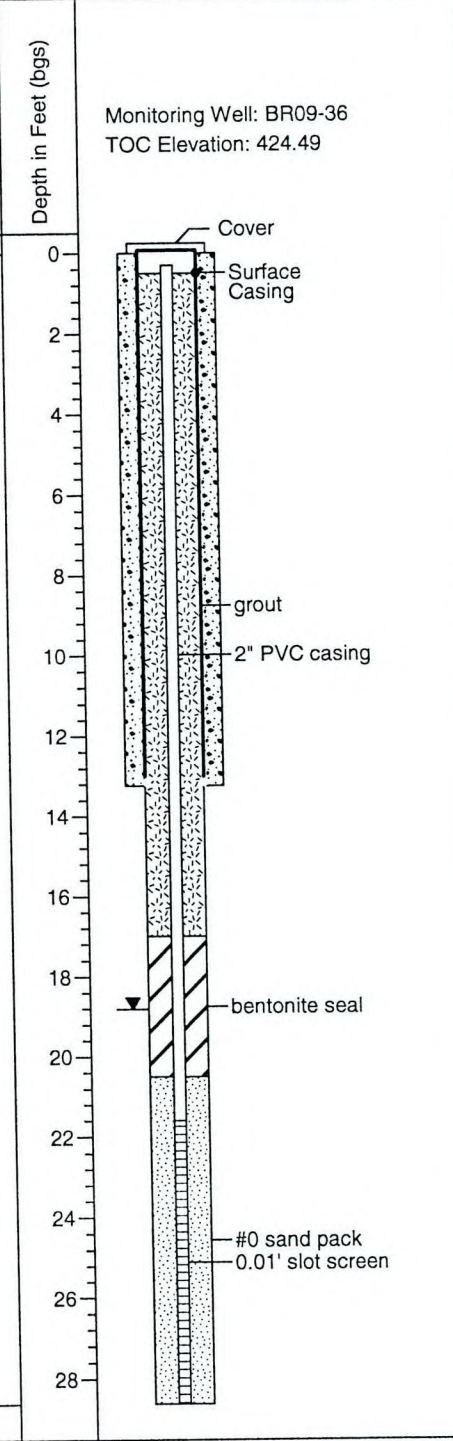
Depth of Boring : 28.6-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer : 140-30
Sampling Method : 2" split spoon/5' core barrel
Logged By : JLK
Surveyed By : Bryant Associates, P.C.

LOG OF BORING BR09-36

(Page 1 of 1)

Date Started : 6-11-09
Time : 1:00 PM
Date Completed : 6-23-09
Time : 4:30 PM
Weather : 79F sunny
Boring Location : AOC-1, SE of MW05-11

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level	DESCRIPTION	PID Reading
				▼ After Completion ▽ During Drilling		
0		4			Soil and fill, brick, ash, roots	105
0 - 2	0 - 2	4	10		asphalt and brick	
2		7			medium stiff, brown/red CLAY, trace gravel	
2 - 4	2 - 4	7	14		dry, soft, green/gray weathered shale	71
4		21				
4 - 6	4 - 6	20			moist, mottled olive green CLAY (weathered shale)	23.9
6		12			rock in nose	
6 - 8	6 - 8	9	16			
8		11				
8 - 10	8 - 10	10	NR		dry-moist, soft, green weathered shale, mottled clay where moist.	0.4
10		18				
10 - 12	10 - 12	28			SAA, dry	152
12		30			bedrock	
12 - 14	12.5 - 14	15	10			
14		50/5			core run #1 87% recovery Gray shale. RQD = 36%	
14 - 19	14 - 19		16		core run #2 88% recovery Gray shale, lots of natural breaks, small cavities, clay in some seams.	
16						
16 - 19	14 - 19		53		core run #3 92% recovery Gray shale, natural horizontal fractures, vertical fractures in upper 6 inches, small cavities, clay in some seams.	
18						
19 - 24	19 - 24		55		core run #4 76% recovery Gray shale, very weathered and fractured with vertical fractures from 26 to 29 feet.	
20						
22						
24						
24 - 29	24 - 29		46			
26						
28					End Boring	



NOTES:
bgs - below ground surface
NR - no recovery

LOG OF BORING BR09-36

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Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

Depth of Boring : 23.8-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer : 140-30
Sampling Method : 2" split spoon/5' core barrel
Logged By : JLK
Surveyed By : Bryant Associates, P.C.

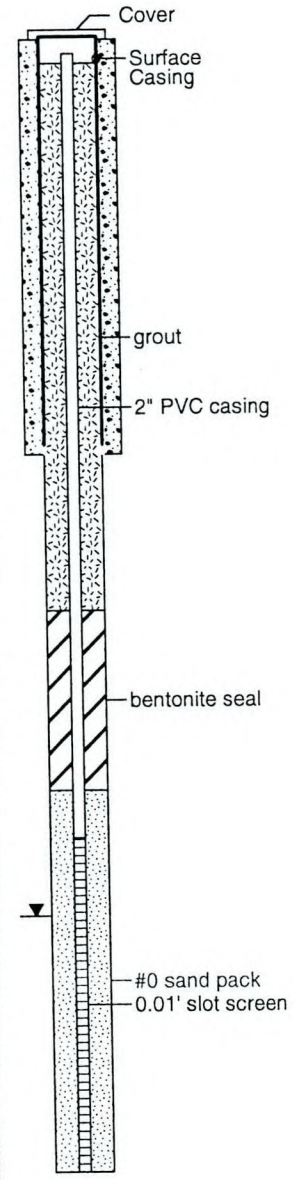
LOG OF BORING BR09-37

(Page 1 of 1)

Date Started : 6-22-09
Time : 12:10 PM
Date Completed : 6-24-09
Time : 11:00 AM
Weather : 66F sunny
Boring Location : AOC-1, E of BR07-30

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level		DESCRIPTION	PID Reading	Depth in Feet (bgs)
				▼ After Completion	▽ During Drilling			
0						Asphalt, gravel, and fill		0
2	1 - 3	3	14			fill and clay stiff, mottled red CLAY and gravel	7.4	2
4	3 - 5	5	19			moist, soft, olive mottled CLAY	7.2	4
6	5 - 7	8	14			moist-dry, olive mottled CLAY, weathered shale in nose.	5.2	6
8	7 - 9	15	9			dry, soft, weathered olive green shale and clay bedrock	1.7	8
12	9 - 14	19	47			core run #1 78% recovery Gray shale. Natural horizontal breaks and small cavities. RQD = 17.7%		12
16	14 - 19	4	60			core run #2 100% recovery Gray shale, natural horizontal fractures and small cavities. 4-inch vertical fracture at 17.5 feet. Trace small cavities, clay in some fractures. RQD = 15.2%		16
22	19 - 24	6	50			core run #3 84% recovery Gray shale, trace cavities, natural horizontal fractures. 45-degree fracture at 21 feet, vertical fracture at 23.5 feet. Rubble from 21.7 to 23 feet. Gypsum seam at 23.2 feet. RQD = 25.7%		22
24		16				End Boring		24

Monitoring Well: BR09-37
TOC Elevation: 417.85



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NOTES:
bgs - below ground surface
NR - no recovery

LOG OF BORING BR09-37

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Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

Depth of Boring : 28.6-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer : 140-30
Sampling Method : 2" split spoon/5' core barrel
Logged By : JLK
Surveyed By : Bryant Associates, P.C.

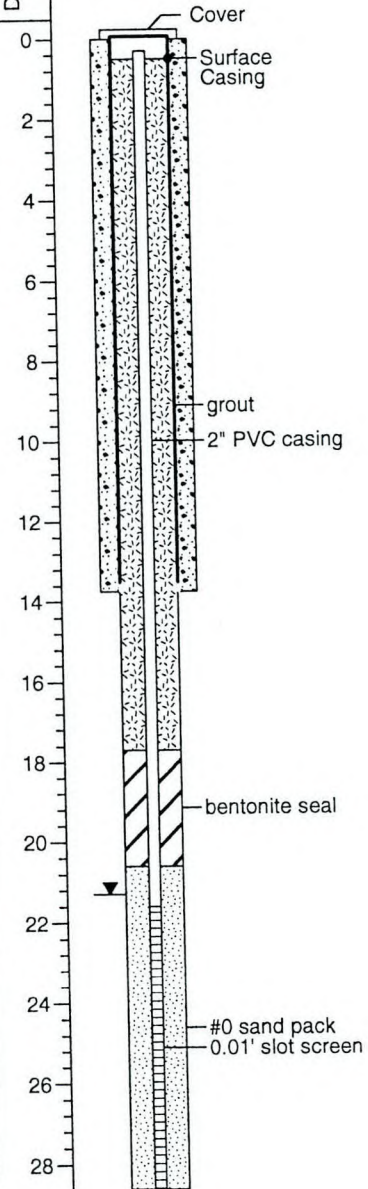
LOG OF BORING BR09-38

(Page 1 of 1)

Date Started : 6-17-09
Time : 11:00 AM
Date Completed : 6-23-09
Time : 10:00 PM
Weather : 66F sunny
Boring Location : AOC-1, West of BR07-30

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level		DESCRIPTION	PID Reading	Depth in Feet (bgs)
				▼ After Completion	▽ During Drilling			
0						Asphalt		0
2	1 - 3	7	11			loose, black cinders and ash, brick fragments, red and brown clay (fill)	7.5	2
4	3 - 5	2	5			wet, soft, mottled brown CLAY, trace gravel and brick	3.4	4
6	5 - 7	2	4				4.5	6
8	7 - 9	1	12			moist-dry, medium stiff-soft, red CLAY, trace gravel	1.7	8
10	9 - 11	1	20			wet, soft, gray/green mottled CLAY dry, loose, fractured, crumbled shale, powdery	481	10
12	11 - 13	2	4			bedrock	1.9	12
14		4						14
16	14 - 19	5	53			core run #1 88% recovery Gray shale. Many horizontal fractures, some filled with clay, some cavities, few short vertical fractures.		16
18		1						18
20		1						20
22	19 - 24	1	60			core run #2 100% recovery Gray shale, natural horizontal fractures and small cavities. Vertical fractures 21.5 to 22 feet and 24 feet. RQD = 43%		22
24		1						24
26	24 - 29	1	58			core run #3 96% recovery Gray shale, natural horizontal fractures and gypsum seams. RQD = 40.4%		26
28		1						28
End Boring								

Monitoring Well: BR09-38
TOC Elevation: 421.06



NOTES:
bgs - below ground surface
NR - no recovery

LOG OF BORING BR09-38

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Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

Depth of Boring : 30.0-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer : 140-30
Sampling Method : 2" split spoon/5' core barrel
Logged By : IEM
Surveyed By : Bryant Associates, P.C.

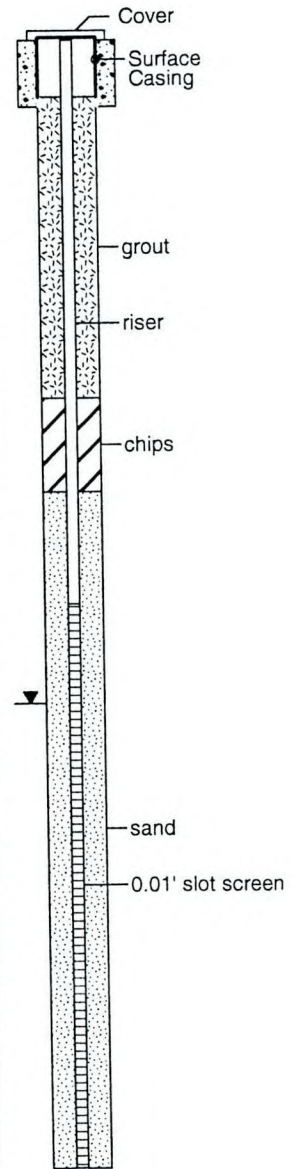
LOG OF BORING BR09-39

(Page 1 of 1)

Date Started : 10-20-09
Time : 8:00 AM
Date Completed : 10-20-09
Time : 11:50 AM
Weather : 51F Cloudy
Boring Location : W edge of AOC-1

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level	DESCRIPTION	PID Reading	Depth in Feet (bgs)
				▼ After Completion ▽ During Drilling			
0					top 4" asphalt and gravel		0
2					Black, moist fill, brick fragments		2
4					softer and more moist		4
6	5 - 7	2 2 5 11	11		9" red till, soft, moist, stiffer and dryer at depth some CLAY, GRAVEL, little SILT mottled with depth	2.5	6
8							8
10	10 - 12	8 14 19 13	11		stiff, hard, dry, mottled throughout	2.4	10
12							12
14							14
16	15 - 17	50/0.1	1		Dry, weathered, grey, soft SHALE	1.3	16
18	15 - 20		5		2" split-spoon refusal auger refusal at 15' Bedrock		18
20					core run #1 15'-20', 5' recovery Grey shale, natural and mechanical breaks, vuggy in spots, clay seam at 4.5', vertical fracture at 1.5', more competent rock, layered. RQD = 17.0%		20
22	20 - 25		5		core run #2 20'-25', 5' recovery Gray shale, natural and mechanical breaks, 50% natural, clay seams at 21.5' and 24' bgs, vertical fractures at 22' and 24.5' bgs, nice competent rock compared to other cores. RQD = 42.0%		22
24							24
26	25 - 30		4.6		core run #3 25'-30', 4.6' recovery Shale, first 1' vuggy, fractured, natural and mechanical breaks throughout, 50% natural, diagonal fracture at 26.5' bgs, vertical fracture at 27' bgs, gypsum veins in last 1.5', clay seams at 27.5' and 28.0' bgs. Shale is gray for first 1' and green for the remainder. RQD = 48.9%		26
28							28
30					End Boring		30

Monitoring Well: BR09-39
TOC Elevation: 424.06



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NOTES:
bgs - below ground surface
RQD - rock quality designation (%)

LOG OF BORING BR09-39

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REDEVELOPMENT

Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

Depth of Boring : 26.0-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer : 140-30
Sampling Method : 2" split spoon/5' core barrel
Logged By : IEM
Surveyed By : Bryant Associates, P.C.

