

**APPENDIX A
ELEVATIONS
WELL CONSTRUCTION LOGS AND SOIL BORINGS/TEST PIT LOGS**

**FINAL REMEDIAL INVESTIGATION REPORT
NATIONAL GRID
ERIE BOULEVARD FORMER MGP SITE
SYRACUSE, NEW YORK**

Location ID	Elevations (feet, NAVD 88)	
	Measuring Point	Ground
MW-1S	390.82 (thru 4/25/08)	391.23 (thru 4/25/08)
	390.76 (after 4/25/08)	391.35 (after 4/25/08)
MW-1D	390.49	391.1
MW-2	391.16 (thru 4/25/08)	391.45 (thru 4/25/08)
	391.35 (after 4/25/08)	391.95 (after 4/25/08)
MW-3S	395.26	395.7
MW-3D	395.68	395.7
MW-4S	388.74	389.5
MW-4D	389.12	389.5
MW-6	400.71	398.2
MW-7S	388.22	388.4
MW-7D	387.98	388.3
MW-8S	398.06	398.4
MW-8D	398.09	398.4
MW-9D ₁	397.92	398.3
MW-9D ₂	398.10	398.5
MW-10S	394.37	394.8
MW-10D	394.49	394.8
MW-11D	394.50	392.2
MW-12D	399.24	399.6
MW-13D	399.05	397.1
MW-14D	398.27	396.4
MW-15D	398.82	399.4
MW-16D	398.80	399.3
MW-17D	387.63	388.2
MW-18D	376.31	376.7
MW-19	390.73	391.1
PZ-1	376.99	374.1
PZ-2	378.70	376.0
PZ-3	393.94	392.1

Location ID	Ground Surface Elevation (feet, NAVD 88)
SB-1	390.9
SB-2	391.8
SB-3	393.6
SB-4	388.2
SB-5	387.1
SB-7	392.3
SB-8	387.3
SB-9	391.3
SB-10	388.7
SB-11	391.1
SB-12	389.6
SB-13	388.7
SB-14	388.6
SB-15	389.4
SB-16	388.4
SB-17	387.1
SB-18	389.8
SB-19	387.6
SB-20	387.2
SB-21	389.9
WB-1	374.6
WB-2	373.9
WB-3	376.4
WB-4	374.6
WB-5	374.9
WB-6	389.0
TP-1	389.9
TP-2	389.5
TP-2A	389.2

Notes:

1. NAVD 88 = North American Vertical Datum of 1988, based on NGS Station S-34, elevation 405.340 feet.
2. Wells MW-1S and MW-2 were modified on April 25, 2008 so that the cover for each well is flush with new asphalt pavement installed in Fall 2007. Casings were extended and new curb boxes were installed. Wells were resurveyed on May 12, 2008.

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**Piezometer Construction Logs
and Soil Boring Logs**

WELL CONSTRUCTION LOG

(UNCONSOLIDATED)

Land Surface

6 inch diameter drilled hole

Well Casing
2 inch diameter, Schedule 40 PVC

☐ Backfill
☒ Grout Cement/Bentonite

 ft.* Choke Sand
 ft.*

Bentonite ☐ slurry
4 ft.* ☒ pellets

5 ft.* Choke Sand
5 ft.* Top of Screen

Well Screen
2 inch diameter
PVC .010 slot

☐ Gravel Pack
☒ Sand Pack
☐ Formation Collapse

15 ft.* Screen
 ft.* Sump
 ft.* Bentonite Seal

Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

[illegible]

Boring/Well PZ-1 Project/No. Niagara Mohawk - Erie Boulevard/AY000207.0005 Page 1 of 1

Site _____

Location Syracuse, NY Drilling _____ Drilling _____

Started 10/2/00 Completed 10/2/00

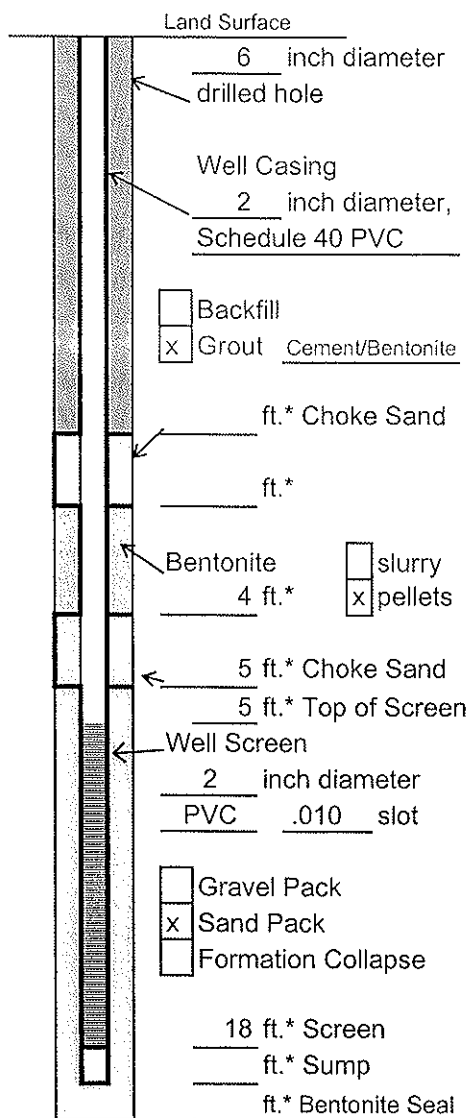
Prepared		Hammer	Hammer
By	T. McClenahan/D. DeOrazio	Weight 140 lbs.	Drop 30 ins.

(feet below land surface)	Core Recovery	Pressure or Blows per 6
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[illegible]

WELL CONSTRUCTION LOG

(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project Erie Blvd Site PSA/IRM Well PZ-2

Town/City Syracuse

County Onondaga State New York

Permit No. _____

Land-Surface Elevation
and Datum 376.0 feet ☒ Surveyed
NAVD 88 ☐ Estimated

Installation Date October 2, 2000

Drilling Method Hollow Stem Auger

Drilling Contractor Parratt Wolff

Drilling Fluid Potable Water

Development Technique(s) and Date(s) _____

Fluid Loss During Drilling _____ gallons

Water Removed During Development _____ gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft.

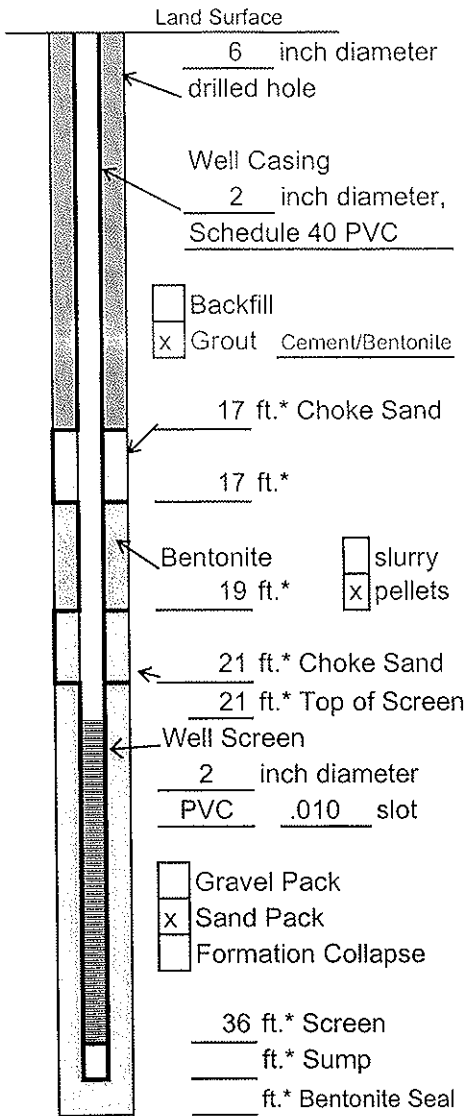
Well Purpose Groundwater Monitoring

Remarks _____

Prepared by TM/DD

WELL CONSTRUCTION LOG

(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project Erie Blvd Site PSA/IRM Well PZ-1³

Town/City Syracuse

County Onondaga State New York

Permit No. _____

Land-Surface Elevation
and Datum 392.1 feet ☒ Surveyed
NAVD 88 ☐ Estimated

Installation Date October 3, 2000

Drilling Method Hollow Stem Auger

Drilling Contractor Parratt Wolff

Drilling Fluid Potable Water

Development Technique(s) and Date(s) _____

Fluid Loss During Drilling _____ gallons

Water Removed During Development _____ gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft.

Well Purpose Groundwater Monitoring

Remarks _____

Prepared by TM/DD

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Sample/Core Log

Boring/Well PZ-3 Project/No. Niagara Mohawk - Erie Boulevard/AY000207.0005 Page 1 of 1

Site Syracuse, NY Drilling Started 10/2/00 Drilling Completed 10/3/00

Location Syracuse, NY Type of Sample/ Coring Device Split Spoon

Total Depth Drilled 36 Feet Hole Diameter 8 inches

Length and Diameter of Coring Device 2-feet x 2-inches Sampling Interval 2.0' feet

Land-Surface Elev. 392.14 feet ☒ Surveyed ☐ Estimated Datum

Drilling Fluid Used Potable water Drilling Method 4 1/4 HSA

Drilling Contractor Parratt Wolff Driller J. Perry Helper J. Lansing

Prepared By T. McClenahan/D. DeOrazio Hammer Weight 140 lbs. Hammer Drop 30 ins.

Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 Inches	Sample/Core Description	PID
0	2	1.0	5,20,16,13	brown, f SAND, some m gravel (angular), brick in bottom of spoon	1.2
2	4	1	12,12,13,16	brown, f SAND, dry, trace white ash, gravel and brick	0.8
4	6	1	13,19,18,21	brown, f SAND, trace small gravel (angular), trace silt	1.1
6	8	0.6	18,21,13,16	SAME AS ABOVE	0.7
8	10	0.5	9,10,9,8	lt. Brown, f SAND, 3" down packet of f black ash, trace silt and gravel	0.5
10	12	0.9	5,7,9,10	SAME AS ABOVE, some coarse gravel	0.8
12	14	0.8	14,16,15,20	f SAND, f-m gravel (angular), dry, trace silt	1.1
14	16	1.0	14,11,10,11	SAME AS ABOVE, trace silt	0.3
16	18	1.5	10,10,9,9	lt brown, f SAND, trace silt and clay, little gravel, trace ash	0
18	20	1	12,13,5,4	top 8" SAME AS ABOVE, no ash; bottom 4" gray plastic CLAY, no odor	1.2
20	22	1.0	2,2,2,2	gray, plastic CLAY	
22	24	1.5	2,4,5,5	top 1' gray CLAY, layer of wood chips at 1' down; bottom 4" gray silt	
24	26	2	20,34,24,31	top 1' SILT and SAND, bottom 1' f-c gravel (angular), silty, wet	
26	28		41, 50/.3	NO RECOVERY	
28	30	0.3	50/.3	f-m GRAVEL, wet, some silt	
30	32	0.8	10,15,12,13	f-m GRAVEL (rounded-angular), silty	
32	34	0.5	29,10,9,8	SAME AS ABOVE	
34	36	1.2	4,2,2,4	top 8", f-m SILTY GRAVEL; bottom 5" brown SILT, trace gravel	

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Appendix A

Well Construction Logs and Soil
Boring / Test Pit Logs

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ERIE BOULEVARD FORMER MGP SITE
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SB-2	391.8
SB-3	393.6
SB-4	388.2
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SB-8	387.3
SB-9	391.3
SB-10	388.7
SB-11	391.1
SB-12	389.6
SB-13	388.7
SB-14	388.6
SB-15	389.4
SB-16	388.4
SB-17	387.1
SB-18	389.8
SB-19	387.6
SB-20	387.2
SB-21	389.9
WB-1	374.6
WB-2	373.9
WB-3	376.4
WB-4	374.6
WB-5	374.9
WB-6	389.0
TP-1	389.9
TP-2	389.5
TP-2A	389.2

Notes:

1. NAVD 88 = North American Vertical Datum of 1988, based on NGS Station S-34, elevation 405.340 feet.
2. Wells MW-1S and MW-2 were modified on April 25, 2008 so that the cover for each well is flush with new asphalt pavement installed in Fall 2007. Casings were extended and new curb boxes were installed. Wells were resurveyed on May 12, 2008.

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Soil Boring Logs

SAMPLE/CORE LOG

Boring/Well SB-1 Project/No. Erie Blvd. PSA/IRM AY0207.001 Page 1 of 2

Site Location Syracuse, NY Drilling Started 8/8/95 Drilling Completed 8/8/95

Total Depth Drilled 50 feet Hole Diameter 8 inches Type of Sample/ Coring Device Split-Spoon

Length and Diameter of Coring Device 2' x 2" (2' x 3" for lab sample) Sampling Interval 2 feet

Land-Surface Elevation 390.9 feet ☒ Surveyed ☐ Estimated Datum NAVD 88 -NGVD 1929

Drilling Fluid Used Water Drilling Method Hollow Stem Auger

Drilling Contractor Parratt-Wolff, Inc. Driller Brian Waters Helper Rick Navatka

Prepared By S. Blackmer Hammer Weight 140 lb. Hammer Drop 30 inches

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0.0	0.0	0.5	--	--	Asphalt.
0.0	0.5	2.0	1.5	9,7,8	Fill: Brown to reddish brown fine Sand, some silt, some gravel, (rock fragments of various composition, cinders, coal), dry.
0.0	2.0	4.0	0.5	8,7,3,1	Fill: Gravel (brick fragments, cinders, coal, rock), little sand, dry.
0.0	4.0	6.0	0.5	5,3,6,7	Fill: Like above, damp in some zones.
0.0	6.0	8.0	2.0	4,3,3,4	Fill: Gravel (coal, cinders and ash, brick fragments and rock), some sand, trace silt, dry (damp in zones).
0.0	8.0	10.0	0.75	15,22,7,4	Brown, very fine Sand, some gravel, trace silt, damp.
0.0	10.0	12.0	0.2	8,4,3,5	Same as above.
0.0	12.0	14.0	0.2	5,3,2,1	Same as above; wet.
0.0	14.0	16.0	2.0	1,2,8,13	Brown Silt, some clay, trace fine sand, trace fine gravel, damp to wet.
0.0	16.0	18.0	0.3	80,35,36,22	Top 1": like above; Bottom 2": Gravel, little silt, rock flour, dry.
2.9	18.0	20.0	1.0	8,18,15,10	Brown very fine to fine Sand, some silt, some gravel, trace clay, damp.
0.2	20	22	1.0	15,26,28,14	Brown silty Sand and Gravel, damp (with wetter zones in more gravelly zones).
0.0	22	24	1.2	24,14,14,18	Same as above with trace clay, Bottom 7" wetter than top 7" but not saturated.
9.0	24	26	0.8	14,15,16,12	Gravel, little sand, trace silt, strong petroleum hydrocarbon odor, wet, little sheen.
7.5	26	28	0.5	18,11,12,6	Gravel (finer than above) and Sand, trace silt, strong odor, sheen, trace visible petroleum (brownish liquid).
1.6	28	30	1.5	9,7,6,5	Same as 26' to 28'.



SAMPLE/CORE LOG (Cont.d)

Boring/Well SB-1

Page 2 of 2

Prepared by S. Blackmer

[illegible]

SAMPLE/CORE LOG

Boring/Well SB-2 Project/No. Erie Blvd. PSA/IRM AY0207.001 Page 1 of 2

Site Location Syracuse, NY Drilling Started 8/15/95 Drilling Completed 8/15/95

Total Depth Drilled 43.5 feet Hole Diameter 8 inches Type of Sample/
Coring Device Split-Spoon

Length and Diameter of Coring Device 2' x 2" (2' x 3" for lab sample) Sampling Interval 2 feet

Land-Surface Elevation 391.8 feet ☒ Surveyed ☐ Estimated Datum NAVD 88
NGVD 1929

Drilling Fluid Used None Drilling Method Hollow Stem Auger

Drilling Contractor Parratt-Wolff, Inc. Driller Brian Waters Helper Layne Pech

Prepared By S. Blackmer Hammer Weight 140 lb Hammer Drop 30 inches

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
	From	To			
0.0	0.0	0.5			Asphalt.
0.0	0.5	2.0	0.5	7, 9-7	Brown Sand and Gravel, dry, loose.
0.0	2.0	4.0	1.0	3-5, 9-15	Similar to above but more compact with trace silt.
0.0	4.0	6.0	1.2	7-7, 6-4	Brown to reddish brown Sand and Gravel, little to trace silt, dry to damp.
0.0	6.0	8.0	1.0	2-2, 3-3	Brown very fine to coarse Sand and Gravel (finer than above), trace
					silt, fairly loose, dry to damp.
0.0	8.0	10.0	0.75	12-26, 25-14	Brown very fine to coarse Sand, and Gravel, dry, loose.
0.0	10.0	12.0	1.2	10-14, 23-12	Same as above.
0.0	12.0	14.0	1.0	15-9, 11-11	Same as above.
0.0	14.0	16.0	0.2	17-12, 4-3	Same as above, but damp.
0.0	16.0	18.0	1.0	13-9, 11-8	Same as above, dry with damp zones.
	18.0	20.0	0.0	50/2	No recovery.
0.0	20.0	22.0	0.25	29-18, 12-12	Gravel and brown Sand, dry.
0.0	22.0	24.0	1.0	22-22, 12-14	Gravel (various sizes, compositions, and textures).
					and very fine to coarse sand, dry except for bottom 2" wet.
0.0	24.0	26.0	0.75	9-19, 11-9	Gravel, some sand, little to trace fines (silt and clay), wet, faint sheen, no odor.
0.0	26.0	28.0	0.5	13-11, 8-9	Gravel (various sizes, compositions), little sand, trace silt and clay,
					wet, faint sheen, faint petroleum hydrocarbon odor.



SAMPLE/CORE LOG (Cont.d)

Boring/Well SB-2

Page 2 of 2

Prepared by S. Blackmer

[illegible]

SAMPLE/CORE LOG

Boring/Well SB-3 Project/No. Erie Blvd. PSA/IRM AY0207.001 Page 1 of 2

Site Location Syracuse, NY Drilling Started 8/14/95 Drilling Completed 8/14/95

Total Depth Drilled 50 feet Hole Diameter 8 inches Type of Sample/ Coring Device Split-Spoon

Length and Diameter of Coring Device 2' x 2" (2' x 3" for lab sample) Sampling Interval 2 feet

Land-Surface Elevation 393.6 feet ☒ Surveyed ☐ Estimated Datum NAVD 88 NGVD 1929

Drilling Fluid Used None Drilling Method Hollow Stem Auger

Drilling Contractor Parratt-Wolff, Inc. Driller Layne Pech Helper Brian Waters

Prepared By S. Blackmer Hammer Weight 140 lb Hammer Drop 30 inches

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
From	To				
0.0	0.0	0.5			Asphalt.
0.0	0.5	2.0	1.0	13,17,8	Gravel (natural and brick), and brown sand, dry.
0.0	2.0	4.0	1.75	10,8,7,6	Top 3": Like above. Bottom 16": Brown very fine Sand, some gravel, little silt, little coarse sand; top 6" dry, bottom 10" damp.
0.0	4.0	6.0	1.75	3,6,10,22	Brown to dark brown very fine Sand, some gravel, little silt, trace clay, trace coarse sand, dry with damp zone in middle of sample.
0.0	6.0	8.0	1.5	28,20,23,19	Brown Sand and Gravel (various compositions, sizes, and textures), dry.
0.0	8.0	10.0	1.0	9,16,12,9	Brown very fine to coarse Sand and Gravel, little to trace silt, top 2" damp, the rest of sample dry.
0.0	10.0	12.0	1.0	23,18,50/0.4	Same as above, dry.
0.0	12.0	14.0	1.3	9,13,14,10	Same as above, dry to damp.
0.0	14.0	16.0	1.5	16,35,31,14	Brown to red-brown very fine to coarse Sand and Gravel, trace silt, dry.
0.0	16.0	18.0	0.5	22,72	Brown very fine to coarse Sand and Gravel, dry.
0.0	18.0	20.0	0.4	23,14,14,10	Brown very fine to medium Sand, some gravel, trace silt, dry.
0.0	20.0	22.0	0.5	26,25,12,12	Gravel (gray siltstone, angular, fine to coarse), little brown very fine to coarse sand.
0.0	22.0	24.0	1.0	11,26,50/0.3	Brown very fine to coarse Sand, some gravel, trace silt, dry.
0.0	24.0	26.0	1.5	22,22,11,13	Top 8": Gravel (various compositions and sizes), trace sand, dry.



SAMPLE/CORE LOG (Cont.d)

Boring/Well SB-3

Page 2 of 2

Prepared by S. Blackmer

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SAMPLE/CORE LOG

Boring/Well SB-4 Project/No. Erie Blvd. PSA/IRM AY0207.001 Page 1 of 2

Site Location Syracuse, NY Drilling Started 8/23/95 Drilling Completed 8/23/95

Total Depth Drilled 50 feet Hole Diameter 8 inches Type of Sample/ Coring Device Split-Spoon

Length and Diameter of Coring Device 2' x 2" (2' x 3" for lab sample) Sampling Interval 2 feet

Land-Surface Elevation 388.2 feet ☒ Surveyed ☐ Estimated Datum NAVD 88
NGVD 1929

Drilling Fluid Used None Drilling Method Hollow Stem Auger

Drilling Contractor Parratt-Wolff, Inc. Driller Brian Waters Helper Layne Pech

Prepared By C. Moul Hammer Weight 140 lb Hammer Drop 30 inches

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
	From	To			
0.0	0.0	0.5	-		Asphalt.
0.0	0.5	2.0	0.8	8, 17-13	Top 5": Brown, silty Sand and gravel, moist. Bottom 4": Yellow-brown Sand, trace clay, moist, no odor.
0.0	2.0	4.0	0.8	6-11, 7-6	Top 4": Red-brown Sand and gravel (broken brick), dry. Bottom 5": Yellow-brown Sand, trace clay, dry.
0.3	4.0	6.0	0.2	4-4, 2-1	Red-brown Sand and gravel (broken brick), dry, fragment of red sandstone.
1.3	6.0	8.0	0.5	1-7, 8-6	Dark brown Sand, little sand and silt, moist, odor.
2.5	8.0	10.0	1.5	4-5, 5-9	Top 12": Black clayey Silt, moist, odor. Bottom 6": Black, silty Sand, moist, odor.
4.7	10.0	12.0	1.2	3-3, 4-6	Top 6": Black-brown, clayey Silt, little sand, moist, odor. Bottom 8": Black, sandy Silt, trace clay, moist, odor.
22.3	12.0	14.0	1.0	4-4, 4-6	Black Sand, silt, trace clay, moist, odor, thick petroleum stringers.
25.0	14.0	16.0	2.0	1-1, 2-1	Black and dark brown, silty Clay, little fine sand, moist, odor.
23.3	16.0	18.0	2.0	3-3, 3-6	Top 6": Black fine sandy Silt, moist, odor, petroleum droplets; bottom 18": Dark brown to brown, fine, silty Sand, trace clay, odor, moist, no petroleum.
25.2	18.0	20.0	1.3	7-16, 12-11	Black, fine, sandy Silt, moist, odor, petroleum stringers and droplets.
20.3	20.0	22.0	1.0	6-9, 13-50/2	Black Sand and Gravel, little silt, trace clay, wet, odor.



SAMPLE/CORE LOG (Cont.d)

Boring/Well SB-4

Page 2 of 2

Prepared by C. Moul

[illegible]

SAMPLE/CORE LOG

Boring/Well SB-5 Project/No. Erie Blvd. PSA/IRM AY0207.001 Page 1 of 2

Site Location Syracuse, NY Drilling Started 8/21/95 Drilling Completed 8/21/95

Total Depth Drilled 50 feet Hole Diameter 8 inches Type of Sample/ Coring Device Split-Spoon

Length and Diameter of Coring Device 2' x 2" (2' x 3" for lab sample) Sampling Interval 2 feet

Land-Surface Elevation 387.1 feet ☒ Surveyed ☐ Estimated Datum NAVD 88 NGVD 1929

Drilling Fluid Used None Drilling Method Hollow Stem Auger

Drilling Contractor Parratt-Wolff, Inc. Driller Layne Pech Helper Brian Waters

Prepared By C.Moul Hammer Weight 140 lb Hammer Drop 30 inches

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0.0	0.0	2.0	1.3	5, 10-26	Asphalt (0 - 0.5'); Brown clayey Silt, some fine to medium gravel, moist.
0.0	2.0	4.0	0.7	16-17, 10-19	Brown-gray Sand and Gravel, little clay and silt, dry.
0.0	4.0	6.0	1.2	6-13, 9-7	Top 6": Brown-gray Sand and Gravel, some clay and silt, dry.
					Bottom 8": Brown-yellow silty clay, trace fine to medium gravel, moist.
1.1	6.0	8.0	1.0	5-5, 8-19	Brown to brown-gray clayey Silt, some Sand and Gravel, moist.
4.8	8.0	10.0	1.1	6-3, 5-5	Top 9": Brown silty Clay, trace fine sand, moist. Next 4": Red brown Gravel,
					dry. Bottom 1": Black organic silty Clay, moist, odor.
12.8	10.0	12.0	0.5	10-9, 5-4	Black silty fine Gravel, little clay, moist, odor.
10.9	12.0	14.0	2.0	2-3, 2-3	Top 1": Black Sand and Gravel, some silt and clay, moist, odor.
					Bottom 1": Black clayey Silt, trace fine to medium gravel, moist, odor.
10.6	14.0	16.0	0.1	4-1, 2-1	Black silty clay, wet, odor.
15.0	16.0	18.0	1.8	1-1, 11-11	Top 18": Brown-gray clayey silt, odor, sheen around outside of
					profile. Bottom 2": Red-brown to black, Sand and Gravel, little
					silt and clay, wet, odor.
15.8	18.0	20.0	0.7	6-14, 22-17	Brown-gray Sand and Gravel, wet, odor, petroleum in pockets.
22.1	20.0	22.0	1.7	14-27, 14-15	Brown-gray Sand and Gravel, little silt and clay, moist, odor,
					petroleum in pockets.
23.5	22.0	24.0	0.5	9-11, 12-12	Black Sand and Gravel, little silt and clay, moist, odor.



SAMPLE/CORE LOG (Cont.d)

Boring/Well SB-5

Page 2 of 2

Prepared by C. Moul

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
14.3	24.0	26.0	0.5	8-5, 7-4	Black-gray Sand and Gravel, trace silt and clay, wet, odor, petroleum in pockets
16.4	26.0	28.0	0.5	6-7, 8-7	Black Gravel (cobble fragments), wet, odor, petroleum stringers.
22.8	28.0	30.0	0.5	7-7, 8-5	Black Gravel (like above), little silt and clay, wet, odor.
21.1	30.0	32.0	0.5	2-8, 16-11	Black Gravel (like above), trace silt and clay, wet odor.
24.0	32.0	34.0	1.5	12-11, 10-7	Top 6": Same as above. Bottom 12": Brown Sand and Gravel, some silt and clay, wet, odor.
22.4	34.0	36.0	1.5	9-14, 7-6	Top 14": Black Gravel, trace silt and clay, wet, odor, sheen. Bottom 4": Rock fragments (shale).
32.2	36.0	38.0	0.7	6-12, 30-13	Brown-gray Gravel, some silt and clay, wet, odor, petroleum in pockets.
28.9	38.0	40.0	0.3	25-17, 10-10	Black Sand and Gravel, trace silt and clay, wet, odor.
22.4	40.0	42.0	1.2	9-8, 5-4	Top 12": Brown-gray Sand and Gravel, trace silt and clay, wet, odor. Bottom 2": Gray fine sandy Silt, some clay, trace fine to medium gravel, wet, odor, petroleum droplets.
18.0	42.0	44.0	1.0	4-7, 8-7	Top 10": Black Sand and Gravel, trace silt and clay, wet, odor. Bottom 2": Gray Sand, some silt and clay, odor, wet.
18.2	44.0	46.0	1.2	9-5, 7-4	Top 12": Black Sand and Gravel, trace clay and silt, wet, odor. Bottom 2": Gray Sand, some clay and silt, wet, odor, petroleum in pockets.
12.9	46.0	48.0	0.5	6-8, 6-12	Same as above.
10.9	48.0	50.0	1.5	3-5, 5-7	Top 12": Gray Sand, little silt and clay, wet, odor. Bottom 6": Gray sandy, silty Clay, wet, odor.
					End hole.



SAMPLE/CORE LOG

Boring/Well SB-7 Project/No. Eric Blvd. PSA/IRM AY0207.001 Page 1 of 3

Site Location Syracuse, NY Drilling Started 8/15/95 Drilling Completed 8/23/95

Total Depth Drilled 50 feet Hole Diameter 8 inches Type of Sample/ Coring Device Split-Spoon

Length and Diameter of Coring Device 2' x 2" (2' x 3" for lab sample) Sampling Interval 2 feet

Land-Surface Elevation 392.3 feet ☒ Surveyed ☐ Estimated Datum NAVD 88
NGVD 1929

Drilling Fluid Used None Drilling Method Hollow Stem Auger

Drilling Contractor Parratt-Wolff, Inc. Driller Brian Waters Helper Layne Pech

Prepared By S. Blackmer Hammer Weight 140 lb Hammer Drop 30 inches

Page 3 of 3

Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
OVM	From To			
0.0	0.0 0.5			Asphalt.
0.0	0.5 2.0	1.0	19, 21-16	Brown medium Sand and Gravel (top 3-4 inches and bottom inch are more gravelly, middle zone more sandy), dry.
0.0	2.0 4.0	1.5	11-16, 26-26	Brown fine to coarse Sand and Gravel, trace silt, dry, loose with zones of compaction.
0.0	4.0 6.0	1.4	23-37, 19-13	Brown to gray-brown very fine to coarse Sand and gravel (varying compositions), trace silt, dry.
0.0	6.0 8.0	1.0	25-22, 17-25	Same as above.
0.0	8.0 10.0	0.5	65/5	Same as above.
0.0	10.0 12.0	1.0	32-41, 50/4	Same as above (brownier - less gray).
0.0	12.0 14.0	1.0	24-25, 41-21	Brown to gray brown very fine to coarse Sand and Gravel, trace silt and clay, dry.
0.0	14.0 16.0	1.2	9-9, 9-11	Same as above.
0.0	16.0 18.0	0.5	13-19, 9-15	Same as above, but slightly damp in places.
0.0	18.0 20.0	0.2	4-6, 50/4	Same as above.
0.0	20.0 22.0	1.3	27-7, 12-8	Brown very fine to coarse Sand and Gravel, little to trace silt, moderately compact, dry.
0.0	22.0 24.0	0.5	7-12, 50/3	Same as above but damp.



SAMPLE/CORE LOG (Cont.d)

Boring/Well SB-7

Page 2 of 3

Prepared by S. Blackmer

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SAMPLE/CORE LOG (Cont.d)

Boring/Well SB-7

Page 3 of 3

Prepared by C.Moul

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
1.2	24.0	26.0	1.1	12-16 , 16-15	Brown clayey Silt, some sand, wet, odor (wetter at bottom of spoon).
7.4	26.0	28.0	1.5	14-14 , 14-14	Brown clayey Silt, some sand and gravel, odor.
27.5	28.0	30.0	1.2	8-11 , 11-11	Brown-gray Sand and Gravel, some clayey silt, wet, odor, sheen.
8.4	30.0	32.0	1.3	7-14 , 22-11	Brown-gray clayey Silt, some sand and gravel, wet, odor.
0.0	32.0	34.0	0.5	12-9 , 9-6	Brown-gray clayey Silt, some sand and gravel, wet, odor, sheen.
0.0	34.0	36.0	0.9	19-13 , 10-12	Brown-gray Gravel, some clayey silt, wet, odor.
0.0	36.0	38.0	1.5	14-10 , 6-12	Brown-gray Gravel, some medium to coarse sand, trace silt and clay, wet, odor.
0.5	38.0	40.0	0.2	22-28 , 12-13	Brown Sand and Gravel, wet, odor.
0.0	40.0	42.0	0.5	7-8 , 7-13	Brown-gray Sand and Gravel, little silt and clay, wet, slight odor.
0.0	42.0	44.0	1.2	13-8 , 8-8	Top 6": Same as above. Bottom 8": Gray Gravel, some medium to coarse sand, wet, slight odor.
0.0	44.0	46.0	1.5	15-16 , 14-12	Top 10 " : Brown-gray silty Clay, some sand and gravel, wet, slight odor; Bottom 8": Gray Silt, some clay, little sand and fine gravel, slight odor, wet.
0.0	46.0	48.0	0.5	26-26 , 5-5	Gray Gravel (angular limestone fragments), little medium to coarse sand, wet, no odor or sheen.
0.0	48.0	50.0	1.0	14-9 , 17-22	Gray clayey Silt, some sand, little gravel, wet, slight odor.
					End hole.



SAMPLE/CORE LOG

Boring/Well SB-8 Project/No. Erie Blvd. PSA/IRM AY0207.001 Page 1 of 2

Site Location Syracuse, NY Drilling Started 8/18/95 Drilling Completed 8/18/95

Total Depth Drilled 50 feet Hole Diameter 8 inches Type of Sample/ Coring Device Split-Spoon

Length and Diameter of Coring Device 2' x 2" (2' x 3" for lab sample) Sampling Interval 2 feet

Land-Surface Elevation 387.3 feet ☒ Surveyed ☐ Estimated Datum NAVD 88 -NGVD 1929

Drilling Fluid Used None Drilling Method Hollow Stem Auger

Drilling Contractor Parratt-Wolff, Inc. Driller Layne Pech Helper Brian Waters

Prepared By S. Blackmer Hammer Weight 140 lb Hammer Drop 30 inches

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0.0	0.0	0.5			Asphalt.
0.0	0.5	2.0	0.3	10, 23-13	Brown-gray very fine to coarse Sand and Gravel (fine to coarse, various compositions, subrounded to round), dry.
0.0	2.0	4.0	1.2	9-9, 5-4	Brown-gray very fine to coarse Sand and gravel (including brick fragments), little cinder/ash, dry.
0.0	4.0	6.0	0.3	7-6, 5-2	Cinders and Sand, some to little gravel, dry.
0.0	6.0	8.0	0.2	2-1, 1-1	Black cinders/ash, little to trace fine to medium sand, dry to damp.
0.0	8.0	10.0	1.0	5-3, 4-1	Red brick and concrete fragments, little black/brown sand and cinders; top inch damp, rest dry.
0.0	10.0	12.0	0.6	6-4, 6-12	Same as above, damp to dry.
0.1	12.0	14.0	0.5	9-4, 6-18	Top 4": Brick, dry to damp. Bottom 2": Black stained Gravel and sand, black/brown petroleum, wet.
0.0	14.0	16.0	1.3	14-11, 52-45	Top 3": Gravel and brick, sheen. Next 8": Brown Clay, trace silt, trace gravel (near bottom), some black staining, damp. Bottom: Gravel (including some concrete and brick), some cinders, some sand.
0.0	16.0	18.0	1.5	18-19, 24-19	Brown very fine to coarse Sand and Gravel. Top 3" wet with sheen.