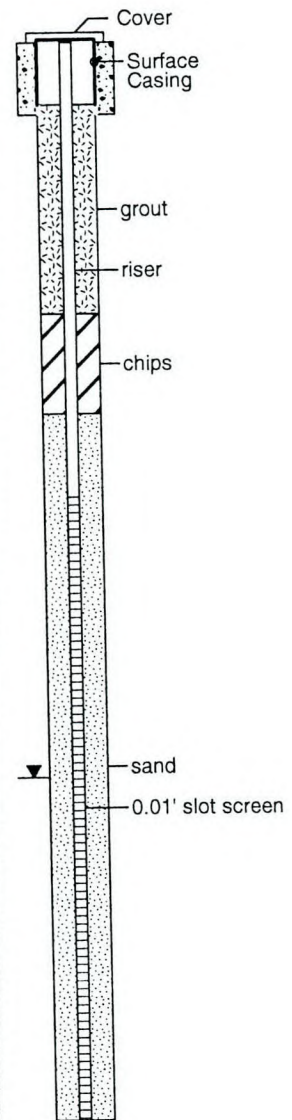
LOG OF BORING BR09-40 (W)

(Page 1 of 1)

Date Started : 10-13-09
Time : 1:15 PM
Date Completed : 10-19-09
Time : 10:50 AM
Weather : 55F Mostly sunny
Boring Location : AOC-1, N of BR07-29

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level	DESCRIPTION	PID Reading	Depth in Feet (bgs)
				▼ After Completion ▽ During Drilling			
0							0
0.5 - 2	2	3	8		Black, soft fill	1.0	0
2	2	1	8		red, soft till, some mottled, moist GRAVEL	0.5	2
2 - 4	2	5	8		stiff	0.3	4
4	4	3	18		dryer, very stiff-hard, mostly CLAY, some SILT	0.5	6
4 - 6	3	9	11		rock fragments	0.2	8
6	6	12	7		SAA	0.4	10
6 - 8	14	14	14		8" brown-tan, weathered, very soft, dry, slightly layered SHALE		12
8	17	6			Auger refusal at 11.5' bgs		14
8 - 10	6	5			Bedrock		16
10	10	4			core run #1 11.5'-16.0', 3.5' recovery		18
10 - 12	9	50/0.4			Gray shale, highly weathered, natural fractures, rust staining at 13' bgs diagonal fracture, clay seams, layered. RQD = 0.0%		20
12					core run #2 16.0'-21.0', 3.6' recovery		22
11.5 - 16					Gray shale, highly weathered first 2', natural and mechanical breaks, clay seams first 2', layered. RQD = 9.7%		24
16					core run #3 21.0'-26.0', 4.92' recovery		26
16 - 21					Grey shale, vuggy throughout length, natural and mechanical breaks, 90% natural, highly weathered clay seam at 23', horizontal fractures. RQD = 13.6%		28
21 - 26					End Boring		

Monitoring Well: BR09-40 (W)
TOC Elevation: 428.14



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NOTES:

bgs - below ground surface
RQD - rock quality designation (%)

LOG OF BORING BR09-40 (W)

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Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

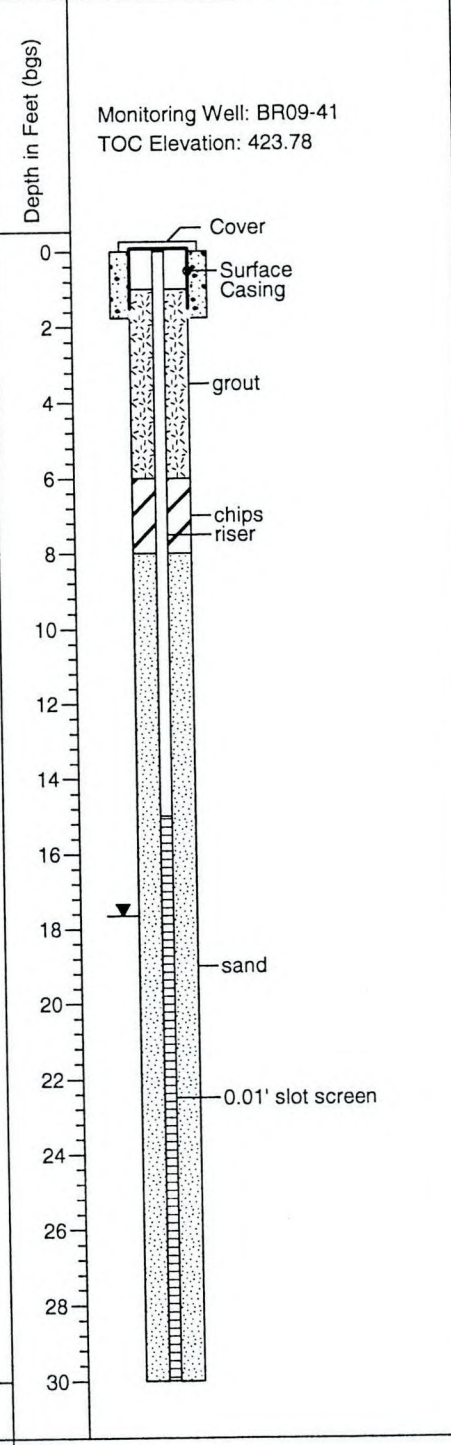
Depth of Boring : 30.0-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer : 140-30
Sampling Method : 2" split spoon/5' core barrel
Logged By : IEM
Surveyed By : Bryant Associates, P.C.

LOG OF BORING BR09-41

(Page 1 of 1)

Date Started : 10-21-09
Time : 2:15 PM
Date Completed : 10-22-09
Time : N/A
Weather : 66F Mostly cloudy
Boring Location : Near road, E area of AOC-1

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level	DESCRIPTION	PID Reading
				▼ After Completion ▽ During Drilling		
0					5" ORGANICS, soil, grass, roots	1.7
0 - 2	4 4 4 1	12			7" black fill, brick fragments, insulators, soft, dry	
2						
4					moist, red till	
6	5 - 7	1 7 50/0.1	0		rock in beginning of spoon, no recovery	N/A
8					soft, tan, very dry cuttings with grey rock fragments	
10	10 - 12	5 27 40 32	10		3" rock fragments from grinding of auger	33.5
12					7" weathered, grey SHALE, very dry, layered CLAYEY SILT	
14						
16	15 - 17	50/0.2	6		very dry, weathered SHALE grey, loose, CLAYEY SILT, slightly layered with grey rock fragments	15.5
18					auger refusal at 15' Bedrock	
20					core run #1 70.0% recovery NEED BOOK. RQD = 0.0%	
22					core run #2 88.0% recovery NEED BOOK RQD = 18.0%	
24					core run #3 88.0% recovery NEED BOOK. RQD = 0.0%	
26						
28						
30					End Boring	



NOTES:
bgs - below ground surface
RQD - rock quality designation (%)

LOG OF BORING BR09-41

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Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York
Project No. N5005.64

Depth of Boring : 30.0-feet bgs
Drilling Contractor : Parratt Wolf, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer : 140-30
Sampling Method : 5' core barrel
Logged By : IEM
Surveyed By : Bryant Associates, P.C.

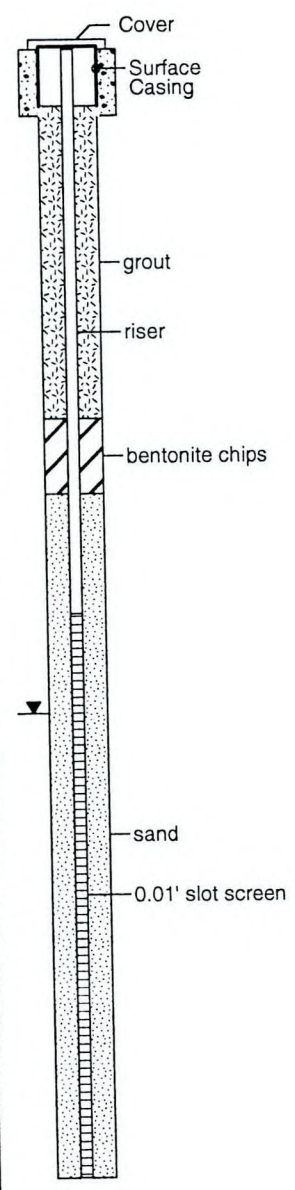
LOG OF BORING BR09-42

(Page 1 of 1)

Date Started : 10-20-09
Time : 3:50 PM
Date Completed : 10-21-09
Time : 12:00 PM
Weather : 62F Mostly cloudy
Boring Location : E of AOC-1, next to building

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level	DESCRIPTION	PID Reading	Depth in Feet (bgs)
				▼ After Completion ▽ During Drilling			
0					No soil samples taken here due to close proximity to other wells. See well OB09-33 for soil description.		0
2					Black fill and brick fragments and broken insulators for the first 10' bgs.		2
4					Hard spot at 10.5' bgs, after breaking through, more insulators.		4
6					~12.5' bgs some rock fragments and weathered bedrock, grey, dry CLAY with SILT.		6
8					Down to 15' bgs, dry, weathered, grey shale.		8
10							10
12							12
14							14
16	15 - 20		4.5		auger refusal at 15' bgs core run #1 15.0'-20.0', 4.5' recovery Gray shale, quite competent, clay seams at 16.5' and 18.0' bgs, natural and mechanical breaks, 85% natural, vuggy areas at 17.2' and 18.5' bgs. RQD = 29.3%		16
18							18
20	20 - 25		5.0		core run #2 20.0'-25.0', 5.0' recovery Gray shale, vuggy in spots, clay seams 20.0-21.0 bgs, natural and mechanical breaks, 75% natural breaks, all horizontal fractures. RQD = 35.0%		20
22							22
24							24
26	25 - 30		4.3		core run #3 25.0'-30.0', 4.3' recovery Gray shale, iron staining on some fractures, natural and mechanical breaks, 50% natural, highly fractured-weathered zone 28.0-29.5 bgs with some clay, gypsum veins in bottom 6", diagonal fracture at 27.0', all others horizontal. Slightly greener for bottom 3.5'. RQD = 10.5%		26
28							28
30					End Boring		30

Monitoring Well: BR09-42
TOC Elevation: 421.51



NOTES:
bgs - below ground surface
RQD - rock quality designation (%)

LOG OF BORING BR09-42

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Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

Depth of Boring : 17.0-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer : 140-30
Sampling Method : 2" split spoon
Logged By : IEM
Surveyed By : Bryant Associates, P.C.

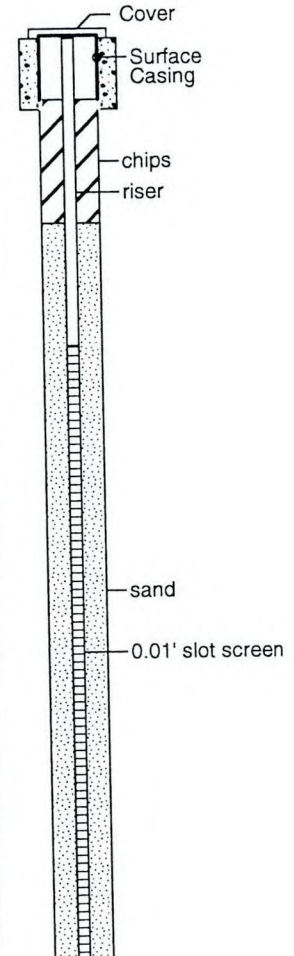
LOG OF BORING OB09-31

(Page 1 of 1)

Date Started : 10-19-09
Time : 12:30 PM
Date Completed : 10-19-09
Time : 2:00 PM
Weather : 55F Mostly sunny
Boring Location : N of building, W AOC-1

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level		DESCRIPTION	PID Reading	Depth in Feet (bgs)
				▼ After Completion	▽ During Drilling			
0						first 5': black fill, brick fragments, pieces of insulators		0
2								2
4								4
6	5 - 7	3 2 1 1	7			4" wet, black FILL, brick fragments 3" dry, stiff, yellow and white, sand-size grains of FILL	1.5	6
8								8
10	10 - 12	5	5			red TILL, some GRAVEL mottled, stiff, dry, CLAYEY SILT grinding something hard at 10.5' 10.5' roller bit fell off rods into hole movement to a new boring, 3' W, data same down to 10.5'	1.9	10
12		50/0.4						12
14						brown-red TILL		14
16	15 - 17	50/0.2	4			2" FILL 2" weathered, grey, dry, soft SHALE auger refusal at 15' top of weathered rock	2.3	16
18						End Boring		18

Monitoring Well: OB09-31
TOC Elevation: 422.67



NOTES:

bgs - below ground surface
RQD - rock quality designation (%)

LOG OF BORING OB09-31

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Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

Depth of Boring : 20.3-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer : 140-30
Sampling Method : 2" split spoon
Logged By : IEM
Surveyed By : Bryant Associates, P.C.

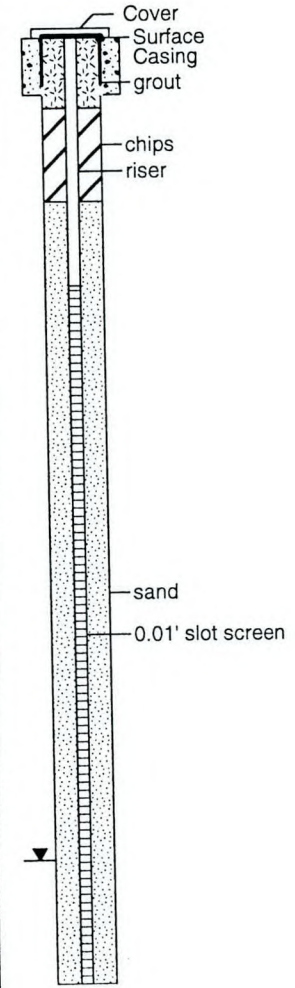
LOG OF BORING OB09-32

(Page 1 of 1)

Date Started : 10-13-09
Time : 8:30 AM
Date Completed : 10-13-09
Time : 11:45 AM
Weather : 46F Raining
Boring Location : AOC-1, W of MW05-13

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level		DESCRIPTION	PID Reading	Depth in Feet (bgs)
				▼ After Completion	▽ During Drilling			
0						concrete down to 2.5'		0
2						black FILL, some brick fragments		2
4						SAA		4
6	5 - 7	2 1 3 2	8			bottom 2" brown CLAY with SILT	0.7	6
8								8
10						6" red TILL, some coarse, mottled SANDY-GRAVEL		10
12	10 - 12	5 17	13			weathered, grey-brown, SHALE, some tan, hard CLAY seams	0.7	12
14								14
16	15 - 17	12 20 7 13	12			Brown-tan, soft Bottom 6" weakly layered rock fragments, dry CLAY	N/A	16
18						Began hitting competent bedrock, broke through at 18'		18
20	20 - 22	50/0.4	1			Grey SHALE fragments	N/A	20
22						End Boring		22
24								24

Monitoring Well: OB09-32
TOC Elevation: 418.19



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NOTES:
bgs - below ground surface
RQD - rock quality designation (%)

LOG OF BORING OB09-32

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Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

Depth of Boring : 17.0-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer : 140-30
Sampling Method : 2" split spoon
Logged By : IEM
Surveyed By : Bryant Associates, P.C.

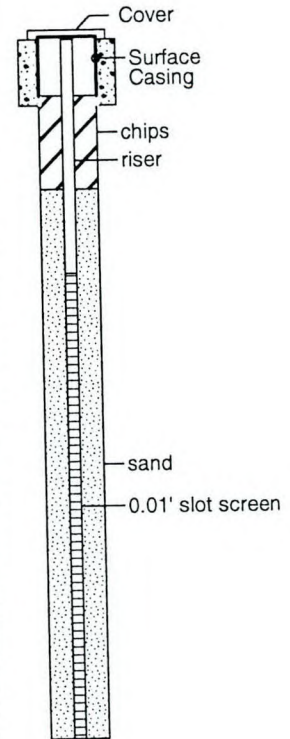
LOG OF BORING OB09-33

(Page 1 of 1)

Date Started : 10-20-09
Time : 2:15 PM
Date Completed : 10-20-09
Time : 3:44 PM
Weather : 62F Mostly cloudy
Boring Location : E of AOC-1, next to building

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level		DESCRIPTION	PID Reading	Depth in Feet (bgs)
				▼ After Completion	▽ During Drilling			
0		1				10" ORGANICS dry, black, stiff		0
0 - 2		4				3" Black fill, brick fragments, insulators first 5'	2.3	2
		8	13					
		8						
2								
		2				7" black fill, brick and insulators fragments		
		7	10			3" yellow fill with insulator fragments, red brick in bottom of spoon, very dry, soft	N/A	
5 - 7		9						
		9						
6								
		9						
8								
		9				brown rock fragments and CLAY, dry, might be weathered rock		
10		11	10			3" black fill, brick and insulator fragments	75.7	
10 - 12		9				7" brown, stiff, dry, slightly layered, highly weathered SHALE, some CLAY with SILT		
		11						
		9						
12		20						
14								
16						weathered, grey, loose, very dry SHALE	N/A	
15 - 17	50/0.1		2			Auger refusal at 15'		
18						End of boring		
20								
22								
24								

Monitoring Well: OB09-33
TOC Elevation: 422.54



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NOTES:
bgs - below ground surface
RQD - rock quality designation (%)

LOG OF BORING OB09-33

(Page 1 of 1)



Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

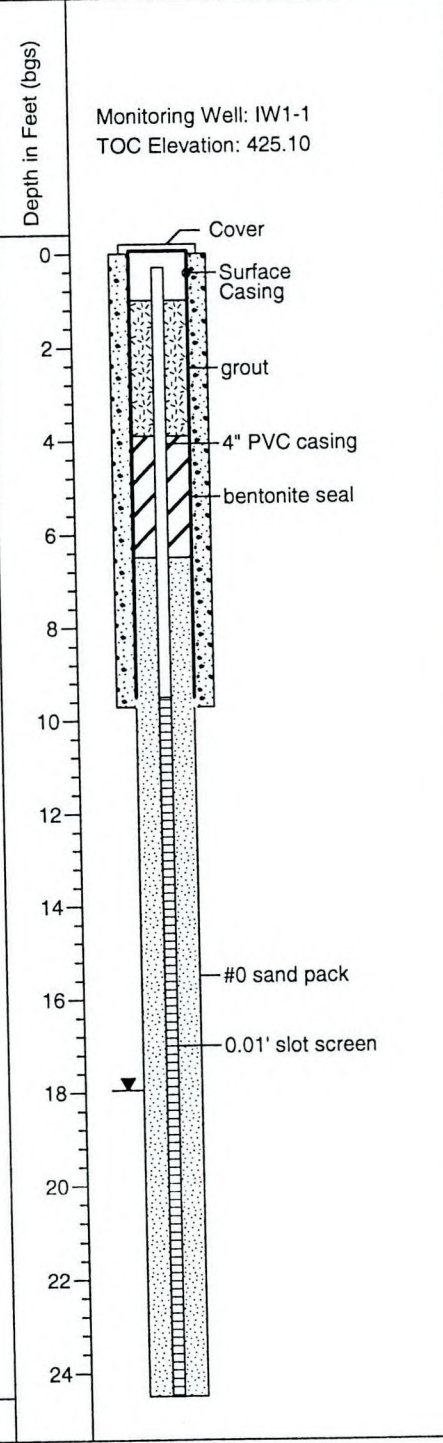
Depth of Boring : 24.5-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer : 140-30
Sampling Method : 2" split spoon/5' core barrel
Logged By : IEM
Surveyed By : Bryant Associates, P.C.

LOG OF BORING IW1-1

(Page 1 of 1)

Date Started : 9-22-09
Time : 8:00 AM
Date Completed : 9-22-09
Time : 3:30 PM
Weather : 76F Mostly cloudy
Boring Location : AOC-1, SE of BR09-36

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	DESCRIPTION	PID Reading
Water Level ▼ After Completion ▽ During Drilling					
0		3		Dry dark brown-black ORGANICS	
0 - 2		14		Fill, soft-medium, gray-black ash	N/A
2		6			
2 - 4		38	8	Hard-stiff, red-brown CLAY with SILT	130.0
4		7			
4 - 6		2	8	Some GRAVEL-COARSE SAND Mottled appearance where moist	133.0
6		7			
6 - 8		8	7		80.6
8		6			
8 - 8.3		50/0.3	3	Soft, tan SILT with CLAY, weathered SHALE	24.8
				2" split-spoon refusal	
				auger refusal at 9.5'	
10				Bedrock	
				core run #1 70.0% recovery Gray shale, 80% natural horizontal breaks, some vertical fractures, some clay in seams, vugs highly weathered. RQD = 0.0%	
12					
				core run #2 88.0% recovery Gray shale, highly weathered and fractured for top 2.5', bottom 2.5' much more solid, 80% natural horizontal breaks RQD = 18.0%	
14					
				core run #3 88.0% recovery Gray shale, zones of highly weathered rock containing clay, no vertical fractures, mostly natural breaks. RQD = 0.0%	
16					
18					
20					
22					
24					
End Boring					



NOTES:
bgs - below ground surface
RQD - rock quality designation (%)

LOG OF BORING IW1-1

(Page 1 of 1)

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Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solway, Onondaga County, New York

Project No. N5005.64

Depth of Boring : 29.0-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer : 140-30
Sampling Method : 2" split spoon/5' core barrel
Logged By : JLK
Surveyed By : Bryant Associates, P.C.

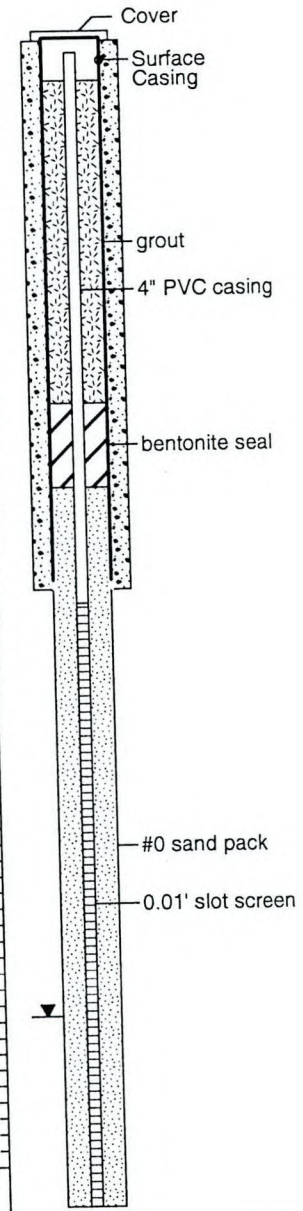
LOG OF BORING IW1-2

(Page 1 of 1)

Date Started : 9-21-09
Time : 8:30 AM
Date Completed : 9-21-09
Time : 4:30 PM
Weather : 73F Mostly Sunny
Boring Location : AOC-1, E of BR09-36

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level		DESCRIPTION	PID Reading	Depth in Feet (bgs)
				▼ After Completion	▽ During Drilling			
0						Dry, medium-stiff, brown CLAY and SILT with a trace of GRAVEL	1.2	0
0-2	5-10	6	15			Fill, brick fragments and ash		2
2-4	5-8	3	3			Dry, crumbly soft-medium stiff, weathered SHALE and CLAY	0.0	4
4-6	12-21	21	21			SAA, moist to dry, mottled	218.0	6
6-8	10-13	14	14			SAA	155.0	8
8-10	11-15	8	15			SAA	199.0	10
10-12	23-33	18	18			Moist, loose crumbly weathered SHALE	330.0	12
12-13.3	33-35	16	16			Moist, loose crumbly weathered SHALE	350.0	14
13.0						auger refusal at 13.0'		14
13.0						2" split-spoon refusal		14
13.0						Bedrock		14
16						core run #1 94.0% recovery Dark gray shale, 80% natural horizontal breaks, some vertical fractures 17.0-18.5' bgs, Fe staining on vertical fractures, some clay in seams, vugs. RQD = 20.6%		16
18						core run #2 94.0% recovery Gray shale, vertical fractures 18.5-19.0' bgs, 90% natural horizontal fractures, diagonal fracture 23.0-23.5' bgs, clay in seams, Fe staining on fractures. RQD = 15.1%		18
20						core run #3 80.0% recovery Dark gray vugged shale 23.5-24.8' bgs. Green shale 24.8-28.0' bgs, natural horizontal fractures, some diagonal and vertical fractures, Fe staining on fractures.		20
22								22
24								24
26								26
28								28
End Boring								

Monitoring Well: IW1-2
TOC Elevation: 422.10



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NOTES:
bgs - below ground surface
RQD - rock quality designation (%)

LOG OF BORING IW1-2

(Page 1 of 1)



Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

Depth of Boring : 30.1-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer :
Sampling Method : 5' core barrel
Logged By : JLK
Surveyed By : Bryant Associates, P.C.

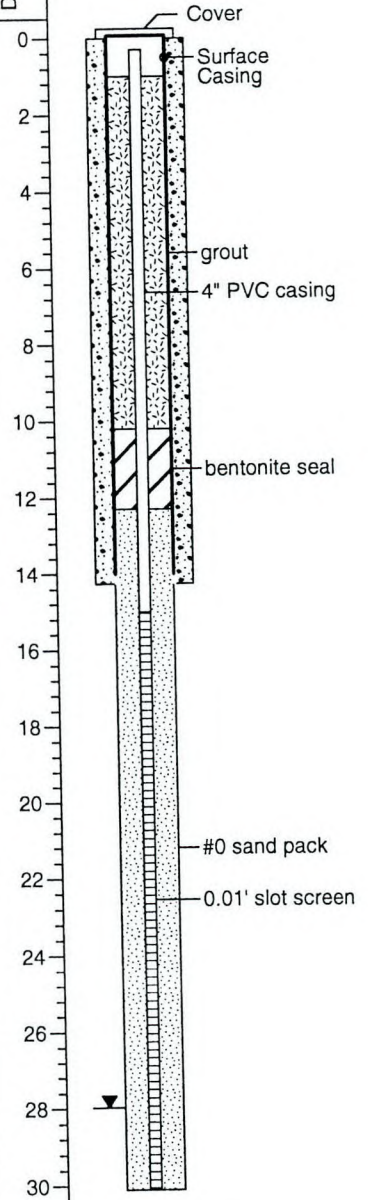
LOG OF BORING IW1-3

(Page 1 of 1)

Date Started : 9-16-09
Time : 8:00 AM
Date Completed : 9-16-09
Time : 5:00 PM
Weather : 66F Mostly Sunny
Boring Location : AOC-1, W of BR09-36

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level		DESCRIPTION	PID Reading	Depth in Feet (bgs)
				▼ After Completion	▽ During Drilling			
0						No soil samples taken here due to close proximity to other wells. See well BR09-36 for soil description.		0
2								2
4								4
6								6
8								8
10								10
12								12
14						auger refusal at 14.0'		14
16						Bedrock		16
18						core run #1 80.0% recovery Gray shale, natural horizontal breaks, vugs, some clay in seams. RQD = 16.5%		18
20						core run #2 94.0% recovery Gray shale, 75% natural horizontal fractures, clay in seams, losing water to the formation. RQD = 42.5%		20
22						core run #3 90.0% recovery Dark gray vugged shale 24.2-26.2' bgs, natural horizontal fractures. Gray-green shale 26.2-26.6' bgs, natural horizontal fractures to 29.2' bgs, diagonal fracture at 27.0' bgs, and some vertical fractures. RQD = 39.8%		22
24								24
26								26
28								28
30						End Boring		30