SAMPLE/CORE LOG (Cont.d)

Boring/Well SB-8

Page 2 of 2

Prepared by S. Blackmer

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
	16.0	18.0	cont.		Middle 10" damp. Bottom 4" dry and lighter brown.
0.0	18.0	20.0	1.0	17-9 , 16-17	Brown Sand and Gravel, trace silt and clay, wet, very faint (trace) sheen.
0.0	20.0	22.0	1.0	12-13 , 8-5	Same as above with faint odor.
0.1	22.0	24.0	0.5	9-18 , 24-14	Gravel, little sand, wet with sheen, faint odor.
2.2	24.0	26.0	0.6	17-13 , 17-19	Fine Gravel and fine to coarse Sand, wet with sheen, trace visible petroleum (brown thin liquid)
2.0	26.0	28.0	1.5	8-9 , 9-11	Top 6": Brown Sand and Gravel, some silt, wet with sheen. Bottom 1': Gravel, blue/gray silty water with brown petroleum stringers.
1.7	28.0	30.0	0.5	10-10 , 10-6	Same as bottom of above.
2.1	30.0	32.0	1.5	8-5 , 6-8	Gravel (fine to coarse, various textures), some fine to coarse sand, silty/muddy brown-gray water with a sheen and trace visible petroleum, no odor.
1.9	32.0	34.0	0.3	17-17, 6-4	Same as above.
1.1	34.0	36.0	2.0	13-13 , 13-14	Brown to grayish-brown, Gravel and very fine to coarse Sand, some to little silt, wet, some sheen, fairly loose - Bottom 3" more compact.
2.8	36.0	38.0	1.3	12-10 , 7-6	Top 3": fine to coarse Sand, wet with sheen. Bottom 12": Gravel, little fine to coarse sand, silty water and petroleum (has a copper-colored appearance).
0.2	38.0	40.0	0.75	6-7 , 8-8	Gravel, some fine to coarse sand, little to trace petroleum droplets, wet (water less silty/muddy)
0.0	40.0	42.0	0.75	7-5 , 10-8	Gravel and brown-gray sand, silty/muddy water, little faint sheen.
0.0	42.0	44.0	1.0	7-7 , 11-12	Gravel, some fine to coarse sand, little to trace petroleum, wet (water less silty/muddy).
0.0	44.0	46.0	1.75	9-8 , 7-7	Brown very fine to coarse Sand, some silt, little gravel, wet, loose, trace sheen.
0.0	46.0	48.0	2.0	14-14 , 19-12	Top 1.5': Same as above; Bottom 6": Gray-brown Gravel and Sand, some to little silt, wet, little sheen.
0.0	48.0	50.0	0.75	44-18 , 4-9	Gravel and Sand, trace silt, wet, sheen.



SAMPLE/CORE LOG

Boring/Well SB-9 Project/No. Erie Blvd. PSA/IRM AY0207.001 Page 1 of 2

Site Location Syracuse, NY Drilling Started 8/22/95 Drilling Completed 8/22/95

Total Depth Drilled 38 feet Hole Diameter 8 inches Type of Sample/ Coring Device Split-Spoon

Length and Diameter of Coring Device 2' x 2" (2' x 3" for lab sample) Sampling Interval 2 feet

Land-Surface Elevation 391.3 feet ☒ Surveyed ☐ Estimated Datum NAVD 88
--NGVD 1929

Drilling Fluid Used None Drilling Method Hollow Stem Auger

Drilling Contractor Parratt -Wolff, Inc. Driller Brian Waters Helper Layne Pech

Prepared By C. Moul Hammer Weight 140 lb Hammer Drop 30 inches

OVM	From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0.0	0.0	2.0	1.2	26 , 47-56	Asphalt (0 - 0.5'); Top 8": Brown Sand, little silt, dry; Bottom 6": Black fine Sand, dry.
0.0	2.0	4.0	0.3	57-50/4	Black fine Sand, dry.
0.0	4.0	6.0	0.1	50/3	Same as above.
0.0	6.0	8.0	0.1	44-50/4	Black to brown fine Sand, little medium to coarse sand, dry.
0.0	8.0	10.0	0.1	6-6 , 4-2	Dark brown Sand, some medium to coarse sand, quartzite fragment in tip, dry.
0.1	10.0	12.0	0.1	4-6 , 7-5	Dark brown to yellow brown clayey Silt, little fine sand, moist.
0.9	12.0	14.0	0.0	3-4 , 2-4	No recovery - odor at bottom of spoon.
1.3	14.0	16.0	1.8	2-2 , 4-8	Top 12": Black Sand, some clay (clayey fine sand), petroleum in pockets, wet, odor. Bottom 9": Dark brown, fine Sand, with pockets of clayey silt, moist, odor, some wood fragments.
2.2	16.0	18.0	2.0	11-13 , 21-18	Top 12": Black, silty Sand, wet (petroleum droplets), odor. Next 6": Gray-green, clayey Sand, moist, odor. Bottom 6": Brown-yellow clayey Sand, moist, odor.
2.0	18.0	20.0	1.0	15-26 , 36-45	Brown-yellow, clayey Sand, moist, odor.
2.2	20.0	22.0	0.0	33-23 , 16-9	Red-brown sandstone (1 fragment).



SAMPLE/CORE LOG

Boring/Well SB-10 Project/No. Erie Blvd. PSA/IRM AY0207.001 Page 1 of 2

Site Location Syracuse, NY Drilling Started 8/22/95 Drilling Completed 8/22/95

Total Depth Drilled 50 feet Hole Diameter 8 inches Type of Sample/ Coring Device Split-Spoon

Length and Diameter of Coring Device 2' x 2" (2' x 3" for lab sample) Sampling Interval 2 feet

Land-Surface Elevation 388.7 feet ☒ Surveyed ☐ Estimated Datum NAVD 83
-NGVD 1929-

Drilling Fluid Used None Drilling Method Hollow Stem Auger

Drilling Contractor Parratt-Wolff, Inc. Driller Layne Pech Helper Brian Waters

Prepared By C. Moul Hammer Weight 140 lb Hammer Drop 30 inches

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
	From	To			
0.0	0.0	2.0	0.5	5, 21-22	Brown-gray Sand and Gravel, moist.
0.0	2.0	4.0	0.5	14-20, 11-19	Brown-gray Sand and Gravel, little silty clay, moist.
0.0	4.0	6.0	0.7	11-9, 3-2	Top 5": Brown to yellow brown silty Clay, little sand, moist; Bottom 3": Brown-gray Sand and Gravel, moist.
0.0	6.0	8.0	0.5	2-4, 16-13	Top 4": Brown-gray Gravel and Brick; Bottom 2": Brown clayey Silt, little sand, moist.
0.0	8.0	10.0	1.0	25-6, 13-18	Top 5": Brown-gray Sand and Gravel (with concrete and cobble fragments), dry; Next 4": Brown clayey Silt, little sand, moist; Bottom 3": Brown-gray Sand and Gravel, dry.
0.0	10.0	12.0	0.4	16-22, 16-16	Brown-gray Sand and Gravel, dry.
0.0	12.0	14.0	1.0	17-10, 20-10	Brown silty Sand, trace clay, moist, some fine to medium gravel.
0.0	14.0	16.0	1.2	10-10, 13-25	Brown silty Sand and fine Gravel, moist, moist in pockets.
0.0	16.0	18.0	0.3	14-16, 22-9	Brown silty Sand and Gravel, moist.
	18.0	19.0	--	--	Cobble at 18' (augered through to 19').



SAMPLE/CORE LOG (Cont.d)

Boring/Well SB-10

Page 2 of 2

Prepared by S. Blackmer

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0.0	19.0	20.0	0.0	19-21	No recovery (gray sandstone in tip)
0.4	20.0	22.0	0.9	5-7 , 8-7	Brown silty Sand and Gravel; top 4" moist, bottom 5" wet.
3.4	22.0	24.0	0.70	10-11 , 17-14	Top 4": Brown silty Sand and Gravel, wet; Bottom 4": Gray-brown silty Sand and Gravel, wet, odor, sheen.
5.7	24.0	26.0	1.0	33-29 , 24-27	Top 9": Same as bottom 4" of above; Bottom 4": Gray angular gravel, wet, odor.
4.6	26.0	28.0	0.6	22-9 , 13-7	Gray-brown silty Sand and Gravel, wet, odor.
3.9	28.0	30.0	1.0	5-5 , 6-6	Same as above.
3.5	30.0	32.0	1.0	4-5 , 6-7	Gray-brown silty Sand and Gravel, little clay, wet, odor.
3.2	32.0	34.0	0.2	8-9 , 6-9	Gray-brown silty Sand and Gravel, wet, odor.
3.4	34.0	36.0	0.5	3-5 , 8-8	Gray-brown silty Sand and Gravel, wet, odor, petroleum in pockets.
2.1	36.0	38.0	1.0	8-10 , 19-10	Gray-brown silty Sand and Gravel, wet, odor, some angular sandstone fragments.
2.4	38.0	40.0	2.0	7-8 , 9-15	Top 15 ": Gray-brown silty Sand and Gravel, wet, odor. Bottom 9": Gray-brown silty Sand and Gravel, little clay, wet, odor, petroleum in pockets.
2.5	40.0	42.0	0.8	15-29 , 31-27	Gray-brown Sand and Gravel, little silt, wet, odor.
2.2	42.0	44.0	1.0	7-11 , 6-5	Gray Sand and Gravel, trace silt, wet, odor.
1.3	44.0	46.0	0.9	18-18 , 18-12	Gray-brown clayey Silt, some sand, little fine to medium gravel, wet, odor product in pockets.
1.5	46.0	48.0	1.0	12-8 , 2-5	Gray-brown clayey Silt, some sand, little fine to medium gravel, wet, odor.
1.1	48.0	50.0	0.2	8-10 , 22-37	Gray-brown clayey Silt, some sand and gravel, wet, odor.



Date Start/Finish: 5/27/2008 - 5/28/2008 Drilling Company: Parratt-Wolff, Inc. Driller's Name: Jim Lansing Drilling Method: Hollow Stem Auger Auger Size: 4.25" OD Rig Type: CME-75 Sampling Method: 2"x 2" SS	Northing: 1112412.89 Easting: 933902.804 Casing Elevation: NA Borehole Depth: 43' bgs Surface Elevation: 391.1056 Descriptions By: Dan Zuck	Well/Boring ID: SB-11 Client: National Grid Location: Erie Boulevard Syracuse, NY
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0												
390		1	0-2	0.8		NA			SM	ASPHALT		
					6	12	0.0				Light gray very fine to fine Silty SAND, some subangular fine Gravel, moist. (SM)	
					6						Black/trace brown medium angular Gravelly SAND, RCA material (Brick, Concrete, Asphalt) with fine to medium Sand, Volcanic like material, some small wood pieces, moist. (GM)	
					9							
					2				GM		Light to medium gray/trace brown medium subangular Sandy GRAVEL, Silt, moist. (GM)	
		2	2-4	0.75		5	0.0					
					2							
					3							
					4							
					2						Light to medium brown very fine to fine Silty SAND, little medium to coarse subrounded to subangular Sand, wet. (SM)	
					2							
					3							
					3							
385					2						No recovery (Stone stuck in tip @ 6.3' bgs.)	
					2				SM			
					2	4	NA					
					2							
					2						Medium brown very fine to fine subangular Silty SAND, some Clay, trace coarse Sand, moist to wet. (SM)	
					3							
					4							
10												
					1						Medium brown Sandy CLAY, little coarse subrounded Sand, trace Gravel, low plasticity, wet. (GC)	
					1							
					1	2	0.0					
					2				GC			
					3							
					3	6	0.0				Color change to brown below 14' bgs.	
					3							
					NA						Black/dark gray Sandy SILT, and Organics (wood), some Clay, organic odor, wet. (OL)	
					NA						Light to medium brown Silty CLAY, low plasticity, medium dense, varved, moist. (OL)	
15					1	na	0.0					
					2				OL		Black/dark gray Sandy SILT, and Organics (wood), some Clay, organic odor, wet. (OL)	

Borehole tremie-grouted with Bentonite/Cement to grade

Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; RCA = Re-Constituted-Aggregate.



Client: National Grid

Well/Boring ID: **SB-11**

Site Location:

Erie Boulevard
Syracuse, NY

Borehole Depth: 43' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
375					3						Black-stained Silty SAND, odor, wet. (SM)	
		9	16-18	0.9	3	5	1.3					
					2						Black-stained Silty SAND, oil like material, sheen, odor, wet. (SM)	
					2							
		10	18-20	0.9	3	5	14.3					
					2							
20					4							
					1				SM			
					1							
370		11	20-22	0.8	3	4	15.6				Saturated @ 20' bgs.	
					3							
					3							
		12	22-24	0.4	4	7	70.6				tar like material present @ 22' bgs.	
					3							
					7							
					4						Light gray angular SHALE fragments, dry.	
25		13	24-26	0.5	6	12	15.1					
					6							
					8						Black Silty SAND, trace fine Gravel, strong odor, saturated with oil like material. (SM)	
365					7				SM			
		14	26-28	0.6	9	18	11.1				Light gray Clayey SAND, trace subangular to subrounded Gravel, moist to wet, saturated with oil like material. (GM)	
					9				GM			
					9						Black-stained, wet @ 28' bgs.	
					6						Light gray/some black-stained/trace brown Silty fine to medium SAND, wet.	
		15	28-30	0.5	8	17	22.2					
					9							
30					9						Black-stained subangular Silty GRAVEL, and Silt, tar like material, sheen, odor, saturated. (GM)	
					5				GM			
		16	30-32	1.0	8	13	11.1				Black-stained/trace brown and gray Sandy CLAY, little fine Gravel, odor, saturated with oil like material, sheen. (SC)	
					5							
					8						mix of tar like material and Silt, saturated @ 32' bgs.	
					4				SC			
		17	32-34	1.0	6	11	16.6					
					5							
					5							
					5						Black fine subangular to angular Sandy GRAVEL, odor and tar like material, sheen, saturated. (GM)	
35		18	34-36	0.75	7	13	0.0					
					6							
					4				GM			

Borehole
tremie-grouted
with
Bentonite/Cement
to grade

Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; RCA = Re-Constituted-Aggregate.

Client: National Grid

Well/Boring ID: **SB-11****Site Location:**Erie Boulevard
Syracuse, NY

Borehole Depth: 43' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
335		19	36-38	0.8	4	9	56.3		GM		Black-staining/olive gray Gravely CLAY, odor, wet to saturated.	Borehole tremie-grouted with Bentonite/Cement to grade
					4							
					5							
					5							
					6							
					8							
		20	38-40	0.4	4	12	0.0		GC		mix of tar like material and Silt, saturated @ 38' bgs.	Borehole tremie-grouted with Bentonite/Cement to grade
					4							
40					4							
					32						Dark gray to black subangular GRAVEL, tar like material, sheen, saturated.	
					16							
350		21	40-42	1.6	15	31	7.5		GM		Medium gray Silty GRAVEL, some fine Sand and fine to coarse Gravel, little Cobbles, saturated. (GM)	
					9							Borehole tremie-grouted with Bentonite/Cement to grade
					14							
		22	42-43	0.0	9	NA	0.0					
45												Borehole tremie-grouted with Bentonite/Cement to grade
												Borehole tremie-grouted with Bentonite/Cement to grade
50												Borehole tremie-grouted with Bentonite/Cement to grade
												Borehole tremie-grouted with Bentonite/Cement to grade
55												Borehole tremie-grouted with Bentonite/Cement to grade



Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; RCA = Re-Constituted-Aggregate.

Date Start/Finish: 5/27/2008 - 5/28/2008 Drilling Company: Parratt-Wolff, Inc. Driller's Name: Jim Lansing Drilling Method: Hollow Stem Auger Auger Size: 4.25" OD Rig Type: CME-75 Sampling Method: 2"x2" SS	Northing: 1112367.857 Easting: 933892.3009 Casing Elevation: NA Borehole Depth: 60' Surface Elevation: 389.6046 Descriptions By: Dan Zuck	Well/Boring ID: SB-12 Client: National Grid Location: Erie Boulevard Syracuse, NY
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
390												
		1	0-2	0.7	NA				GC	ASPHALT		
					4	10	0.0				Light gray broken PEBBLES, subangular to angular Gravel, RCA material (Brick, Concrete, Asphalt) with very fine to medium Sand, dry. (GC)	
					6						Redish brown fine to medium subangular Clayey SAND, low to no plasticity, moist. (SC)	
					7							
		2	2-4	0.4	3				SC			
					2	13	0.0					
					11							
					14							
385		3	4-6	0.3	16						Brown angular BRICK fragments (0.5-1" diameter), some fine to medium Silty Sand, dry.	
					10	13	0.0				Gravel content increasing to some below 4.7' bgs.	
					3							
					3							
		4	6-8	0.0	2						No recovery	
					2	3	NA					
					1							
					2						Medium brown fine to medium Silty SAND, trace odor and sheen, saturated. (SM)	
		5	8-10	0.9	1				SM		Black Silty SAND and tar like material, odor and sheen, moist to wet.	
					1	51	20.0					
					50		48.0					
					0							
380					45						White to light gray fine to medium Gravel and fine to coarse Sand, fractured angular Stones (0.5-1" diameter), dry. [FILL]	
		6	10-12	0.4	5	8	0.0					
					3							
					1							
		7	12-14	0.8	1	3	14.0		SM		Fine to medium subangular Silty SAND, trace coarse Sand, slight odor, medium dense, wet. (SM)	
					1							
					1							
					2							
					3							
375		8	14-16	0.5	1	2	123				SLAG, fine to medium Sand, trace tar like material, slight odor loose, wet.	
					1							
					1							
					1							

Borehole tremie-grouted with Bentonite/Cement to grade

Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; RCA = Re-Constituted-Aggregate.



Analytical sample collected from 12-14' and 22-24' bgs for BTEX, PAHs, and Total Cyanide.

Client: National Grid

Well/Boring ID: **SB-12**

Site Location:

Erie Boulevard
Syracuse, NY

Borehole Depth: 60'

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		9	16-18	0.25	4 3 2 1	5	146			x x x x	SLAG, fine to medium Sand, trace tar like material, slight odor loose, wet.	
		10	18-20	1.1	3 3 2	5	248			x x x x	SLAG and oil like material, some Silts and fine Sand, odor, sheen, saturated.	
20	370	11	20-22	0.8	1 1 1	2	694			x x x x		
		12	22-24	1.0	7 7 6 4	13	304	X	SM	x x x x	Silty SAND, some coarse subangular to angular Gravel, medium dense, odor, moist. (SM)	
		13	24-26	0.0	15 12 12 8	24	NA			x x x x	No recovery	
25	365	14	26-28	0.8	6 8 8 11	16	128			x x x x	Angular GRAVEL and SILT, some oil like material and tar like material blebs, odor, saturated.	
		15	28-30	1.1	3 4 5 4	9	355			x x x x	Black fine to coarse subangular to angular Silty GRAVEL, little tar like material and sheen, odor, saturated. (GM)	
30	360	16	30-32	0.9	3 2 2 7	4	148			x x x x	Trace Silt (30-30.25' bgs).	
		17	32-34	0.7	5 5 6 7	11	214			x x x x		
35	355	18	34-36	0.5	4 5 4 3	9	160			x x x x		

Borehole
tremie-grouted
with
Bentonite/Cement
to grade

Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; RCA = Re-Constituted-Aggregate.

Analytical sample collected from 12-14' and 22-24' bgs for BTEX, PAHs, and Total Cyanide.

Client: National Grid

Well/Boring ID: SB-12

Site Location:

Erie Boulevard
Syracuse, NY

Borehole Depth: 60'

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		19	36-38	1.6	4 5 11 16	16	239				Black fine to coarse subangular to angular Silty GRAVEL, little tar like material and sheen, odor, saturated. (GM)	
					5 7 9	16	70				Less saturated with NAPL, more dense (38-40' bgs).	
350		20	38-40	0.6	7 9	16	70					
40					2 3 3	6	184				More separate phase NAPL (42-44' bgs).	
		21	40-42	1.2	3 3 3							
					3 6 5 4	11	193			GM		
345					17						Light gray/brown NAPL staining subangular Silty GRAVEL, saturated. (GM)	
45		23	44-46	1.4	7 5 4	12	86					
					5 4 3 2	7	128					Borehole tremie-grouted with Bentonite/Cement to grade
		24	46-48	1.3	4 3 2							
					4 5 4	9	38.2				Fine to medium Clayey SAND, trace fine angular Gravel, medium stiff, saturated.	
340					7 4 4						Light gray coarse subangular Silty SAND, blebs of tar like material, medium dense, saturated.	
50					7 7 9	16	90.3				Light gray subangular Silty GRAVEL, slight to no odor, medium dense, saturated. (GM to GC)	
		26	50-52	0.8	9 14					GM to GC	Trace angular Gravel (52-54' bgs).	
					6 6 8 6	14	28.6					
		27	52-54	0.9	6 6 8 6							
335					2 4 4 5	8	104				Light to medium gray Silty GRAVEL, slight odor and staining, loose, saturated.	
55		28	54-56	0.9								



Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; RCA = Re-Constituted-Aggregate.

Analytical sample collected from 12-14' and 22-24' bgs for BTEX, PAHs, and Total Cyanide.

Well/Boring ID: SB-12

Borehole Depth: 60'

Erie Boulevard
Syracuse, NY

[illegible]

Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; RCA = Re-Constituted-Aggregate.

Analytical sample collected from 12-14' and 22-24' bgs for BTEX, PAHs, and Total Cyanide.

Date Start/Finish: 5/29/2008 Drilling Company: Parratt-Wolff, Inc. Driller's Name: Jim Lansing Drilling Method: Hollow Stem Auger Auger Size: 4.25" OD Rig Type: CME-75 Sampling Method: 2"x 2" SS	Northing: 1112277.51 Easting: 933947.6639 Casing Elevation: NA Borehole Depth: 54' Surface Elevation: 388.7386 Descriptions By: Dan Zuck	Well/Boring ID: SB-13 Client: National Grid Location: Erie Boulevard Syracuse, NY
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
390												
		1	0-2	1.1	NA	4			GM		ASPHALT	
					4	9	0.0		SM		Light brown/trace gray fine to medium subangular coarse subrounded Sandy GRAVEL, little silt, trace coarse Sand, loose, dry. (GM)	
					5						Dark brown Silty SAND, fine to medium subangular to subrounded Gravel, trace coarse subangular Sand and Gravel, medium dense, moist. (SM)	
					6							
		2	2-4	0.8	4				GM		Light gray fractured coarse subangular Silty GRAVEL, little fine Sand, trace coarse subrounded Sand, dry. (GM)	
					6	13	0.0					
					7							
385					8						1 cm piece of Coal (4-4.4')	
					3							
		3	4-6	1.0	2	4	0.0		SM		Light brown/trace green very fine to fine subrounded Sandy SILT, medium dense, moist. (SM)	
					2							
					2							
		4	6-8	1.1	4	6	29.8				Wood fragments (6.7-8.1')	
					2						No wood fragments, slight odor, and becomes saturated @ 8.1'	
					2							
380		5	8-10	1.6	WH	NA	207		GP		Dark brown/black-stained Silty fine to medium subangular to subrounded SAND, medium dense, saturated. (SM)	
					3		815				Black fine SAND, oil like material, significant odor, loose, saturated. (GP)	
					10		122		SC		Redish brown Silty CLAY, trace coarse subangular Sand, low plasticity, moist. (SC)	
					6		106					
		6	10-12	1.25	5	12	722				Black-staining/trace brown Silty GRAVEL, trace Gravel, odor evident, medium dense, moist. (GM)	
					7						Black-stained Silty GRAVEL, trace coarse Gravel, wet. (GM)	
					4				GM			
					3		681					
		7	12-14	1.75	4	7	922				oil like material present @ 13.5'	
					3						Black Sandy SILT, loose, saturated. (SM)	
375					3				SM			
					1						Black Silty CLAY, low plasticity, medium stiff, moist to wet. (ML-CL)	
		8	14-16	1.75	2	5	275		ML to CL		Color change to brown @ 20'	
					3						Slight plasticity @ 16'	
					3							

Borehole tremie-grouted with Bentonite/Cement to grade

 infrastructure, environment, facilities	Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon. Analytical sample collected from 8-10' and 20-22' bgs for BTEX, PAHs, and Total Cyanide.
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Client: National Grid

Well/Boring ID: **SB-13**

Site Location:

Erie Boulevard
Syracuse, NY

Borehole Depth: 54'

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		9	16-18	1.9	4 6 7 6	13	253		ML to CL		Brown Silty CLAY, low plasticity, medium stiff, moist to wet. (ML-CL)	
370		10	18-20	1.4	WH WH 2 5	NA	183 91 346		ML		Light brown Silty CLAY, trace staining, slight odor and plasticity, moist. (ML)	
20		11	20-22	1.0	7 11 11 13	22	1218	×			Black/dark brown Silty GRAVEL, medium to coarse subangular Sand, some oil like material, significant odor, wet. (GM) Becomes saturated @ 20	
		12	22-24	0.6	12 34 27 16	61	203				Silty fine subangular GRAVEL, medium to coarse subangular Sand, some oil like material, saturated. (GM)	
365		13	24-26	0.8	6 4 4 4	8	809		GM		Light brown trace Silty CLAY, odor @ 24'	
25		14	26-28	0.75	6 4 4 4	8	233				oil like material, no Silty CLAY @ 26'	Borehole tremie-grouted with Bentonite/Cement to grade
		15	28-30	0.5	2 4 3 2	7	55					
360		16	30-32	0.6	6 5 6 8	11	114					
30		17	32-34	0.3	8 8 12 12	20	63				Light brown/gray coarse subangular Sandy GRAVEL, Sand and tar like material blebs, saturated.	
355		18	34-36	0.9	6 4 5 8	9	105				Black/trace light brown and gray oil like material, Sand and coarse subangular Gravel, saturated.	
35												



Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon.

Analytical sample collected from 8-10' and 20-22' bgs for BTEX, PAHs, and Total Cyanide.

Client: National Grid

Well/Boring ID: SB-13

Site Location:

Erie Boulevard
Syracuse, NY

Borehole Depth: 54'

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		19	36-38	2	11 12 16 17	28	111				Black/trace gray Silty GRAVEL, oil like material and fine Sand, loose, odor, saturated. (GM)	
350		20	38-40	2	9 8 8 11	16	132		GM		Brown/light gray Gravelly SILT, medium dense, oil like material, some staining, wet to saturated. (GM) Black outside of recovery (38.3-42.2')	
40		21	40-42	1.3	8 8 7 5	15	89					
		22	42-44	0.75	8 7 4 3	11	44				Dark gray Silty GRAVEL, trace Clay, oil like material, saturated.	
345					6 6 5 4					x x x x x x	No recovery	
45		23	44-46	NA	7 5 4	11	NA				Light gray coarse subangular Silty GRAVEL, little fine to medium Sand, trace angular Gravel, slight odor, trace oil like sheen, saturated. (GM)	
		24	46-48	0.6	5 6 4	11	10.1					
340		25	48-50	0.8	5 4 3 3	7	17.3				Light gray coarse subangular Silty GRAVEL, little fine to medium Sand, trace angular Gravel, slight odor, trace oil like sheen, saturated. (GM)	
50		26	50-52	1.0	6 3 3 5	6	18.6		GM			
		27	52-54	1.6	4 5 6 7	11	114					
335												
55												

Borehole
tremie-grouted
with
Bentonite/Cement
to grade

Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon.

Analytical sample collected from 8-10' and 20-22' bgs for BTEX, PAHs, and Total Cyanide.

Date Start/Finish: 5/30/2008 Drilling Company: Parratt-Wolff, Inc. Driller's Name: Jim Lansing Drilling Method: Hollow Stem Auger Auger Size: 4.25" OD Rig Type: CME-75 Sampling Method: 2"x 2" SS	Northing: 1112197.647 Easting: 933948.3549 Casing Elevation: NA Borehole Depth: 50' Surface Elevation: 388.5556 Descriptions By: Dan Zuck	Well/Boring ID: SB-14 Client: National Grid Location: Erie Boulevard Syracuse, NY
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
390												
		1	0-2	0.8	NA	5	12	0.0			Light brown/light gray coarse subangular Gravelly fine to medium SAND, RCA material (Brick, Concrete, Asphalt) with fine to medium Sand, little Brick fragments and Pebble fragments, dry. (GM)	
					10	9					Medium brown fine to coarse subrounded to rounded Gravelly SILT, little fine to medium Sand, medium dense, moist. (GM)	
385		2	2-4	0.9	8	13	0.0				Some coarse subrounded Sand @ 4'	
					4	6					Becomes wet @ 6'	
		3	4-6	0.75	3	6	0.0					
					2	3						
		4	6-8	0.5	3	6	0.0					
					2							
380		5	8-10	0.8	2	106					Dark brown/black-stained Gravelly SILT, some odor, soft, wet. (GM-GC)	
					2	885						
					3							
					2							
		6	10-12	0.9	1	4	514					
					1							
					3							
					4							
		7	12-14	0.3	2	7	58				Black/brown Silty CLAY, possible oil like material, very soft, low to medium plasticity, viscous, wet. (ML)	
					4							
					3							
					3							
					38							
		8	14-16	0.5	11	15	72				Light brown Silty angular GRAVEL, some fine to medium Sand, loose, wet. (GM)	
					4							
					5							

Borehole tremie-grouted with Bentonite/Cement to grade

Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; RCA = Re-Constituted-Aggregate.

Analytical sample collected from 8-10' and 18-20' bgs for BTEX, PAHs.



Client: National Grid

Well/Boring ID: SB-14

Site Location:

Erie Boulevard
Syracuse, NY

Borehole Depth: 50'

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		9	16-18	2.0	16 18 12 11	30	174		GM		Black subangular Gravelly SILT, oil like material with small tar like blebs, odor. (GM)	
							350		SM		Medium brown fine to medium Sandy SILT, some subangular coarse Sand, dense, moist. (SM) slight odor (18-18.25')	
370		10	18-20	2.0	11 9 6 5	15	398	X			Medium brown fine to coarse subangular Gravelly SILT, some NAPL (droplets), trace fractured Pebbles, wet. (GM)	
20											Trace black (oil like material) staining, becomes saturated @ 20'	
		11	20-22	0.75	8 8 7 9	15	154				Some reddish brown Silt @ 22'	
365		12	22-24	0.9	7 5 6 5	11	217		GM		Redish brown fine to coarse subangular Gravelly SILT, tar like material (droplets) some fine to medium Sand, trace Pebbles and odor, saturated. (GM)	
25		13	24-26	1.7	5 7 10 10	17	230				some odor, no oil like material @ 26'	
		14	26-28	0.75	6 5 6 4	11	46.3				Medium brown coarse subangular Silty GRAVEL, fine to medium Sand, some black (oil like material) staining and tar like material (droplets), saturated. (GM)	
360		15	28-30	1.1	3 4 4 4	8	64.3				Black Gravelly SILT, oil like material with small blebs of tar like material, some fine to medium subangular Sand, little coarse Gravel, saturated.	
30		16	30-32	2.0	3 4 3 3	7	59				Black fine to coarse subangular Silty GRAVEL, coarse subangular Sand and oil like material, little medium Sand, strong odor and sheen, saturated. (GM)	
355		17	32-34	2.0	2 3 3 4	6	45					
35		18	34-36	2.0	8 7 8 9	15	96		GM			

Borehole
tremie-grouted
with
Bentonite/Cement
to grade

Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; RCA = Re-Constituted-Aggregate.

Analytical sample collected from 8-10' and 18-20' bgs for BTEX, PAHs.

Client: National Grid

Well/Boring ID: SB-14

Site Location:

Erie Boulevard
Syracuse, NY

Borehole Depth: 50'

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		19	36-38	2.0	7 9 13 12	22	126				Black fine to coarse subangular Silty GRAVEL, coarse subangular Sand and oil like material, little medium Sand, strong odor and sheen, saturated. (GM)	
350		20	38-40	1.1	8 8 8	16	142				Light brown to medium brown fine to coarse subangular Silty GRAVEL, tar like materia and oil like material, strong odor and sheen, loose to medium dense, saturated. (GM)	
40		21	40-42	1.2	7 8 6 10 10	16	177				Light brown to light gray fine to coarse subrounded to sub angular Gravelly SILT, some tar like material (droplets), little medium to coarse subangular Sand, saturated. (GM)	
345		22	42-44	2.0	3 4 4 5	8	59.3				Light gray little tar like material blebs @ 43.4'	
45		23	44-46	0.5	4 5 5 10	10	115			GM	Light gray fine to coarse subangular Gravelly SILT, significant tar like material, some fine to medium Sand, loose, saturated. (GM)	Borehole tremie-grouted with Bentonite/Cement to grade
340		24	46-48	0.8	6 6 5 4	11	105					
50		25	48-50	0.875	3 4 4 4 5	8	92.6					
335												
55												



Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; RCA = Re-Constituted-Aggregate.

Analytical sample collected from 8-10' and 18-20' bgs for BTEX, PAHs.

Date Start/Finish: 6/2/2008
Drilling Company: Parratt-Wolff, Inc.
Driller's Name: Jim Lansing
Drilling Method: Hollow Stem Auger
Auger Size: 4.25" OD
Rig Type: CME-75
Sampling Method: 2"x 2" SS

Northing: 1112098.112
Easting: 933987.1159
Casing Elevation: NA
Borehole Depth: 40'
Surface Elevation: 389.3586
Descriptions By: Dan Zuck

Well/Boring ID: SB-15
Client: National Grid
Location: Erie Boulevard
 Syracuse, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
390												
8		1	0-2	1.1	11	20	0.0		GM	ASPHALT		
					12				GM	Light to medium brown fine to coarse subangular Silty GRAVEL, some coarse Sand, loose, moist to wet. (GM)		
					14				GM	Gray fractured LIMESTONE fragments		
		2	2-4	1.2	16	58	0.0			Light to medium brown fine to coarse subangular Silty GRAVEL, some coarse Sand, loose, moist to wet. (GM)		
					34					Light gray fine to coarse Gravely SILT, some medium to coarse Sand, loose, moist to dry. (GM)		
					24					Black SLAG, dense, dry.		
385					17							
5		3	4-6	1.3	18	25	0.0		GM	Redish brown BRICK, loose to medium dense, moist.		
					7				GM	Dark gray Gravely SILT, fine to medium Sand, some Slag, loose, wet. (GM)		
					4				GM to SM	Medium brown/trace light gray fine to medium Sandy SILT, little fine subangular Gravel, trace fragments of Brick and Concrete, loose to medium dense, moist. (GM to SM)		
		4	6-8	1.3	4	8	0.0		GM to SM	Redish brown Brick fragments (7-7.2')		
					3							
		5	8-10	0.4	4					Fragmented BRICK, moist. Brick stuck in tip @ 8.4'		
380					3	5	0.0					
					2					Fragmented BRICK, loose, moist.		
10		6	10-12	1.1	1	1	0.0		SM	Medium brown Silty fine to medium subangular SAND, trace Gravel and fragmented Brick, loose, moist to wet. (SM)		
					1				SM	Little coarse subangular Gravel, saturated (GM to GC) @ 12'		
		7	12-14	0.75	1	NA	0.0					
					1							
375					4							
15		8	14-16	1.25	4	12	28.3		GM	Black-stained coarse subrounded Gravely SILT, some odor, medium dense, moist. (GM)		
					8					Light brown/trace staining, slight odor @ 15.1'		
					7							

Borehole tremie-grouted with Bentonite/Cement to grade



Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon.