Monitoring Well: IW1-3
TOC Elevation: 424.84



NOTES:
bgs - below ground surface
RQD - rock quality designation (%)

LOG OF BORING IW1-3

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01-27-2010 J:\PROJECTS\N-xxxx\N000\N0911 - Pass & Seymour Remediation\ISCO\Boring Logs\IW1-3.bor



Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

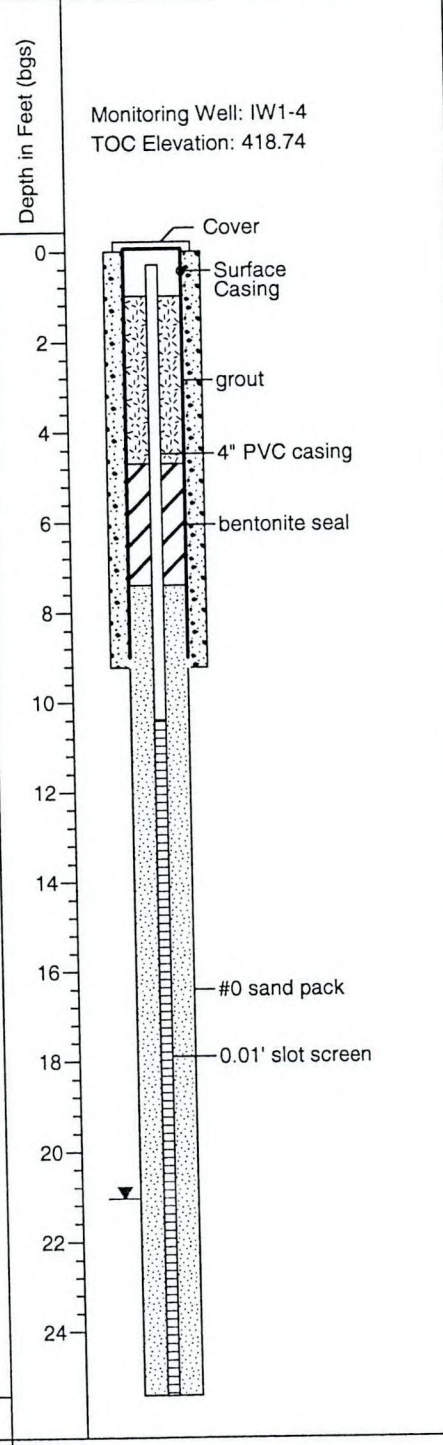
Depth of Boring : 25.4-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer :
Sampling Method : 5' core barrel
Logged By : DSS
Surveyed By : Bryant Associates, P.C.

LOG OF BORING IW1-4

(Page 1 of 1)

Date Started : 9-15-09
Time : 8:00 AM
Date Completed : 9-15-09
Time : 3:40 PM
Weather : 65F Overcast
Boring Location : AOC-1, NW of BR09-36

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level	DESCRIPTION	PID Reading
				▼ After Completion ▽ During Drilling		
0					No soil samples collected due to close proximity to other wells. See well BR09-37 for soil description.	
2						
4						
6						
8						
10					auger refusal at 9.0' Bedrock	
12					core run #1 92.0% recovery RQD = 27.2%	
14					core run #2 94.0% recovery RQD = 0.0%	
16						
18						
20					core run #3 82.0% recovery RQD = 34.9%	
22					Formation took all drilling fluids near bottom of third run.	
24						
End Boring						



NOTES:
bgs - below ground surface
RQD - rock quality designation (%)

LOG OF BORING IW1-4

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Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

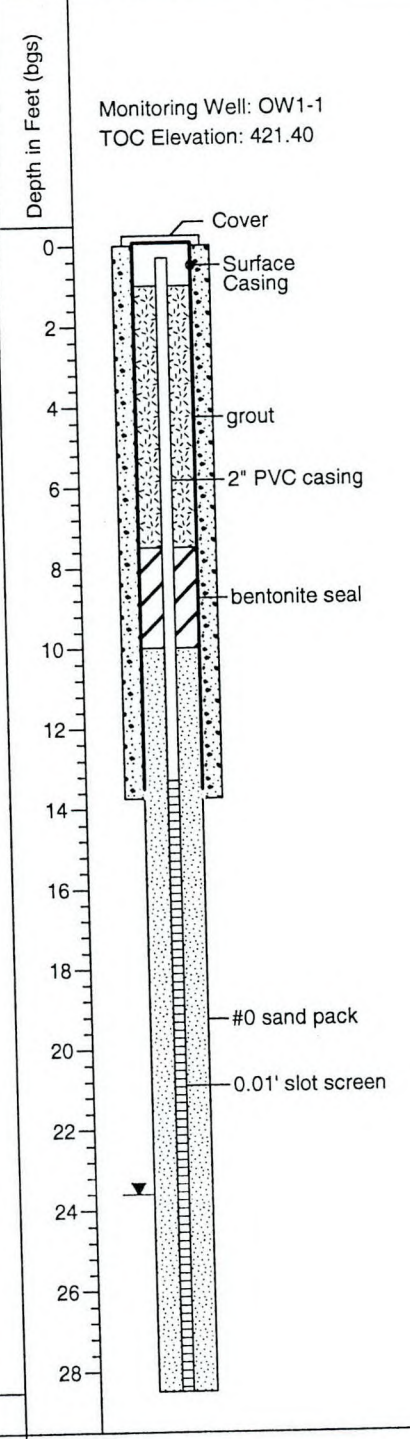
Depth of Boring : 28.5-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer :
Sampling Method : 5' core barrel
Logged By : JLK
Surveyed By : Bryant Associates, P.C.

LOG OF BORING OW1-1

(Page 1 of 1)

Date Started : 9-18-09
Time : 9:00 AM
Date Completed : 9-18-09
Time : 1:20 PM
Weather : 66F Showers, Sun
Boring Location : AOC-1, NE of BR09-36

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level		DESCRIPTION	PID Reading
				▼ After Completion	▽ During Drilling		
0						No soil samples collected due to close proximity to other wells. See well BR09-36 for soil description.	
2							
4							
6							
8							
10							
12							
14						auger refusal at 13.5'	
16						Bedrock core run #1 100.0% recovery Gray shale, very weathered, natural horizontal fractures, vugs. RQD = 0.0% Only cored for 1.3'	
18						core run #2 84.0% recovery Gray weathered shale, vugs, natural horizontal fractures, short vertical fractures at 14.5-15.3' bgs. RQD = 21.0%	
20						core run #3 98.0% recovery Gray shale from 19.5-23' bgs, vugs, 60% natural horizontal fractures. Gray-green shale from 23-24.5' bgs, vertical fractures from 24-24.5' bgs. RQD = 28.4%	
22						core run #4 78.0% recovery Gray-green shale with gypsum veins. RQD = 58.5%	
24							
26							
28						End Boring	



NOTES:
bgs - below ground surface
RQD - rock quality designation (%)

LOG OF BORING OW1-1

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REDEVELOPMENT

Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

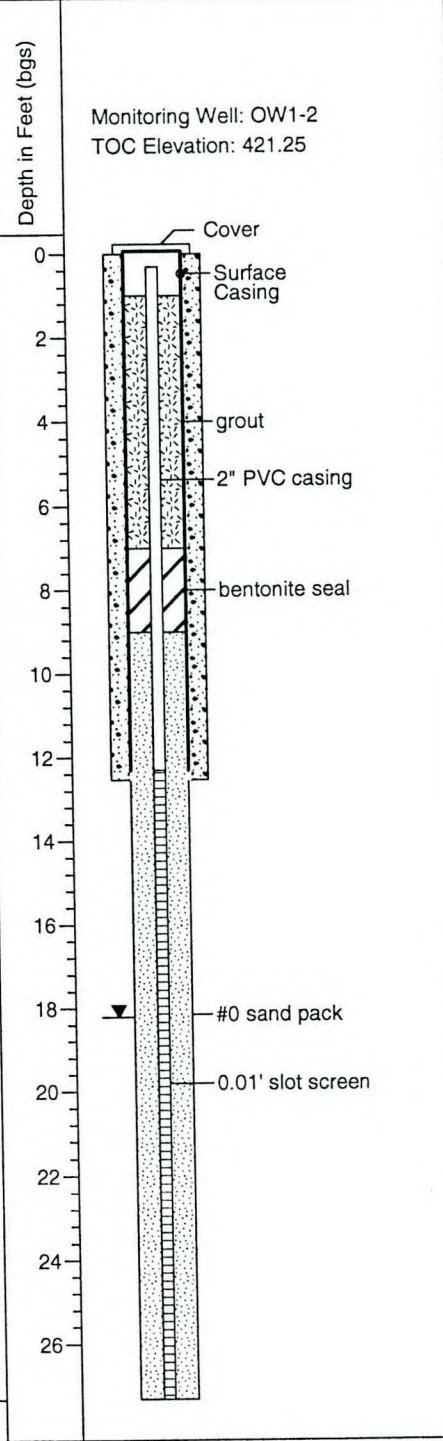
Depth of Boring : 27.3-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer :
Sampling Method : 5' core barrel
Logged By : JLK
Surveyed By : Bryant Associates, P.C.

LOG OF BORING OW1-2

(Page 1 of 1)

Date Started : 9-17-09
Time : 9:05 AM
Date Completed : 9-17-09
Time : 3:00 PM
Weather : 68F Sunny
Boring Location : AOC-1, NW of BR09-36

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level	DESCRIPTION	PID Reading
				▼ After Completion ▽ During Drilling		
0					No soil samples collected due to close proximity to other wells. See well BR09-36 for soil description.	
2						
4						
6						
8						
10						
12					auger refusal at 12.0'	
14					Bedrock core run #1 40.0% recovery Dark gray shale, natural horizontal fractures. RQD = 60.0% Only ran 2.0'.	
16					core run #2 84.0% recovery Gray shale, vugs, natural horizontal fractures. RQD = 11.7%	
18						
20					core run #3 96.0% recovery Gray shale from 19.3-21.3' bgs. Dark gray to gray-green shale from 21.3-23.3' bgs, natural horizontal fractures, vertical fractures from 21.0-21.3' bgs, vugs, clay seams. RQD = 30.8%	
22						
24					core run #4 62.0% recovery Gray-green shale, 50% natural horizontal and diagonal fractures, gypsum seams. RQD = 61.3%	
26						
End Boring						



NOTES:
bgs - below ground surface
RQD - rock quality designation (%)

LOG OF BORING OW1-2

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REDEVELOPMENT

Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

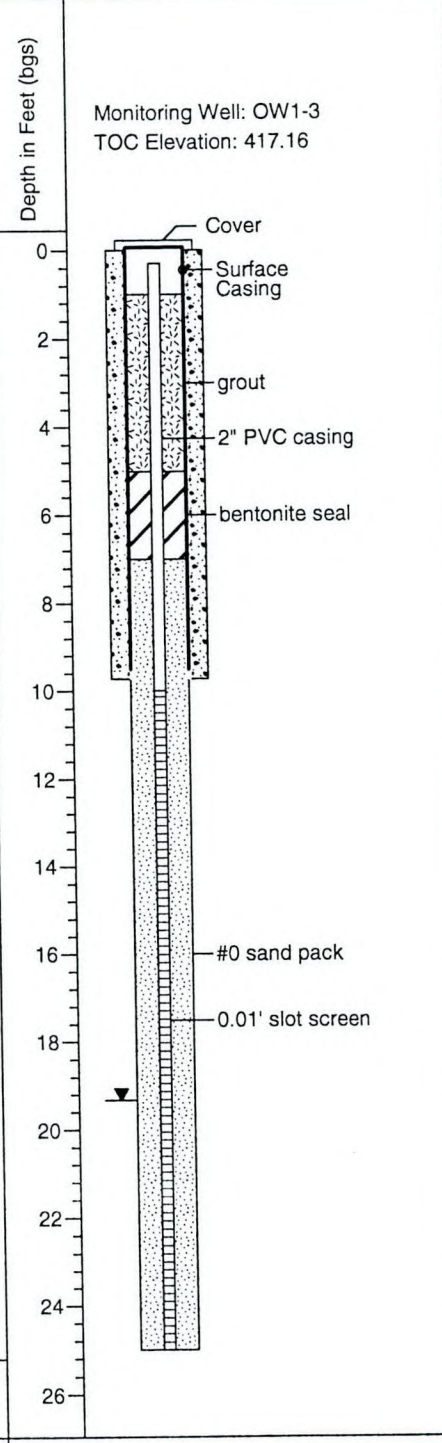
Depth of Boring : 25.0-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer :
Sampling Method : 5' core barrel
Logged By : JLK
Surveyed By : Bryant Associates, P.C.

LOG OF BORING OW1-3

(Page 1 of 1)

Date Started : 9-11-09
Time : 7:30 AM
Date Completed : 9-11-09
Time : 11:34 AM
Weather : 49F Partly cloudy
Boring Location : AOC-1, NW of BR09-37

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level	DESCRIPTION	PID Reading
				<input type="checkbox"/> After Completion <input type="checkbox"/> During Drilling		
0					Soil not sampled due to close proximity to other wells. See boring log BR09-37 for a description.	
10					Bedrock core run #1 84.0% recovery Shale, natural horizontal breaks, some clay seams at 10.0-14.0' bgs. RQD = 13.1%	
14					core run #2 94.0% recovery Soft, vuggy 17.0-18.0' bgs, some clay seams. RQD = 0.0%	
20					core run #3 40.0% recovery Green shale with vertical fractures, weathered at 19.75-20.5' bgs, rubble to 23.0' bgs, clay in bottom of barrel. RQD = 0.0%	
24					core run #4 100.0% recovery Gray shale with natural horizontal breaks, gypsum seams in bottom 2", lots of seams in bottom 1' RQD = 65.9%	
25					core only ran for 2.2'	
26					End Boring	



NOTES:
bgs - below ground surface
RQD - rock quality designation (%)

LOG OF BORING OW1-3

(Page 1 of 1)

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REDEVELOPMENT

Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

Depth of Boring : 28.5-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer :
Sampling Method : 5' core barrel
Logged By : DPO
Surveyed By : Bryant Associates

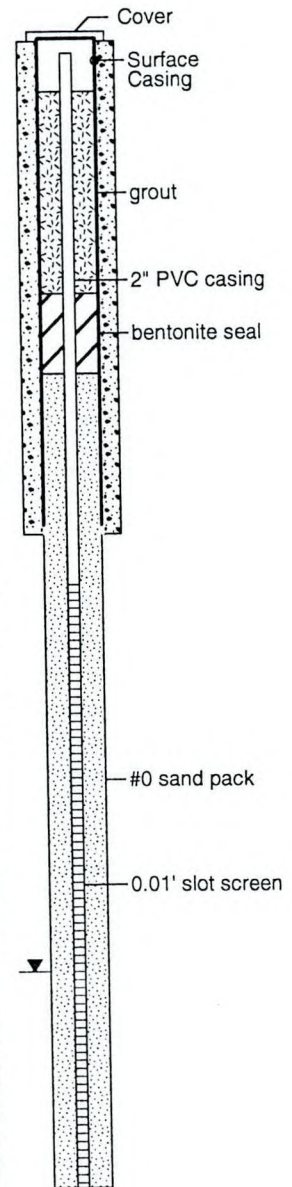
LOG OF BORING OW1-4

(Page 1 of 1)

Date Started : 9-10-09
Time : 8:20 AM
Date Completed : 9-10-09
Time : 3:00 PM
Weather : 60F Mostly Sunny
Boring Location : AOC-1, N of BR09-38

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level	DESCRIPTION	PID Reading	Depth in Feet (bgs)
				▼ After Completion ▽ During Drilling			
0					Dark brown to black SILTY SAND and GRAVEL fill, brick fragments and concrete.		0
2							2
4							4
6					Moist, brown SILT with CLAY, some GRAVEL and SAND		6
8							8
10							10
12					auger refusal at 12.0'		12
14					Bedrock core run #1 80.0% recovery Green-gray shale, natural horizontal fractures. RQD = 0.0% Only ran 1.5'		14
16					core run #2 90.0% recovery SAA.		16
18							18
20					core run #3 92.0% recovery Green-gray shale, highly fractured from 20.0-20.5' bgs. RQD = 45.0%		20
22							22
24					core run #4 88.0% recovery Highly fractured from 23.5-25.5' bgs. Competent from 25.5-28.5' bgs. RQD = 56%		24
26							26
28							28
End Boring							

Monitoring Well: OW1-4
TOC Elevation: 419.90



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NOTES:
bgs - below ground surface
RQD - rock quality designation (%)

LOG OF BORING OW1-4

(Page 1 of 1)



Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

Depth of Boring : 24-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA + Mud Rotary
Hydraulic Hammer : 140-30
Sampling Method : 5-ft core barrel
Logged By : JLK
Surveyed By : Bryant Associates, P.C.

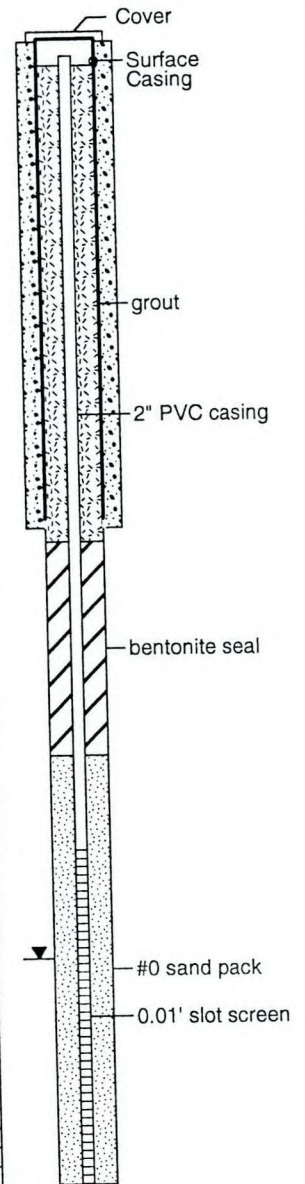
LOG OF BORING OW30-A

(Page 1 of 1)

Date Started : 6-11-09
Time : 7:40 AM
Date Completed : 6-11-09
Time : 11:00 AM
Weather : 60F cloudy
Boring Location : AOC-1, 10 ft N of BR07-30

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level		DESCRIPTION	PID Reading	Depth in Feet (bgs)
				▼ After Completion	▽ During Drilling			
0						Overburden not sampled. See OW30-B or BR07-30 Boring Logs.		0
2								2
4								4
6								6
8								8
10						bedrock		10
12	9.3 - 14.3		50			core run #1 84% recovery Gray shale. Horizontal fractures. Karst pockets scattered throughout, many in upper 1 foot. RQD = 30.5%		12
14								14
16	14.3 - 19.3		50			core run #2 84% recovery Gray shale. Horizontal fractures. Vertical fractures 18.3-19.3 feet. Few karst pockets.		16
18								18
20								20
22	19.3 - 24.3		46			core run #3 76% recovery Gray shale. Horizontal fractures. Vertical fractures 20-21 feet. Trace karst pockets. RQD = 9.2%		22
24						End Boring		24

Monitoring Well: OW30-A
TOC Elevation: 418.70



NOTES:
bgs - below ground surface
NR - no recovery

LOG OF BORING OW30-A

(Page 1 of 1)



REDEVELOPMENT

Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

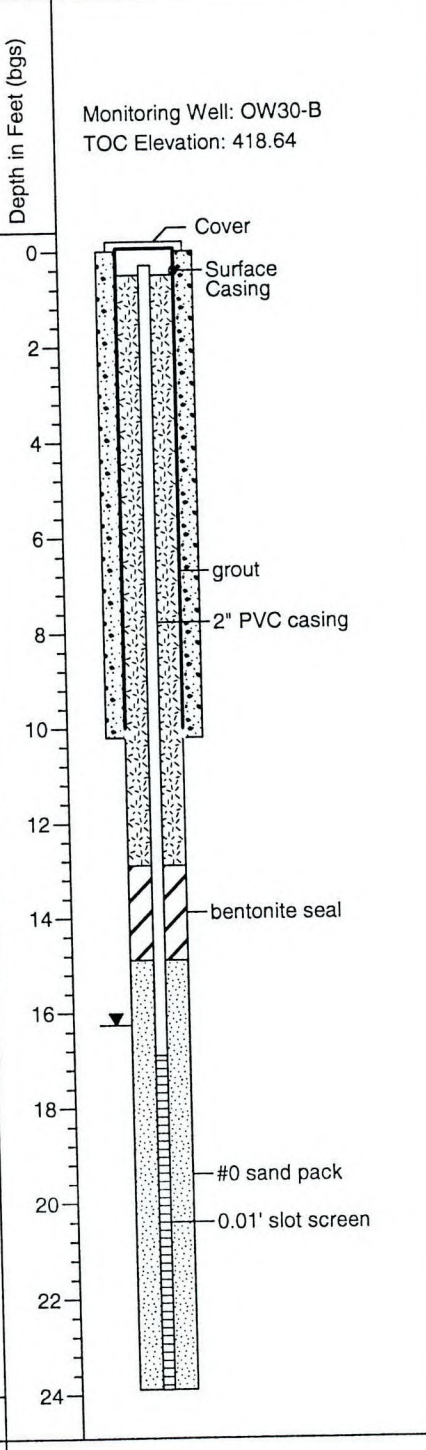
Depth of Boring : 23.9-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer : 140-30
Sampling Method : 2" split spoon/ 5' core barrel
Logged By : JLK
Surveyed By : Bryant Associates, P.C.

LOG OF BORING OW30-B

(Page 1 of 1)

Date Started : 6-10-09
Time : 12:15 PM
Date Completed : 6-10-09
Time : 4:30 PM
Weather : 70F p-sunny
Boring Location : AOC-1, 20 ft N of BR07-30

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level	DESCRIPTION	PID Reading	
				▼ After Completion ▽ During Drilling			
0					Fill, black cinders, brick, and silt/clay		
2	1 - 3		12		dry, hard, brown/red CLAY, trace gravel	13.8	
4	3 - 5		16		moist, soft-medium stiff, brown/red CLAY, trace gravel	9.1	
6	5 - 7		18		dry, soft, powdery gray/green weathered shale	3.6	
8					bedrock		
12	9 - 14		46		core run #1 76% recovery Gray shale with natural horizontal fractures. Vertical fractures 13-14 feet. RQD = 20%		
16	14 - 19		53		core run #2 88% recovery Gray shale. Vertical fractures at 16.5 and 18 feet. clay in natural breaks. RQD = 18.4%	4.8	
22	19 - 24		42		core run #3 70% recovery Gray shale. Horizontal fractures. Karst pockets in upper foot. RQD = 11.7%		
24	End Boring						



NOTES:
bgs - below ground surface
NR - no recovery

LOG OF BORING OW30-B

(Page 1 of 1)



REDEVELOPMENT

Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

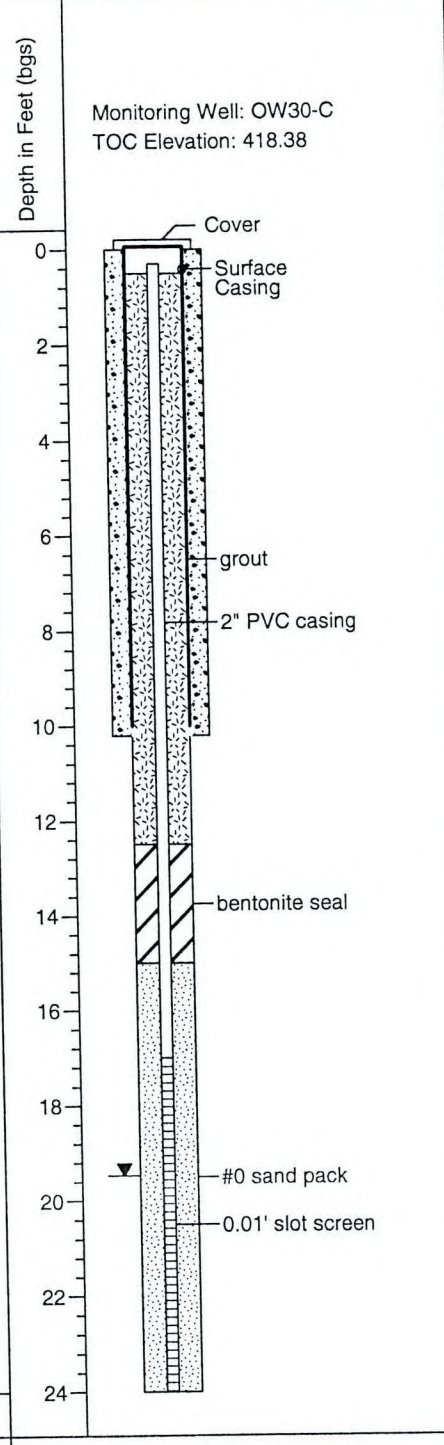
Depth of Boring : 24-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA + Mud Rotary
Hydraulic Hammer : 140-30
Sampling Method : 5-ft core barrel
Logged By : JLK
Surveyed By : Bryant Associates, P.C.

LOG OF BORING OW30-C

(Page 1 of 1)

Date Started : 6-9-09
Time : 3:30 PM
Date Completed : 6-10-09
Time : 10:30 AM
Weather : 60F
Boring Location : AOC-1, 10 ft E of BR07-30

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level		DESCRIPTION	PID Reading
				▼ After Completion	▽ During Drilling		
0						Overburden not sampled. See OW30-D or BR07-30 Boring Logs.	
2							
4							
6							
8						bedrock	
10							
12	9 - 14		42			core run #1 70% recovery Gray shale. Top 4 inches poc-marked. Vertical fractures 10-11 feet. RQD = 37.7%	
14							
16	14 - 19		55			core run #2 92% recovery Gray shale. Vertical fractures 17-18 feet. 18-19 feet poc-marked. clay in some seams. RQD = 15.4%	4.8
18							
20							
22	19 - 24		46			core run #3 76% recovery Gray shale. Vertical fractures 23-24 feet. RQD = 47.6%	
24						End Boring	



NOTES:
bgs - below ground surface
NR - no recovery

LOG OF BORING OW30-C

(Page 1 of 1)



Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

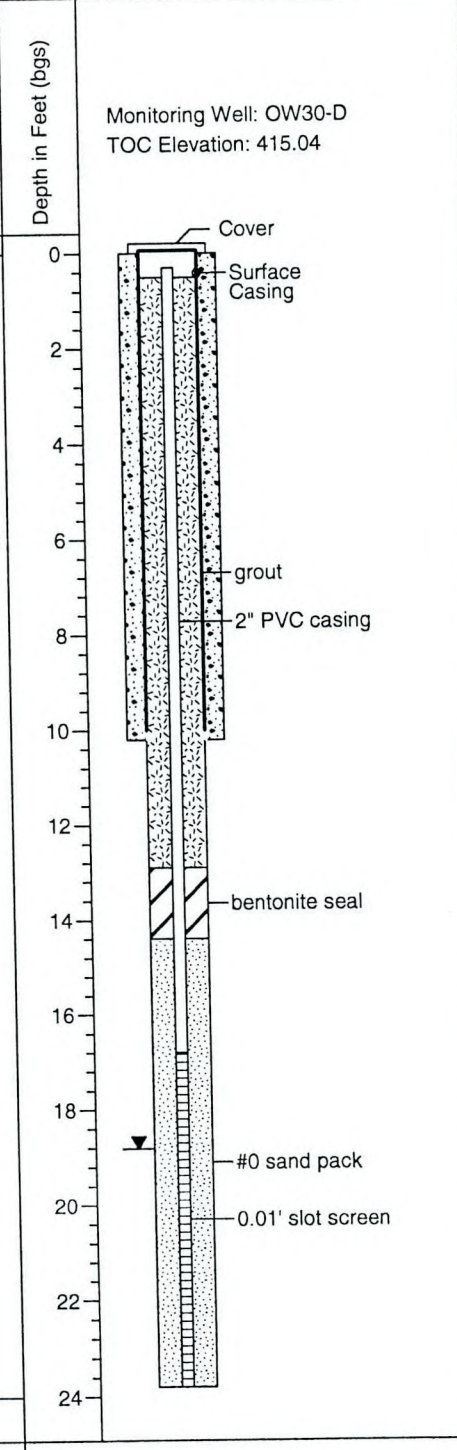
Depth of Boring : 23.8-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer : 140-30
Sampling Method : 2" split spoon/5' core barrel
Logged By : JLK
Surveyed By : Bryant Associates, P.C.