Analytical sample collected from 14-16' for BTEX (3 Jars), 8270c and 9012B (2 Jars), and PAH (1 Jar), and from 22-24' bgs for BTEX (1 Jar), 8270c and 9012B (2 Jars), and for Cyanide (1Jar).

Client: National Grid

Well/Boring ID: SB-15

Site Location:

Erie Boulevard
Syracuse, NY

Borehole Depth: 40'

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows /6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		9	16-18	2	8				SM		Dark brown/trace grayish-black fine to medium subangular Sandy SILT, some tar like material (droplets), little coarse Sand, significant odor, saturated. (SM)	
					10							
					14	24	41.2					
					22				GM		Light gray to light brown Silty GRAVEL, slight odor, moist to dry. (GM)	
					7							
					8						Dark brown/trace grayish-black fine to medium subangular Sandy SILT, some tar like material (droplets), little coarse Sand, odor, saturated. (SM)	
370		10	18-20	1.2	11	19	18.2					
					23							
					10						Fractured SHALE?? (20.4-20.5')	
					15							
					12	27	53				Light gray to medium brown fine to coarse subangular to angular Silty GRAVEL, trace fractured angular Cobbles, moist to dry. (GM)	
					4							
					8							
					10						Light gray to medium brown/slight stained fine to coarse subangular Silty GRAVEL, little blebs or tar like material, trace fractured angular Cobbles, some odor, moist to dry. (GM)	
					11	21	99.8					
					8							
365					17						Dark gray fine subangular Gravely SILT, little coarse Gravel, trace tar like material (droplets), some odor, dense to medium dense, moist. (GM)	
					12							
					9	21	62				Medium brown fine to coarse subangular to angular Gravely SILT, some tar like material, loose, saturated. (GM)	
					8							
					2							
					2							
					5	7	53					
					7							
					3				GM		Medium brown fine to coarse subrounded gravely SILT, some fine to medium Sand, trace tar like material, slight odor, loose, saturated. (GM)	
					5							
					5	10	48.1					
					7							
					3							
					5							
					6	11	38.6					
					6							
					3							
					3							
					6	9	38.8					
					8							
355					7							
					7							
					6							
35		18	34-36	0.8	6	13	0.3					
					5							

Borehole
tremie-grouted
with
Bentonite/Cement
to grade

Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon.

Analytical sample collected from 14-16' for BTEX (3 Jars), 8270c and 9012B (2 Jars), and PAH (1 Jar), and from 22-24' bgs for BTEX (1 Jar), 8270c and 9012B (2 Jars), and for Cyanide (1Jar).

Client: National Grid

Well/Boring ID: SB-15

Site Location:

Erie Boulevard
Syracuse, NY

Borehole Depth: 40'

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		19	36-38	1.1	6	14	8.1				Medium brown fine to coarse subrounded Gravelly SILT, some fine to medium Sand, trace tar like material, slight odor, loose, saturated. (GM)	
					6							
					8							
					5							
					8							
350		20	38-40	0.9	6	12	13.8					
					6							
					5							
40												
345												
45												
340												
50												
335												
55												

Borehole
tremie-grouted
with
Bentonite/Cement
to grade

Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon.

Analytical sample collected from 14-16' for BTEX (3 Jars), 8270c and 9012B (2 Jars), and PAH (1 Jar), and from 22-24' bgs for BTEX (1 Jar), 8270c and 9012B (2 Jars), and for Cyanide (1Jar).

Date Start/Finish: 6/5/2008 Drilling Company: Parratt-Wolff, Inc. Driller's Name: Jim Lansing Drilling Method: Hollow Stem Auger Auger Size: 4.25" OD Rig Type: CME-75 Sampling Method: 2"x 2" SS	Northing: 1112309.823 Easting: 934001.0439 Casing Elevation: NA Borehole Depth: 50' Surface Elevation: 388.3566 Descriptions By: Dan Zuck	Well/Boring ID: SB-16 Client: National Grid Location: Erie Boulevard Syracuse, NY
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
390												
		1	0-2	0.9	13	23	0.0		SM		ASPHALT	
					11						Dark brown Sandy SILT, RCA material (Brick, Concrete, Asphalt) with fine to medium Sand, loose, moist to dry. (SM)	
					5							
					4							
335		2	2-4	0.5	3	7	1.0					
					4							
					5							
					1							
		3	4-6	0.8	1	2	1.9				Medium to dark brown Sandy SILT, little fine to coarse angular Gravel, trace Coal fragments, loose, wet. (SM)	
					1							
					2							
		4	6-8	0.9	1	2	1.7		SM to GM			
					1							
380					1						Slight staining @ 8'	
		5	8-10	1.0	1	2	0.0					
					1							
					3							
10					2						Black-stained fine to medium Sandy SILT, trace Gravel, odor, loose, wet. (SM)	
		6	10-12	1.7	2	3	114		SM		Black-stained fine to medium SAND, trace oil like material (about 5 %), loose, saturated. (SM)	
					1							
					1							
					1							
		7	12-14	1.9	1	3	476		GM to SM		Black Sandy SILT, little fine to coarse subangular Gravel, trace tar like material (about 5%), loose, saturated. (GM to SM)	
375					2						Black to dark brown stained SILT, trace coarse Sand, odor, medium dense, wet. (SM)	
					4				SM			
					4							
15		8	14-16	1.5	8	12	91.3				Medium to dark brown fine to coarse subangular to angular Gravely SILT, slight odor, medium dense, moist. (GM)	
					4							
					9				GM			

Borehole tremie-grouted with Bentonite/Cement to grade



Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; RCA = Re-Constituted-Aggregate.

Analytical sample collected from 12-14' and 18-20' bgs for BTEX, PAH.

Client: National Grid

Well/Boring ID: SB-16

Site Location:

Erie Boulevard
Syracuse, NY

Borehole Depth: 50'

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		9	16-18	1.0	6 7 8 14	15	66.1		GM		Medium to dark brown fine to coarse subangular to angular Gravelly SILT, slight odor, medium dense, moist. (GM) Trace staining on exterior of sample (16-18.2')	
370					5 5						Black-stained fine to coarse angular Gravelly SILT, strong odor, sheen, wet. (GM)	
		10	18-20	0.9	13 19	18	41.3	X			Medium to dark brown fine to coarse subangular to angular Gravelly SILT, fractured Cobbles, slight odor, medium dense, moist. (LS)	
20		11	20-22	2.0	11 14 13 19	27	140				Medium brown Gravelly SILT, some odor, dense, wet. (GM) Trace blebs of tar like material @ 20.0'	
		12	22-24	2.0	11 22 14 16	36	41.3		GM		Dark gray fine to coarse angular Silty GRAVEL, trace tar like material (droplets), loose, wet to saturated. (GM)	
360					6 8 11 10	19	427				Trace Clayey SILT, saturated @ 25.4'	
25		13	24-26	2.0	10 7 6 7	13	NA				No recovery	
		14	26-28	NA	3 3 4 3	7	NA					
360		15	28-30	NA	4 3 4 5	10	66.2				Dark gray/trace medium brown fine to coarse angular Gravelly SILT, some odor, trace to no sheen and staining, saturated. (GM)	
30		16	30-32	2.0	4 4 5 4	9	25.6				Dark gray fine to coarse angular Silty GRAVEL, tar like material, trace sheen, saturated. (GM)	
		17	32-34	1.75	6 9 7 4	16	25.1		GM		Black silt, odor @ 33.6' Trace fractured Cobble @ 34.31	
355												
35		18	34-36	0.9								

Borehole
tremie-grouted
with
Bentonite/Cement
to grade

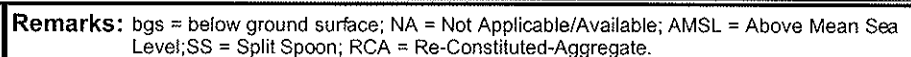
Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; RCA = Re-Constituted-Aggregate.

Analytical sample collected from 12-14' and 18-20' bgs for BTEX, PAH.



Well/Boring ID: SB-16

Borehole Depth: 50'

Well/Boring
Construction[illegible]

Analytical sample collected from 12-14' and 18-20' bgs for BTEX, PAH.

Client: National Grid

Well/Boring ID: SB-17

Site Location:

Erie Boulevard
Syracuse, NY

Borehole Depth: 64' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
370		9	16-18	0.6	34 50/ 0.0	NA	407		SM		Medium brown/gray Sandy SILT, trace fine Gravel, droplets of tar like material, staining and odor, sheen throughout, medium dense, wet. (SM) Brown saturated tar like material @ 16.3' bgs.	
20		10	18-20	1.25	13 17 50/0.2	NA	204				Medium brown fine to coarse subrounded to subangular Gravely SILT, some fine Sand, trace droplets of tar like material, slight sheen and odor, medium dense, wet. (GM)	
		11	20-22	0.6	50/ 0.1	NA	243				fine to coarse Gravely SILT, some odor and staining, medium dense, moist. (GM)	
365		12	22-24	2.0	34 41 37 8	78	212				Sandy SILT, trace fine subrounded Gravel, loose, dry. (GM)	
25		13	24-26	1.3	6 5 6 8	11	55.3		GM		Dark gray fine to coarse subrounded Silty GRAVEL, mix of water and tar like material (~5%), odor and sheen, saturated. (GM)	
360		14	26-28	1.25	3 4 3 3	7	64.6				Some fractured and full Cobbles, some brown droplets on water surface (26-28' bgs).	
		15	28-30	0.3	6 7 7 5	14	25.1				Tar like material (~5-10%), significant sheen @ 28' bgs.	
30		16	30-32	0.6	6 8 8 15	16	32.6		SM to GM		Dark gray Sandy SILT, little fine to coarse subangular Gravel, odor and sheen, trace droplets/pockets of tar like material, medium loose to loose, wet. (SM-GM)	
355		17	32-34	2.0	12 12 12 9	24	116				Dark gray fine to coarse angular Gravely SILT, trace fractured Cobbles, some droplets of tar like material within spaces, loose, saturated. (GM)	
35		18	34-36	2.0	7 9 10 9	19	83.2		GM			

Borehole
tremie-grouted
with
Bentonite/Cement
to grade**Remarks:** bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; RCA = Re-Constituted-Aggregate.

Client: National Grid

Well/Boring ID: SB-17

Site Location:

Erie Boulevard
Syracuse, NY

Borehole Depth: 64' bgs

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
350		19	36-38	2.0	13	19	154				Dark gray fine to coarse angular Gravely SILT, trace fractured Cobbles, some droplets of tar like material within spaces, loose, saturated. (GM)	
					9							
					10							
					8							
					8							
40		20	38-40	1.6	8	16	97.5					
					6							
					7							
					7							
		21	40-42	2.0	7	14	72.8					
					7							
345					9						Dark olive gray fine to coarse subrounded Gravely SILT, some fine to medium Sand, little pockets/droplets of tar like material within spaces, odor and staining, some sheen, saturated. (GM)	
					7							
		22	42-44	2.0	7	14	123					
					6							
					5				GM			
45					6						Greenish light gray fine to coarse subangular Gravely SILT, little fine to medium Sand, some pockets of tar like material and odor, medium dense, wet to saturated. (GM)	
		23	44-46	1.7	6	12	89.3					
					6						Light gray @ 46' bgs.	
					11							
340		24	46-48	0.7	6	12	114					
					4							
					7							
					7							
		25	48-50	0.6	7	14	96.4					
					4							
50					8							
					6							
		26	50-52	2.0	7	13	85.5					
					8							
335					8							
					8							
		27	52-54	2.0	8	16	40.5				Light gray fine to coarse subangular Gravely SILT, some fine Sand, little pockets of tar like material, sheen and odor, medium dense, wet. (GM)	
					6							
							0.0		ML		Light gray Clayey SILT, slight odor and plasticity, dense, moist. (ML)	
55					12						Greenish light gray fine to coarse subangular Gravely SILT, little fine to medium Sand, some pockets of tar like material and odor, medium dense, wet to saturated. (GM)	
		28	54-56	2.0	11	21	42.7				Light gray fine to coarse subangular Gravely SILT, some fine Sand, little pockets of tar like material, sheen and odor, medium dense, wet. (GM)	
					10							
					12							

Borehole
tremie-grouted
with
Bentonite/Cement
to grade

Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; RCA = Re-Constituted-Aggregate.



Client: National Grid

Well/Boring ID: **SB-17**

Site Location:

Erie Boulevard
Syracuse, NY

Borehole Depth: 64' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/In/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
330	29	56-58	1.25	10	9	18	83.9				Light gray fine to coarse subangular Gravely SILT, some fine Sand, little pockets of tar like material, sheen and odor, medium dense, wet. (GM)	
				9								
				9								
				16								
				12								
30	58-60	0.9	22	91.4					GM			
				10								
				12								
60				NA								
				NA								
				NA								
				NA								
31	60-62	1.3	NA	115								
				NA								
325				NA								
				NA								
				NA								
				NA								
32	62-64	1.5	NA	63.9							Light greenish gray fine to coarse subrounded Gravely SILT, some fine Sand, trace Pebbles, little pockets of brown tar like material, sheen on water, some odor, trace staining, medium dense, wet.	
				NA								
				NA								
65												
320												
70												
315												
75												

Borehole
tremie-grouted
with
Bentonite/Cement
to grade

Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; RCA = Re-Constituted-Aggregate.

Date Start/Finish: 6/3/2008 Drilling Company: Parratt-Wolff, Inc. Driller's Name: Jim Lansing Drilling Method: Hollow Stem Auger Auger Size: 4.25" OD Rig Type: CME-75 Sampling Method: 2"x 2' SS	Northing: 1112058.117 Easting: 934018.9509 Casing Elevation: NA Borehole Depth: 44' Surface Elevation: 389.8146 Descriptions By: Dan Zuck	Well/Boring ID: SB-18 Client: National Grid Location: Erie Boulevard Syracuse, NY
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	390											
		1	0-2	1.4	NA	6	0.0		GM		ASPHALT	
					8	14					Medium to light gray fine to coarse Gravely SILT, RCA material (Brick, Concrete, Asphalt) with fine to medium Sand, moist. (GM)	
		2	2-4	1.3	34	29	0.0				Medium brown Sandy SILT, little coarse subangular Sand, trace fine Gravels, medium dense, moist to wet. (SM)	
					17							
					12							
					11							
					4							
	385	3	4-6	1.5	3	6	0.0	X	SM		Medium brown Sandy SILT, RCA material (Brick, Concrete, Asphalt) with fine to medium Sand, little Brick and Cement pieces, trace Coal pieces, wet. (SM) Some Clay, slight plasticity (4-6')	
					3							
					3							
		4	6-8	1.25	4	8	0.0		SM to SC		Medium brown Sandy SILT, trace coarse angular Sand, soft, wet. (SM to SC)	
					4							
					2							
		5	8-10	1.2	2	5	0.6		GM		Medium brown fine to coarse subangular Gravely SILT, some fine to medium Sand, medium dense, moist to wet. (GM)	
					3							
	380	6	10-12	0.9	8	16	0.0				Olive brown/gray Silty fine to coarse angular GRAVEL, trace Cobbles (fractured Limestone and Quartzite), medium dense, moist.	
					8							
					9							
					2							
		7	12-14	1.0	4	13	0.0				Medium brown fine to coarse subangular to angular Gravely SILT, some fine to medium Sand, trace Cobble fragments, medium dense, wet. (GM)	
					9							
					11				GM			
					4							
	375	8	14-16	1.4	6	10	0.0				Olive gray SILT, trace coarse subangular Sand, medium dense, moist. (SM)	
					4							
					3				SM			

Borehole tremie-grouted with Bentonite/Cement to grade

Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; RCA = Re-Constituted-Aggregate.

Analytical sample collected from 4-6' and 24-26' bgs for for BTEX, 8270c and 9012B.



Client: National Grid

Well/Boring ID: SB-18

Site Location:

Erie Boulevard
Syracuse, NY

Borehole Depth: 44'

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Recovery (feet)	Blows / 6 inches	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		9	16-18	0.75	3	19	0.8				Olive gray SILT, trace coarse subangular Sand, medium dense, moist. (SM)	
					8							
					11							
					14							
		10	18-20	1.4	5	22	0.8		SM		Olive gray/medium brown fine to coarse angular Gravely SILT, little fractured Cobbles (Limestone and Quartzite), moist. (SM)	
					10							
					12							
					16							
		11	20-22	0.8	19	28	0.0					
					21							
					7							
					6							
		12	22-24	0.75	6	10	0.0		SM to SC		Medium brown fine Sandy SILT, Clay, trace coarse subrounded Sand, soft, slight to low plasticity, wet. (SM to SC)	
					4							
					6							
					6							
		13	24-26	1.0	5	19	135				Light gray fine to coarse subangular Gravely SILT, little tar like material (droplets within pore space), odor and sheen, loose, wet. (GM)	
					9							
					10							
					4							
		14	26-28	0.8	9	17	62				Light gray fine to coarse subangular Gravely SILT, little tar like material (droplets, about 1%), odor and sheen, loose, saturated. (GM)	
					9							
					8							
					8							
		15	28-30	0.9	5	12	27.3					
					6							
					6							
					8							
		16	30-32	2.0	7	15	40.1					
					8							
					7							
					8							
		17	32-34	0.75	16	19	16.2				Trace fractured Cobbles @ 32'	
					3							
					5							
					2							
		18	34-36	0.75	3	7	8.2					
					4							
					5							

Borehole
tremie-grouted
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Bentonite/Cement
to grade

Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; RCA = Re-Constituted-Aggregate.

Analytical sample collected from 4-6' and 24-26' bgs for BTEX, 8270c and 9012B.

Client: National Grid

Well/Boring ID: **SB-18**

Site Location:

Erie Boulevard
Syracuse, NY

Borehole Depth: 44'

DEPTH	ELEVATION	Sample Run Number	Sample/In/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		19	36-38	0.6	3	8	21.9				Light gray fine to coarse subangular Gravely SILT, little tar like material (droplets, about 1%), odor and sheen, loose, saturated. (GM)	
					3							
					5							
					8							
		20	38-40	1.1	6	12	0.0				Medium brown fine to coarse subangular Gravely SILT, trace tar like material sheen, slight odor, saturated. (GM)	
					6							
40	350				4							
		21	40-42	0.5	6	11	0.0		GM		No Recovery (40-42')	
					6							
					5						Color change to light gray @ 42'	
					7							
		22	42-44	0.9	6	12	1.3 to 10.1				Medium brown fine to coarse subangular Gravely SILT, trace tar like materialsheen, slight odor, saturated. (GM)	
					6							
					6							
45	345											
50	340											
55	335											

Borehole
tremie-grouted
with
Bentonite/Cement
to grade

Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; RCA = Re-Constituted-Aggregate.

Analytical sample collected from 4-6' and 24-26' bgs for BTEX, 8270c and 9012B.

Client: National Grid

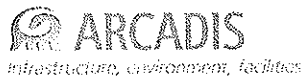
Well/Boring ID: SB-19

Site Location:

Erie Boulevard
Syracuse, NY

Borehole Depth: 40'

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
370		9	16-18	1.3	10 8 11 12	19	0.0		GM		Medium brown fine to coarse subangular to angular Gravely SILT, some fine to medium Sand, trace to little fractured Cobbles, medium dense, moist. (GM) Fractured Quartzite Cobbles, moist to wet @ 16.5'	
20		10	18-20	0.3	8 11 10 9	21	0.0		SM		Medium brown fine to coarse subangular to subrounded Gravely SILT, trace fractured Cobbles, wet. (SM)	
		11	20-22	1.1	5 4 5 9	9	0.0					
165		12	22-24	NA	75.1 NA NA NA	NA	NA				No recovery	
25		13	24-26	1.0	8 11 22 24	33	0.0				Medium to dark brown fine to coarse subangular to angular Gravely SILT, some fine to medium Sand, little fractured Cobbles, trace sheen, saturated. (GM)	
360		14	26-28	0.8	8 8 6 5	14	0.0					
		15	28-30	2.0	5 6 11 9	17	0.0				No sheen @ 29'	
30		16	30-32	1.2	4 8 11 7	19	0.0		GM		Light olive gray fine to coarse subangular to angular Gravely SILT, some fine to medium Sand, little fractured Cobbles, saturated. (GM)	
355		17	32-34	1.9	6 7 7 7	14	0.0					
35		18	34-36	1.1	4 4 4 4	8	0.0					

Borehole
tremie-grouted
with
Bentonite/Cement
to grade**Remarks:** bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; RCA = Re-Constituted-Aggregate.

Client: National Grid

Well/Boring ID: **SB-19**

Site Location:

Erie Boulevard
Syracuse, NY

Borehole Depth: 40'

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
350		19	36-38	1.25	4	7	0.0		GM		Light olive gray fine to coarse subangular to angular Gravelly SILT, some fine to medium Sand, little fractured Cobbles, saturated. (GM)	
					4							
					3							
					4							
					3							
		20	38-40	1.3	4	8	0.0					
					4							
					5							
40												Borehole tremie-grouted with Bentonite/Cement to grade
345												
45												
340												
50												
335												
55												



Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; RCA = Re-Constituted-Aggregate.

Date Start/Finish: 6/11/2008 Drilling Company: Parratt-Wolff, Inc. Driller's Name: Jim Lansing Drilling Method: Geoprobe Auger Size: NA Rig Type: Diedrich D-50 Sampling Method: 4 " Macrocore	Northing: 1112263.612 Easting: 934194.5941 Casing Elevation: NA Borehole Depth: 32' bgs Surface Elevation: 387.22 Descriptions By: Ricardo Jaimes	Well/Boring ID: SB-20 Client: National Grid Location: Erie Boulevard Syracuse, NY
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
390												
											ASPHALT	
		1	0-2	NA	.	-	0.0				Brown fine to coarse SAND and fine to coarse subrounded to subangular GRAVEL, medium dense, dry.	
					.	.					Hand dug (0-4' bgs)	
385		2	2-4	NA	.	-	0.0					
					.	.						
					.	.					Brown fine to coarse SAND and fine to coarse subangular to subrounded GRAVEL, dense, dry.	
					.	.						
					.	.						
		3	4-8	2.23	.	-	0.0					
					.	.						
					.	.						
					.	.						
380					.	-	0.0					
					.	.						
					.	.						
					.	.						
		4	8-12	2.8	.	-	0.0					
					.	.						
					.	.						
					.	.						
375					.	-	0.0				Brown to gray fine to coarse SAND and fine to coarse subangular to subrounded GRAVEL, dense, non-plastic, dry.	
					.	.						
					.	.						
					.	.						
		5	12-16	4.0	.	-	0.0					
					.	.						
					.	.						
					.	.						
15					.	-	0.0					

Borehole tremie-grouted with Bentonite/Cement to grade



Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; OLM = Oil Like Material; TLM = Tar Like Material; PLO = Petroleum Like Odor.

Client: National Grid

Well/Boring ID: SB-20

Site Location:

Erie Boulevard
Syracuse, NY

Borehole Depth: 32' bgs

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
370		6	16-20	4.0	.	.	0.0			.	Brown to light brown fine to coarse SAND, some Silt and angular Gravel, dense, dry.	
					.	.	0.0			.		
20					.	.	0.0			.		
365		7	20-24	4.0	.	.	0.0			.		
					.	.	0.0			.		
25		8	24-28	2.80	.	.	0.0			x	Angular ROCK fragments, some Silt, dense, moist to wet at the tip	
					.	.	0.0			o	Brown fine to coarse SAND and fine to coarse subangular to subrounded GRAVEL, dense, dry.	Borehole tremie-grouted with Bentonite/Cement to grade
360					.	.	0.0			o	Gray fine to coarse subrounded GRAVEL, some fine to coarse Sand, medium dense to loose, wet.	
					.	.	0.0			o	Gray fine to coarse SAND and fine to coarse subangular GRAVEL, dense to medium dense, wet.	
30		9	28-32	2.35	.	.	0.0			o		
					.	.	0.0			o		
355												
35												



Remarks: bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; OLM = Oil Like Material; TLM = Tar Like Material; PLO = Petroleum Like Odor.

Date Start/Finish: 6/9/08 Drilling Company: Parratt-Wolff, Inc. Driller's Name: Jim Lansing Drilling Method: Hollow Stem Auger Auger Size: 4.25" OD Rig Type: Diedrich D-50 Sampling Method: 2"x 2" SS	Northing: 1112344.65 Easting: 933949.5633 Casing Elevation: NA Borehole Depth: 50' bgs Surface Elevation: 389.871 Descriptions By: Ricardo Jaimes	Well/Boring ID: SB-21 Client: National Grid Location: Erie Boulevard Syracuse, NY
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	390											
		1	0-2	0.9	NA	NA	0.0				ASPHALT	
					NA						Dark brown to black Silty CLAY, Sand, and fine Gravel, slight odor and plasticity, moist.	
					0.5							
					2							
					0						Brown Silty CLAY and fine Sand, some Coal, wet.	
		2	2-4	1.0	4	9	0.0					
					5							
					5							
					6						Dark brown fine to coarse SAND and angular fine GRAVEL, trace Silt, loose, moist.	
	385	3	4-6	0.82	3	5	0.0					
					2							
					3							
					6						Dark brown to dark gray fine to coarse SAND, some fine angular Gravel, little Silt, Slag, and Brick, moist.	
		4	6-8	1.4	7	12	0.0					
					5							
					7							
					6							
		5	8-10	1.38	8	15	0.0				Dark gray Silty CLAY and fine Sand, slight plasticity, medium dense, slight petroleum like odor (PLO), moist.	
					7							
					4							
	380				3						Brown to dark gray SAND and SILT, little Brick fragments, PLO , dense, moist.	
		6	10-12	0.93	4	7	10.0					
					3							
					11							
					13						No recovery	
		7	12-14	0.0	11	24	NA					
					13							
					20							
					2						Dark gray fine to medium SAND and SILT, trace Clay, low plasticity, PLO , medium stiff, wet.	
	375	8	14-16	1.7	4	8	11.5					
					4							
					4							
					6							

Borehole tremie-grouted with Bentonite/Cement to grade

Remarks: BGS = Below Ground Surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; OLM = Oil Like Material; TLM = Tar Like Material; PLO = Petroleum Like Odor.



Client: National Grid

Well/Boring ID: SB-21

Site Location:

Erie Boulevard
Syracuse, NY

Borehole Depth: 50' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
20	370	9	16-18	2.0	4 5 6 6	11	14.7				Dark gray fine to medium SAND and SILT, trace Clay, low plasticity, PLO, medium stiff, wet.	
											Dark gray-stained CLAY and SILT, slight PLO, medium plasticity, stiff, moist.	
											Dark gray Clayey SAND, medium dense, moist.	
		10	18-20	1.9	6 6 7	12	3.8				Gray to brown-stained Silty CLAY, high plasticity, stiff, moist.	
		11	20-22	1.62	2 3 20 23	23	7.7				Gray and dark gray fine to coarse SAND and subangular GRAVEL, PLO, dense, wet.	
											Dark gray CLAY and SILT, little Sand, slight PLO, plastic, medium stiff, moist.	
		12	22-24	0.9	16 12 10 15	22	2.3					
25	365	13	24-26	1.25	8 8 7	15	3.8				Dark gray fine to coarse SAND and CLAY, slight PLO and plasticity, medium dense, moist.	
		14	26-28	0.4	12 12 9	24	7.2				Gray to dark brown fine to coarse SAND and fine to coarse angular GRAVEL, some Silt, trace Clay, PLO, medium dense, moist.	
		15	28-30	0.62	10 9 7 6	16	2.6				Dark gray fine to coarse SAND and fine to medium subangular to subrounded GRAVEL, slight odor, sheen, medium dense, wet.	
30	360											
		16	30-32	0.56	2 6 5 5	11	3.1				Gray fine to coarse subangular to subrounded GRAVEL, tiny blebs of oil like material (OLM), PLO, sheen, medium dense, wet.	
		17	32-34	1.55	2 5 6 6	11	3.0				Gray fine to coarse subangular to subrounded GRAVEL, trace fine to coarse Sand, very small blebs of OLM, PLO, medium dense, wet.	
35	355	18	34-36	1.25	6 5 6 5	11	6.0				Dark gray medium to coarse subangular GRAVEL, little blebs of OLM, PLO, sheen, medium dense, wet.	
											Small blebs of tar like material (TLM), and wet @ 36' bgs	

Borehole
tremie-grouted
with
Bentonite/Cement
to grade

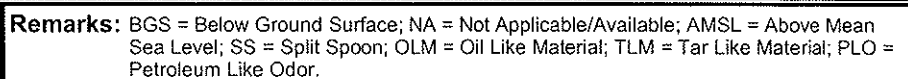
Remarks: BGS = Below Ground Surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; SS = Split Spoon; OLM = Oil Like Material; TLM = Tar Like Material; PLO = Petroleum Like Odor.

Well/Boring ID: SB-21

Borehole Depth: 50' bgs

Well/Boring
Construction

Borehole
tremie-grouted
with
Bentonite/Cement
to grade



ARCADIS

Test Pit Logs

TEST PIT LOG

Test Pit TP-1 Project/No. Erie Blvd. PSA/IRM AY0207.001 Page 1 of 1

Site Location Syracuse, NY Start Date 8/28/95 Finish Date 8/28/95

Excavated Depth 9 feet Hole Diameter NA feet Type of Sample/ Coring Device Back-hoe

Length and Width of Surface Cut 10' x 4' Sampling Interval Cont. feet

Land-Surface Elevation 389.9 feet ☒ Surveyed ☐ Estimated Datum NAVD 88 - NGVD 1929

Fluid Used None Excavator Back-hoe

Subcontractor Parratt-Wolff, Inc. Operator Brad Helper

Prepared By S. Blackmer

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Sample/Core Description
	From	To		
0.0	0.0	0.5		Asphalt.
0.5	0.5	2.5		Brick (mostly red, some yellow/off-white) and concrete, some brown sand, little cinders, dry, loose.
3.5	2.5	5.0		Concrete and red brick, larger fragments than above, some gray-black staining, some brown sand, little natural gravel, trace metal fragments.
3.6	5.0	6.0		Brick and Concrete fragments, some sand and natural gravel.
7.9	6.0	7.0		Brown Sand, some brick (less than above), faint odor, black staining; concrete foundation (or large concrete block) at 7'.
23.8	7.0	8.0		Sand, very fine, some gravel and coarse sand, thick petroleum liquid, odors.
25.7	8.0	9.0		Black stained fill materials (very fine Sand, some coarse sand, and gravel), wood planks (4x6 or possibly railroad ties?), concrete and brick, metal rods or pipes. Concrete foundation or floor at 9'. End test pit.



TEST PIT LOG

Test Pit TP-2 Project/No. Erie Blvd. PSA/IRM AY0207.001 Page 1 of 1

Site Location Syracuse, NY Start Date 8/28/95 Finish Date 8/28/95

Excavated Depth 11 feet Hole Diameter NA feet Type of Sample/ Coring Device Back-hoe

Length and Width of Surface Cut 10' x 4' Sampling Interval Cont. feet

Land-Surface Elevation 389.5 feet ☒ Surveyed ☐ Estimated Datum NAVD 88 NGVD 1929

Fluid Used None Excavator Back-hoe

Subcontractor Parratt-Wolff, Inc. Operator Brad Helper

Prepared By S. Blackmer

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Sample/Core Description
	From	To		
0.0	0.0	0.5		Asphalt.
0.0	0.5	2.0		Brown Sand and gravel, dry; bricks and brick fragments evident at 2'.
0.0	2.0	4.0		Brown sand, some gravel, little red brick/concrete, dry, trace metal, little to trace cinders;
				Larger fragments/blocks of brick and concrete evident.
0.2	4.0	5.0		Stone/rock and concrete wall or foundation materials.
0.0	5.0	6.0		Brown very fine Sand, some to little coarse sand and gravel.
2.3	6.0	7.0		Brown Sand and Gravel with some black staining (coal, cinders, and/or asphalt)
				evident - shiny appearance.
1.9	7.0	11.0		Brown very fine to fine Sand, some gravel, dry to damp. End test pit.



TEST PIT LOG

Boring/Well TP-2A Project/No. Erie Blvd, PSA/IRM AY0207.001 Page 1 of 1

Site Location Syracuse, NY Start Date 9/19/95 Finish Date 9/19/95

Excavated Depth 10 feet Hole Diameter NA feet Type of Sample/ Coring Device Back-hoe

Length and Width of Surface Cut 10' x 4' Sampling Interval Cont. feet

Land-Surface Elevation 389.2 feet ☒ Surveyed ☐ Estimated Datum NAVD 88 NGVD 1929

Fluid Used None Excavator Back-hoe

Subcontractor Parratt-Wolff, Inc. Operator Brad Helper

Prepared By S. Blackmer

Sample/Core Depth (feet below land surface)		Core Recovery (feet)		Sample/Core Description
OVM	From	To		
0.0	0.0	0.5		Asphalt.
0.0	0.5	2.0		Brown Sand and Gravel (various sizes and compositions), dry to damp; bricks and brick fragments evident at 2'.
0.0	2.0	5.0		Brown fine to very coarse Sand and Gravel, some red brick/concrete, little to trace cinders, dry to damp.
0.0	5.0	10.0		Brown Sand and Gravel (finer than above), dry.
				Move back (away from wall) to extend test pit.
0.0	0.5	5.0		Fill - Sand and Gravel, some to little brick and cinders, little metal debris.
6.0	5.0	10.0		Dark brown Sand and Gravel (various sizes, compositions, and textures), dry to damp, trace black "staining" from coal or cinders(?) - petroleum not evident.
				Move back (away from wall) to extend test pit.
7.0	0.5	3.0		Fill, as seen in adjacent cuts, plus trace wood fragments.
				At approximately 3' pipes diagonal across hole; attempt to move back and go around;
				hit large concrete block (unmovable) at about 2.5'.



ARCADIS

Wall Boring Logs

Contractor: Northstar
Driller: Harry Lyons
Inspector: W. D. Lilley
Rig Type: CM 6 4S-A-TV
Drilling Method: HS A-SS

ENGINEERING-SCIENCE DRILLING RECORD

BORING NO. WB-1
Sheet 1 of 5
Location Northern most
boring, near Genesee St.

PROJECT NAME Wall Replacement
PROJECT NO.