LOG OF BORING OW30-D

(Page 1 of 1)

Date Started : 6-9-09
Time : 9:20 AM
Date Completed : 6-9-09
Time : 3:15 PM
Weather : 60F
Boring Location : AOC-1, 20 ft E of BR07-30

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level	DESCRIPTION	PID Reading	
				▼ After Completion ▽ During Drilling			
0					Asphalt		
2	1 - 3	4	11		asphalt and brick dry, stiff, brown/red CLAY	44.2	
4	3 - 5	6	9		dry, stiff-hard, brown/red CLAY, little f-gravel. Bone and porcelain in cuttings.	447	
6	5 - 7	10	22		dry, soft, gray/green weathered shale	1220	
8	7 - 9	14	12		bedrock	104	
12	9 - 14	10	43		core run #1 72% recovery Gray weathered shale. Rust-stained vertical fractures and poc marks.		
16	14 - 19	8	53		core run #2 88% recovery Same material as above, few vertical fractures and poc marks at 18-19 feet.		
22	19 - 24	21	43		core run #3 72% recovery Gray shale, weathered fractures, top 9 inches poc-marked. Gypsum inclusions in bottom 10 inches.		
24	End Boring						



NOTES:
bgs - below ground surface
NR - no recovery

LOG OF BORING OW30-D

(Page 1 of 1)



REDEVELOPMENT

Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

Depth of Boring : 26.5-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer : 140-30
Sampling Method : 2" split spoon
Logged By : IEM
Surveyed By : Bryant Associates, P.C.

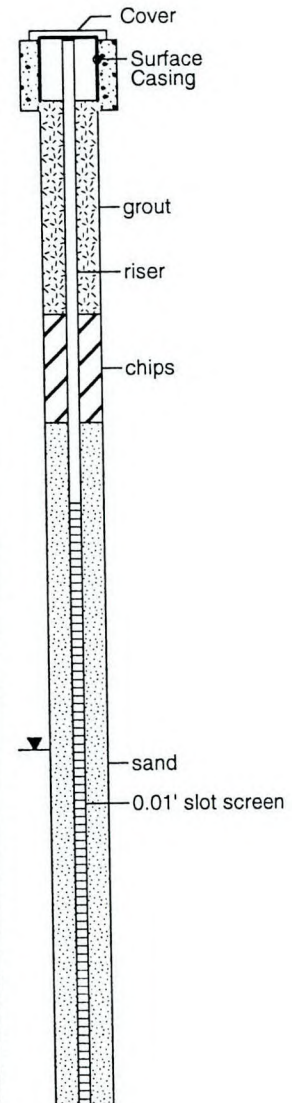
LOG OF BORING OB09-34

(Page 1 of 1)

Date Started : 10-16-09
Time : 9:50 AM
Date Completed : 10-16-09
Time : 12:10 PM
Weather : 34F Partly Sunny
Boring Location : AOC-2, Next to Boyd Ave

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level	DESCRIPTION	PID Reading	Depth in Feet (bgs)
				▼ After Completion ▽ During Drilling			
0					9" Top soil, organics	0.9	0
0 - 2		11			2" Fill, black, Brick fragments		2
2					Top 5' moist, brown Fill transitioning to TILL near bottom		4
4							6
5 - 7		18			2" Fill transitioning to TILL	1.2	8
6					16" red, hard, dry CLAYEY SILT, some GRAVEL		10
8							12
10 - 12		19			13" red, hard, dry CLAYEY SILT, some GRAVEL	1.2	14
10					6" weathered, grey, layered, dry, loose, SHALE, mottled		16
12					Spoons coming up with SHALE bedrock, auger still able to move downward, grey rock fragments coming up		18
14							20
15 - 17		5			weathered, grey SHALE, some dry, soft, COBBLES	1.3	22
16					grey, dry & crumbly, rock fragments		24
18					hard, moist, grey rock fragments		26
20					NO RECORD	N/A	28
20 - 22		0.0					
22					grey-brown, cuttings dense and compact, water table		
24							
25 - 27		7			weathered, wet, layered, grey SHALE	N/A	
26					Auger refusal at 26.5'		
28					2" split-spoon refusal		
					End Boring		

Monitoring Well: OB09-34
TOC Elevation: 417.41



01-27-2010 J:\PROJECTS\N-xxxx\N9000\N0911 - Pass & Seymour Remediation\ISCO\Boring_Logs\OB09-34.bor

NOTES:
bgs - below ground surface

LOG OF BORING OB09-34

(Page 1 of 1)



REDEVELOPMENT

Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

Depth of Boring : 26.0-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer : 140-30
Sampling Method : 2" split spoon
Logged By : IEM
Surveyed By : Bryant Associates, P.C.

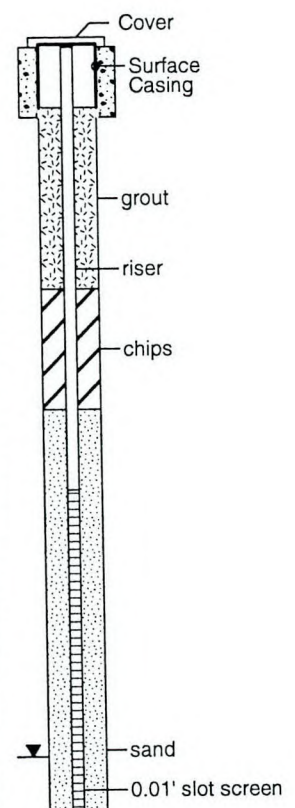
LOG OF BORING OB09-35

(Page 1 of 1)

Date Started : 10-14-09
Time : 8:00 AM
Date Completed : 10-15-09
Time : 3:30 PM
Weather : 37F Partly cloudy
Boring Location : AOC-2, 50 ft S of MW05-25

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level		DESCRIPTION	PID Reading	Depth in Feet (bgs)
				▼ After Completion	▽ During Drilling			
0						Asphalt, some brick fragments at 6" bgs Moved well 10' to the South due to augers hitting something and not being able to drill through		0
2						brown till with dry gravel at 4' bgs		2
4						red, hard, dry till, some GRAVEL, mottled	0.6	4
6	5 - 7	8 18 20 18	18					6
8								8
10						3" red, hard TILL, some GRAVEL 3-4" rock fills spoon	1.0	10
12	10 - 12	16 18 26 28	16			12" red, stiff, dry, mottled TILL, some GRAVEL, some CLAYEY SILT	N/A	12
14	12 - 12.5	50/0.0	6					14
16						4" red TILL SAA 2" Rock fragments btm 1/4" lightly weathered, grey SHALE	0.2	16
18	15 - 17	50/0.5	6					18
20						very broken up grey, wet SHALE, some clay seams grey cuttings	N/A	20
22	20 - 22	50/0.3	3					22
24								24
26	25 - 27	50/0.2	3			SAA, gypsum vein in bottom 1/4"	N/A	26
28						auger refusal at 26.0' End Boring		28

Monitoring Well: OB09-35
TOC Elevation: 419.71



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NOTES:
bgs - below ground surface
RQD - rock quality designation (%)

LOG OF BORING OB09-35

(Page 1 of 1)



REDEVELOPMENT

Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

Depth of Boring : 37.0-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer : 140-30
Sampling Method : 2" split spoon
Logged By : IEM
Surveyed By : Bryant Associates, P.C.

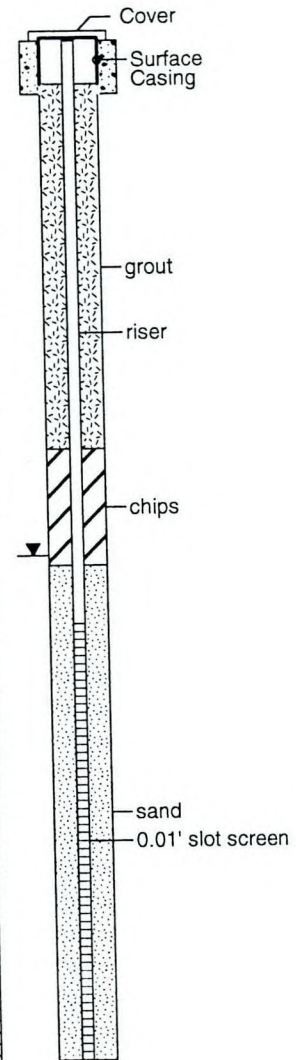
LOG OF BORING OB09-36

(Page 1 of 1)

Date Started : 10-15-09
Time : 8:45 AM
Date Completed : 10-15-09
Time : 11:00 AM
Weather : 32F Mostly cloudy
Boring Location : N corner of AOC-2

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level		DESCRIPTION	PID Reading	Depth in Feet (bgs)
				▼ After Completion	▽ During Drilling			
0						black, brown, Fill with brick fragments, broken insulators, first 5'		0
5 - 7	5/0.4	5	7			SAA, soft red, CLAYEY SILT, some GRAVEL, coarse, moist, SAND	0.9	4
10 - 12	50/0.4	4	4				0.6	8
15 - 17	32/0.4	5	5			red CLAYEY SILT, some stiff, dry, GRAVEL	0.7	12
20 - 22	24/0.4	11	11			water level reached first 3" - red CLAYEY SILT, some stiff, dry, GRAVEL next 8" - brown, CLAYEY SILT, highly weathered, stiff, dry, SHALE	1.5	16
25 - 27	40/0.2	13	13			tan, moist, CLAYEY SILT, with rock fragments first 6" - soft, wet, tan CLAY and weathered SHALE next 7" - hard, grey, SHALE, some CLAY	1.6	20
30 - 32	16/0.6	19	19			highly weathered, grey, SHALE, some stiff, wet, layered CLAY	0.8	24
35 - 37	50/0.0	3	3			highly weathered, grey, SHALE, some stiff, wet, layered CLAY	N/A	28
						Auger refusal at 35'		32
						2" split-spoon refusal		36
						End Boring		40

Monitoring Well: OB09-36
TOC Elevation: 414.84



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NOTES:
bgs - below ground surface
RQD - rock quality designation (%)

LOG OF BORING OB09-36

(Page 1 of 1)



REDEVELOPMENT

Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N0911

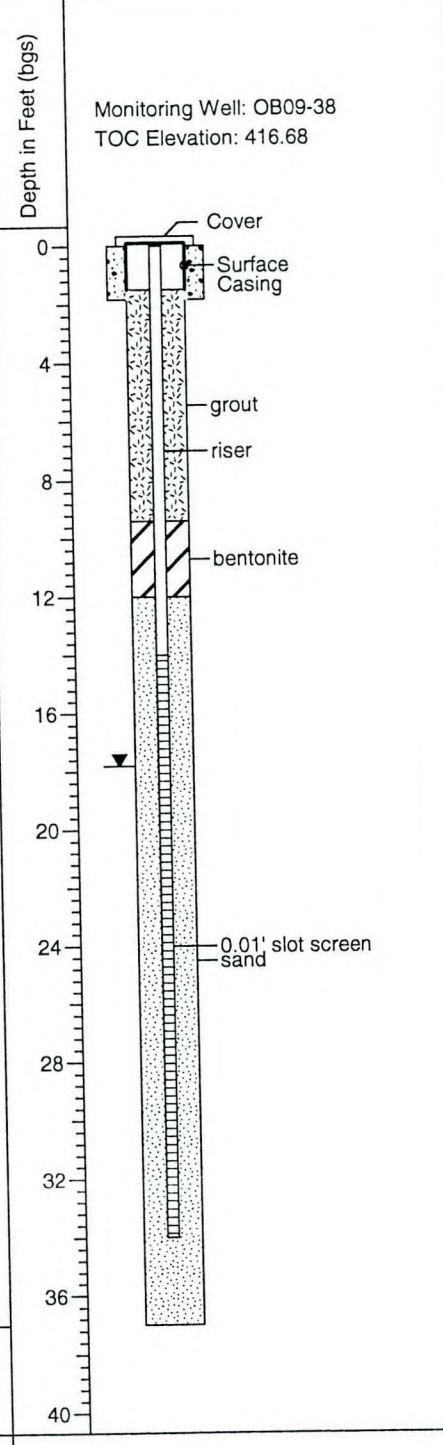
Depth of Boring : 37.0-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : IR 300
Driller : Ian
Drilling Method : HSA
Hydraulic Hammer : 140-30
Sampling Method : 2" split spoon
Logged By : SGS
Surveyed By : Bryant Associates, P.C.