GROUNDWATER OBSERVATIONS

Water Level 6.0 6.4
Time 2:45 8:00
Date 3/29 3/30

Weather: Sunny 60°
Date/Time Start 3/27/95 3:00 pm
Date/Time Finish 3/31/95 4:00 pm

Plot Plan
Onondaga Creek
NMPCH9

Photo No. Reading	Sample ID	Sample Depth	% Recovery	SPT	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
0	A		20	1	Black and Brown silt and sand, Trace Gravel, trace wood (moist) (Fill) Same	Boring grouted with Bentonite Cement	TCL/TAL 0-6' with 3" split spoon Grain Size Sample
		1		2			
				2			
	B	2	20	2			
		3		1			
				2			
				3			
0	C	4	30	2	Same		
				1			
		5		1			
				2			
0	D	6	20	1			
				4	6.5'		Borehole PID=2.0 LEL=2.0
		7		7			
				8			
0	E	8	50	12	Brown coarse sand, little Gravel, Trace Silt Trace Brick, (Cobble and Brick) (wet) (Fill) 8.0		
		9		9	Brown and Gray Gravel, some sand, little Silt (2" layer of topsoil) (wet)		
		9		12			
				17			
0	F	10	80	12	Same (no topsoil)		
				9			
		11		7			
				6	12.0'		Lab Sample BTX, PAH CN-
0	G	12	50	5			
				8			
		13		6			
				7			
0	H	14	10	8	14.0'		
				5	Brown Gravel, some sand, Trace silt (wet)		
		15		5			
				7			
0	I	16	20	11	Same		
				9			
		17		7			
				6	Same		
0	J	18	30	8			
				9			
		19		7			
				7			
0	K	20		4			Borehole PID=1.0 LEL=2.0

STANDARD PENETRATION TEST

SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

SUMMARY Fill 0-8, Sandy gravel 8-21, Sand and
Gravel 21-45, Silty Sand & Gravel 45-69, Sand & Gravel

Contractor: Northstar
 Driller: Harry Lyons
 Inspector: W. D. Lilley
 Rig Type: CME 45-ATV
 Drilling Method: HS A - SS

ENGINEERING-SCIENCE DRILLING RECORD

BORING NO. WB-1

Sheet 2 of 5

PROJECT NAME Wall Replacement
 PROJECT NO. _____

Location _____

GROUNDWATER OBSERVATIONS

Water Level _____
 Time _____
 Date _____

Weather: Sunny 65° → Rain

Date/Time Start 3/28

Date Time Finish _____

Plot Plan

See Sheet #1

Photo Recording	Sample ID	Sample Depth	% Recovery	SPT
	K		50	8
		21		22
				4
	L	22	50	7
				5
		23		4
				4
	M	24	5	7
				3
		25		4
				4
	W	26	10	5
				5
		27		4
				6
✓	O	28	30	9
				7
		29		7
				8
✓	P	30	25	12
				25
		31		9
				6
✓	Q	32	35	9
				9
		33		6
				7
✓	R	34	50	6
				✓
		35		3
				5
✓	S	36	25	5
				7
		37		6
				8
✓	T	38	20	12
				✓
		39		5
				4
✓	U	40		6

FIELD IDENTIFICATION OF MATERIAL

WELL SCHEMATIC

COMMENTS

Brown Gravel, some Sand, Trace Silt

Gray Gravel and sand (layers)
Trace Silt (wet)

Same

Same

Same

Same

Same

Cobble (Trace stain)

Same (Trace stain)

Cobble
Same (Trace stain)

(6" layer of silt)

Lab
Sample
PAM
34.5-36
BT&T, CN-
36-38

STANDARD PENETRATION TEST

SUMMARY

SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

Contractor: <u>North Star</u> Driller: <u>Harry Lyons</u> Inspector: <u>W. D. Lilley</u> Rig Type: <u>CME 45-HTV</u> Drilling Method: <u>MSA-SS</u>					ENGINEERING-SCIENCE DRILLING RECORD		BORING NO. <u>WB-1</u> Sheet <u>3</u> of <u>5</u> Location _____ Plot Plan <u>See Sheet #1</u>	
GROUNDWATER OBSERVATIONS					PROJECT NAME <u>Wall Replacement</u> PROJECT NO. _____ Weather: _____ Date/Time Start _____ Date Time Finish _____			
Water Level								
Time								
Date								

Percussive Rocking	Sample ID	Sample Depth	% Recovery	SPT	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
✓	U		20	6	Gray Sand and Gravel (stained)		PAH 40-42
		41		7			
				8			
✓	V	42	46	12	Same (stained)		PAH+OTEY 44'-46'
				9			
		43		6			
				7	48.5		
✓	W	44	50	8	Gray Sand, little Gravel (Brown stains)		
				6			
		45		8			
				15	45.0		
15	X	46	10	16	Gray sand, little Gravel, trace Silt (fill) (Brown stains)		
				12			
		47		14			
				16			
✓	Y	48	10	17	Same		
				20			
		49		17			
				14			
✓	Z	50	25	14	Same		Borehole PIO = 0.8 LEL = 2000 PAH 52-54
				17			
		51		21			
				25	51		
✓	AK	52	10	30	Gray Sand and Gravel, trace Silt (fill)		
				17			
		53		11			
				34			
✓	BB	54	10	25	Same (Gravel layer stained)		
				19			
		55		14			
				43			
✓	CC	56	0	48	Same		
				50/1"			
		57					
✓	DD	58	20	50/1"	Same		
		59		21			
				33			
✓	EE	60		41			
				43			

STANDARD PENETRATION TEST SUMMARY _____
 SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED _____

Contractor: <u>North star</u>					ENGINEERING-SCIENCE DRILLING RECORD		BORING NO. <u>WB-1</u>	
Driller: <u>Harry Lyons</u>					PROJECT NAME <u>Wall Replacement</u>		Sheet <u>4</u> of <u>5</u>	
Inspector: <u>W. D. Lilley</u>							Location _____	
Rig Type: <u>SM E 4S-ATV</u>					PROJECT NO. _____		Plot Plan <u>See Sheet # 1</u>	
Drilling Method: <u>HS A - SS</u>								
GROUNDWATER OBSERVATIONS					Weather: <u>Cloudy → Snow</u>			
Water Level _____					Date/Time Start <u>3 / 31 / 95 - 9:10 am</u>			
Time _____								
Date _____								
Photo Reading	Sample ID	Sample Depth	% Recovery	SPT	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS	
\	GE	60		30	Gray Gravel and Sand, trace Silt (Solems)			
		61		46				
				43				
\	FE	62		48				
		63		↓	Same			
\	GC	64	0	50/3"				
		65		↓				
\	IE	66	0	50/1"				
		67		↓	Same			
\	JJ	68	0	100/1"				
		69		↓				
				69'				
100+	KK	70	50	14	Gray Sand and Gravel (Solems)		Borehole PID=1.8 LEL=2.0 PAH Lab sample 70-72	
				17	Same (solems)			
		71		16				
				66				
	LL	72	5	68				
				15	Same (solems)			
		73		13				
				14				
115+	MM	74	50	15				
				17	Same (solems)			
		75		14				
				17				
105+	NN	76		18				
				16	same (solems)			
		77		12				
				13				
10	OO	78		12		Coarse Sand, little Gravel		
				12				
		79		10				
				12				
	PP	80						

STANDARD PENETRATION TEST SUMMARY _____
 SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

Contractor: <u>Northstar</u> Driller: <u>Harry Lyons</u> Inspector: <u>W. D. Lilley</u> Rig Type: <u>CM 45-A-TV</u> Drilling Method: <u>HS A - SS</u>					ENGINEERING-SCIENCE DRILLING RECORD		BORING NO. <u>WB-1</u> Sheet <u>5</u> of <u>5</u> Location _____ Plot Plan _____	
GROUNDWATER OBSERVATIONS Water Level _____ Time _____ Date _____					Weather: <u>Pt Cloudy w/ Lt Snow</u> Date/Time Start: <u>3/31/95 - 12:25</u> Date/Time Finish: <u>3/31/95 4:00 pm</u>			
Photo No.	Sample Recovery	Sample Depth	% Recovery	SPT	FIELD IDENTIFICATION OF MATERIAL		WELL SCHEMATIC	COMMENTS
✓	PP		10	15	Gray coarse sand, little gravel (some subsols)			PAH 80-82
		81		15				
				12				
20	99	82	70	14				
				15				
		83		12	Same (little subsols) (odor)			
				14				
✓	RR	84	50	15				
				14				
		85		14				
				11	Same (Subsols)			Lab Sample PAH BTEX 84-86
		86		10				
					Boring terminated at 86'			
STANDARD PENETRATION TEST					SUMMARY			
SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED								

[illegible]

Contractor: <u>North Star</u>		ENGINEERING-SCIENCE DRILLING RECORD	BORING NO. <u>WB-2</u>
Driller: <u>Harry Lyons</u>			Sheet <u>2</u> of <u>5</u>
Inspector: <u>W.D. Lilly & Associates</u>		PROJECT NAME <u>Wall Replacement</u>	Location _____
Rig Type: <u>CM 45-H-TU</u>		PROJECT NO. _____	
Drilling Method: <u>HS A-SS</u>			
GROUNDWATER OBSERVATIONS			
Water Level		Weather: <u>Cloudy 45°</u>	Plot Plan
Time		Date/Time Start <u>4/14 10:50 am</u>	
Date		Date Time Finish _____	

Photo Reading	Section ID	Sample Depth	% Recovery	SPT	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
18			25	7	Gray sand and silt, little gravel		
		21		7			
				8			
8.6		2 1/2	12.5	22			
				7			
		23		7	Same (odor)		
				5			
35.7		24	10	6			
				4			
		25		3			
				4	Gray sand and gravel, little silt (trace of black sheen)		
		26	0	4			
				8			
		27		6			
				6			
9.3		28	12.5	6	Same (sheen)		
				5			
		29		10			
				12			
0		30	37.5	12			
				17	Fine to medium gray sand, some fine gravel (wet)		
		31		8			
				7			
0		32	62.5	7			
				6			
		33		6	Same (slight septic odor)		
				5			
0		34	37.5	7			
				6			
		35		5			
				6	Fine to medium gray sand, some fine gravel, trace silt (slight odor)		
0		36	62.5	5			
				8			
		37		9			
				7			
0		38	2.5	6	Same		
				NOT			
		39		4			
				6			
0		40	2.5	6			
				12	Fine to medium gray sand, some fine gravel, little silt (wet)		
				9			

BTEY
Sample
36-38

STANDARD PENETRATION TEST	SUMMARY
SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED	

Contractor: <u>Northstar</u> Driller: <u>Harry Lyons</u> Inspector: <u>W.D. Lillie, & N.A. Smith</u> Rig Type: <u>CME 45-ATV</u> Drilling Method: <u>HSA-SS</u>		ENGINEERING-SCIENCE DRILLING RECORD		BORING NO. <u>WB-2</u> Sheet <u>3</u> of <u>5</u> Location: _____ Plot Plan: _____			
PROJECT NAME <u>Wall Replacement</u> PROJECT NO. _____		Weather: _____ Date/Time Start: _____ Date Time Finish: _____					
GROUNDWATER OBSERVATIONS Water Level: _____ Time: _____ Date: _____							
Pressure Reading	Sample ID#	Sample Depth	% Recovery	SPT	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
0			25	12	Fine-medium gray sand, some fine gravel little silt (wet) sand.		PAH & CN Sample 42-44
		41		9			
				8			
21.5		42	50	7			
				9			
		43		8			
				9			
39.1		44	82.5	16	same (trace seen)		
				15	44.5'		
		45		33			
				19			
100		46	25	16	Gray sand, little silt, little gravel (Till) (wet)		
				12			
		47		22			
				50/01	(trace of Free phase at 47')		
129		48	50				
				12			
		49		12			
				21	(trace of Free phase 48.5-49')		
81		50	50	19			
				38			
		51		24			
				34			
NA		52	NA	48			
				50/01			
		53					
40.5		54	62.5	39	Gray sand, little silt, little gravel		
				33			
		55		19	(compact) (contained Free phase 54-62 feet)		
				18			
78.2		56	25	40			
				50/3'			
		57					
34.1		58	50	17			
				24			
		59		28			
				27			
142		60	25	50			
				50/2'			

STANDARD PENETRATION TEST SUMMARY _____
 SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

Contractor: <u>North Star</u>				ENGINEERING-SCIENCE DRILLING RECORD		BORING NO. <u>WB-2</u>	
Driller: <u>Harry Lyons</u>				PROJECT NAME <u>Wall Replacement</u>		Sheet <u>4</u> of <u>5</u>	
Inspector: <u>W.D. Willey & M.A. Smith</u>						Location _____	
Rig Type: <u>CM E 45-ATV</u>				PROJECT NO. _____		Plot Plan	
Drilling Method: <u>HS A - SS</u>				Weather: _____			
GROUNDWATER OBSERVATIONS				Date/Time Start _____			
Water Level _____				Date Time Finish _____			
Time _____							
Date _____							
Pressure Reading	Secs. 115	Sample Depth	% Recovery	SPT	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
14.2		6.1	25	50	Gray Sand, some silt, little gravel (trace free phase in zone)		
				50/71			
12.9		6.2	62.5	18	Gray sand, some gravel, little silt (shcen)		
		6.3	25	28			
12.8		6.4	62.5	31	Same (Scattered free phase layers 1')		
		6.5		18			
				32	same (Free phase 66-66.5')		
93.4		6.6	62.5	41			
				20			
		6.7		20			
				20	Gray Sand, some silt, little gravel (no shcen or free phase)		
52.7		6.8	50	18			
		6.9		20			
				23			
110		7.0	62.5	22	same (Free phase 70.5-71')		
				21			
		7.1		17	71.5'		
				16			
110		7.2	50	21	Gray Sand, some gravel, little silt (loose) (Free phase)		
		7.3		18			
				17	Gray sand, some gravel (loose) (Free phase)		
85.1		7.4	32.5	16			
		7.5		21			
				14			
73.1		7.6	50	15	same (Free phase 76.75-77 feet)		
				20			
		7.7		15			
				20			
21.2		7.8	VR	17	Same		
		7.9		100/1			
					Gray sand, some gravel, trace silt in partings (4 1/4" thick)		
97.4		8.0	62.5	17			
				16			

STANDARD PENETRATION TEST	SUMMARY
SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED	

Contractor: <u>North star</u> Driller: <u>Harry Lyons</u> Inspector: <u>W.D. Lillo, or N.A. Smith</u> Rig Type: <u>CME 45-ATV</u> Drilling Method: <u>HSR - SS</u>					ENGINEERING-SCIENCE DRILLING RECORD		BORING NO. <u>WB-2</u> Sheet <u>5</u> of <u>5</u> Location _____ Plot Plan _____	
PROJECT NAME <u>Wall Replacement</u> PROJECT NO. _____					Weather: _____ Date/Time Start: _____ Date/Time Finish: _____			
GROUNDWATER OBSERVATIONS								
Water Level								
Time								
Date								
Penetration Reading	Sample LBL	Sample Depth	% Recovery	SPT	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS	
47.4			62.5	17	Gray sand, some gravel, trace silt in parting (4 1/4" thick) (2" Free phase on top of silt at 81')		P4H Sample 80-82	
	81			16				
				15				
94.8	82	50		20				
				18				
	83			19	Gray sand, some gravel, (compact) (Free phase) (5 holes) (Free phase)			BTEXT P4H Sample 86-88
				15				
27	84	75		14				
				11				
	85			14				
				14	Boring terminated at 88'			
25	86	37.5		15				
				9				
	87			14				
				11				
	88			10				
	89							
	90							
	91							
	92							
	93							
	94							
	95							
	96							
	97							
	98							
	99							
	100							

STANDARD PENETRATION TEST

SUMMARY

SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

Contractor: North star
Driller: Harry Lyons
Inspector: W. D. Lilley
Rig Type: CM 45-ATV
Drilling Method: HSA-SS

ENGINEERING-SCIENCE DRILLING RECORD

BORING NO. WB-3

Sheet 1 of 4

Location

PROJECT NAME Wall Replacement
PROJECT NO.

Plot Plan
On on edge → 2
Creek
WB-3
NMPCH 9

GROUNDWATER OBSERVATIONS

Water Level 8.4'
Time 1:00
Date 4/4

Weather: Pt Cloudy To Light Rain 50°

Date/Time Start 4/4/95 9:30 am

Date/Time Finish 4/6/95 3:00 pm

Photo Facing	Sample LID	Sample Depth	% Recovery	SPT
				2
		1		2
				6
	2	50		4
				2
	3			1
				1
	4	60		1
				3
	5			4
				20
	6	70		12
				4
	7			4
				10
	8	80		30
				9
	9			9
				9
	10	80		26
				6
	11			8
				7
	12	90		11
				4
	13			7
				10
	14	10		11
				6
	15			10
				5
	16	5		4
				5
	17			7
				6
	18	25		6
				10
	19			4
				11
	20	50		6

FIELD IDENTIFICATION OF MATERIAL

Dark Brown To Black Sand, little silt,
Trace cinders, trace gravel (Fill)
(moist)

Same

5.0'

Gray Gravel (Fill)

7.0'

Brown sand and gravel, trace silt
(wet)

Same

Black sand and gravel, trace silt
(wet) (Sheens)

Dark Gray sand and gravel (Sheens)
(wet)

Same (Sheens)

WELL SCHEMATIC

Boring
Grouted
with
Bentonite
Cement

0-6
TAL/TCL
m&msd
Boring
grouted
cement/
Bentonite

PAH+STOY
12-14

STANDARD PENETRATION TEST

SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

SUMMARY 0-7 Fill sand and gravel to 46.5, till
silty sand and gravel to 72, gravel + sand to 78

Contractor: <u>Northstar</u>					ENGINEERING-SCIENCE DRILLING RECORD		BORING NO. <u>WB-3</u>	
Driller: <u>Harry Lyons</u>					PROJECT NAME <u>Wall Replacement</u>		Sheet <u>3</u> of <u>4</u>	
Inspector: <u>W. D. Lilley</u>							Location _____	
Rig Type: <u>CME 45-ATV</u>					PROJECT NO. _____		Plot Plan <u>See Sheet # 1</u>	
Drilling Method: <u>HS A - SS</u>					Weather: <u>Snow 30° → 20°</u>			
GROUNDWATER OBSERVATIONS					Date/Time Start <u>4/4</u>			
Water Level _____					Date/Time Finish _____			
Time _____								
Date _____								
Photo Reaching	Sample LID	Sample Depth	% Recovery	SPF	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS	
			25	7	Gray sand, some gravel, little silt (slight sheen)			
		41		7				
				7				
		42	5	7				
				7	Same			
		43		11				
				8				
		44	30	8				
				9	Gray sand, some silt, little gravel (little string)			
		45		8				
				7				
		46	20	7				
				14	46.5'			
		47		5				
				7				
		48	25	10				
				8	Gray sand and gravel, trace silt (fill) (trace odor)			
		49		12				
				10				
		50	20	10				
				16	Same (2" gravel layer stained)			
		51		11				
				15				
		52	25	19				
				38	Same (string)		Lab BTEX & PHT 52-57.5	
		53		50/3"				
				↓				
		54	5	50/3"				
				auger	Same			
		55		↓				
				↓				
		56	30	↓				
				20	Same			
		57		24				
				30				
		58	80	30				
				21	Gray sand, some gravel, trace silt (stiff) (slight odor)		CN 58-60	
		59		23				
				22				
		60		17				

STANDARD PENETRATION TEST

SUMMARY _____

SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

Contractor: <u>North star</u> Driller: <u>Harry Lyons</u> Inspector: <u>W. D. Lilley</u> Rig Type: <u>CM E 45-HTV</u> Drilling Method: <u>HS A - SS</u>		ENGINEERING-SCIENCE DRILLING RECORD		BORING NO. <u>WB-3</u> Sheet <u>4</u> of <u>4</u> Location _____	
PROJECT NAME <u>Wall Replacement</u> PROJECT NO. _____		Weather: <u>Cloudy 30° → snow</u> Date/Time Start <u>4/5</u> Date Time Finish <u>4/6</u>		Plot Plan <u>See Sheet #1</u>	
GROUNDWATER OBSERVATIONS					
Water Level					
Time					
Date					

Photores Reading	Sample ID	Sample Depth	% Recovery	SPT	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
			60	20	Gray sand, little gravel, trace silt (very slight odor)		PAH 62-64
		61		19			
				21			
		62	60	18	Same		
				9			
		63		45			
				22	Cobble		
		64	50	30			
				↓			
		65		16	Same		
				31			
		66	70	42			
				24	Gray sand, some gravel, trace silt (trace silt)		
		67		22			
				22			
		68	60	23	Gray sand, some fine gravel, little silt (No silt)		
				40			
		69		19			
				20	72'		
		70	60	21			
				23			
		71		27	72'		
				30			
		72	20	20			
				9	Gray coarse sand, some gravel, trace silt (No silt)		
		73		10			
		74	70	12			
				11	Same		
		75		14			
				12			
		76		11	Same		
				12			
		77		12			
				14	78' Boring terminated.		PAH, BTEX + CN- 76-78'
		78		14			

STANDARD PENETRATION TEST SUMMARY _____
 SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

Contractor: Northstar
 Driller: Harry Lyons
 Inspector: EN Feltz & W.D. Lilly
 Rig Type: CM & 45-ATV
 Drilling Method: HS A - SS

ENGINEERING-SCIENCE DRILLING RECORD

BORING NO. WB-4

Sheet 1 of 4

PROJECT NAME Wall Replacement
 PROJECT NO. _____

Location _____

GROUNDWATER OBSERVATIONS

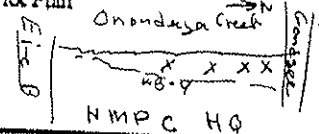
Water Level 5.9
 Time 8:15
 Date 4/13

Weather: Rain 52

Date/Time Start 4/12/95 0830

Date/Time Finish 4/13/95 11:00

Plot Plan



Photores Reading	Secore ID	Sample Depth	% Recovery	SPT
			50	1
		1		1
				1
		2	60	1
				3
		3		8
				6
		4	30	2
				2
		5		2
				3
		6	35	3
				6
		7		15
				20
		8	0	12
				10
		9		9
				8
		10	50	7
				5
		11		4
				3
		12	40	5
				4
		13		7
				5
		14	30	7
				2
		15		4
				8
		16	40	6
				4
		17		5
				4
		18	25	6
				4
		19		4
				3
		20		8

FIELD IDENTIFICATION OF MATERIAL

Brown silt, little sand

3.5'

Black silt with odor, trace brick & trace concrete

6.0'

Black gravel, some sand, little silt (odor & shien)

10'

Gray sand, little gravel, little silt (wet) (shien) (Free phase) (odor.s)

same

Gray gravel, little sand, little silt (stain shien, Free phase) (purified odor)

same

same

WELL SCHEMATIC

Boring
Grouted
with
Bentonite
Cement

COMMENTS

TCL/TAL

6-8'
PAN
BTEX
CN-
TCL PG-9'
Haz waste
sample

STANDARD PENETRATION TEST

SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

SUMMARY

Fill 0-6' / Sand and gravel 6-48'
 Silty sand and gravel (fill) 48-67.5'

Contractor: North star
 Driller: Harry Lyons
 Inspector: EA Feltz & W.D. Lill
 Rig Type: CM 45-KTV
 Drilling Method: HS A - SS

ENGINEERING-SCIENCE DRILLING RECORD

BORING NO. WB-4

Sheet 2 of 4

Location: _____

PROJECT NAME Wall Replacement
 PROJECT NO. _____

GROUNDWATER OBSERVATIONS

Water Level _____
 Time _____
 Date _____

Weather: _____

Date/Time Start _____

Date Time Finish _____

Plot Plan _____

Feet Run	Sample ID	Sample Depth	% Silty	SPT
			25	13
		21		12
				16
		22	45	12
				16
		23		10
				10
		24	55	14
				7
		25		6
				8
		26	65	5
				6
		27		5
				5
		28	40	4
				4
		29		5
				7
		30	5	5
				9
		31		9
				9
		32	5	4
				4
		33		7
				10
		34	0	20
				50/10
		35		
		36		
		37	25	5
				7
		38		6
				6
		39		7
				8
		40		6

FIELD IDENTIFICATION OF MATERIAL

Gray gravel and silt, little sand (wet)
 (Brown stain, shcen, free phase, odor)

same

same

same

same (center appears clean)

32 — — — — —
 Gray sand, little silt, trace gravel

33 — — — — —

(Cobble)

Brown gravel and sand, trace silt

same (Free phase, odor & shcen)

WELL SCHEMATIC

COMMENTS

PAK, BTEX
 CN-
 20-22

PAH, BTEX
 CN-
 38-40'

STANDARD PENETRATION TEST

SUMMARY

SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

Contractor: North star
 Driller: Harry Lyons
 Inspector: EA Feltz & W. D. Lyle
 Rig Type: CM E 45-ATV
 Drilling Method: HSA-SS

ENGINEERING-SCIENCE DRILLING RECORD

BORING NO. WB-4

Sheet 3 of 4

PROJECT NAME Wall Replacement
 PROJECT NO. _____

Location _____

GROUNDWATER OBSERVATIONS

Water Level _____
 Time _____
 Date _____

Weather: _____

Date/Time Start _____

Date Time Finish _____

Plot Plan _____

Photo Reading	Sample ID	Sample Depth	% Recovery	SPT	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
			0	2			
		41		9			
				8			
		42	10	16	Brown gravel and sand little silt		
				4	(wet) (stained) (odor) (sheen)		
		43		4			
				7			
		44	10	6	Same		
				Work			
		45		7			
				8			
		46	60	9	Same (no stain or sheen)		
				6			
		47		7			
				7			
		48	50	6	48'		
		49		7	Gray brown gravel & silt, little sand		
				9	(Till)		
		50	50	9	Same		
				11			
		51		14			
				67			
		52	0	14	Same		
				15			
		53		23			
				17			
7		54	50	16	Same		
				17			
		55		24			
				23			
7		56	25	29	Same (Brown stains)		
				35			
		57		25			
				50/4'			
		58	5	30			
				100/0'	Same		
		59					
		60					

BTEX PAH
CN
50-52

PAH
Sargol
56-58

STANDARD PENETRATION TEST

SUMMARY

SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

Contractor: North star
Driller: Harry Lyons
Inspector: W.D. Lilley
Rig Type: CME 45-ATV
Drilling Method: HS A - SS

ENGINEERING-SCIENCE DRILLING RECORD

BORING NO. WB-4

Sheet 4 of 4

PROJECT NAME Wall Replacement
PROJECT NO. _____

Location _____

GROUNDWATER OBSERVATIONS

Water Level _____
Time _____
Date _____

Weather: _____

Date/Time Start _____

Date Time Finish _____

Plot Plan _____

Pickups Running	Sample ID	Sample Depth	% Recovery	SPT
5		10	10	
	6 1		20	
			30	
25	6 2	10	26	
			14	
	6 3		12	
			11	
	6 4	10	12	
			20	
	6 5		24	
			23	
	6 6	25	26	
			20	
	6 7		30	
	6 8		50/4"	
	6 9			
	7 0			
	1			
	2			
	3			
	4			
	5			
	6			
	7			
	8			
	9			
	0			

FIELD IDENTIFICATION OF MATERIAL

Gray sand and gravel, little silt

same (shears)

same (no shears)

same (no shears)

Boring terminated at 67.5'

WELL SCHEMATIC

COMMENTS

66-67.5
PAH,
BTEX
CN-
Sample

STANDARD PENETRATION TEST

SUMMARY

SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

Contractor: Northstar
 Driller: Harry Lyons
 Inspector: W. D. Lilley
 Rig Type: CME 45-ATV
 Drilling Method: HS A-SS

ENGINEERING-SCIENCE DRILLING RECORD

BORING NO. WB-5
 Sheet 1 of 3
 Location: Southern most
borings

PROJECT NAME Wall Replacement
 PROJECT NO. _____

GROUNDWATER OBSERVATIONS
 Water Level 5.9
 Time 11:35
 Date 4/10

Weather: Sunny 30°
 Date/Time Start 4/10 9:30 am
 Date Time Finish 4/11 11:00 am

Plot Plan

 WB-5 Cret. to N
 WB-1

Photo Reading	Sample ID	Sample Depth	% Recovery	SPT	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
3			50	1	Dark Brown silt + sand little gravel	Boring Grouted with Bentonite Cement	0-6 Sample with 3" open TAL/TCH + Grain-Size
		1		8	1.5		
		2	30	49	Concrete		
		3		5			
		4	50	11	Gray + Red sand, little gravel, Trace silt, Trace coal (moist to wet) (Fill) (1" layer of yellow cinders)		
		5		2			
		6	60	2			
		7		2	7.0 Black sand (Sewer odor) (Wet)		
		8	50	9	8.0' Gray sand		
		9		7	Gray Brown sand, little F gravel (wet)		
		10	50	2	10.0' — — — — —		PAH+ BTEX 6-8
		11		10	Gray Brown sand and gravel (wet)		
13		12	30	12			
		13		5	Brown and Black gravel and sand trace silt (slight odor)		
12		14		6	same		
		15		5			
8		16		4	Same		
		17		4			
6		18		10	Same		
		19		8			
0		20		6			

STANDARD PENETRATION TEST

SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

SUMMARY Fill 0-6.5, Sand + Gravel 8.0-52
 Silty sand and gravel (Fill) 52-56

Contractor: Northstar
 Driller: Harry Lyons
 Inspector: W. D. Lilley
 Rig Type: CM E 45-ATV
 Drilling Method: HB A - SS

ENGINEERING-SCIENCE DRILLING RECORD

BORING NO. WB-5

Sheet 2 of 3

PROJECT NAME Wall Replacement
 PROJECT NO. _____

Location _____

GROUNDWATER OBSERVATIONS

Water Level _____
 Time _____
 Date _____

Weather: _____

Date/Time Start _____

Date Time Finish _____

Plot Plan _____

Photo No. Reading	Sample ID	Sample Depth	% Recovery	SPT
				6
		21		6
0		22		7
				7
		23		7
				7
5		24		6
				10
		25		5
				3
3		26		5
				8
		27		6
				5
3		28		8
				6
		29		8
				13
3		30		8
				6
		31		8
				13
		32	0	12
				10
		33		12
				14
6.7		34	10	12
				8
		35		9
				10
0		36	30	7
				8
		37		9
				7
2.2		38	30	8
				9
		39		6
				6
		40		4

FIELD IDENTIFICATION OF MATERIAL

WELL SCHEMATIC

COMMENTS

Brown and Black Sand and gravel
 (No odor) trace silt

same

same (Slight odor)

26' — — — — —

Brown and Black gravel, some little sand
 + trace silt (Slight odor)

same

30' — — — — —
 Gray Gravel, some sand, trace silt
 (Slight odor)

33' — — — — —

Gray FHC Gravel + Fine to coarse sand
 little silt (Slight odor)

same (No odor)

same

STANDARD PENETRATION TEST

SUMMARY

SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

Driller: North star

Iller: Harry Lyons

Inspector: W. D. Lilley

Rig Type: CME 4S-4TV

Drilling Method: HS A - SS

ENGINEERING-SCIENCE DRILLING RECORD

PROJECT NAME Wall Replacement
PROJECT NO. _____

BORING NO. WB-5

Sheet 3 of 3

Location _____

Plot Plan _____

GROUNDWATER OBSERVATIONS

Water Level _____

Time _____

Date _____

Weather: _____

Date/Time Start _____

Date Time Finish _____

Photo No. Sample Sample % SPT
Reading ID Depth Recovery

FIELD IDENTIFICATION OF MATERIAL

WELL SCHEMATIC

COMMENTS

			0	1
		41		.2
				1
1.2		42	10	2
		43		1
				7
5.2		44	15	4
		45		1
				5
				7
C		46	35	5
		47		7
				7
0		48	45	7
		49		8
				7
0		50	35	9
		51		10.4
				8
		52	35	18
				22
		53		30
				11
		54		7
				12
		55		15
				19
		56		22
				23

Brown silt and sand, little F-C gravel

43.5' _____

Gray sand and gravel, little silt

Same

Same

Same

52'

Gray sand & gravel, some silt (fill)

Boring terminated at 56'

PAH
BTEX
CN
54-56'

STANDARD PENETRATION TEST

SUMMARY

SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

Contractor: North starDriller: Harry LyonsInspector: N. A. SmithRig Type: CM 45-KTVDrilling Method: HSA - SS**ENGINEERING-SCIENCE
DRILLING RECORD**BORING NO. WB-6Sheet 1 of 4PROJECT NAME Wall ReplacementLocation NMPC Parking
Lot**GROUNDWATER OBSERVATIONS**

Water Level

Time

Date

Weather: Sunny 60°Date/Time Start 4/20/95 12:55Date/Time Finish 4/21/95 1330Plot Plan Onondaga Creek
X Wall X X X
Lot #1
NMPC HQ

Photocon Reading	Sample ID	Sample Depth	% Recovery	SPT	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
2.1			50	12	Gray sand, some crushed stone (dry)	Boring Grouted with Bentonite Cement	TCL/TOL ms/msb sample 0-6
		1		43			
				37			
2.5		2	62.5	40	light Brown sand (dry)		
				33			
		3		31			
				27			
2.4		4	75	22	same		
				18			
		5		15			
				15	S.S		
2.2		6	62.5	12	Dark brown silt, some fine sand, trace brick,		
		7		6			
				6			
3.1		8	25	7	same		
		9		8			
				7			
11.5		10	75	6	same (stained 10-5-14.75) (odor)	Boring Grouted with Bentonite Cement	BRL, PAN CW - 14-16
				4			
		11		6			
				2			
23.9		12	50	2	same (moist to wet)		
				2			
		13		8			
				6			
85.9		14	75	7			
				1			
		15		1	15'		
				1			
99		16	75	1	Dark gray silt, Trace sand, trace clay		
				2			
		17		3	(stained 16-19')		
				4			
65		18	87.5	3	Same	Boring Grouted with Bentonite Cement	BRL, PAN CW - 14-16
				1			
		19		3			
				4			
460		20	25	7	20' (thick black Free phase)		
				13	Gray brown sand, little silt, little gravel (moist)		
				16			

STANDARD PENETRATION TEST

SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

SUMMARY Fill 0-5.5, Sandy silt 5.5-20,
Gravelly Sand 20-60, Silty Sand to Gravel 60-70

Location: North star

Driller: Harry Lyons

Inspector: N. A. Smith

Rig Type: CM 45-A-TV

Drilling Method: HS A - SS

ENGINEERING-SCIENCE DRILLING RECORD

BORING NO. WB-6

Sheet 2 of 4

Location _____

PROJECT NAME Wall Replacement

PROJECT NO. _____

Plot Plan _____

GROUNDWATER OBSERVATIONS

Water Level _____

Time _____

Date _____

Weather: _____

Date/Time Start _____

Date Time Finish _____

Footcandle Reading	Sample ID	Sample Depth	% Recovery	SPT
460			25	13
		21		16
				13
125		22	12.5	24
				20
		23		14
				12
342		24	25	14
				7
		25		7
				6
274		26	32.5	7
				6
		27		6
				6
224		28	25	9
				WOR
		29		4
				6
375		30	50	12
				15
		31		9
				10
227		32	50	10
				8
		33		12
				17
166		34	25	15
				4
		35		5
				9
NA		36	NR	16
				11
		37		10
				1
173		38	25	19
				3
		39		6
				8
55		40	50	6
				23
				14

FIELD IDENTIFICATION OF MATERIAL

WELL SCHEMATIC

COMMENTS

Gray brown sand, little silt, little Gravel (moist)

Same (Shoen 22-24') (wet)

Same (Brown Free phase 24-26')

Gray sand, some gravel (wet) (Shoen)