LOG OF BORING OB09-38

(Page 1 of 1)

Date Started : 12-21-09
Time : 8:45 AM
Date Completed : 12-21-09
Time : 3:30 PM
Weather : 22F Snowing, Snow Cover
Boring Location : AOC-2, E of OB09-37

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level		DESCRIPTION	PID Reading
				▼ After Completion	▽ During Drilling		
0	0 - 2	4-5/0.0	16			No soil samples taken.	0.4
4	5 - 7	2-4/4.4	14				0.5
8	10 - 12	8-7/12	17				0.4
12	15 - 17	15-15/17	24				0.4
16	20 - 22	23-25/44	24				0.5
20	25 - 27	50/3	6				0.4
24	30 - 32	18-17/15	24				0.3
36	35 - 37	50/0.0	2				N/A
				Auger refusal at 37.1'			
				2" split-spoon refusal			
				End Boring			



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NOTES:
bgs - below ground surface
RQD - rock quality designation (%)

LOG OF BORING OB09-38

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REDEVELOPMENT

Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

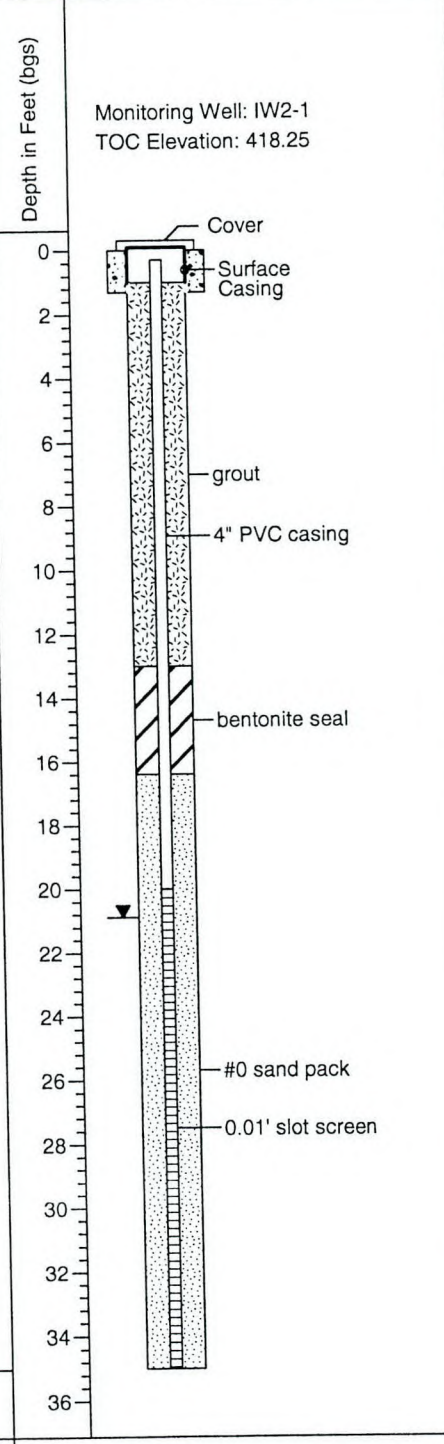
Depth of Boring : 35.0-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer :
Sampling Method :
Logged By : JLK
Surveyed By : Bryant Associates, P.C.

LOG OF BORING IW2-1

(Page 1 of 1)

Date Started : 9-8-09
Time : 8:53 AM
Date Completed : 9-8-09
Time : 3:30 PM
Weather : 64F Overcast
Boring Location : AOC-2, E of MW05-25

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level		DESCRIPTION	PID Reading
				▼ After Completion	▽ During Drilling		
0						No soil or rock samples collected due to close proximity to other wells. See boring log MW05-25 or OW2-2 for descriptions.	
2							
4							
6							
8							
10							
12							
14							
16							
18							
20							
22							
24							
26							
28							
30							
32							
34							
36						auger refusal at 35.0' End Boring	



NOTES:

bgs - below ground surface
RQD - rock quality designation (%)

LOG OF BORING IW2-1

(Page 1 of 1)

01-27-2010 J:\PROJECTS\N-xxxx\N9000\N0911 - Pass & Seymour Remediation\ISCO\Boring Logs\IW2-1 bor



REDEVELOPMENT

Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

Depth of Boring : 31.0-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer :
Sampling Method :
Logged By : DPO
Surveyed By : Bryant Associates, P.C.

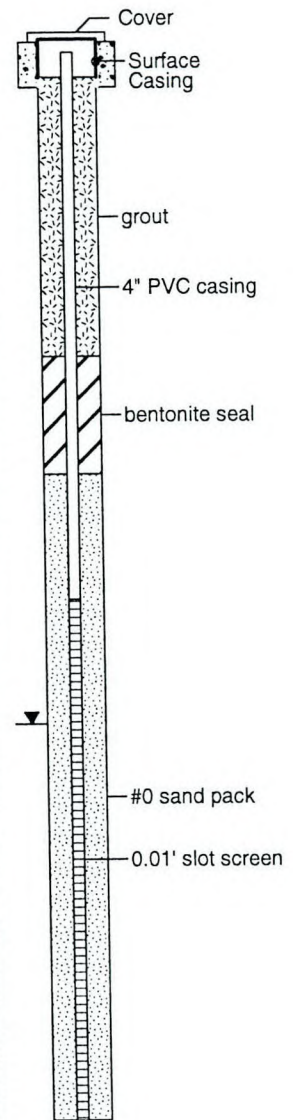
LOG OF BORING IW2-2

(Page 1 of 1)

Date Started : 9-4-09
Time : 7:10 AM
Date Completed : 9-4-09
Time : 12:30 PM
Weather : 60F Calm
Boring Location : AOC-2, SE of BR07-29

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level		DESCRIPTION	PID Reading	Depth in Feet (bgs)
				▼ After Completion	▽ During Drilling			
0						No soil sampled due to close proximity to other wells. See boring logs for BR07-29 or OW2-2 for descriptions.		0
2								2
4								4
6								6
8								8
10								10
12								12
14								14
16								16
18								18
20								20
22								22
24								24
26								26
28								28
30								30
32						Bedrock		32
						End Boring		

Monitoring Well: IW2-2
TOC Elevation: 417.11



01-27-2010 J:\PROJECTS\IN-xxxx\N9000\N0911 - Pass & Seymour Remediation\ISCO\Boring Logs\IW2-2.bor

NOTES:

bgs - below ground surface
RQD - rock quality designation (%)

LOG OF BORING IW2-2

(Page 1 of 1)



REDEVELOPMENT

Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

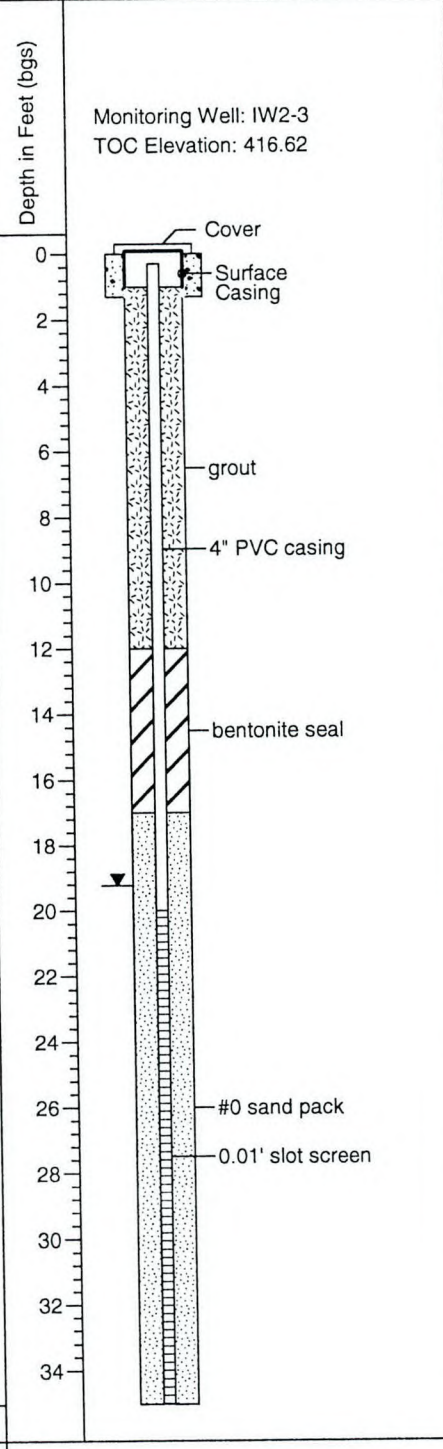
Depth of Boring : 35.0-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA/Mud Rotary
Hydraulic Hammer :
Sampling Method :
Logged By : JLK
Surveyed By : Bryant Associates, P.C.

LOG OF BORING IW2-3

(Page 1 of 1)

Date Started : 9-9-09
Time : 8:45 AM
Date Completed : 9-9-09
Time : 2:40 PM
Weather : 72F Overcast
Boring Location : AOC-2, S of BR07-29

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level	DESCRIPTION	PID Reading
				<input type="checkbox"/> After Completion <input type="checkbox"/> During Drilling		
0					No soil sampled due to close proximity to other wells. See boring log MW05-25 or OW2-2 for description.	
2						
4						
6						
8						
10						
12						
14						
16						
18					Gray-green CLAY, weathered SHALE	
20						
22						
24						
26						
28						
30						
32						
34						
End Boring						



NOTES:
bgs - below ground surface
RQD - rock quality designation (%)

LOG OF BORING IW2-3

(Page 1 of 1)

01-27-2010 J:\PROJECTS\N-xxxx\N9000\N0911 - Pass & Seymour Remediation\ISCO\Boring_Logs\IW2-3.bor



REDEVELOPMENT

Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

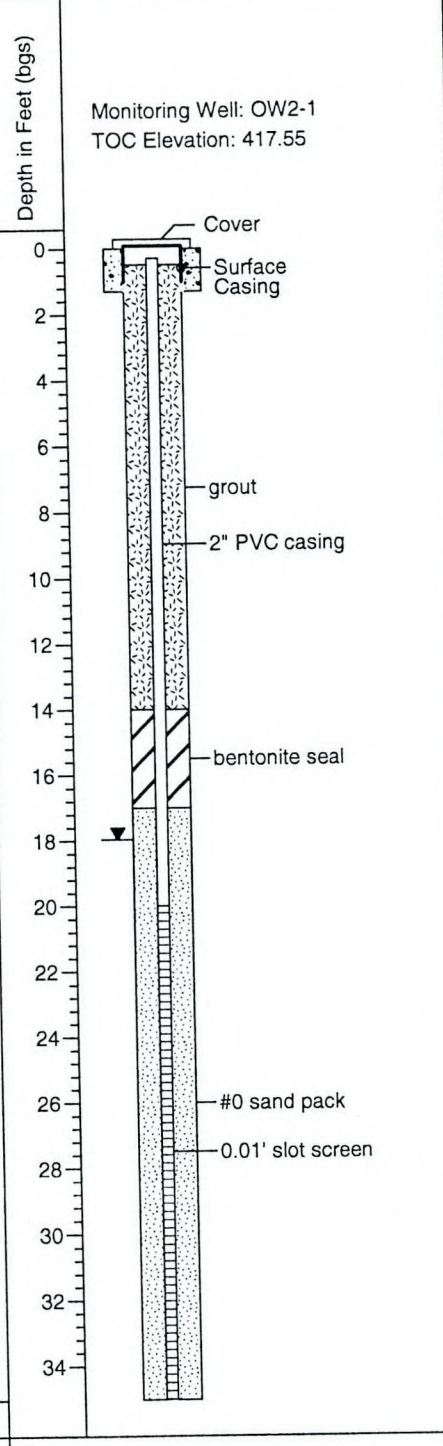
Depth of Boring : 35-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA
Hydraulic Hammer : 140-30
Sampling Method : 2" split spoon
Logged By : DSS
Surveyed By : Bryant Associates, P.C.

LOG OF BORING OW2-1

(Page 1 of 1)

Date Started : 9-3-09
Time : 8:00 AM
Date Completed : 9-3-09
Time :
Weather : Sunny
Boring Location : AOC-2, E of OW25-B

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level		DESCRIPTION	PID Reading
				▼ After Completion	▽ During Drilling		
0						Dark brown SILT and ORGANIC soil	
5 - 7	4 13 15 23	8				Dry, stiff, red-brown SILT	8.0
10 - 12	4 13 15 16	18				SAA with ROCK FRAGMENTS	0.0
15 - 17	3 8 50/0.4	12				Highly weathered SHALE	0.0
20 - 22	50/0.5	3					0.0
25 - 27	26 50/0.4	6					0.0
30 - 32	50/0.5	4				Weathered SHALE, less clay, becoming more competent	0.0
34						auger refusal at 34.0'	
End Boring							



NOTES:
bgs - below ground surface
RQD - rock quality designation (%)

LOG OF BORING OW2-1

(Page 1 of 1)

01-27-2010 J:\PROJECTS\N-xxxx\N9000\N0911 - Pass & Seymour Remediation\ISCO\Boring Logs\OW2-1.bor



Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

Depth of Boring : 35.0-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA
Hydraulic Hammer : 140-30
Sampling Method : 2" split spoon
Logged By : DPO
Surveyed By : Bryant Associates, P.C.