Same (Shoen & odor)

Same (heavy shoen, little Free phase)

Gray sand, some gravel, little silt (Free phase)

Same (heavy shoen 34.3-38.25)

Same (No shoen)

Same (Shoen)

BTG, PAH,
CN-L, b
samples
30-32

STANDARD PENETRATION TEST

SUMMARY

SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

Contractor: <u>Northstar</u> Driller: <u>Harry Lyons</u> Inspector: <u>NA Sm. 42</u> Rig Type: <u>CM 6 45-ATV</u> Drilling Method: <u>HS A - SS</u>					ENGINEERING-SCIENCE DRILLING RECORD		BORING NO. <u>WB- 6</u> Sheet <u>3</u> of <u>4</u> Location _____ Plot Plan _____	
GROUNDWATER OBSERVATIONS					PROJECT NAME <u>Wall Replacement</u> PROJECT NO. _____			
Water Level _____ Time _____ Date _____					Weather: _____ Date/Time Start _____ Date/Time Finish _____			
Penetration Reading	Sample ID	Sample Depth	% Recovery	SPT	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS	
55.9			50	23	Gray Sand, some gravel (shorn)			
		41		14				
				9				
42		42	NR	8				
				8				
		43		8	Same (Trace shorn)			
				8				
139		44	37.5	7				
				4				
		45		4				
				5	Same			
140		46	37.5	7				
				5				
		47		6				
				9				
45.5		48	50	14	Gray Sand, some gravel, little silt		BTEX PAH Sample 48-50	
				5				
		49		6				
				7				
93.9		50	62.5	7				
				8	Gray Sand, little gravel, little silt (No shorn)			
		51		15				
				16				
35.1		52	62.5	10				
				8				
		53		8	Gray Sand, some silt, little gravel			
				10				
36.3		54	20	30				
				10				
		55		8				
				7	Same			
35		56	92.5	8				
				7				
		57		7				
				7				
20.8		58	12.5	9	Same			
				6				
		59		6				
				7				
				60'				
20.3		60	20	7	Gray Sand, some silt, some gravel			
				6				
				14				

STANDARD PENETRATION TEST
 SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

SUMMARY _____

Location: <u>North star</u> Driller: <u>Harry Lyons</u> Inspector: <u>N.A. Smith</u> Rig Type: <u>CME 45-HTV</u> Drilling Method: <u>HS A - SS</u>					ENGINEERING-SCIENCE DRILLING RECORD		BORING NO. <u>WB-6</u> Sheet <u>4</u> of <u>4</u> Location: _____ Plot Plan: _____	
GROUNDWATER OBSERVATIONS Water Level: _____ Time: _____ Date: _____					Weather: _____ Date/Time Start: _____ Date Time Finish: _____			
Pressure Reading	Sample ID#	Sample Depth	% Recovery	SPT	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS	
26.3		61	20	6	Gray sand, some silt, some gravel			
				14				
				10				
28.2		62	62.5	14	same			
				10				
		63		50/3				
11		64	50		Gray sand, some silt, little gravel		PAH sample	
				14				
		65		48				
				40	same			
55		66	32.5	55				
				13				
		67		14	same			
				14				
				14				
4.9		68	60	21	same		BTEX, PAH CN- Lab sample	
				16				
		69		18				
				24	Boring Terminated at 70'			
		70		23				
		1						
		2						
		3						
		4						
		5						
		6						
		7						
		8						
		9						
		0						

STANDARD PENETRATION TEST

SUMMARY

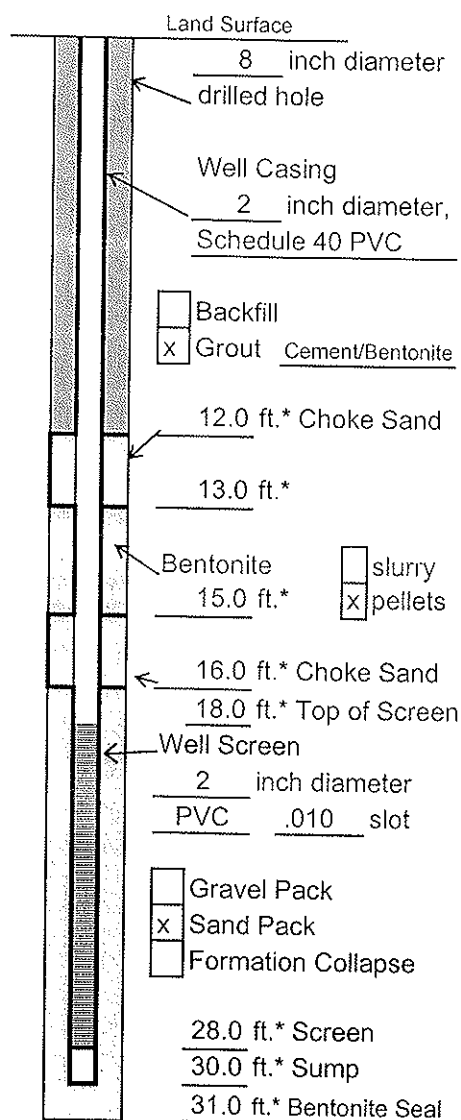
SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

ARCADIS

**Monitoring Well Construction
Logs and Soil Boring Logs**

WELL CONSTRUCTION LOG

(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project Erie Blvd Site PSA/IRM Well MW-1S

Town/City Syracuse

County Onondaga State New York

Permit No. _____

Land-Surface Elevation 391.23 (8/9/95)
and Datum 391.3 feet 391.35 (4/25/03)
~~NGVD 1929~~ NAVD 88

☒ Surveyed
☐ Estimated

Installation Date(s) _____

Drilling Method Hollow Stem Auger

Drilling Contractor Parratt-Wolff, Inc.

Drilling Fluid None

Development Technique(s) and Date(s)
Submersible pump (8/17/95)

Fluid Loss During Drilling _____ gallons

Water Removed During Development 275 gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft.

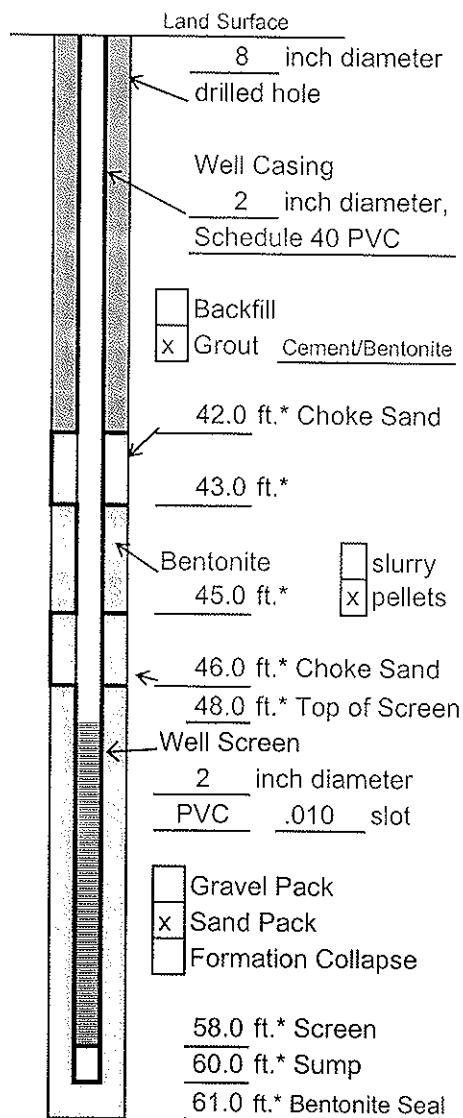
Well Purpose Groundwater Monitoring

Remarks _____

Prepared by S. Blackmer

WELL CONSTRUCTION LOG

(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project Erie Blvd Site PSA/IRM Well MW-1D

Town/City Syracuse

County Onondaga State New York

Permit No. _____

Land-Surface Elevation
and Datum 391.4 feet ☒ Surveyed
NGVD 1929 ☐ Estimated

Installation Date August 9, 1995

Drilling Method Hollow Stem Auger

Drilling Contractor Parratt-Wolff, Inc.

Drilling Fluid Water

Development Technique(s) and Date(s)
Bailed 20 gallons 8/17 (3 hrs)
Bailed 10 gallons 8/18/95 (1 hr)
Pumped 100 gallons 8/18/95 (4 hrs)

Fluid Loss During Drilling 35 gallons

Water Removed During Development 130 gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration 8 hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft.

Well Purpose Groundwater Monitoring

Remarks _____

Prepared by S. Blackmer

SAMPLE/CORE LOG

Boring/Well MW-1D Project/No. Eric Blvd. PSA/IRM AY0207.001 Page 1 of 2

Site Location Syracuse, NY Drilling Started 8/9/95 Drilling Completed 8/9/95

Total Depth Drilled 61 feet Hole Diameter 8 inches Type of Sample/ Coring Device Split-Spoon

Length and Diameter of Coring Device 2' x 2" (2' x 3" for lab sample) Sampling Interval 2 feet

Land-Surface Elevation 391.1 feet ☒ Surveyed ☐ Estimated Datum NAVD 88 -NGVD 1929

Drilling Fluid Used Water Drilling Method Hollow Stem Auger

Drilling Contractor Parratt-Wolff, Inc. Driller Brian Waters Helper Rick Navatka

Prepared By S. Blackmer Hammer Weight 140 lb. Hammer Drop 30 inches

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
	From	To			
0.0	0.0	0.5			Asphalt.
0.0	0.5	2.0	0.75	6,11,9	(Fill) Gravel (red brick fragments, asphalt, cinders) and sand, dry.
0.0	2.0	4.0	1.0	3,7,3,4	Same as above.
0.0	4.0	6.0	0.0	6,7,3,3	No recovery.
0.0	6.0	8.0	0.5	6,5,4,4	(Fill) Gravel (brick fragments, some natural rock) some sand, dry.
0.0	8.0	10.0	0.5	3,6,5,3	(Fill) Brick fragments.
0.0	10.0	12.0	0.75	5,3,5,5	(Fill) Brick fragments and Gravel, damp.
0.0	12.0	14.0	0.75	4,4,50/4	(Fill) Same as above.
0.0	14.0	16.0	0.5	1,2,2,3	Top 3": Same as above. Bottom 3": Brown, very fine to fine Sand and Silt, wet.
19.3	16.0	18.0	0.75	3,2,2,3	Brown to blackish brown Silt, little very fine sand, trace clay, little gravel (brick and natural) damp with wet zones.
3.9	18.0	20.0	1.5	5,4,2,3	Top 2": Brown Silt, little very fine sand, trace clay, some staining, Next 3": Brick fragments; Bottom 1": Black Silt and Clay, trace fine sand; whole sample damp.
0.0	20	22	1.75	WH,WH,WH,WH	Black Silt and Clay, trace fine sand, damp, no odor.
0.0	22	24	2.0	WH,3,9,9	Top 6": Same as above; Next 10": greenish brown and black Silt and clay, trace fine sand. Bottom 8": Sand and Gravel (greenish-brown), trace brick fragments, trace silt, wet.



SAMPLE/CORE LOG (Cont.d)

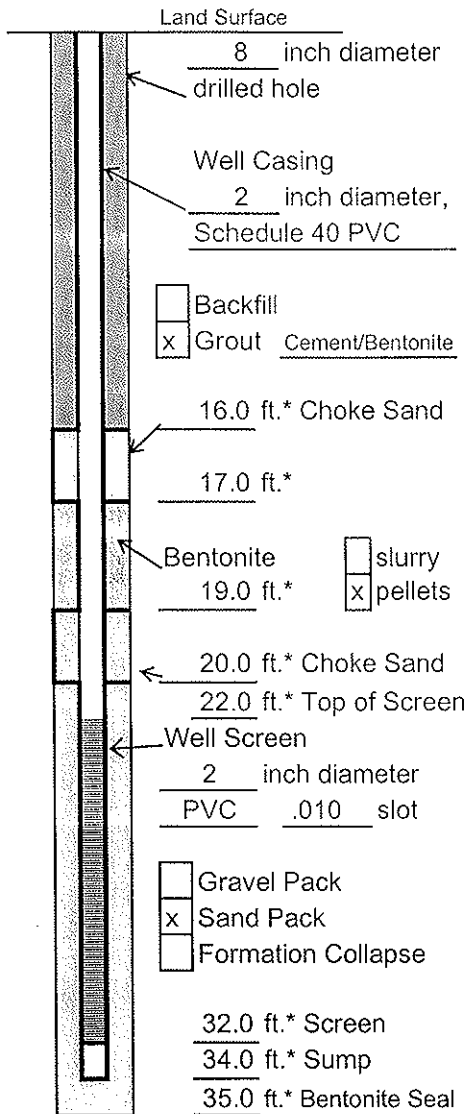
Boring/Well MW-1D

Page 2 of 2

Prepared by S. Blackmer

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
	From	To			
1.3	24.0	26.0	0.5	24,32,32.12	Brown-green, very fine to fine Sand, some gravel, little silt and clay, trace organics (root fibers ?), wet.
2.2	26.0	28.0	0.75	13,13,50/4	Same as above with faint odor and faint sheen.
3.4	28.0	30.0	0.5	3,7,8.5	Brown Sand and Gravel, little silt, sheen, trace petroleum droplets.
2.1	30.0	32.0	1.0	12,16,13,12	Gravel (fine to coarse) and Sand, trace silt and clay, little petroleum as stringers, wet.
1.9	32.0	34.0	0.5	6,6,8,9	Same as above.
0.9	34.0	36.0	0.5	4,6,8,7	Brown-gray Gravel and Sand, trace silt and clay, faint odor.
2.3	36.0	38.0	0.75	8,10,7,3	Same as above.
2.4	38.0	40.0	1.6	8,5,6,5	Top 14": Brown-gray Gravel and Sand, trace silt and clay, wet; Bottom 5": Gray, very fine Sand, some gravel, trace silt, faint odor.
1.2	40.0	42.0	0.75	5,7,16,15	Varicolored Gravel, some gray sand, little gray silt and clay, wet.
0.3	42.0	44.0	0.4	5,6,8,6	Same as above.
0.2	44.0	46.0	1.5	5,6,7,5	Same as above.
0.0	46.0	48.0	0.5	7,8,10,8	Same as above.
0.0	48.0	50.0	1.0	6,9,7,8	Same as above.
0.0	50.0	52.0	1.0	7,50,34,8	Gray-brown Gravel and Sand, trace silt, wet, trace to no sheen.
0.1	52.0	54.0	1.5	7,9,7,8	Gravel and Sand, trace silt and clay.
0.0	54.0	56.0	1.75	8,8,6,8	Gray Sand and Gravel, little to trace silt and clay.
0.0	56.0	58.0	2.0	8,9,8,8	Gray Sand, some gravel, little silt, trace clay.
0.0	58.0	60.0	1.0	8,7,7,8	Gray Sand (fine to coarse), little gravel, little silt, trace clay.
0.0	58.0	60.0	1.0	8,7,7,8	Gray Sand (fine to coarse), little gravel, little silt, trace clay.
					Drill to 61' to place bentonite seal below pump.



[illegible]

Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

SAMPLE/CORE LOG

Boring/Well MW-2 Project/No. Erie Blvd. PSA/IRM AY0207.001 Page 1 of 1

Site Location Syracuse, NY Drilling Started 7/26/95 Drilling Completed 7/26/95

Total Depth Drilled 34 feet Hole Diameter 8 inches Type of Sample/ Coring Device Split-Spoon

Length and Diameter of Coring Device 2' x 2" (2' x 3" for lab sample) Sampling Interval 2 feet

Land-Surface Elevation 391.50 (7/26/95)
391.95 (4/25/08)
-391.8 feet ☒ Surveyed ☐ Estimated Datum NAVD 88
-NGVD 1929

Drilling Fluid Used Water Drilling Method Hollow Stem Auger

Drilling Contractor Parratt-Wolff, Inc. Driller Brian Waters Helper Rick Navatka

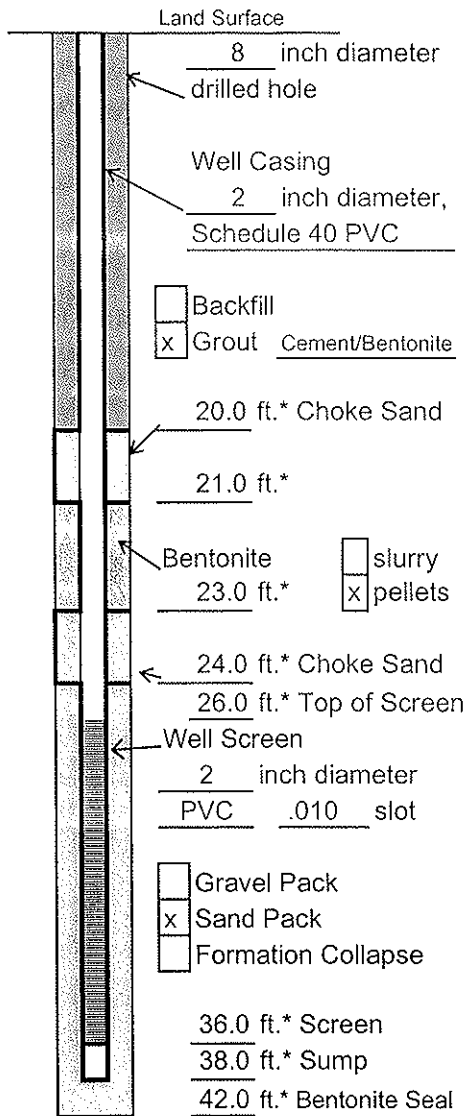
Prepared By S. Blackmer Hammer Weight 140 lb. Hammer Drop 30 inches

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
	From	To			
0.0	0.0	0.5			Asphalt.
0.0	0.5	2.0	0.5	9,10,50/2	Brown Sand and Gravel, dry.
0.0	2.0	4.0	0.5	9,50/2	Brown Sand and Gravel (fill-brick fragments, etc.)
0.0	4.0	6.0	1.0	9,11,11,13	Brown very fine Sand, some gravel, little silt, trace coarser sand, dry.
0.0	6.0	8.0	1.3	11,19,12,8	Brown fine to coarse Sand and Gravel, little silt, dry.
0.0	8.0	10.0	1.0	8,12,8,19	Same as above.
0.0	10.0	12.0	1.0	10,15,17,18	Gravel (various compositions mostly sandstone, mostly coarse, some fine to medium), little sand.
0.0	12.0	14.0	1.0	15,25,13,8	Gravel and brown Sand, dry with damp zone near top.
0.0	14.0	16.0	0.4	6,4,1,8	Red-brown Sand and Gravel, trace silt, dry to damp.
0.0	16.0	18.0	1.0	12,16,21,20	Brown to red-brown Sand and Gravel, trace silt, damp in tip.
0.0	18.0	20.0	0.5	10,7,24,24	Similar to above; dry at bottom, damp to wet zone in middle.
0.0	20.0	22.0	1.2	17,19,21,32	Same as above; dry with wet to damp zones.
0.0	22.0	24.0	1.0	23,22,21,21	Brown Sand, some gravel, trace silt, dry with damp zones, wet in tip.
0.0	24.0	26.0	0.5	9,6,6,4	Gravel, little to trace sand, trace silt.
0.0	26.0	28.0	0.5	16,10,8,6	Same as above.
0.0	28.0	30.0	1.0	4,6,10,6	Brown to gray-brown Sand (fine to coarse) and Gravel, trace silt.
0.0	30.0	32.0	1.0	5,6,40,59	Same as above.
0.0	32.0	34.0	1.0	22,21,17,32	Same as above.



WELL CONSTRUCTION LOG

(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project Erie Blvd Site PSA/IRM Well MW-3S

Town/City Syracuse

County Onondaga State New York

Permit No. _____

Land-Surface Elevation
and Datum 396.0 315.7 feet ☒ Surveyed
~~NGVD 1929~~ NAVD 88 ☐ Estimated

Installation Date(s) July 21, 1995

Drilling Method Hollow Stem Auger

Drilling Contractor Parratt-Wolff, Inc.

Drilling Fluid Water

Development Technique(s) and Date(s)
Bailed 50 gallons 8/3/95 (3 hrs)
Pumped 25 gallons 8/4/95 (2 hrs)
Bailed 20 gallons 8/4/95 (3 hrs)

Fluid Loss During Drilling 50 gallons

Water Removed During Development 100 gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration 8 hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft.

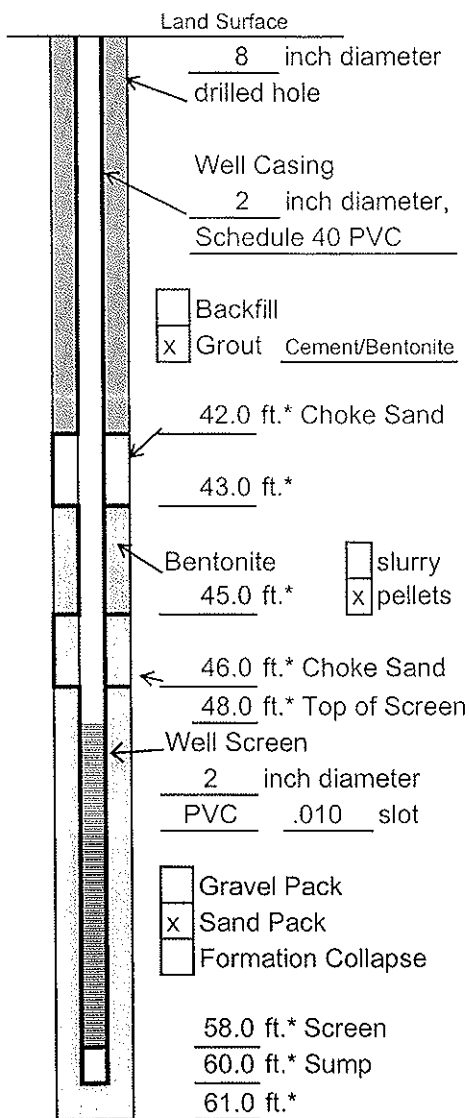
Well Purpose Groundwater Monitoring

Remarks _____

Prepared by S. Blackmer

WELL CONSTRUCTION LOG

(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project Erie Blvd Site PSA/IRM Well MW-3D
 Town/City Syracuse
 County Onondaga State New York
 Permit No. _____
 Land-Surface Elevation
 and Datum -396.0 395.7 feet ☒ Surveyed
 NAVD 88 ☐ Estimated
 Installation Date(s) July 25 and 26, 1995
 Drilling Method Hollow Stem Auger
 Drilling Contractor Parratt-Wolff, Inc.
 Drilling Fluid Bentonite Mud

Development Technique(s) and Date(s)
 Pumped 100 gallons 8/4/95 (4 hrs)
 Bailed 20 gallons 8/8/95 (2 hrs)
 Pumped 90 gallons 8/8/95 (4 hrs.)
 Fluid Loss During Drilling 100 gallons
 Water Removed During Development 210 gallons
 Static Depth to Water _____ feet below M.P.
 Pumping Depth to Water _____ feet below M.P.
 Pumping Duration 10 hours
 Yield _____ gpm Date _____
 Specific Capacity _____ gpm/ft.

Well Purpose Groundwater Monitoring

Remarks Water still turbid after development.

Prepared by S. Blackmer

SAMPLE/CORE LOG

Boring/Well MW-3D Project/No. Erie Blvd. PSA/IRM AY0207.001 Page 1 of 2

Site Location Syracuse, NY Drilling Started 7/20/95 Drilling Completed 7/25/95

Total Depth Drilled 61 feet Hole Diameter 8 inches Type of Sample/
Coring Device Split-Spoon

Length and Diameter of Coring Device 2' x 2" (2' x 3" for lab sample) Sampling Interval 2 feet

Land-Surface Elevation 395.7 feet ☒ Surveyed ☐ Estimated Datum NAVD 88
-NGVD 1929

Drilling Fluid Used Water/ Bentonite slurry Drilling Method Hollow Stem Auger

Drilling Contractor Parratt-Wolff, Inc. Driller Layne Pech Helper Rick Navatka

Prepared By S. Blackmer Hammer Weight 140 lb Hammer Drop 30 inches

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
	From	To			
0.0	0.0	0.5			Asphalt.
0.0	0.5	2.0	0.5	4,9,18	Brown Sand and gravel, dry.
0.0	2.0	4.0	0.0	6,5,4,3	No Recovery.
0.0	4.0	6.0	1.5	2,2,3,5	Top 4": Dark brown silty Sand and Gravel. Bottom 14": Brown silty Sand, some gravel, damp, trace clay.
0.0	6.0	8.0	1.6	12,10,11,5	Top 4": Same as bottom of above. Bottom 15": Red-brown to gray- brown Gravel, some sand, little silt, dry.
0.0	8.0	10.0	1.3	18,14,19,21	Brown-gray Gravel, some sand (very fine to coarse), trace silt, dry.
0.0	10.0	12.0	1.5	27,21,20,15	Brown to gray-brown very fine Sand, some silt, some gravel, damp to dry.
0.0	12.0	14.0	1.8	13,14,14,10	Varicolored Fill (red brick, gray and brown gravel), some sand, trace silt.
0.0	14.0	16.0	0.5	18,15,19,50	Fine to coarse Gravel (varying compositions), some sand, trace silt, dry.
0.0	16.0	18.0	1.0	13,11,17,11	Same as above, but wet in tip.
0.0	18.0	20.0	0.8	7,11,17,21	Same as above, but dry to damp.
0.0	20.0	22.0	1.3	18,20,22,26	Same as above.
0.0	22.0	24.0	1.0	16,26,16,16	Same as above.



SAMPLE/CORE LOG (Cont.d)

Boring/Well MW-3D

Page 2 of 2

Prepared by S. Blackmer

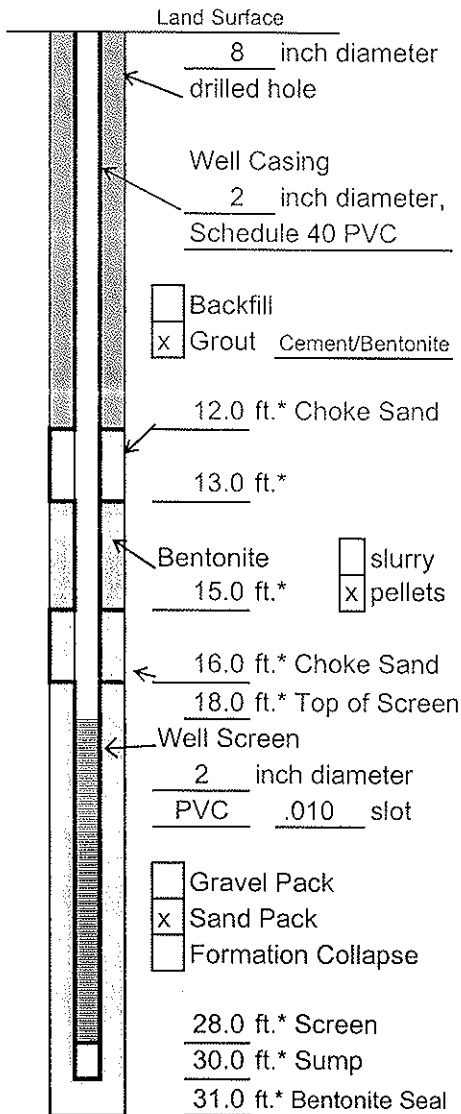
OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0.0	24.0	26.0	1.3	33,25,30,31	Same as above.
0.0	26.0	28.0	2.0	28,25,27,33	Same as above, but bottom few inches wet.
0.0	28.0	30.0	1.5	24,18,14,10	Same as above, bottom 6" wet (top 1' dry).
0.8	30.0	32.0	0.8	5,6,6,8	Fine to coarse Gravel, trace silt, trace sand, trace sheen, faint odor.
1.3	32.0	34.0	0.5	14,10,8,14	Fine to medium Gravel and coarse sand, trace silt, fainter odor, no sheen.
0.0	34.0	36.0	1.9	15,45,45,32	Top 6": Fine to coarse Sand, little fine gravel. Bottom 1.4': Gravel (various sizes and compositions - subangular to angular), little sand, trace silt.
0.0	36.0	38.0	1.0	5,9,26,34	Same as (bottom of) above.
0.0	38.0	40.0	0.5	8,16,18,27	Dark gray-brown Gravel and sand (both fine to coarse), little silt, wet.
0.0	40.0	42.0	0.5	32,20,11,13	Fine to coarse Gravel, little silt and clay, wet. At base of spoon clay with angular rock fragments.
0.0	42.0	44.0	0.5	14,13,20,19	Same as above.
					Place bentonite seal at 40' - 42' and install MW-3S; move hole to resume MW-3D at 42'.

0.0	42.0	44.0	0.5	10,5,8,12	Gray fine to coarse Gravel, some silt, trace sand, wet, compact.
0.0	44.0	46.0	1.0	12,17,18,12	Gray Sand, some silt, some gravel, wet, compact.
0.0	46.0	48.0	0.6	12,14,17,12	Gray Sand, little silt, little gravel, wet.
0.0	48.0	50.0	1.0	8,9,22,15	Gray to gray-brown, fine to coarse Sand, some fine to medium gravel, trace silt, wet.
					Bentonite mud used to control running sand and gravel from 50' to EOB.
0.0	50.0	52.0	0.4	9,9,12,15	Gray Gravel and Silt, trace sand, trace clay, fairly compact.
0.0	52.0	54.0	0.75	18,18,12,9	Gray to gray-brown Gravel, little silt, trace sand.
0.0	54.0	56.0	1.0	18,11,9,10	Gray to gray-brown Gravel, some silt, little sand, trace clay.
0.0	56.0	58.0	0.8	11,14,18,26	Gray to gray-brown Gravel, little silt, little sand, trace clay.
0.0	58.0	60.0	1.0	16,10,9,12	Similar to above with slightly more silt and less sand.
					Drill to 61' to place bentonite seal below sump.



WELL CONSTRUCTION LOG

(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project Erie Blvd Site PSA/IRM Well MW-4
Town/City Syracuse
County Onondaga State New York
Permit No. _____

Land-Surface Elevation
and Datum 389.5 feet ☒ Surveyed
~~NGVD 1929~~ NAVD 88 ☐ Estimated

Installation Date 8/17/1995
Drilling Method Hollow Stem Auger
Drilling Contractor Parratt-Wolff, Inc.
Drilling Fluid Water

Development Technique(s) and Date(s)

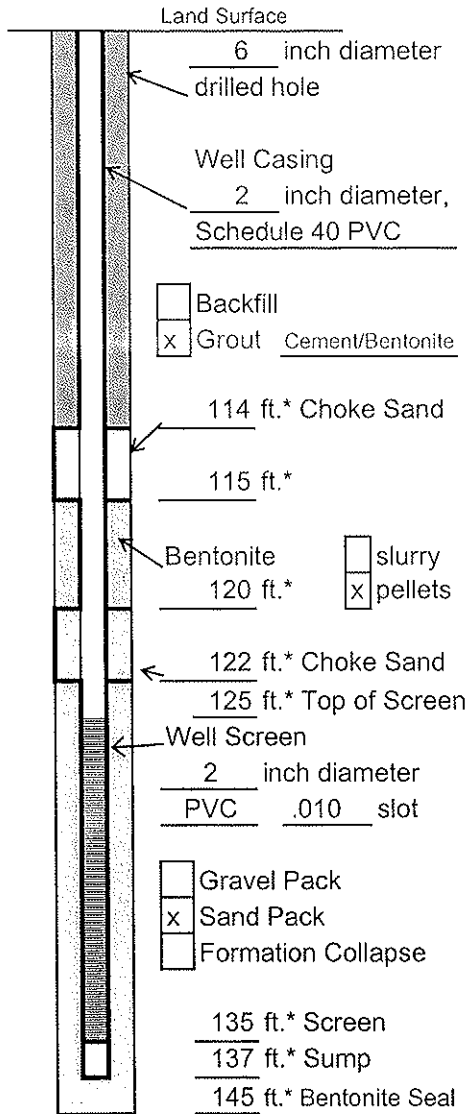
Surged and pumped (8/22/95)

Fluid Loss During Drilling 25 gallons
Water Removed During Development 200 gallons
Static Depth to Water _____ feet below M.P.
Pumping Depth to Water _____ feet below M.P.
Pumping Duration 8 hours
Yield _____ gpm Date _____
Specific Capacity _____ gpm/ft.

Well Purpose Groundwater Monitoring

Remarks _____

Prepared by S. Blackmer

[illegible]

Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

SAMPLE/CORE LOG

Boring/Well MW-4 Project/No. Eric Blvd. PSA/IRM AY0207.001 Page 1 of 2

Site Location Syracuse, NY Drilling Started 8/17/95 Drilling Completed 8/17/95

Total Depth Drilled 36 feet Hole Diameter 8 inches Type of Sample/ Coring Device Split-Spoon

Length and Diameter of Coring Device 2' x 2" (2' x 3" for lab sample) Sampling Interval 2 feet

Land-Surface Elevation 389.5 feet ☒ Surveyed ☐ Estimated Datum NAVD 88 NGVD 1929

Drilling Fluid Used None Drilling Method Hollow Stem Auger

Drilling Contractor Parratt-Wolff, Inc. Driller Brian Waters Helper Layne Pech

Prepared By S. Blackmer Hammer Weight 140 lb Hammer Drop 30 inches

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
	From	To			
	0.0	0.5			Asphalt.
	0.5	2.0	1.0	12, 17-23	(Fill) Gravel (natural and red brick), and brown sand, dry, fairly loose.
0.7	2.0	4.0	1.0	13-12, 11-7	(Fill) Brick fragments.
2.0	4.0	6.0	1.0	7-9, 5-3	(Fill) Brick, some gravel (natural), little sand.
3.4	6.0	8.0	1.3	4-4, 8-50/.4	(Fill) Gravel and Brick fragments, some brown fine to coarse sand,
					dry.
3.7	8.0	10.0	1.0	13-8, 5-3	Top 10": (Fill) Same as above. Bottom 2": Black cinder/asphalt-like
					material.
7.6	10.0	12.0	1.5	3-2, 6-7	(Fill) Sand and Gravel (fine to coarse), thick petroleum liquid, wet,
					odor.
6.7	12.0	14.0	1.5	5-5, 11-5	(Fill) Same as above.
13.5	14.0	16.0	0.5	11-11, 10-11	(Fill) Wood fragments, brick fragments, staining, some thick petroleum
					stringers (as above), some gravel, little sand.
12.9	16.0	18.0	1.2	7-16, 6-3	Sand and Gravel, trace silt, petroleum, and odors.
12.3	18.0	20.0	0.3	6-2, 3-6	Brick fragments and Sand, trace silt, petroleum (as above), wet.
16.3	20.0	22.0	1.4	16-20, 32-45	Geotechnical sample. Same as above in ends of tube.
15.9	22.0	24.0	0.1	26-32, 35-19	Gravel (1 coarse piece), petroleum.
13.0	24.0	26.0	0.3	8-10, 12-15	Wood fibers and Gravel, little to trace silt, thick petroleum liquid, wet.



SAMPLE/CORE LOG (Cont,d)

Boring/Well MW-4

Page 2 of 2

Prepared by S. Blackmer

Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description	
OVM	From				To
12.6	26.0	28.0	0.75	8-8 , 50/2	Gravel, some wood fibers. some to little sand, product (like above).
21.5	28.0	30.0	1.3	6-8 , 8-12	Medium to coarse Sand and gravel (mostly fine, some coarse), trace silt, fine
					sand and clay, wet, product and seen . Drilling difficulties at 31' (hard grinding).
					Set bentonite seal below pump from 30' - 31'.

MW-4B (boring adjacent to MW-4 begin sampling at 30')

[illegible]

SAMPLE/CORE LOG

Boring/Well MW-4D Project/No. Erie Blvd. PSA/IRM - AY0207.002 Page 1 of 3

Site Location Syracuse, NY Drilling Started 6/11/1997 Drilling Completed 6/12/1997

Total Depth Drilled 145 feet Hole Diameter 6 inches Type of Sample/
Coring Device Core Barrel

Length and Diameter of Coring Device 4" x 10' Sampling Interval Cont. feet

Land-Surface Elevation 389.4 feet ☒ Surveyed ☐ Estimated Datum NGVD 1929

Drilling Fluid Used Water Drilling Method Rotosonic

Drilling Contractor Alliance Environmental, Inc. Driller Ron Ball Helper Barry Fortney

Prepared By C. Carr Hammer Weight N/A Hammer Drop N/A inches

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
From	To				
195.8	38.0	55.0	4.0		Black f-c GRAVEL (sub-angular), some f-c Sand, trace silt; product
					saturated.
22.1	55.0	57.0	2.0		Gray f-c SAND and GRAVEL (sub-angular), trace silt; strong odor.
22.4	57.0	59.0	2.0		Gray f-c SAND and GRAVEL (sub-angular), some silt; strong odor.
12.7	59.0	61.0	2.0		Same as 57-59' interval; strong odor.
17.3	61.0	63.0	2.0		Same as 59-61' interval; strong odor.
36.9	63.0	65.0	2.0		Same as 61-63' interval; strong odor.
41.8	65.0	67.0	2.0		Same as 63-65' interval; strong odor.
39.3	67.0	69.0	2.0		Gray f-c SILTY Sand and Gravel, trace clay; strong odor.
50.3	69.0	71.0	2.0		Gray f-m GRAVEL (sub-angular), some f-c Sand; sheen noted.
23.6	71.0	73.0	2.0		Same as 69-71' interval; strong odor and sheen noted.
29.6	73.0	75.0	2.0		Same as 71-73' interval; strong odor and sheen noted.
103.6	75.0	77.0	2.0		Same as 73-75' interval; strong odor and sheen noted.
75.7	77.0	79.0	2.0		Same as 75-77' interval; strong odor and sheen noted.
67.2	79.0	81.0	2.0		Same as 77-79' interval; strong odor and sheen noted.
23.6	81.0	83.0	2.0		Gray f-c SILTY Sand and Gravel, trace clay; strong odor and sheen
					noted.
15.4	83	85	2.0		Grayish-black f-m GRAVEL, some f-c Sand; slight odor and

SAMPLE/CORE LOG (Cont.d)

Boring/Well MW-4D

Page 2 of 3

Prepared by C. Carr

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
	From	To			
					sheen noted.
9.0	85.0	87.0	2.0		Same as 83-85' interval; no odor noted.
7.8	87.0	89.0	2.0		Same as 85-87' interval.
4.2	89.0	91.0	2.0		Same as 87-89' interval.
12.7	91.0	93.0	2.0		Same as 89-91' interval.
4.2	93.0	95.0	2.0		Same as 91-93' interval.
0.0	95.0	97.0	2.0		Same as 93-95' interval.
0.0	97.0	99.0	2.0		Same as 95-97' interval.
0.0	99.0	101.0	2.0		Same as 97-99' interval.
0.0	101.0	103.0	2.0		Same as 99-101' interval.
0.0	103.0	105.0	2.0		Brown f-m SAND, trace silt.
5.4	105.0	107.0	2.0		Same as 103-105' interval.
5.4	107.0	109.0	2.0		Same as 105-107' interval.
17.5	109.0	111.0	2.0		Same as 107-109' interval.
21.2	111.0	113.0	2.0		Same as 109-111' interval.
33.3	113.0	115.0	2.0		Same as 111-113' interval.
0.0	115.0	117.0	2.0		Same as 113-115' interval.
0.0	117.0	119.0	2.0		Same as 115-117' interval.
0.0	119.0	121.0	2.0		Same as 117-119' interval.
0.0	121.0	123.0	2.0		Same as 119-121' interval.
0.0	123.0	125.0	2.0		Same as 121-123' interval.
0.0	125.0	127.0	2.0		Same as 123-125' interval.
0.0	127.0	129.0	2.0		Same as 125-127' interval.
0.0	129.0	131.0	2.0		Same as 127-129' interval.
0.0	131.0	133.0	2.0		Same as 129-131' interval.

SAMPLE/CORE LOG (Cont.d)

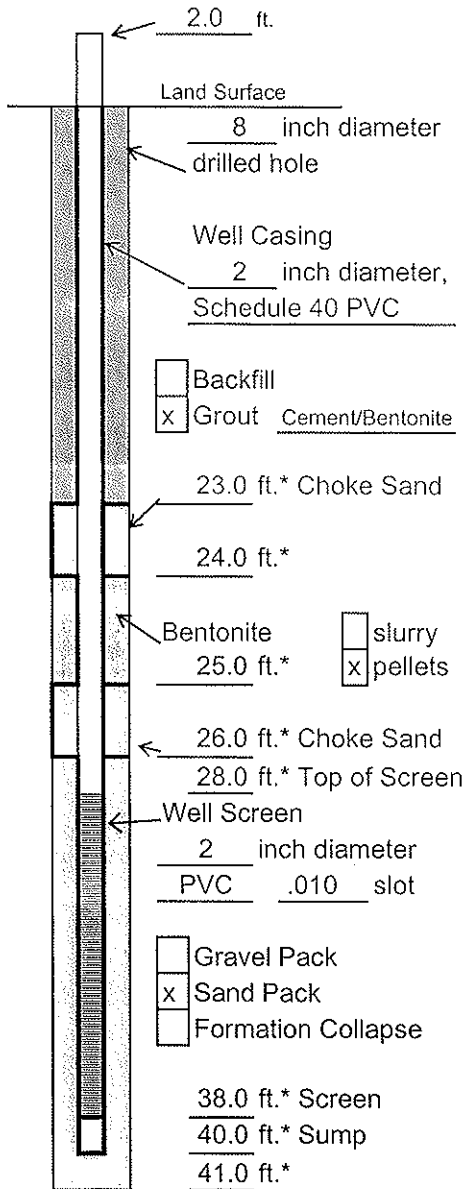
Boring/Well MW-4D

Page 3 of 3

Prepared by C. Carr[illegible]

WELL CONSTRUCTION LOG

(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project Erie Blvd Site PSA/IRM Well MW-6
 Town/City Syracuse
 County Onondaga State New York
 Permit No. _____
 Land-Surface Elevation
 and Datum 399.0 ^{398.2} feet ☐ Surveyed
 ~~NGVD 1929~~ NAVD 88 ☒ Estimated
 Installation Date July 28, 1995
 Drilling Method Hollow Stem Auger
 Drilling Contractor Parratt-Wolff, Inc.
 Drilling Fluid Water

Development Technique(s) and Date(s)

Submersible pump (8/22/95)

Fluid Loss During Drilling 50 gallons
 Water Removed During Development 125 gallons
 Static Depth to Water _____ feet below M.P.
 Pumping Depth to Water _____ feet below M.P.
 Pumping Duration 8 hours
 Yield _____ gpm Date _____
 Specific Capacity _____ gpm/ft.

Well Purpose Groundwater Monitoring

Remarks

Prepared by S. Blackmer

SAMPLE/CORE LOG

Boring/Well MW-6 Project/No. Eric Blvd. PSA/IRM AY0207.001 Page 1 of 2

Site Location Syracuse, NY Drilling Started 7/27/95 Drilling Completed 7/28/95

Total Depth Drilled 41 feet Hole Diameter 8 inches Type of Sample/ Coring Device Split-Spoon

Length and Diameter of Coring Device 2' x 2" (2' x 3" for lab sample) Sampling Interval 2 feet

Land-Surface Elevation 398.2 feet ☐ Surveyed ☒ Estimated Datum NAVD 88
NGVD 1929

Drilling Fluid Used Water Drilling Method Hollow Stem Auger

Drilling Contractor Parratt-Wolff, Inc. Driller Brian Waters Helper Rick Navatka

Prepared By S. Blackmer Hammer Weight 140 lb. Hammer Drop 30 inches

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
	From	To			
0.0	0.0	2.0	1.2	4.8,7.8	Top 3"-4": Brown Topsoil and organics. Bottom: red brick fragments, gravel and very fine to coarse sand, dry.
0.0	2.0	4.0	0.5	4.8,12,13	Gravel and brick fragments, trace sand, dry.
0.0	4.0	6.0	0.3	5.5,3,31	Same as above.
0.0	6.0	8.0	0.2	50/4	Same as above.
0.0	8.0	10.0	1.0	4.2,12	Red-brown very fine Sand and Silt, dry to damp.
0.0	10.0	12.0	1.0	4.1,3,2	Brown to red-brown and green-brown Sand and Gravel, little silt, wet.
0.0	12.0	14.0	1.0	3,2,3,8	Same as above.
0.0	14.0	16.0	0.75	4.4,7,6	Brown Sand and Gravel, little to trace silt, top 1" wet, rest damp.
0.0	16.0	18.0	0.2	10.8,7,4	Same, damp to dry.
0.0	18.0	20.0	1.0	6.3,5,5	Brown to gray-brown Gravel and Sand, damp with drier zones, trace silt.
0.0	20.0	22.0	0.5	10.2,5,5	Brown to gray-brown Gravel and Sand, dry to damp.
0.0	22.0	24.0	0.0	8,4,5,3	No Recovery.
0.0	24.0	26.0	0.2	6,5,3,3	Gravel and Sand, damp.
0.0	26.0	28.0	0.75	8,10,50/4	Brown Gravel and Sand, little silt, damp with wet zones (more gravelly zone wet).
0.0	28.0	30.0	1.0	39,25,20,22	Brown to gray-brown Gravel and Sand (varying compositions, subangular), little silt, dry to damp.
0.0	30.0	32.0	0.75	21,21,35,31	Same as above but bottom 4" wet.



SAMPLE/CORE LOG (Cont.d)

Boring/Well MW-6

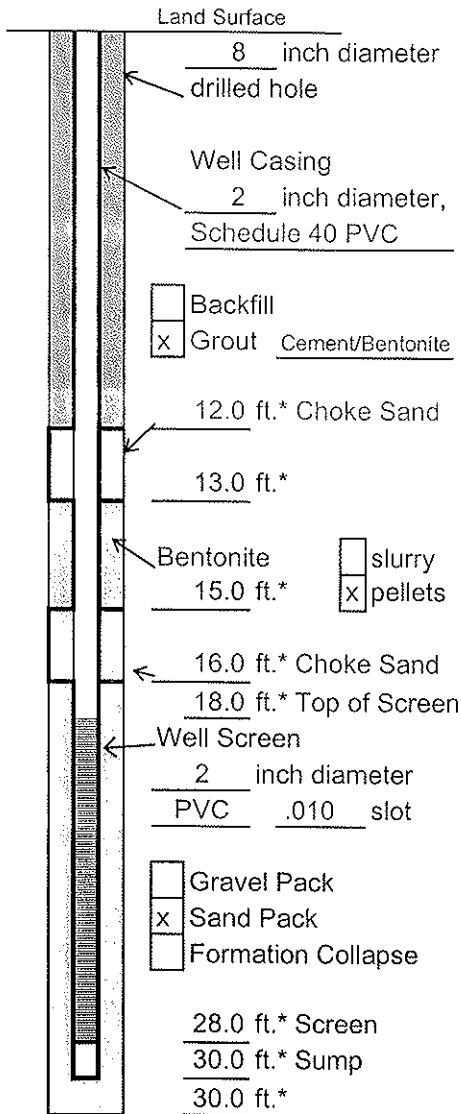
Page 2 of 2

Prepared by S. Blackmer

[illegible]

WELL CONSTRUCTION LOG

(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project Erie Blvd Site PSA/IRM Well MW-7
Town/City Syracuse
County Onondaga State New York
Permit No. _____

Land-Surface Elevation
and Datum 388.4 feet ☒ Surveyed
~~NGVD 1929~~ NAVD 88 ☐ Estimated

Installation Date(s) August 7, 1995
Drilling Method Hollow Stem Auger
Drilling Contractor Parratt-Wolff, Inc.
Drilling Fluid Water

Development Technique(s) and Date(s)
Bailed 5 gallons 8/10/95 (0.5 hr)
Pumped 275 gallons 8/10/95 (7.5 hrs)

Fluid Loss During Drilling 50 gallons
Water Removed During Development 280 gallons
Static Depth to Water _____ feet below M.P.
Pumping Depth to Water _____ feet below M.P.
Pumping Duration 8 hours
Yield _____ gpm Date _____
Specific Capacity _____ gpm/ft.

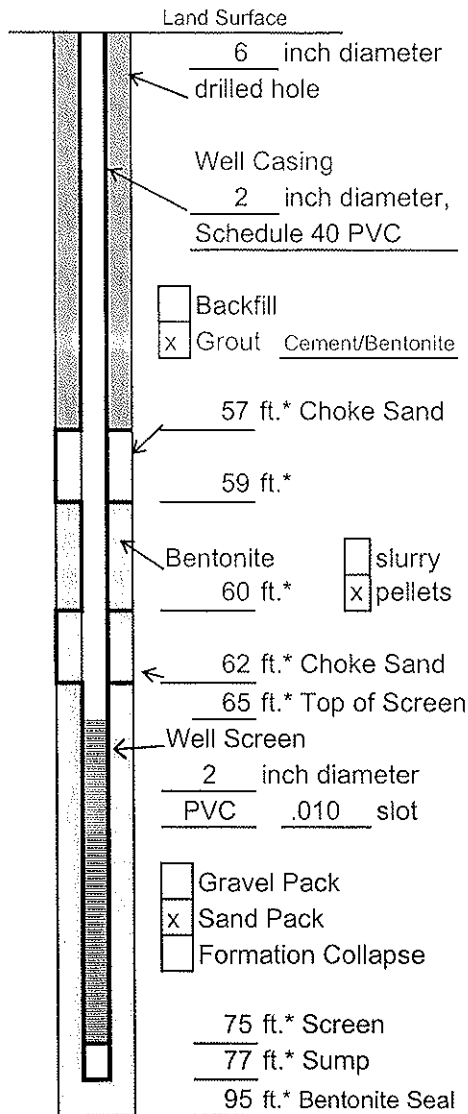
Well Purpose Groundwater Monitoring

Remarks During development, OVM detects 0.0 in
breathing zone, but 22.0 at top of PVC. Water brown-black with
sheen and product - less turbid with continued pumping.

Prepared by S. Blackmer

WELL CONSTRUCTION LOG

(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project Erie Blvd Site PSA/IRM Well MW-7D

Town/City Syracuse

County Onondaga State New York

Permit No. _____

Land-Surface Elevation
and Datum 338.32 feet ☒ Surveyed
~~368.48~~ NGVD 1929 NAVD 88 ☐ Estimated

Installation Date June 13 & June 16, 1997

Drilling Method Rotosonic

Drilling Contractor Alliance Environmental, Inc.

Drilling Fluid Potable Water

Development Technique(s) and Date(s)
Swab, bail and pump using a Grundfus submersible pump

Fluid Loss During Drilling _____ gallons

Water Removed During Development 225 gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration 2.5 hours

Yield _____ gpm Date June 18, 1997

Specific Capacity _____ gpm/ft.

Well Purpose Groundwater Monitoring

Remarks _____

Prepared by C. Carr

SAMPLE/CORE LOG

Boring/Well MW-7 Project/No. Eric Blvd. PSA/IRM AY0207.001 Page 1 of 2

Site Location Syracuse, NY Drilling Started 8/7/95 Drilling Completed 8/7/95

Total Depth Drilled 31 feet Hole Diameter 8 inches Type of Sample/ Coring Device Split-Spoon

Length and Diameter of Coring Device 2' x 2" (2' x 3" for lab sample) Sampling Interval 2 feet

Land-Surface Elevation 388.4 feet -388.4 ☒ Surveyed ☐ Estimated Datum NAVD 88 -NGVD-1929-

Drilling Fluid Used Water Drilling Method Hollow Stem Auger

Drilling Contractor Parratt-Wolff, Inc. Driller Brian Waters Helper Rick Navatka

Prepared By S. Blackmer Hammer Weight 140 lb. Hammer Drop 30 inches

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
	From	To			
0.0	0.0	0.5			Asphalt.
0.0	0.5	2.0	1.0	14,23,14	Fill: Brown Sand and Gravel (various compositions), red brick fragments, dry.
0.0	2.0	4.0	0.5	7,4,5,4	Fill: Gravel and brick fragments.
0.0	4.0	6.0	1.0	11,23,34,12	Fill: Same as above, dry with some moisture in tip.
0.0	6.0	8.0	1.0	19,8,5,8	Fill: Gravel (red sandstone and gray siltstone, brick and coal) some sand, dry, faint odor.
0.2	8.0	10.0	1.0	4,6,7,6	Brown silty Sand, some gravel (finer than above) damp to wet, no odor.
1.5	10.0	12.0	1.0	4,10,5,4	Top 6' like above, Bottom: Sand and Gravel, little silt, damp, black staining of soil and thick petroleum smearing.
12.2	12.0	14.0	0.8	3,1,8,10	Top 2": Brown silty Sand, trace gravel (plug?). Bottom 6": Black stained, silty Sand and Gravel, petroleum (black stringers), wood fragment in tip.
50	14.0	16.0	1.0	4,4,4,6	Brown, stained, silty Sand, wood fragments, little to trace clay, damp, little visible product (thick black petroleum substance), strong odor.
2.5	16	18	2.0	3,4,5,4	Brown-gray Silt and Clay, some staining, lenses or bubbles of brown petroleum throughout, little to trace sand, damp, odor.
4.6	18	20	0.5	9,11, 50/2	Brown Silt, little gravel, little sand, trace clay, little visible brown petroleum, damp with wetter zones (more gravelly zones) odor.



SAMPLE/CORE LOG (Cont.d)

Boring/Well MW-7

Page 2 of 2

Prepared by S. Blackmer

[illegible]

SAMPLE/CORE LOG

Boring/Well MW-7D Project/No. Eric Blvd. PSA/IRM - AY0207.002 Page 1 of 2

Site Location Syracuse, NY Drilling Started 6/13/1997 Drilling Completed 6/16/1997

Total Depth Drilled 95 feet Hole Diameter 6 inches Type of Sample/ Coring Device Core Barrel

Length and Diameter of Coring Device 4" x 10' Sampling Interval Cont. feet

Land-Surface Elevation ~~388.2~~ 388.3 feet ☒ Surveyed ☐ Estimated Datum NAVD 88
NGVD 1929

Drilling Fluid Used Water Drilling Method Rotosonic

Drilling Contractor Alliance Environmental, Inc. Driller Ron Ball Helper Barry Fortney

Prepared By C. Carr Hammer Weight N/A Hammer Drop N/A inches

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
	From	To			
281.0	30.0	32.0	2.0		Brownish-gray SILTY f-c Sand and Gravel; black free product.
291.0	32.0	34.0	2.0		Brown f-c SAND and GRAVEL (sub-angular), some silt and wood; strong odor and sheen noted.
2.1	35.0	55.0	5.0		Gray f-c GRAVEL (sub-angular), some f-c Sand; slight odor.
0.7	55.0	57.0	2.0		Gray f-c SAND and GRAVEL (sub-angular), trace silt.
0.0	57.0	59.0	2.0		Same as 55-57' interval.
0.0	59.0	61.0	2.0		Same as 57-59' interval.
0.0	61.0	63.0	2.0		Same as 59-61' interval.
0.0	63.0	65.0	2.0		Same as 61-63' interval.
0.0	65.0	67.0	2.0		Same as 63-65' interval.
0.0	67.0	69.0	2.0		Gray f-m GRAVEL, some f-c Sand, trace silt.
0.0	69.0	71.0	2.0		Same as 67-69' interval.
0.0	71.0	73.0	2.0		Same as 69-71' interval.
0.0	73.0	75.0	2.0		Same as 71-73' interval.
0.0	75.0	77.0	2.0		Same as 73-75' interval.
0.0	77.0	79.0	2.0		Same as 75-77' interval.
0.0	79.0	81.0	2.0		Same as 77-79' interval.
0.0	81.0	83.0	2.0		Same as 79-81' interval.

SAMPLE/CORE LOG (Cont.d)

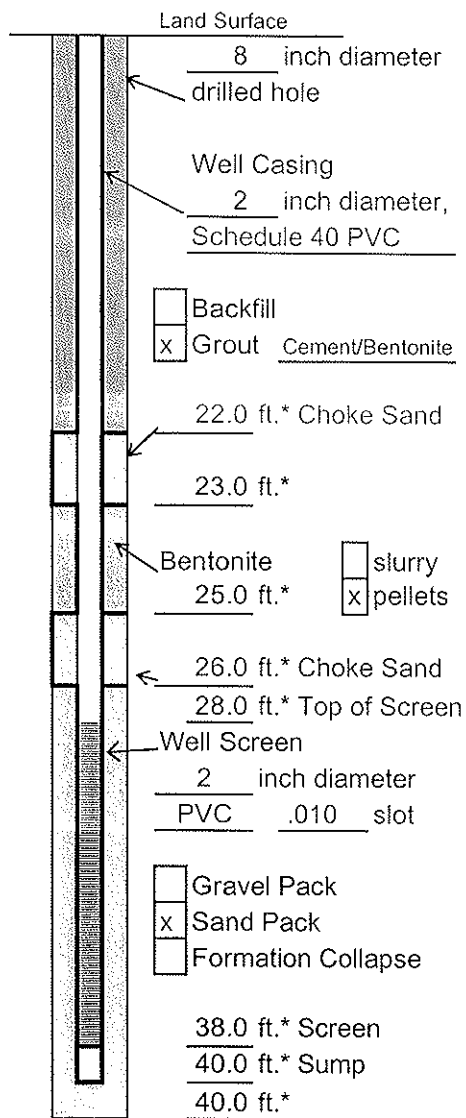
Boring/Well MW-7D

Page 2 of 2

Prepared by C. Carr[illegible]

WELL CONSTRUCTION LOG

(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project Erie Blvd Site PSA/IRM Well MW-8S
 Town/City Syracuse
 County Onondaga State New York
 Permit No. _____
 Land-Surface Elevation
 and Datum 398.3 398.41 feet ☒ Surveyed
 ~~NGVD 1929~~ NAVD 88 ☐ Estimated
 Installation Date August 4, 1995
 Drilling Method Hollow-Stem Auger
 Drilling Contractor Parratt-Wolff, Inc.
 Drilling Fluid Water

Development Technique(s) and Date(s)
Bailed 5 gallons 8/15/95 (0.5 hr)
Bailed and pumped 75 gallons 8/16/95 (8 hrs)

Fluid Loss During Drilling 50 gallons
 Water Removed During Development 80 gallons
 Static Depth to Water _____ feet below M.P.
 Pumping Depth to Water _____ feet below M.P.
 Pumping Duration 8.5 hours
 Yield _____ gpm Date _____
 Specific Capacity _____ gpm/ft.

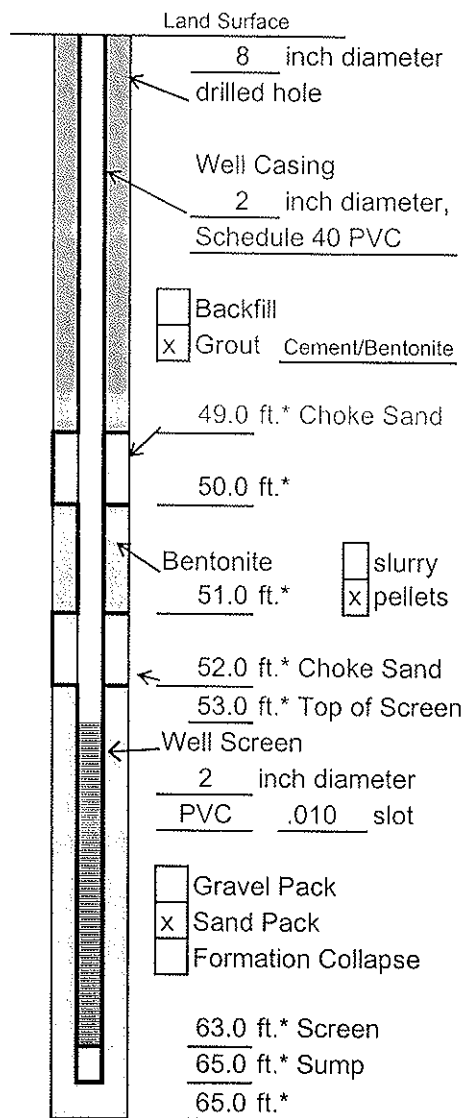
Well Purpose Groundwater Monitoring

Remarks On 8/16/95 can get bailer down to only 31 ft.; pump and tubing go down OK.

Prepared by S. Blackmer

WELL CONSTRUCTION LOG

(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project Erie Blvd Site PSA/IRM Well MW-8D

Town/City Syracuse

County Onondaga State New York

Permit No. _____

Land-Surface Elevation
and Datum -398.2 398.4 feet ☒ Surveyed
-NGVD 1929 NAVD 88 ☐ Estimated

Installation Date(s) August 1 and 2, 1995

Drilling Method Hollow-Stem Auger

Drilling Contractor Parratt-Wolff, Inc.

Drilling Fluid Water

Development Technique(s) and Date(s)
Pumped and bailed 25 gallons 8/15/95 (3 hrs)
Bailed 25 gallons 8/16/95 (5 hrs)

Fluid Loss During Drilling 40 gallons

Water Removed During Development 50 gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration 8 hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft.

Well Purpose Groundwater Monitoring

Remarks Going dry during development - water murky with product, sediment, and a sheen.

Prepared by S. Blackmer

SAMPLE/CORE LOG

Boring/Well MW-8D Project/No. Erie Blvd. PSA/IRM AY0207.001 Page 1 of 2

Site Location Syracuse, NY Drilling Started 7/31/95 Drilling Completed 7/31/95

Total Depth Drilled 66 feet Hole Diameter 8 inches Type of Sample/ Coring Device Split-Spoon

Length and Diameter of Coring Device 2' x 2" (2' x 3" for lab sample) Sampling Interval 2 feet

Land-Surface Elevation 398.4 feet -398.2 feet ☒ Surveyed ☐ Estimated Datum NAVD 88
-NGVD 1929

Drilling Fluid Used Water Drilling Method Hollow Stem Auger

Drilling Contractor Parratt-Wolff, Inc. Driller Brian Waters Helper Rick Navatka

Prepared By S. Blackmer Hammer Weight 140 lb. Hammer Drop 30 inches

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
	From	To			
0.0	0.0	0.5			Asphalt.
0.0	0.5	2.0	0.8	41,41,47	Fill: Brown, very fine Sand and gray Gravel, some asphalt and cinders, little coarse sand, dry.
0.0	2.0	4.0	1.0	47,31,29,18	Fill: Brown Sand (fine to coarse) and gray Gravel, dry, fairly compact.
0.0	4.0	6.0	1.5	16,10,29,22	Fill: Brown Sand (fine to coarse) and Gravel, little cinders, concrete and other fill, dry.
0.0	6.0	8.0	0.5	52,50/3	Fill: Same as above.
NA	8.0	10.0	NR	50/0	No Recovery.
0.0	10.0	12.0	0.3	15,16,50/0	Gray crushed rock fragments/gravel, some rock flour (& concrete?)
NA	12.0	14.0	NR	50/0	No Recovery.
0.0	14.0	16.0	0.2	50/4	Same as 10' to 12'.
NA	16.0	18.0	NR	50/1	No Recovery.
NA	18.0	20.0	NR	50/2	No Recovery (concrete and gravel in auger).
	Move hole for second attempt.				
0.0	16.0	18.0	0.1	10,6,4,3	Gravel, coarse, gray, subangular, dry.
0.0	18.0	20.0	0.5	2,2,2,2	Fill (cinders, brown sand, gravel, pieces of red brick), some silt, dry.
0.2	20.0	22.0	0.2	2,2,1,2	Cinders and Sand, dry to damp.



SAMPLE/CORE LOG (Cont.d)

Boring/Well MW-8D

Page 2 of 2

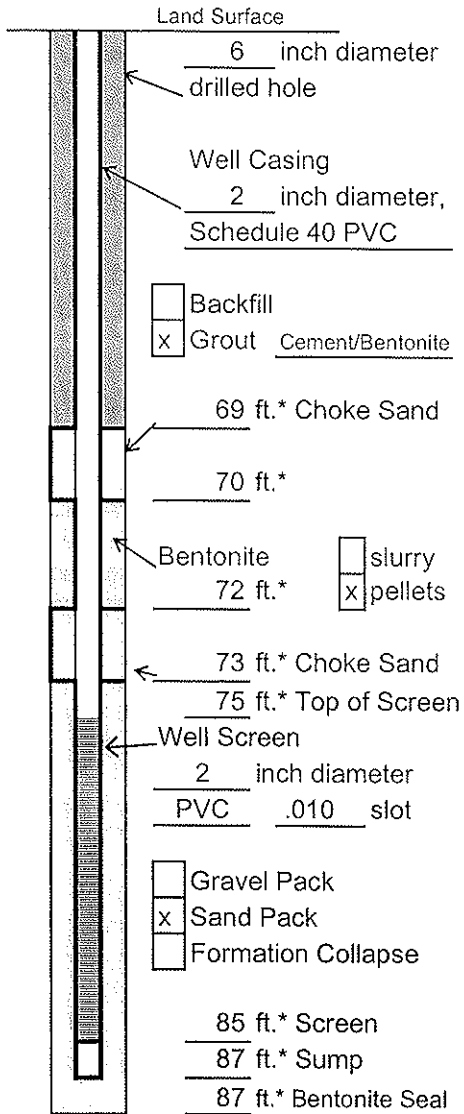
Prepared by S. Blackmer

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0.0	22.0	24.0	1.0	3,5,5,8	Top 2": Cinders and Sand (as above); Bottom 10": Very fine Sand and Silt, little to trace gravel, little to trace clay, slightly damp.
0.2	24.0	26.0	1.0	34,13,13,18	Brown silty Sand, some gravel, top 3 to 4 inches damp to wet, bottom 8" dry.
0.0	26.0	28.0	0.8	20,50/4	Brown to gray-brown Sand and Gravel, little to trace silt, dry.
0.6	28.0	30.0	1.2	26,18,20,20	Brown to gray-brown Sand (very fine to coarse) some gravel, little silt, wet in tip.
0.0	30.0	32.0	0.5	8,8,13,0	Same as above but wet with faint odor, trace brown petroleum stringers, trace sheen.
1.5	32.0	34.0	0.5	11,9,5,4	Brown Sand and Gravel, wet, petroleum stringers, odor.
1.2	34.0	36.0	2.0	9,13,18,18	Gravel and Sand, sheen, little to trace petroleum, odor.
1.7	36.0	38.0	2.0	10,13,10,6	Same as above, but finer gravel.
2.2	38.0	40.0	20.0	6,11,13,12	Gravel and Sand, little silt, rust-colored petroleum coating outside of spoon, little to some visible inside, sheen.
1.5	40.0	42.0	1.0	10,7,7,5	Same as above.
0.4	42.0	44.0	0.8	6,8,6,5	Same as above.
2.1	44.0	46.0	0.5	10,10,7,8	Gravel and Sand, wet with sheen, little petroleum as stringers.
1.3	46.0	48.0	0.8	10,7,8,4	Top 2" same; Bottom 6" trace petroleum stringers, little sheen, trace silt.
0.1	48.0	50.0	1.0	7,7,5,6	Same as bottom of above.
0.9	50.0	52.0	0.7	8,5,8,9	Brown Gravel and Sand, trace to little silt, trace sheen, faint odor.
0.5	52.0	54.0	1.0	7,7,14,21	Brown-gray Gravel, little sand, trace silt, trace sheen.
1.2	54.0	56.0	0.8	10,10,8,6	Same as above.
1.0	56.0	58.0	0.6	8,9,17,17	Gravel, trace brown sand, trace silt, little sheen.
0.7	58.0	60.0	1.8	21,15,10,12	Gravel (finer than above), some sand, trace silt, little sheen.
0.3	60.0	62.0	1.0	7,9,13,11	Gray-brown Gravel and Sand, trace silt, wet, trace sheen.
0.9	62.0	64.0	1.0	6,4,9,11	Same as above.
1.1	64.0	66.0	0.5	7,8,10,9	Same as above. EOB.



WELL CONSTRUCTION LOG

(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project Erie Blvd Site PSA/IRM Well MW-9D₁

Town/City Syracuse

County Onondaga State New York

Permit No. _____

Land-Surface Elevation and Datum 398.19 3rd 18.37 feet ☒ Surveyed
-NGVD 1929 NAVD 83 ☐ Estimated

Installation Date June 20-21, 1997

Drilling Method Rotosonic

Drilling Contractor Alliance Environmental, Inc.

Drilling Fluid Potable Water

Development Technique(s) and Date(s)
Swab, bail and pump using a Grundfos submersible pump

Fluid Loss During Drilling _____ gallons

Water Removed During Development _____ gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

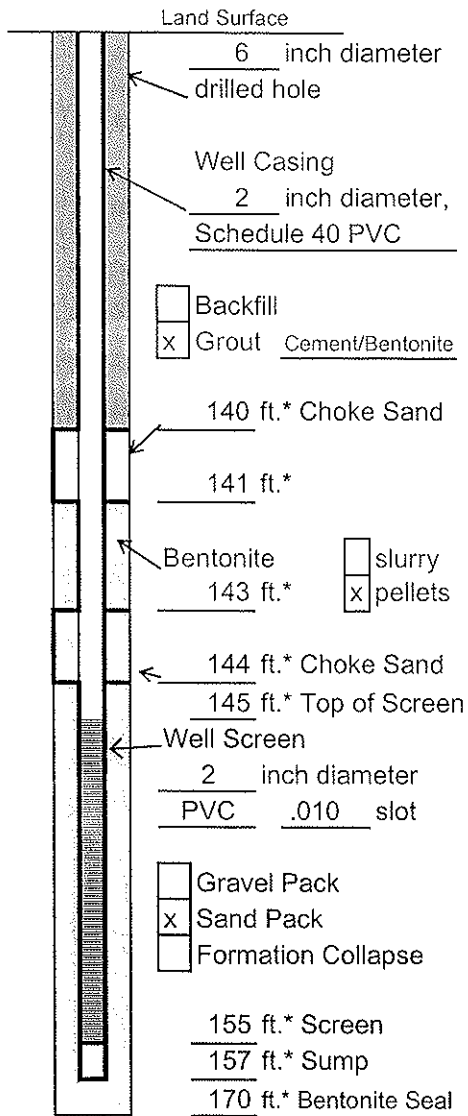
Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft.