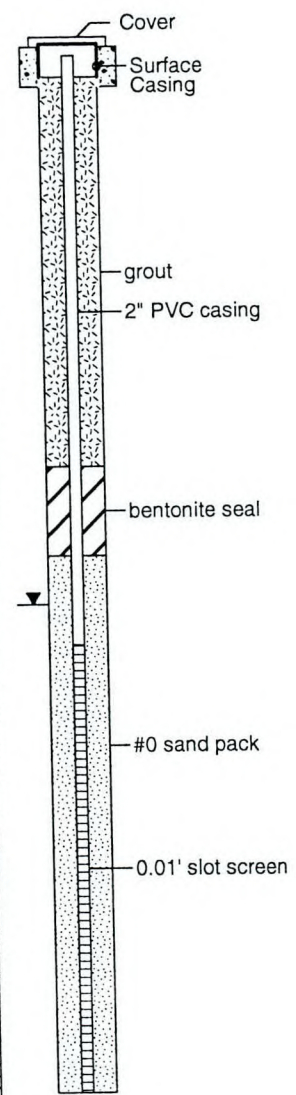
LOG OF BORING OW2-2

(Page 1 of 1)

Date Started : 9-2-09
Time : 9:18 AM
Date Completed : 9-2-09
Time : 3:00 PM
Weather : 60F Sunny
Boring Location : AOC-2, E of BR07-29

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level		DESCRIPTION	PID Reading	Depth in Feet (bgs)
				▼ After Completion	▽ During Drilling			
0								0
5 - 7	W/H 1 3	18				Moist, brown, CLAY with SILT, little fine SAND, trace GRAVEL	0.0	2
10 - 12	23 23	12				SAA with angular ROCK FRAGMENTS	0.0	4
15 - 17	18 50/3	6				SAA, harder	0.0	6
20 - 22	7 23 23	18				Moist, hard, gray CLAY with SILT, trace of ROCK FRAGMENTS	0.0	8
25 - 27	50/4	0				SAA, wet, 2" split-spoon refusal at 25.3'	N/A	10
30 - 32	6 17 7 11	6				Wet, gray, weathered SHALE, angular ROCK FRAGMENTS and some CLAY auger refusal at 32.3'	0.0	12
35 - 37	50/3	0				SAA, 2" split-spoon refusal Bedrock	N/A	14
38						End Boring		16

Monitoring Well: OW2-2
TOC Elevation: 416.59



01-27-2010 J:\PROJECTS\N-xxx\N9000\0911 - Pass & Seymour Remediation\ISCO\Boring_Logs\OW2-2.bor

NOTES:
bgs - below ground surface
RQD - rock quality designation (%)

LOG OF BORING OW2-2

(Page 1 of 1)



Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

Depth of Boring : 32-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA
Hydraulic Hammer : N/A
Sampling Method : N/A
Logged By : JLK
Surveyed By : Bryant Associates, P.C.

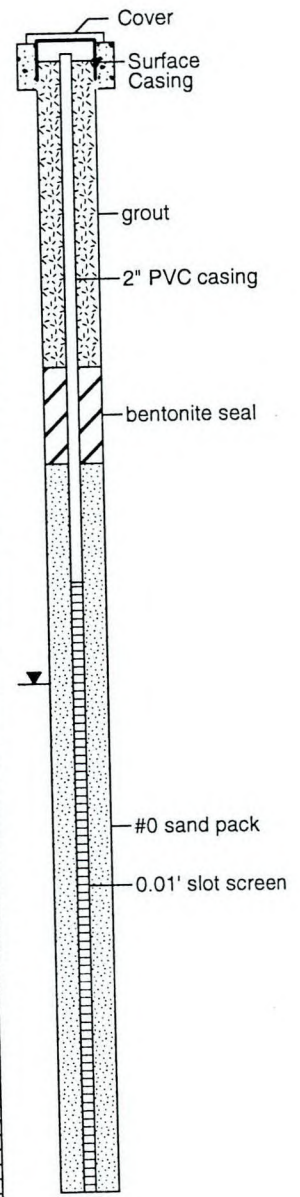
LOG OF BORING OW25-A

(Page 1 of 1)

Date Started : 6-10-09
Time : 8:00 AM
Date Completed : 6-10-09
Time :
Weather : 60F Sunny
Boring Location : AOC-2, 10 ft N of MW05-25

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level		DESCRIPTION	PID Reading	Depth in Feet (bgs)
				▼ After Completion	▽ During Drilling			
0						Overburden not sampled. See MW05-25 boring log.		0
2								2
4								4
6								6
8								8
10								10
12								12
14								14
16								16
18								18
20								20
22								22
24								24
26								26
28								28
30								30
32						End Boring		32

Monitoring Well: OW25-A
TOC Elevation: 417.67



NOTES:
bgs - below ground surface
NR - no recovery

LOG OF BORING OW25-A

(Page 1 of 1)



Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

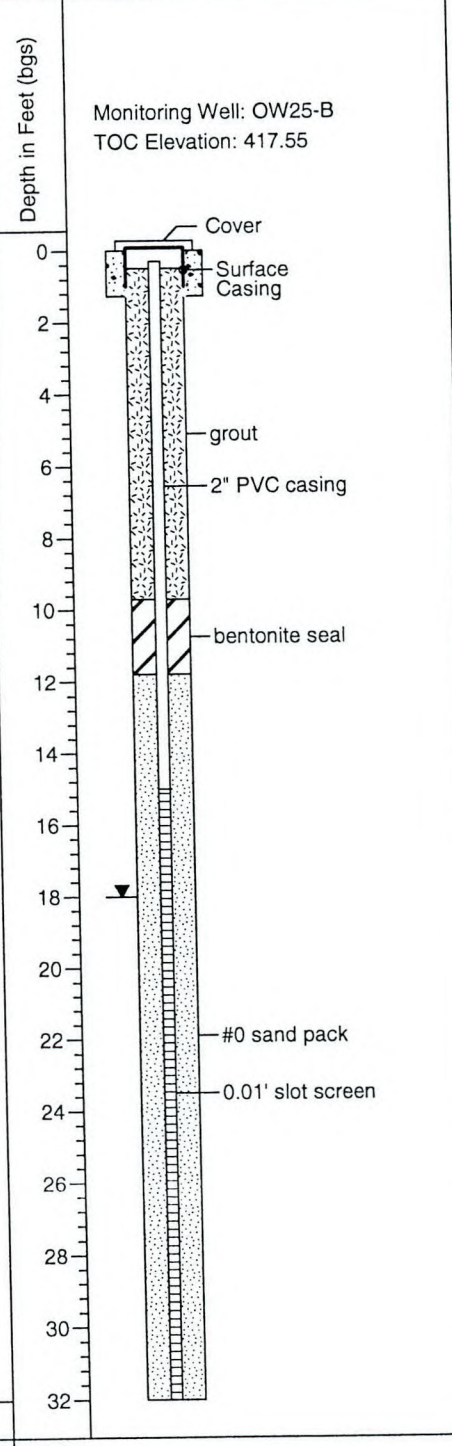
Depth of Boring : 32-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA
Hydraulic Hammer : N/A
Sampling Method : N/A
Logged By : JLK
Surveyed By : Bryant Associates, P.C.

LOG OF BORING OW25-B

(Page 1 of 1)

Date Started : 6-15-09
Time : 1:00 PM
Date Completed : 6-15-09
Time : 4:30 PM
Weather : 75F sunny
Boring Location : AOC-2, 20 ft N of MW05-25

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level	DESCRIPTION	PID Reading
				<input checked="" type="checkbox"/> After Completion <input type="checkbox"/> During Drilling		
0					Overburden not sampled. See MW05-25 boring log.	
2						
4						
6						
8						
10						
12						
14						
16						
18						
20						
22						
24						
26						
28						
30						
32					End Boring	



NOTES:
bgs - below ground surface
NR - no recovery

LOG OF BORING OW25-B

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Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

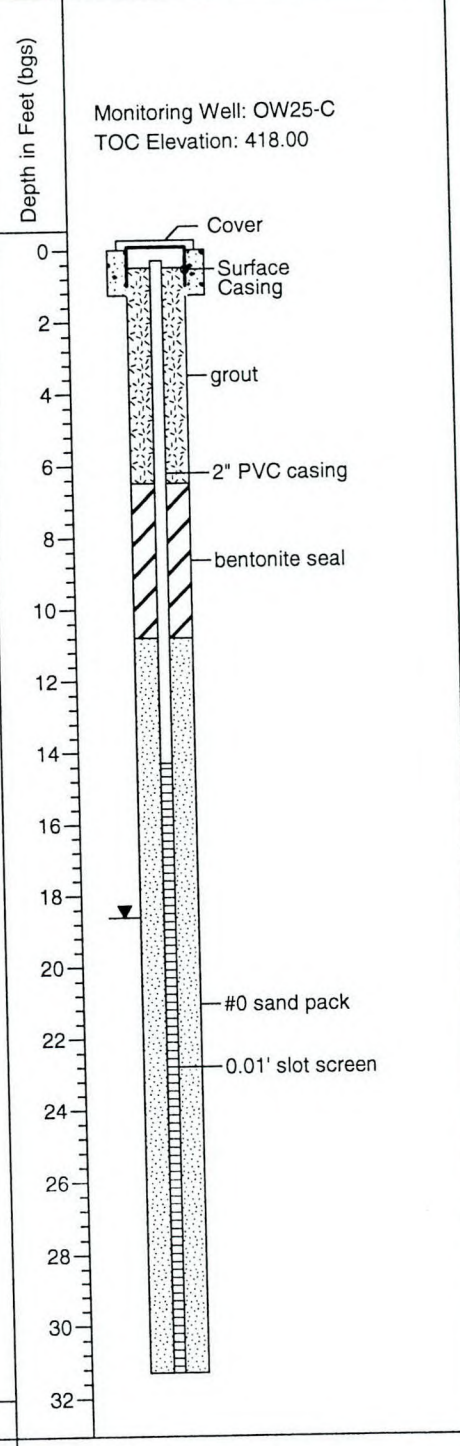
Depth of Boring : 31.3-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA
Hydraulic Hammer : 140-30
Sampling Method : 2" split spoon
Logged By : JLK
Surveyed By : Bryant Associates, P.C.

LOG OF BORING OW25-C

(Page 1 of 1)

Date Started : 6-11-09
Time : 3:45 PM
Date Completed : 6-12-09
Time : 10:00 AM
Weather : 60F overcast
Boring Location : AOC-2, 10 ft W of MW05-25

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level		DESCRIPTION	PID Reading
				▼ After Completion	▽ During Drilling		
0						Overburden not sampled. See MW05-25 boring log.	
2							
4							
6							
8							
10							
12							
14							
16							
18							
20							
22							
24							
26							
28							
30							
30 - 32	12	6	30/0.5			wet, soft, weathered shale.	
32						End Boring	



NOTES:
bgs - below ground surface
NR - no recovery

LOG OF BORING OW25-C

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Pass & Seymour
Groundwater ISCO
BCP Site No. C734102
Solvay, Onondaga County, New York

Project No. N5005.64

Depth of Boring : 32-feet bgs
Drilling Contractor : Parratt Wolff, Inc.
Drilling Rig Type : CME 75
Driller : Joe Percy
Drilling Method : HSA
Hydraulic Hammer : 140-30
Sampling Method : 2" split spoon
Logged By : JLK
Surveyed By : Bryant Associates, P.C.

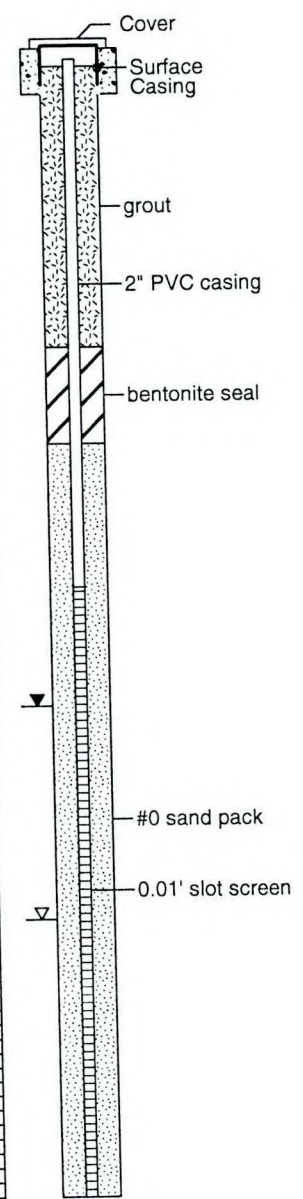
LOG OF BORING OW25-D

(Page 1 of 1)

Date Started : 6-12-09
Time : 12:30 PM
Date Completed : 6-15-09
Time : 10:30 AM
Weather : 54F rain
Boring Location : AOC-2, 20 ft W of MW05-25

Depth in Feet (bgs)	Sample Interval (Feet)	Blow Count	Recovery (Inches)	Water Level		DESCRIPTION	PID Reading	Depth in Feet (bgs)
				▼ After Completion	▽ During Drilling			
0	0 - 2	16	11			Soil and organics black cinders	0.0	0
2	2 - 4	22	12			moist-dry, soft, red CLAY, trace gravel, some mottling dry, hard, red CLAY, trace gravel. Some mottling.	0.0	2
4	4 - 6	21	16				0.0	4
6	6 - 8	20	4				0.0	6
8	8 - 10	29	15			dry, hard, red CLAY, some gravel	0.0	8
10	10 - 12	35	16				0.0	10
12	12 - 14	10	5			dry, hard, red/brown CLAY, trace gravel	186	12
14	14 - 16	18	8			dry, hard, red CLAY, some gravel	896	14
16	16 - 18	50/4	NR			Augers grinding on hard material, broke through at 17.5 feet.		16
18	18 - 20	50/0.2	5				188	18
20	20 - 22	35	10			dry, soft, olive green weathered shale	0.0	20
22	22 - 24	50/2	9				0.0	22
24	24 - 26	35	9				443	24
26	26 - 28	50/3	2			dry, crumbly shale	185	26
28	28 - 30	64	4					28
30		10				shale fragments, augers grinding at 30 feet.		30
32		50/3				End Boring		32

Monitoring Well: OW25-D
TOC Elevation: 417.58



NOTES:
bgs - below ground surface
NR - no recovery

LOG OF BORING OW25-D

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