Well Purpose Groundwater Monitoring

Remarks _____

Prepared by C. Carr

[illegible]

Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

SAMPLE/CORE LOG

Boring/Well MW-9D₂ Project/No. Erie Blvd. PSA/IRM - AY0207.002 Page 1 of 4

Site Location Syracuse, NY Drilling Started 6/20/1997 Drilling Completed 6/20/1997

Total Depth Drilled 170 feet Hole Diameter 6 inches Type of Sample/ Coring Device Core Barrel

Length and Diameter of Coring Device 4" x 10' Sampling Interval Cont. feet

Land-Surface Elevation ~~-398.2~~ 398.5 feet ☒ Surveyed ☐ Estimated Datum NAVD 88 ~~NGVD 1929~~

Drilling Fluid Used Water Drilling Method Rotosonic

Drilling Contractor Alliance Environmental, Inc. Driller Ron Ball Helper Barry Fortney

Prepared By C. Carr Hammer Weight N/A Hammer Drop N/A inches

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
From	To				
0.0	0.0	2.0	2.0		Brown SILTY Sand and Gravel, black cinders (FILL).
0.0	2.0	4.0	2.0		Brown f SILTY Sand, concrete (FILL).
	4.0	6.0	2.0		Same as 2-4' interval (FILL).
0.0	6.0	8.0	2.0		Same as 4-6' interval (FILL).
0.0	8.0	10.0	2.0		Same as 6-8' interval, trace clay (FILL)
0.0	10.0	12.0	2.0		Same as 8-10' interval (FILL).
0.0	12.0	14.0	2.0		Same as 10-12' interval (FILL).
0.0	14.0	15.0	1.0		Brown f-c SAND and GRAVEL (sub-angular), trace silt.
0.0	15.0	17.0	2.0		Same as 14-15' interval
0.0	17.0	19.0	2.0		Same as 15-17' interval.
0.0	19.0	21.0	2.0		Same as 17-19' interval.
0.0	21.0	23.0	2.0		Same as 19-21' interval.
0.0	23.0	25.0	2.0		Same as 21-23' interval.
0.0	25.0	27.0	2.0		Same as 23-25' interval.
0.0	27.0	29.0	2.0		Same as 25-27' interval.
0.0	29.0	31.0	2.0		Same as 27-29' interval.
0.0	31.0	33.0	2.0		Same as 29-31' interval.
0.0	33.0	35.0	2.0		Same as 31-33' interval.

SAMPLE/CORE LOG (Cont.d)

Boring/Well MW-9D₂

Page 2 of 4

Prepared by C. Carr

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
	From	To			
0.0	35.0	45.0	5.0		Same as 33-35' interval.
0.0	45.0	55.0	5.0		Gray f-c SAND and GRAVEL, trace silt.
0.0	55.0	57.0	2.0		Same as 55-57' interval.
0.0	57.0	59.0	2.0		Same as 57-59' interval.
0.0	59.0	61.0	2.0		Same as 59-61' interval.
0.0	61.0	63.0	2.0		Same as 61-63' interval.
0.0	63.0	65.0	2.0		Same as 63-65' interval.
1.7	65.0	67.0	2.0		Gray f-c GRAVEL, some f-c Sand, trace silt.
2.7	67.0	69.0	2.0		Same as 65-67' interval.
8.7	69.0	71.0	2.0		Same as 67-69' interval.
13.8	71.0	73.0	2.0		Same as 69-71' interval.
16.9	73.0	75.0	2.0		Same as 71-73' interval.
11.0	75.0	77.0	2.0		Same as 73-75' interval.
51.4	77.0	79.0	2.0		Same as 75-77' interval; strong odor.
62.1	79.0	81.0	2.0		Same as 77-79' interval; strong odor.
46.1	81.0	83.0	2.0		Same as 79-81' interval; strong odor.
43.0	83.0	85.0	2.0		Same as 81-83' interval; strong odor.
68.4	85.0	87.0	2.0		Same as 83-85' interval; strong odor.
75.4	87.0	89.0	2.0		Same as 85-87' interval; strong odor.
75.1	89.0	91.0	2.0		Same as 87-89' interval; strong odor.
50.2	91.0	93.0	2.0		Gray f-m GRAVEL (sub-angular), some f-c Sand, trace silt & clay; strong odor.
213.1	93.0	95.0	2.0		Same as 91-93' interval; strong odor.
54.3	95.0	97.0	2.0		Gray f-m GRAVEL (sub-angular), some f-c Sand, trace silt; strong odor.
63.1	97.0	99.0	2.0		Same as 95-97' interval; strong odor.
89.3	99.0	101.0	2.0		Same as 97-99' interval; strong odor.

SAMPLE/CORE LOG (Cont.d)

Boring/Well MW-9D₂

Page 3 of 4

Prepared by C. Carr

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
55.2	101.0	103.0	2.0		Same as 99-101' interval; strong odor.
104.5	103.0	105.0	2.0		Same as 101-103' interval; sheen and strong odor.
108.2	105.0	107.0	2.0		Same as 103-105' interval; sheen and strong odor.
100.0	107.0	109.0	2.0		Same as 105-107' interval; sheen and strong odor.
103.1	109.0	111.0	2.0		Same as 107-109' interval; sheen and strong odor.
108.0	111.0	113.0	2.0		Same as 109-111' interval; sheen and strong odor.
160.0	113.0	115.0	2.0		Same as 111-113' interval; sheen and brown stringers noted.
101.0	115.0	117.0	2.0		Same as 113-115' interval; strong odor.
100.0	117.0	119.0	2.0		Same as 115-117' interval; strong odor.
49.3	119.0	121.0	2.0		Brown f-m SAND, trace silt.
119.7	121.0	123.0	2.0		Same as 119-121' interval; strong odor.
89.1	123.0	125.0	2.0		Brown f-m GRAVEL, some f-c Sand, trace silt.
95.0	125.0	127.0	2.0		Same as 123-125' interval.
170.1	127.0	129.0	2.0		Same as 125-127' interval.
76.3	129.0	131.0	2.0		Brown f-m SAND, trace silt.
205.1	131.0	133.0	2.0		Same as 129-131' interval.
207.3	133.0	135.0	2.0		Same as 131-133' interval.
0.0	135.0	137.0	2.0		Same as 133-135' interval.
0.0	137.0	139.0	2.0		Same as 135-137' interval.
0.0	139.0	141.0	2.0		Brown f-m SAND, trace silt and f-m gravel (rounded).
0.0	141.0	143.0	2.0		Same as 139-141' interval.
0.0	143.0	145.0	2.0		Same as 141-143' interval.
0.0	145.0	147.0	2.0		Same as 143-145' interval.
0.0	147.0	149.0	2.0		Brown f-m SAND, trace silt.
0.0	149.0	151.0	2.0		Same as 147-149' interval.

SAMPLE/CORE LOG (Cont.d)

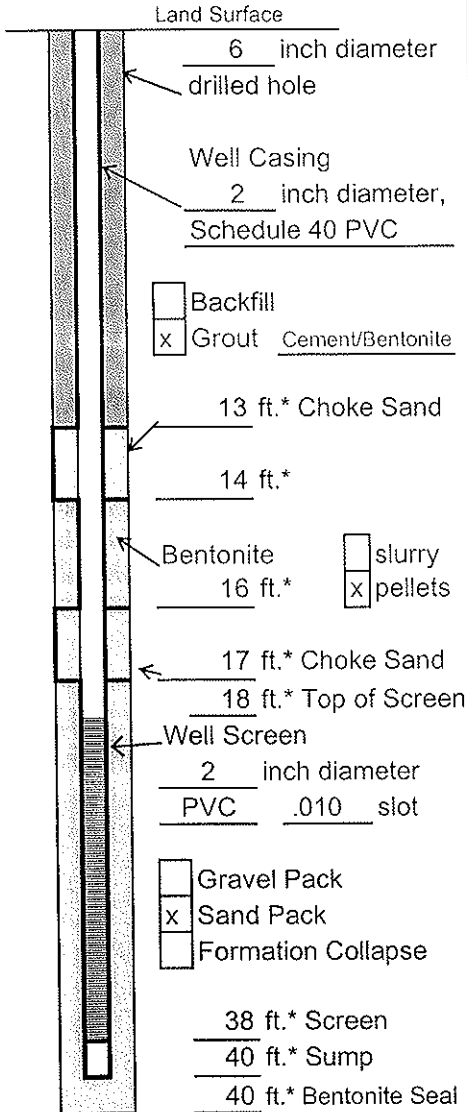
Boring/Well MW-9D₂

Page 4 of 4

Prepared by C. Carr[illegible]

WELL CONSTRUCTION LOG

(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project Erie Blvd Site PSA/IRM Well MW-10S
Town/City Syracuse
County Onondaga State New York
Permit No. _____

Land-Surface Elevation
and Datum 314.8 feet ☒ Surveyed
NAVD 88 ☐ Estimated

Installation Date June 18, 1997
Drilling Method Rotosonic
Drilling Contractor Alliance Environmental, Inc.
Drilling Fluid Potable Water

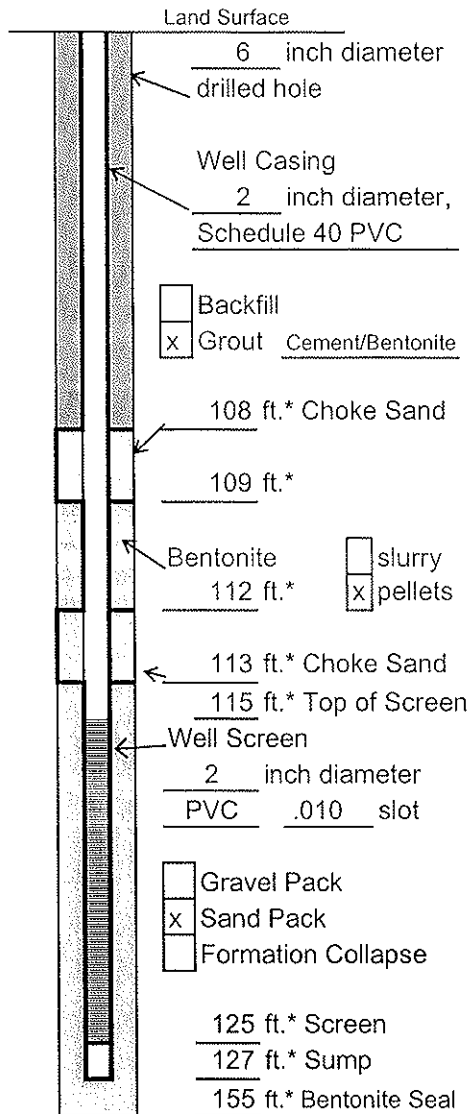
Development Technique(s) and Date(s)
Swab, bail and pump using a Grundfos submersible pump

Fluid Loss During Drilling _____ gallons
Water Removed During Development 225 gallons
Static Depth to Water _____ feet below M.P.
Pumping Depth to Water _____ feet below M.P.
Pumping Duration _____ hours
Yield _____ gpm Date June 20, 1997
Specific Capacity _____ gpm/ft.

Well Purpose Groundwater Monitoring

Remarks Pump entire 20' length of screen several times
until all silts and sediments are cleared

Prepared by C. Carr

[illegible]

Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

SAMPLE/CORE LOG

Boring/Well MW-10D Project/No. Eric Blvd. PSA/IRM - AY0207.002 Page 1 of 4

Site
Location Syracuse, NY Drilling Started 6/17/1997 Drilling Completed 6/17/1997

Total Depth Drilled 155 feet Hole Diameter 6 inches Type of Sample/
Coring Device Core Barrel

Length and Diameter
of Coring Device 4" x 10' Sampling Interval Cont. feet

Land-Surface
Elevation 394.8 feet ☒ Surveyed ☐ Estimated Datum NAVD 88
~~NGVD 1929~~

Drilling Fluid Used Water Drilling Method Rotosonic

Drilling Contractor Alliance Environmental, Inc. Driller Ron Ball Helper Barry Fortney

Prepared
By C. Carr Hammer Weight N/A Hammer Drop N/A inches

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
	From	To			
0.0	0.0	2.0	2.0		Brown Sand and Gravel, some silt, brick (FILL).
0.0	2.0	4.0	2.0		Reddish-brown SILTY Sand and Gravel, some silt, trace clay, brick (FILL).
0.0	4.0	6.0	2.0		Same as 2-4' interval (FILL).
0.0	6.0	8.0	2.0		Same as 4-6' interval (FILL).
0.0	8.0	10.0	2.0		Brown SILT and CLAY, some f-m Sand and gravel
0.0	10.0	12.0	2.0		Same as 8-10' interval.
0.0	12.0	14.0	2.0		Same as 10-12' interval.
0.0	14.0	16.0	2.0		Same as 12-14' interval, gray f sand seams.
0.0	16.0	18.0	2.0		Same as 14-16' interval, gray f sand seams.
0.0	18.0	20.0	2.0		Same as 16-18' interval.
0.0	20.0	22.0	2.0		Same as 18-20' interval.
0.0	22.0	24.0	2.0		Same as 20-22' interval; wet.
0.0	24.0	26.0	2.0		Brown f-c SAND and GRAVEL (sub-angular), trace silt.
0.0	26.0	28.0	2.0		Same as 24-26' interval.
0.0	28.0	30.0	2.0		Same as 26-28' interval.
0.0	30.0	32.0	2.0		Same as 28-30' interval.
0.0	32.0	34.0	2.0		Same as 30-32' interval.

SAMPLE/CORE LOG (Cont.d)

Boring/Well MW-10D

Page 2 of 4

Prepared by C. Carr

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0.0	35.0	55.0	5.0		Gray f-c SAND and GRAVEL, trace silt.
0.0	55.0	57.0	2.0		Gray f-c SAND and GRAVEL, trace silt.
0.0	57.0	59.0	2.0		Same as 55-57' interval.
0.0	59.0	61.0	2.0		Same as 57-59' interval.
0.0	61.0	63.0	2.0		Same as 59-61' interval.
0.0	63.0	65.0	2.0		Gray f-m GRAVEL, some f-c Sand, trace silt.
0.0	65.0	67.0	2.0		Same as 63-65' interval.
0.0	67.0	69.0	2.0		Same as 65-67' interval.
0.0	69.0	71.0	2.0		Same as 67-69' interval.
0.0	71.0	73.0	2.0		Same as 69-71' interval.
0.0	73.0	75.0	2.0		Same as 71-73' interval; slight odor.
21.8	75.0	77.0	2.0		Same as 73-75' interval; strong odor.
39.3	77.0	79.0	2.0		Same as 75-77' interval; strong odor.
20.1	79.0	81.0	2.0		Same as 77-79' interval; strong odor.
19.2	81.0	83.0	2.0		81-82' - Same as 79-81' interval; 82-83' - Gray f-c GRAVEL (sub-angular to
					rounded); some f-c Sand, trace silt and clay.
30.6	83.0	85.0	2.0		Same as 82-83' interval.
23.1	85.0	87.0	2.0		Same as 83-85' interval; strong odor.
21.8	87.0	89.0	2.0		Same as 85-87' interval; strong odor.
25.1	89.0	91.0	2.0		89-90' - Same as 87-89' interval; 90-91' - Gray f-c GRAVEL (rounded), some f-c
					Sand, trace silt.
48.1	91.0	93.0	2.0		Same as 90-91' interval.
44.3	93.0	95.0	2.0		Same as 91-93' interval.
45.0	95.0	97.0	2.0		Gray f-m GRAVEL (sub-angular to rounded), some f-c Sand, trace silt.
65.6	97.0	99.0	2.0		Same as 95-97' interval.

SAMPLE/CORE LOG (Cont.d)

Boring/Well MW-10D

Page 3 of 4

Prepared by C. Carr

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
70.6	99.0	101.0	2.0		Same as 97-99' interval.
80.6	101.0	103.0	2.0		Same as 99-101' interval.
80.6	103.0	105.0	2.0		Same as 101-103' interval.
57.6	105.0	107.0	2.0		Same as 103-105' interval.
58.1	107.0	109.0	2.0		Same as 105-107' interval.
48.1	109.0	111.0	2.0		Same as 107-109' interval.
60.6	111.0	113.0	2.0		Same as 109-111' interval.
54.3	113.0	115.0	2.0		Same as 111-113' interval.
73.1	115.0	117.0	2.0		Same as 113-115' interval.
85.0	117.0	119.0	2.0		Same as 115-117' interval.
119.3	119.0	121.0	2.0		Same as 117-119' interval.
11.8	121.0	123.0	2.0		Gray f-m SAND, trace silt.
15.0	123.0	125.0	2.0		Same as 121-123' interval.
103.0	125.0	127.0	2.0		Gray dense SILTY CLAY, some f Sand and Gravel (TILL).
5.6	127.0	129.0	2.0		Same as 125-127' interval (TILL).
0.0	129.0	131.0	2.0		Same as 127-129' interval (TILL).
0.6	131.0	133.0	2.0		Same as 129-131' interval (TILL).
0.0	133.0	135.0	2.0		Same as 131-133' interval (TILL).
1.7	135.0	137.0	2.0		Red dense SILTY CLAY, some f Sand and Gravel (rounded).
0.0	137.0	139.0	2.0		Same as 135-137' interval.
0.0	139.0	141.0	2.0		Same as 137-139' interval.
0.0	141.0	143.0	2.0		Same as 139-141' interval.
13.7	143.0	145.0	2.0		Same as 141-143' interval.
29.3	145.0	147.0	2.0		Same as 143-145' interval, weathered red vemon shale, gypsum.
0.0	147.0	149.0	2.0		Same as 145-147' interval, weathered red vemon shale.

SAMPLE/CORE LOG (Cont.d)

Boring/Well MW-10D

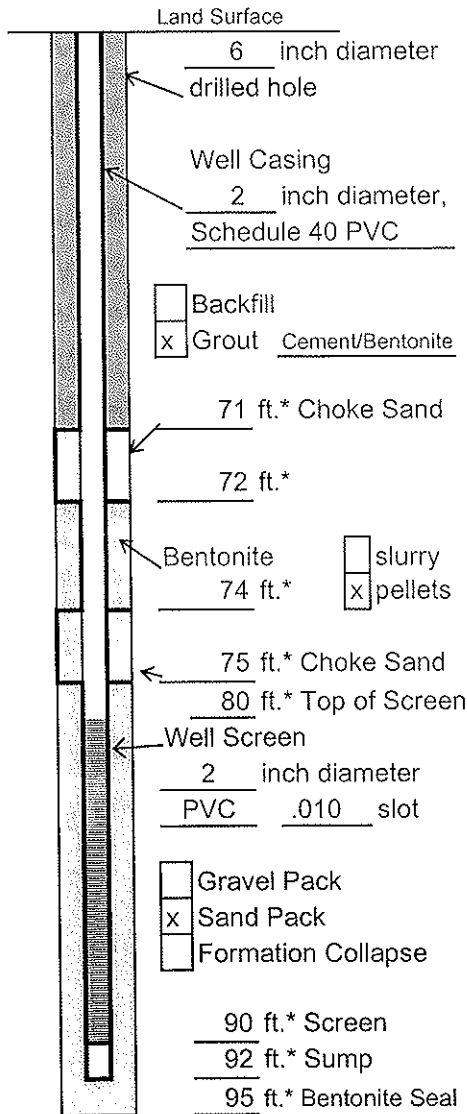
Page 4 of 4

Prepared by C. Carr

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WELL CONSTRUCTION LOG

(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project Erie Blvd Site PSA/IRM Well MW-11D

Town/City Syracuse

County Onondaga State New York

Permit No. _____

Land-Surface Elevation
and Datum 395.08 392.2 feet ☒ Surveyed
NGVD 1929 NAVD 88 ☐ Estimated

Installation Date June 18, 1997

Drilling Method Rotosonic

Drilling Contractor Alliance Environmental, Inc.

Drilling Fluid Potable Water

Development Technique(s) and Date(s)
Swab, bail and pump using a Grundfos submersible pump

Fluid Loss During Drilling _____ gallons

Water Removed During Development 225-250 gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date June 20, 1997

Specific Capacity _____ gpm/ft.

Well Purpose Groundwater Monitoring

Remarks Purged entire length of screen to remove all silts and sediments.

Prepared by C. Carr

SAMPLE/CORE LOG

Boring/Well MW-11D Project/No. Erie Blvd. PSA/IRM - AY0207.002 Page 1 of 2

Site Location Syracuse, NY Drilling Started 6/18/1997 Drilling Completed 6/18/1997

Total Depth Drilled 95 feet Hole Diameter 6 inches Type of Sample/ Coring Device Core Barrel

Length and Diameter of Coring Device 4" x 10' Sampling Interval Cont. feet

Land-Surface Elevation 392.0 392.2 feet ☒ Surveyed ☐ Estimated Datum NAVD 88
-NGVD 1929-

Drilling Fluid Used Water Drilling Method Rotosonic

Drilling Contractor Alliance Environmental, Inc. Driller Ron Ball Helper Barry Fortney

Prepared By C. Carr Hammer Weight N/A Hammer Drop N/A inches

OVM	Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0.0	0.0	2.0	2.0		Brown f-c SILTY Sand and Gravel, some brick (FILL).
0.0	2.0	4.0	2.0		Same as 0-2' interval (FILL).
0.0	4.0	6.0	2.0		Same as 2-4' interval (FILL).
0.0	6.0	8.0	2.0		Same as 4-6' interval (FILL).
0.0	8.0	10.0	2.0		Same as 6-8' interval (FILL).
0.0	10.0	12.0	2.0		Brown SILT and CLAY, some f-m Sand and gravel (sub-angular).
0.0	12.0	14.0	2.0		Same as 10-12' interval.
0.0	14.0	16.0	2.0		Same as 12-14' interval.
0.0	16.0	18.0	2.0		Same as 14-16' interval.
0.0	18.0	20.0	2.0		Same as 16-18' interval.
0.0	20.0	22.0	2.0		Same as 18-20' interval.
0.0	22.0	24.0	2.0		Same as 20-22' interval.
0.0	24.0	26.0	2.0		Same as 22-24' interval.
0.0	26.0	28.0	2.0		Same as 24-26' interval.
0.0	28.0	30.0	2.0		Same as 26-28' interval.
0.0	30.0	32.0	2.0		Brown f-c SAND and GRAVEL (sub-angular), trace silt.
0.0	32.0	34.0	2.0		Same as 30-32' interval.
0.0	35.0	55.0	5.0		Gray f-c SAND and GRAVEL (sub-angular), trace silt.

SAMPLE/CORE LOG (Cont.d)

Boring/Well MW-11D

Page 2 of 2

Prepared by C. Carr

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
	From	To			
0.0	55.0	57.0	2.0		Same as 35-55' interval.
0.0	57.0	59.0	2.0		Gray f-m GRAVEL (sub-angular to rounded), some f-c Sand, trace silt.
0.0	59.0	61.0	2.0		Same as 57-59' interval.
0.0	61.0	63.0	2.0		Same as 59-61' interval.
0.0	63.0	65.0	2.0		Same as 61-63' interval.
0.0	65.0	67.0	2.0		Same as 63-65' interval.
10.2	67.0	69.0	2.0		Same as 65-67' interval; strong odor from 68-69' interval.
31.0	69.0	71.0	2.0		Same as 67-69' interval; strong odor.
41.1	71.0	73.0	2.0		Same as 69-71' interval; strong odor.
43.0	73.0	75.0	2.0		Same as 71-73' interval; strong odor.
10.5	75.0	77.0	2.0		Gray f-c GRAVEL, some f-c Sand, trace silt.
10.5	77.0	79.0	2.0		Same as 75-77' interval; strong odor.
22.0	79.0	81.0	2.0		Same as 77-79' interval.
21.0	81.0	83.0	2.0		Same as 79-81' interval.
43.5	83.0	85.0	2.0		Same as 81-83' interval; clay lens at 84' bls.
38.5	85.0	87.0			Same as 83-85' interval.
28.0	87.0	89.0	2.0		Same as 85-87' interval; clay lens at 89' bls.
42.0	89.0	91.0	2.0		Gray f-m GRAVEL (sub-angular to rounded), some f-c Sand, trace silt.
28.1	91.0	93.0	2.0		Same as 89-91' interval.
35.3	93.0	95.0	2.0		Same as 91-93' interval.

WELL CONSTRUCTION LOG

(UNCONSOLIDATED)

Land Surface

6 inch diameter drilled hole

Well Casing 2 inch diameter, Schedule 40 PVC

☐ Backfill

☒ Grout Cement/Bentonite

ft.* Choke Sand

ft.*

Bentonite ☐ slurry ☒ pellets

ft.*

ft.* Choke Sand

ft.* Top of Screen

Well Screen 2 inch diameter PVC .010 slot

☐ Gravel Pack

☒ Sand Pack

☐ Formation Collapse

ft.* Screen

ft.* Sump

ft.* Bentonite Seal

Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project Erie Blvd Site PSA/IRM Well MW-12D

Town/City Syracuse

County Onondaga State New York

Permit No. _____

Land-Surface Elevation and Datum 399.6 feet ☒ Surveyed ☐ Estimated
~~NGVD 1929~~ NAVD 88

Installation Date _____

Drilling Method Hollow Stem Auger

Drilling Contractor Parratt Wolff

Drilling Fluid Potable Water

Development Technique(s) and Date(s) _____

Fluid Loss During Drilling _____ gallons

Water Removed During Development 200 gallons

Static Depth to Water 30.24 feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration 2.5 hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft.

Well Purpose Groundwater Monitoring

Remarks _____

Prepared by TM/DD

SAMPLE/CORE LOG

Boring/Well MW-12D Project/No. Eric Blvd. PSA/IRM - AY0207.002 Page 1 of 2

Site
Location Syracuse, NY Drilling Started 6/19/1997 Drilling Completed 6/19/1997

Total Depth Drilled 102 feet Hole Diameter 6 inches Type of Sample/
Coring Device Core Barrel

Length and Diameter
of Coring Device 4" x 10' Sampling Interval Cont. feet

Land-Surface
Elevation 399.5 feet ☒ Surveyed ☐ Estimated Datum NGVD 1929

Drilling Fluid Used Water Drilling Method Rotosonic

Drilling Contractor Alliance Environmental, Inc. Driller Ron Ball Helper Barry Fortney

Prepared By C. Carr Hammer Weight N/A Hammer Drop N/A inches

Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
OVM	From To			
0.0	0.0 2.0	2.0		Brownish-gray SILTY Sand and Gravel (sub-angular), trace clay and concrete (FILL).
0.0	2.0 4.0	2.0		Same as 0-2' interval (FILL).
0.0	4.0 6.0	2.0		Same as 2-4' interval (FILL).
0.0	6.0 8.0	2.0		Same as 4-6' interval (FILL).
0.0	8.0 10.0	2.0		Brown f SILTY Sand, trace clay.
0.0	10.0 12.0	2.0		Same as 8-10' interval.
0.0	12.0 14.0	2.0		Same as 10-12' interval.
0.0	14.0 15.0	1.0		Same as 12-14' interval.
0.0	15.0 25.0	2.0		Same as 14-15' interval, moist.
0.0	25.0 27.0	2.0		Brown f SAND, moist.
0.0	27.0 29.0	2.0		27-28' - Same as 25-27' interval; 28-29' - Brown f-c SAND and GRAVEL (rounded), trace silt.
0.0	29.0 31.0	2.0		Same as 28-29' interval, dry.
0.0	31.0 33.0	2.0		Same as 29-31' interval.
0.0	33.0 35.0	2.0		Same as 31-33' interval.
0.0	35.0 55.0	5.0		Gray f-c SAND and GRAVEL (sub-angular), trace silt.
0.0	55.0 57.0	2.0		Same as 35-55' interval.

SAMPLE/CORE LOG (Cont.d)

Boring/Well MW-12D

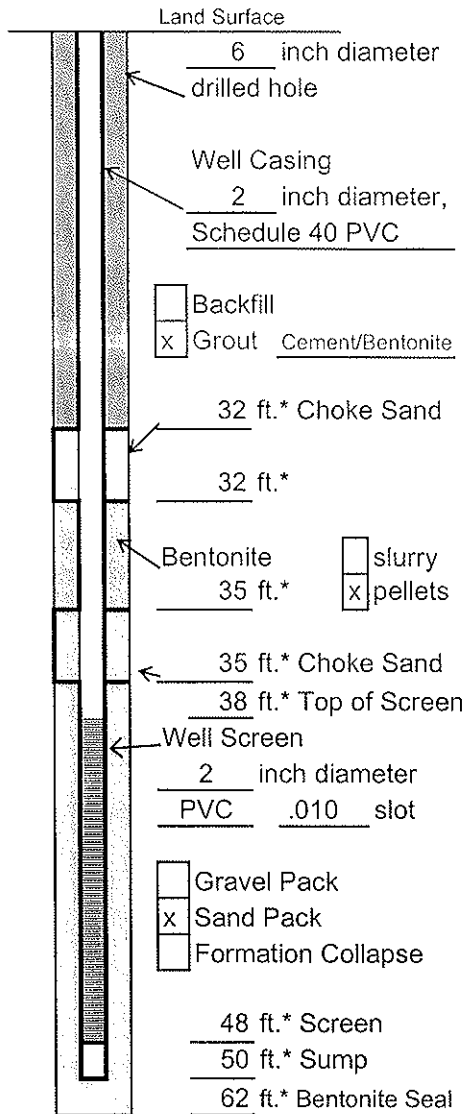
Page 2 of 2

Prepared by C. Carr

OVM	Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
	From	To			
0.0	57.0	59.0	2.0		Same as 35-55' interval.
0.0	59.0	61.0	2.0		Same as 57-59' interval.
0.0	61.0	63.0	2.0		Same as 59-61' interval.
0.0	63.0	65.0	2.0		Same as 61-63' interval.
0.0	65.0	67.0	2.0		Same as 63-65' interval.
0.0	67.0	69.0	2.0		Same as 65-67' interval.
0.0	69.0	71.0	2.0		Same as 67-69' interval.
0.0	71.0	73.0	2.0		Same as 69-71' interval.
0.0	73.0	75.0	2.0		Same as 71-73' interval.
0.0	75.0	77.0	2.0		Same as 73-75' interval.
0.0	77.0	79.0	2.0		Same as 75-77' interval.
0.0	79.0	81.0	2.0		Same as 77-79' interval.
0.0	81.0	83.0	2.0		Same as 79-81' interval.
0.0	83.0	85.0	2.0		Same as 81-83' interval.
0.0	85.0	87.0	2.0		Gray f-m GRAVEL, some f-c Sand, trace silt.
0.0	87.0	89.0	2.0		Same as 85-87' interval.
0.0	89.0	91.0	2.0		Same as 87-89' interval.
0.0	91.0	93.0	2.0		Same as 89-91' interval.
0.0	93.0	95.0	2.0		Same as 91-93' interval.
0.0	95.0	102.0	1.0		Same as 93-95' interval.

WELL CONSTRUCTION LOG

(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project Erie Blvd Site PSA/IRM Well MW-13

Town/City Syracuse

County Onondaga State New York

Permit No. _____

Land-Surface Elevation
and Datum 397.1 feet ☒ Surveyed
NAVD 88 ☐ Estimated

Installation Date September 20, 2000

Drilling Method Hollow Stem Auger

Drilling Contractor Parratt Wolff

Drilling Fluid Potable Water

Development Technique(s) and Date(s) _____

Fluid Loss During Drilling _____ gallons

Water Removed During Development _____ gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft.

Well Purpose Groundwater Monitoring

Remarks _____

Prepared by TM/BG

ARCADIS

Sample/Core Log

Boring/Well MW-13 Project/No. Niagara Mohawk - Erie Boulevard/AY000207.0005 Page 1 of 2

Site Syracuse, NY Drilling Started 9/20/00 Drilling Completed 9/20/00

Total Depth Drilled 62 Feet Hole Diameter 8 inches Type of Sample/ Split Spoon
Coring Device

Length and Diameter of Coring Device 2-feet x 2-inches Sampling Interval 2.0' feet

Land-Surface Elev. 397.05 feet ☒ Surveyed ☐ Estimated Datum NAVD 88

Drilling Fluid Used Potable water Drilling Method 4 1/4 HSA

Drilling Contractor Parratt Wolff Driller J. Perry Helper J. Lansing

Prepared By B. Guidetti Hammer Weight 140 lbs. Hammer Drop 30 ins.

Sample/Core Depth (feet below land surface)		Time/Hydraulic Core Pressure or Recovery Blows per 6 Inches		Sample/Core Description	PID
From	To	(feet)			
0	1.2	1.2	3,10,50/2'	brown, dry SILTY SAND (FILL), with gravel and brick	0
1.2	3	0		Solid stem auger-concrete	0
2	4		5,9,11,9	brown f-m SAND and GRAVEL	0
4	6	0.4	8,13,11,10	top 2" CLAYEY SAND , moist, brown, grading to f-m SILTY SAND	0
6	8	1	9,11,13,13	brown, f-m SANDY GRAVEL, dry brick (fill)	0
8	10	0.2	12,12,9,11	brown f-m SAND and GRAVEL, dry, with some cobble	0
10	12	1.3	16,18,16,24	SAME AS 8-10	0
12	14	0.5	28,10,10,14	SAME AS ABOVE	0
14	16	0.8	16,9,11,11	m SILTY SAND and gravel	0
16	18	0.5	20,10,11,16	SAME AS 14-16	0
18	20	0.5	8,10,11,9	SAME AS ABOVE	0
20	22	0.3	6,8,5,6	SAME AS ABOVE	0
22	24	0.3	6,8,8,7	SAME AS 20-22, some clay	0
24	26	0.8	11,10,12,13	brown SILTY SAND, f-m gravel, moist	0
26	28	0.5	41,13,15,32	SOS, wet (top 3"), dry (bottom 3")	0
28	30	0.3	10,6,8,10	brown SILT, sand and angular gravel, wet	0
30	32	2.0	7,4,7,15	SAME AS 28-30; bottom 3" CLAY, SILTY GRAVEL	0
32	34	1.5	21,15,24,42	SAME AS 30-32	0
34	36	1.0	11,16,18,24	brown, f-c SAND and GRAVEL, trace silt, wet	0
36	38	1.5	15,18,14,14	SAME AS 34-46	0

ARCADIS
Sample/Core Log (Cont.d)

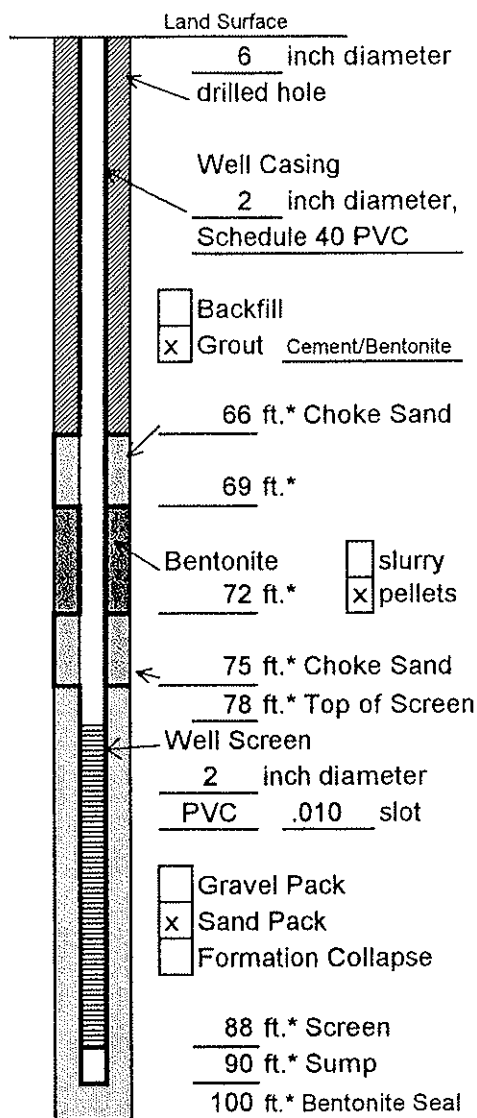
Boring/Well MW-13

Page 2 of 2

Prepared by B. GUIDETTI[illegible]

WELL CONSTRUCTION LOG

(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project Niagara Mohawk Erie Blvd RI Well MW-14D

Town/City Syracuse

County Onondaga

State New York

Permit No. _____

Land-Surface Elevation

and Datum 396.42 feet

NAVD 88

☒ Surveyed
☐ Estimated

Installation Date September 25, 2000

Drilling Method 4 1/4 Hollow Stem Auger

Drilling Contractor Parratt Wolff

Drilling Fluid Potable Water

Development Technique(s) and Date(s)

Pumping/Surging

Fluid Loss During Drilling _____ gallons

Water Removed During Development 135 gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft.

Well Purpose Groundwater Monitoring

Remarks _____

Prepared by D. DeOrazio

ARCADIS

Sample/Core Log

Boring/Well MW-14D Project/No. Niagara Mohawk - Erie Boulevard/AY000207.0005 Page 1 of 2

Site Syracuse, NY Drilling Started 9/21/00 Drilling Completed 9/25/00

Total Depth Drilled 100 Feet Hole Diameter 6 inches Type of Sample/ Split Spoon

Length and Diameter of Coring Device 2-feet x 2-inches Sampling Interval 2.0' feet

Land-Surface Elev. 396.42 feet ☒ Surveyed ☐ Estimated Datum NAVD 88

Drilling Fluid Used Potable water Drilling Method 4 1/4 HSA

Drilling Contractor Parratt Wolff Driller J. Perry Helper J. Lansing

Prepared By B. Guidetti Hammer Weight Drop ins.

Sample/Core Depth (feet below land surface)	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 Inches	Sample/Core Description	PID
From	To			
0	2	0.8	4,12,24,25 f brown sandy gravel (FILL), dry	1.9
2	4	1.0	16,20,16,10 Brown/black clay, silt, some fine gravel, silt oily odor at bottom	1.7
4	6	1.7	31,37,32,42 f black SAND and f-m gravel, some silt, dry, no odor (FILL)	4.3
6	8	1.2	31,27,31,30 m red/brown SAND, silt, some gravel and silt	1.4
8	10	1.0	11,9,8,7 f SAND and silt, moist, some gravel and isolated red clay	4.4
10	12	1.4	4,5,6,7 f-m red/brown SAND, some silt and gravel, moist	4.2
12	14	1.0	5,7,11,11 SAME AS 10-12, some clay	2.9
14	16	1.0	9,8,9,11 SAME AS ABOVE, bottom 2" green/grey/red/brown clay w/ some sand	7.1
16	18	0.5	9,7,11,13 SAME AS 12-14	8.7
18	20	1.7	3,3,5,5 Top 2" SAME AS ABOVE; grey CLAY, moist; Bottom 4" grey silty sand	6.6
20	22	0.2	10,9,10,10 SAME AS 18-20	5.7
22	24	1.8	4,4,4,3 Brown SILTY SAND, moist, with f-m gravel, few red clay lenses	4.9
24	26	1.6	4,6,4,3 Top: SAME AS ABOVE; Mid: black CLAY and shale; Bottom: black SILTY	4.5
			SAND, and gravel, wet	
26	28	0.4	4,8,8,6 Black CLAY, some gravel, wet	1.8
28	30	0.7	3,4,6,7 SAME AS 26-28, wet	2.2
30	32	0.9	4,5,8,16 SAME AS 28-30, strong organic odor	2.7
32	32.9	0.9	8, 50/4 Brown CLAY, little gravel, greenish grey shale	1.6
34	36	1.0	3,8,11,19 Top 6" red/brown CLAY; Bottom 6" red/brown CLAY and f-m gravel	8.0
36	38	0.8	11,10,14,15 Top 2" red/brown CLAY; Bottom 8" red/brown CLAY and f-m gravel	8.4
38	40	0.5	22,10,12,13 Top 3" brown CLAY, wet; Bottom 3" green/grey/red CLAY and shale	7.7

ARCADIS

Sample/Core Log (Cont.d)

Boring/Well MW-14D

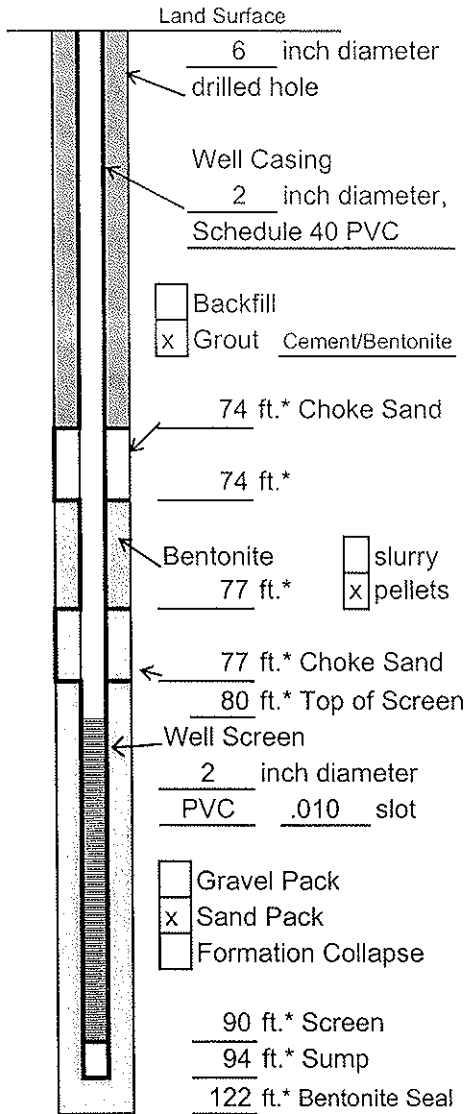
Page 2 of 2

Prepared by B. GUIDETTI

Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 Inches	Sample/Core Description	PID
From	To				
40	42	1.0	10,8,8,8	f-m brown SILTY GRAVEL, wet	2.7
42	44	1.5	4,10,8,9	f-m brown GRAVEL, some silt, little clay, wet	7.8
44	46	0.5	5,6,7,9	SAME AS 42-44	2.6
46	48	1.0	4,7,8,12	SAME AS 44-46	4.1
48	50	0.5	15,11,10,12	SAME AS 46-48, some c gravel	3.8
50	52	0.7	8,10,15,22	SAME AS 46-48	4.9
52	54	0.5	24,12,16,13	SAME AS 50-52	6.4
54	56	0.8	8,5,7,11	Grey/brown SILTY SAND, f-m gravel, wet	4.2
56	58	1.0	10,46,19,11	SAME AS 54-56, little c gravel	3.4
58	60	0	75/.2	NO RECOVERY	2.8
60	62	0.4	22,24,13,22	Grey CLAY, wet, f-m gravel	6.7
62	64	0.8	10,24,44,7	Grey SILTY SAND, w gravel, little clay	7.1
64	66	0.6	10,12,14,12	SAME AS ABOVE, f-m gravel, no odor	5.5
66	68	0.6	13,8,13,11	SAME AS ABOVE	8.4
68	70	0.6	44,17,14,13	SAME AS ABOVE	14.7
70	72	0.6	11,13,19,21	Top 4" SAME AS ABOVE; Bottom 3" SAME AS ABOVE, more clay	15.5
72	74	0.6	11,13,12,17	Grey CLAY/SILT, wet, w/ f-c gravel	15.7
74	76	0.6	11,12,13,11	SAME AS ABOVE, slight organic odor	14.7
76	78	1.0	8,21,13,11	SAME AS ABOVE, slight MGP odor	18.1
78	80	0.4	21,24,33,24	SAME AS 76-78, stronger MGP odor, no sheens	18.6
80	82	0.5	17,18,22,18	f-m grey GRAVEL, wet, some silt, trace clay, w/ MGP odor	19.6
82	84	0.8	18,24,21,22	SAME AS ABOVE, slight sheen	24.7
84	86	1.0	27,31,36,37	Red CLAY, dense, dry, slight MGP odor, no sheen, f-m gravel at top	7.9
86	88	0.4	50/.9	SAME AS 84-86, v. slight MGP odor	2.7
88	90	0.3	100/.5	Red/brown CLAY, v. slight MGP odor	13.7
90	92	0.5	100/.5	SAME AS 88-90, trace green/grey CLAY	5.8
92	94	0.3	100/.3	Top 4" SAME AS ABOVE; Bottom 4" dense green/grey CLAY, no odor	2.7
94	96	0.2	100/.4	Green/grey SHALE, no odor, w/ some silt and clay	0.7
96	98	0.4	70/.4	Green/grey SHALEY SILTY CLAY, v. dense, reddish clay lenses	1.3
98	100	0.4	70/.4	Brownish grey SHALE	1.7

WELL CONSTRUCTION LOG

(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project Erie Blvd Site PSA/IRM Well MW-15

Town/City Syracuse

County Onondaga

State New York

Permit No.

Land-Surface Elevation

and Datum 399.4 feet

NAVD 88

 Surveyed

☐ Estimated

Installation Date September 29, 2000

Drilling Method Hollow Stem Auger

Drilling Contractor Parratt Wolff

Drilling Fluid	Potable Water
100%	100%
90%	90%
80%	80%
70%	70%
60%	60%
50%	50%
40%	40%
30%	30%
20%	20%
10%	10%
0%	0%

Development Technique(s) and Date(s)

Fluid Loss During Drilling	gallons
1	10
2	20
3	30
4	40
5	50
6	60
7	70
8	80
9	90
10	100

Water Removed During Development _____ gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield	gpm	Date
-------	-----	------

Specific Capacity _____ gpm/ft.

Well Purpose _____ Groundwater Monitoring

Remarks

Prepared by Thom McClenahan

ARCADIS

Sample/Core Log

Boring/Well MW-15 Project/No. Niagara Mohawk - Erie Boulevard/AY000207.0005 Page 1 of 3

Site Syracuse, NY Drilling Started 9/26/00 Drilling Completed 9/28/00

Total Depth Drilled 122 Feet Hole Diameter 8 inches Type of Sample/ Coring Device Split Spoon

Length and Diameter of Coring Device 2-feet x 2-inches Sampling Interval 2.0' feet

Land-Surface Elev. 399.37 feet ☒ Surveyed ☐ Estimated Datum NAVD 88

Drilling Fluid Used Potable water Drilling Method 4 1/4 HSA

Drilling Contractor Parratt Wolff Driller J. Perry Helper J. Lansing

Prepared By B. Guidetti Hammer Weight 140 lbs. Hammer Drop 30 ins.

Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 Inches	Sample/Core Description	PID
0	2	0.5	4,8,6,-	brown, f-m, clayey angular GRAVEL, moist (fill), top 6" asphalt	0.9
2	4	0.5	4,5,3,4	gray, f-m SILT and SAND, dry	0.6
4	6	0.8	6,5,4,5	SAME AS 0-2	1.7
6	8	0.8	4,5,22,6	brown CLAY, with some black, f-m gravel, moist	2.5
8	10	1.2	3,4,6,7	SAME AS ABOVE, with silt and cobbles	1
10	12	0.6	5,5,4,4	SAME AS 6-8	1.5
12	14	0.6	4,6,6,7	SAME AS 10-12	1.4
14	16	0.6	3,4,3,5	SAME AS ABOVE	1.3
16	18	0.2	3,2,2,3	SAME AS 14-16, little gravel, wet	0.5
18	20	0.8	2,3,2,2	SAME AS 16-18	2.7
20	22	0.5	2,2,3,4	SAME AS 18-20	2.8
22	24	0.1	4,4,4,3	brown, f-m GRAVEL, wet, with some silt and clay	1.9
24	26	0.1	25,5,4,3	SAME AS 22-24	0.7
26	28	0.2	16,11,8,16	SAME AS 24-26	0.7
28	30	0.1	13,16,11,13	SAME AS 26-28	0
30	32		13,12,13,8	NO RECOVERY	0
32	34	0.5	13,11,11,12	SAME AS 28-30	0
34	36	1.0	6,10,13,19	SAME AS 32-34, also cobbles	1.8
36	38	0.6	5,9,13,8	f-m SANDY GRAVEL, wet	2.4
38	40			NO RECOVERY	0

ARCADIS

Sample/Core Log (Cont.d)

Boring/Well MW-15

Page 2 of 3

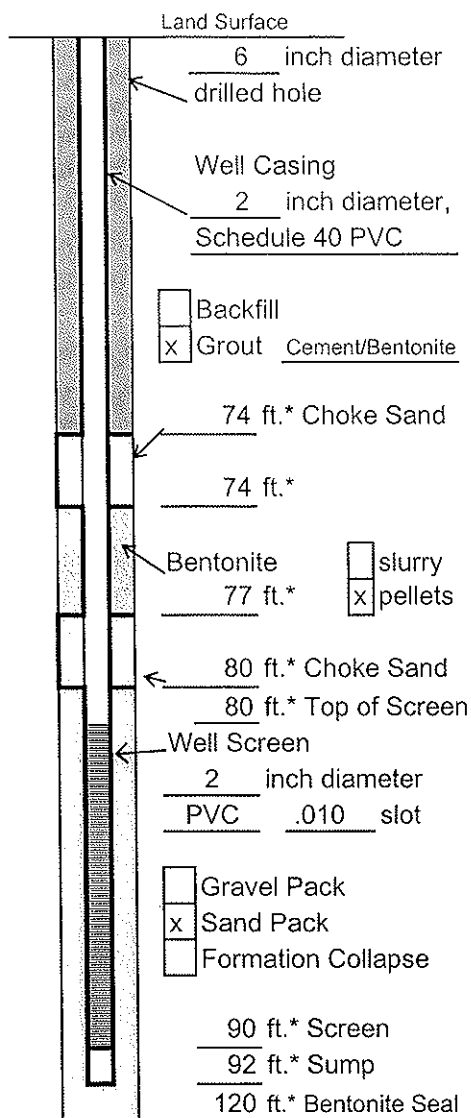
Prepared by B. GUIDETTI

Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 Inches	Sample/Core Description	PID
From	To				
40	42	1.5	6,8,5,7	f-c SANDY GRAVEL, wet	2.7
42	44	1	13,9,8,13	f-m SILT, sand, gravel, wet	0
44	46	0.8	16,19,17,21	SAME AS 42-44, gray	0.7
46	48		31,24,35,35	SAME AS 44-46	0.5
48	50	0.5	11,13,21,28	SAME AS 46-48	0
50	52	1	18,14,13,13	SAME AS 48-50	1.5
52	54	1		f-c SAND and GRAVEL, trace silt and clay	1.9
54	56	1.0	16,14,15,19	SAME AS 52-54	0.7
56	58	0.8	16,14,19,30	f-c SILTY SAND and gravel	2.3
58	60	1.3	16,19,20,16	SAME AS 56-58, some clay	0
60	62	1	14,16,19,21	SAME AS 58-60	2
62	64	0.2	21,24,34,39	SAME AS 60-62	1.3
64	66	1.0	18,23,15,18	gray, f-c SILTY SAND and GRAVEL, no odor	1.3
66	68	1	13,12,13,14	SAME AS ABOVE	1
68	70	1.2	20,54,50/3	SAME AS ABOVE	1.8
70	72	1	27, 50/4	SAME AS ABOVE, more sand than silt	1.1
72	74	1	32,106	SAME AS ABOVE, f-m sand, trace brown clay/silt on bottom	0
74	76	1.2	29,49,61,64	SAME AS ABOVE	1.3
76	78	1.0	49, 100/4	SAME AS ABOVE, more f-m gravel, slight MGP odor	0.6
78	80	1.5	39,49,72,58	f-m SAND and GRAVEL, little silt, slight MGP odor	6.1
80	82	1.5	28,48,45,45	f-m GRAVEL and SAND, little silt, slight MGP odor	12
82	84	2	27,34,37,41	f-m SAND and GRAVEL top; bottom 1' more clay, little silt, m-c gravel mixed in	13
84	86	2.0	28,46,52,56	SAME AS ABOVE, trace clay/silt, slight MGP odor	14
86	88	2.0	43,39,49,33	SAME AS ABOVE, bottom 1" dense gray clay with gravel	16
88	90	1.4	21,24,27,36	f-m gray SAND and GRAVEL, wet, MGP odor	4.8
90	92	1	16,21,11,6	f SAND and GRAVEL, some med. Gravel, less than above, MGP odor	6.3
92	94	1.0	16,19,24,29	f-m SAND and GRAVEL, little silt, MGP odor	8.3
94	96	1.5	15,13,12,10	SAME AS ABOVE	4.3

Sample/Core Log (Cont.d)

Page 3 of 3

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Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

ARCADIS

Sample/Core Log

Boring/Well MW-16 Project/No. Niagara Mohawk - Erie Boulevard/AY000207.0005 Page 1 of 3

Site Syracuse, NY Drilling Started 10/4/00 Drilling Completed 10/5/00

Total Depth Drilled 120 Feet Hole Diameter 8 inches Type of Sample/ Coring Device Split Spoon

Length and Diameter of Coring Device 2-feet x 2-inches Sampling Interval 2.0' feet

Land-Surface Elev. 399.3 feet ☒ Surveyed ☐ Estimated Datum

Drilling Fluid Used Potable water Drilling Method 4 1/4 HSA

Drilling Contractor Parratt Wolff Driller J. Perry Helper J. Lansing

Prepared By T. McClenahan/D. DeOrazio Hammer Weight 140 lbs. Hammer Drop 30 ins.

Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 Inches	Sample/Core Description	PID
From	To				
0	2	0.4	4,4,4,5	f, brown SAND	1.4
2	4	1.5	5,4,4,4	f, lt brown SAND and SILT, layered in different colors-brown, tan, orange	0.8
4	6	2	4,5,4,4	top 1' brown CLAY and SAND, trace silt; bottom 1' f brown SAND and SILT	0.6
6	8	2.0	4,6,4,5	brown CLAY, trace fine sand	1
8	10	2	4,6,7,5	lt. Brown, dense CLAY	1.1
10	12	2.0	7,14,17,16	SAME AS ABOVE	0.7
12	14	2.0	6,8,12,4	Lt. Brown SILT, trace clay, no odor	0.9
14	16	2.0	7,8,9,9	Lt. Brown SILT, little silt	0
16	18	2	9,10,9,14	SAME AS ABOVE, moist	0
18	20	2	8,7,11,12	Lt. Brown SILT, little clay, moist	0
20	22	1.5	9,10,9,9	SILTY CLAY, bottom 2" orange, dry silt	1.1
22	24	1.5	7,9,15,51	f Brown SAND	0.7
24	26	1.5	21,41,60,42	SILT, and f-c GRAVEL, dense, dry silt, layered green 2" from bottom	0.2
26	28	0.3	80,-	f SAND and SILT, hit rock	1.4
28	30	0.2	40,50/.2	SHALE and COBBLES, very dense silt in bottom of spoon	0.8
30	32	1.5	16,16,12,14	SILT and CLAY, very dense, f-m gravel, no odors	1.1
32	34	0.6	10,8,10,8	f-m GRAVEL, silt and little clay, wet	1
34	36	1.5	5,8,10,8	f-m SAND and GRAVEL	1
36	38	1.5	8,10,12,10	SAME AS ABOVE	1.4
38	40	0.5	8,10,12,10	SAME AS ABOVE	1.8

ARCADIS

Sample/Core Log (Cont.d)

Boring/Well MW-16

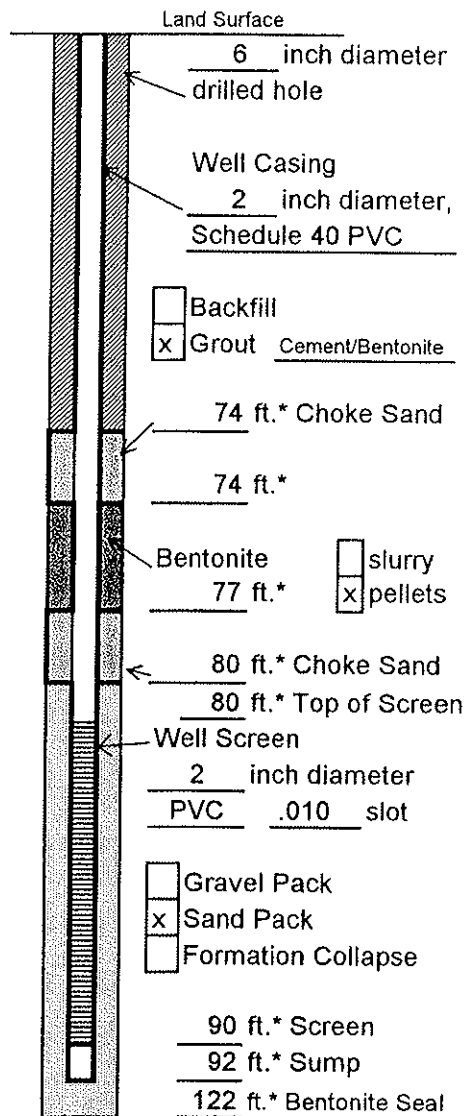
Page 2 of 3

Prepared by T. McClenahan/D. DeOrazio

Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 Inches	Sample/Core Description	PID
From	To				
40	42	0.5	6,10,14,12	SAME AS ABOVE	0.3
42	44	1	10,12,11,12	f-c SAND and GRAVEL, trace silt	0.3
44	46	0.5	8,6,8,5	SAME AS ABOVE	2.1
46	48	1.5	8,6,8,7	f-c SAND and GRAVEL, trace silt, slight organic/swampy odor	1.8
48	50	1	8,6,7,7	f-m SAND, f-c gravel, silty, slight organic odor	1.6
50	52	0.8	8,14,16,21	f GRAVEL, silty, no odor	1.1
52	54	1.5	10,12,17,14	f-c GRAVEL, f-m sand on top of spoon, silty, trace clay	1.9
54	56	0.6	5,10,16,18	brown, f-m GRAVEL, wet, little silt, some f sand	0.8
56	58	1.1	20,14,12,8	f-c SAND and GRAVEL (rounded and angular), wet, silty, no odor	1
58	60	0.8	7,10,15,12	f-m SAND and GRAVEL, silty	1.8
60	62	1	11,11,13,17	gray, f-m SAND and GRAVEL	1.2
62	64	1	20,16,14,15	SAME AS ABOVE, slight organic odor	0
64	66	1.5	24,27,21,18	gray, f-m SAND and GRAVEL, some silt and clay, slight organic odor	2.4
66	68	2	21,34,34,27	SAME AS ABOVE, angular gravel	2.1
68	70	0.3	75/4	SAME AS ABOVE	2.3
70	72	1	21,31,31,29	gray CLAY and SILT, slight organic odor	1.4
72	74	1.5	31,36,59,-	top 6" f-m SAND, with f-m gravel, silty, slight organic odor	1.1
74	76	2	31,33,61,41	SAME AS ABOVE	0.8
76	78	1.0	27,67,-	f-c GRAVEL	1.4
78	80	1.5	31,39,34	f-c SAND and GRAVEL, little silt, trace clay, organic odor	1.8
80	82	1.0	28,28,24,19	SAME AS ABOVE, trace brown clay/silt throughout	1.6
82	84	1.5	12,27,28,31	SAME AS ABOVE	1.2
84	86	1.0	21,19,16,14	top 3" f SAND and GRAVEL, 3" layer of silt and sand, wet, slight organic odor	3.4
86	88	1.5	22,29,19,24	f-m GRAVEL, very dense, little silt, slight organic odor	2.8
88	90	1.0	21,23,19,19	f-m SAND and GRAVEL, dense, trace silt, with trace brown sand and clay	4.1
90	92	1	11,16,14,19	SAME AS ABOVE	4.6
92	94	1.5	21,27,21,16	SAME AS ABOVE, no odor	3.7
94	96	1.5	16,16,26,27	SAME AS ABOVE, slight organic odor	3.9

WELL CONSTRUCTION LOG

(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project Niagara Mohawk Erie Blvd RI Well MW-17D
 Town/City Syracuse
 County Onondaga State New York
 Permit No. _____
 Land-Surface Elevation
 and Datum 388.18 feet ☒ Surveyed
NAVD 88 ☐ Estimated
 Installation Date October 10, 2000
 Drilling Method 4 1/4 Hollow Stem Auger
 Drilling Contractor Parratt Wolff
 Drilling Fluid Potable Water

Development Technique(s) and Date(s)
Pumping/Surging

Fluid Loss During Drilling _____ gallons
 Water Removed During Development 130 gallons
 Static Depth to Water _____ feet below M.P.
 Pumping Depth to Water _____ feet below M.P.
 Pumping Duration _____ hours
 Yield _____ gpm Date _____
 Specific Capacity _____ gpm/ft.

Well Purpose Groundwater Monitoring

Remarks _____

Prepared by T. McClenahan/D. DeOrazio

ARCADIS

Sample/Core Log

Boring/Well MW-17 Project/No. Niagara Mohawk - Erie Boulevard/AY000207.0005 Page 1 of 3

Site Syracuse, NY Drilling 10/6/00 Drilling 10/10/00

Location Syracuse, NY Started 10/6/00 Completed 10/10/00

Total Depth Drilled 120 Feet Hole Diameter 8 inches Type of Sample/
Coring Device Split Spoon

Length and Diameter
of Coring Device 2-feet x 2-inches Sampling Interval 2.0' feet

Land-Surface Elev. 388.18 feet ☒ Surveyed ☐ Estimated Datum NAVD 88

Drilling Fluid Used Potable water Drilling Method 4 1/4 HSA

Drilling Contractor Parratt Wolff Driller J. Perry Helper J. Lansing

Prepared By T. McClenahan/D. DeOrazio Hammer Weight 140 lbs. Hammer Drop 30 ins.

Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 Inches	Sample/Core Description	PiD
From	To				
0	2	1.0	11,16,17,18	brown, f SAND and SILT, trace small gravel	2.8
2	4	1	20,19,16,10	f SAND, trace silt, f-m gravel, no odor	2.7
4	6	1	9,7,9,11	f SAND, trace silt, bottom 4" black ash, trace gravel	1.9
6	8	0.8	11,10,11,11	brown, f SAND and ASH, brick fragments, trace gravel	6.2
8	10	1	6,4,3,3	dark brown, f SAND and BLACK ASH, dry, loose	4.8
10	12	0.8	3,3,2,3	SAME AS ABOVE	3.8
12	14	1.0	2,1,1,1	brown SILT, some clay, trace gravel	2.8
14	16	1.5	7,4,3,4	brown, f SAND and SILT	4.1
16	18	1.5	4,3,7,6	brown, f SAND and SILT, trace ash, no odor	3.7
18	20	1.8	5,3,2,5	brown, f SAND and SILT, little clay	
20	22	1.3	2,3,4,5	brown, f SAND and SILT, moist, dense, no odor	12
22	24	1.0	7,14,12,10	SILT, trace f sand, wet, slight organic odor	15
24	26	1	15,20,19,17	f-m GRAVEL, trace m-c sand, silty, wet, no odor	19
26	28	1	13,12,11,9	SAME AS ABOVE	14
28	30	0.5	20,10,8,8	f-m GRAVEL, trace f sand, silty, wet	17
30	32	1.0	16,14,14,16	f-m GRAVEL, and sand, dense, trace silt	18
32	34	1.0	20,10,8,9	f-c GRAVEL, and f sand, silty, no odor	18
34	36	1.2	11,7,8,11	f-m GRAVEL and SAND, trace silt	12
36	38	1.2	14,12,8,8	SAME AS ABOVE	12
38	40	1.2	12,10,12,11	SAME AS ABOVE	13

ARCADIS

Sample/Core Log (Cont.d)

Boring/Well MW-17

Page 2 of 3

Prepared by T. McClenahan/D. DeOrazio

Sample/Core Depth (feet below land surface)		Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 Inches	Sample/Core Description	PID
From	To				
40	42	1.0	16,9,7,8	SAME AS ABOVE	17
42	44	1.5	12,10,9,8	f-c SAND, little f gravel (angular)	16
44	46	0.8	10,9,9,10	m-c SAND, small gravel, no odor	5.5
46	48		10,9,12,12	f-m GRAVEL, w f-c sand, trace silt and clay, dense, no odor	5
48	50	1	10,9,8,7	f-m GRAVEL, m-c sand, trace silt	1.2
50	52	1	12,15,16,18	f-c GRAVEL and SAND, silty, no odor	1.7
52	54	1	12,8,9,11	f-m GRAVEL and SAND, gray silt, trace clay, dense, no odor	0.4
54	56	0.4	11,13,21,15	SAME AS ABOVE	1.3
56	58	1	10,17,14,26	gray, f-c GRAVEL and SILT, wet, no odor	1.2
58	60	1	12,20,17,18	gray SILT and CLAY, very dense, trace small gravel, slight organic odor	1.7
60	62	2	22,27,31,36	gray, f-m GRAVEL, dense, trace silt and clay, organic sulfur odor	1.7
62	64	1.5	12,30,27,34	gray CLAY and SILT, trace small angular gravel, dense, organic odor	1.1
64	66	1.5	21,31,31,44	f-m GRAVEL, very dense, trace silt and clay, slight MGP odor	16
66	68	1	41,66,-,-	SAME AS ABOVE, slight MGP odor, no sheen	20
68	70	1.0	22,50,67,-	SAME AS ABOVE	26
70	72	1.5	21,49,47,62	SAME AS ABOVE, MGP odor	20
72	74	0.5	41, 50/3	SAME AS ABOVE	21
74	76	1	11,17,22,19	SAME AS ABOVE	20
76	78	1.2	12,17,21,27	SAME AS ABOVE	14
78	80	1	10,17,12,12	f-c SAND, dense, trace silt, slight MGP odor	26
80	82	1.5	12,14,15,15	f-c SAND, dense, small gravel, trace silt, MGP odor	19
82	84	1	12,10,14,10	SAME AS ABOVE, less dense	18
84	86	1.5	12,15,14,15	f-c SAND, small/med. GRAVEL, trace silt, wet, dense, MGP odor	19
86	88	1.5	12,16,17,12	SAME AS ABOVE, diminishing MGP odor	33
88	90	1.5	10,12,13,16	SAME AS ABOVE	28
90	92	1.5	9,14,13,14	SAME AS ABOVE, more silty	14
92	94	1.5	12,12,20,19	c SAND, f GRAVEL, dense, wet, silty, v/ slight MGP odor	12
94	96	1	10,12,16,14	SAME AS ABOVE, less MGP odor	18

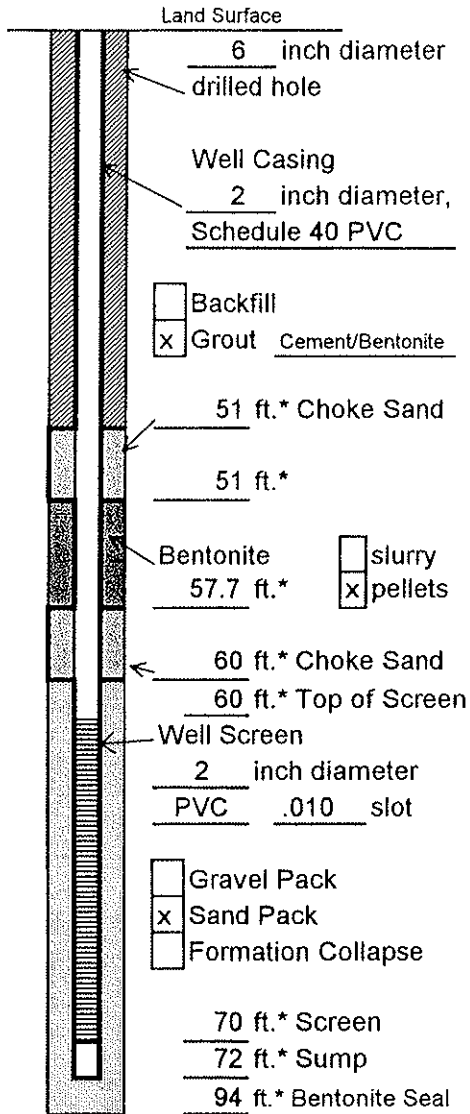
Sample/Core Log (Cont.d)

Page 3 of 3

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WELL CONSTRUCTION LOG

(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project Niagara Mohawk Erie Blvd RI Well MW-18

Town/City Syracuse

County Onondaga

State New York

Permit No. _____

Land-Surface Elevation

and Datum 376.66 feet

NAVD 88

☒ Surveyed

☐ Estimated

Installation Date September 4, 2002

Drilling Method 4 1/4 Hollow Stem Auger

Drilling Contractor Parratt Wolff

Drilling Fluid Potable Water

Development Technique(s) and Date(s)

Pumping/Surging

Fluid Loss During Drilling _____ gallons

Water Removed During Development 135 gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft.

Well Purpose Groundwater Monitoring

Remarks _____

Prepared by D. DeOrazio/M. Bokus

ARCADIS

Sample/Core Log

Boring/Well MW-18 Project/No. Niagara Mohawk - Erie Boulevard/AY000207.0003 Page 1 of 2

Site Syracuse, NY Drilling 9/3/02 Drilling 9/4/02
Location Syracuse, NY Started 9/3/02 Completed 9/4/02

Total Depth Drilled 94 Feet Hole Diameter 8 inches Type of Sample/
Coring Device Split Spoon

Length and Diameter of Coring Device 2-feet x 2-inches Sampling Interval Cont. feet

Land-Surface Elev. 376.66 feet ☒ Surveyed ☐ Estimated Datum NAVD 88

Drilling Fluid Used Potable water Drilling Method HSA

Drilling Contractor Parratt Wolff Driller R. Navalika Helper

Prepared By DD/MB Hammer 140 lbs. Hammer 30 ins.
Weight 140 lbs. Drop 30 ins.

Sample/Core Depth (feet below land surface)		Time/Hydraulic Core Pressure or Recovery Blows per 6 (feet) Inches		Sample/Core Description	PID
From	To				
0	4	0.0		Auger slow w/ no cuttings.	0
4	6	0.5	5,6,6,7	black f-m GRAVEL, brown SILT, some clay.	0
6	8	1.2	4,4,4,5	brown CLAY, w/ silt, little black gravel.	0
8	10	1.7	2,1,2,1	brown/grey SAND w/ clay, some silt.	0
10	12	1.8	1,2,1,2	brown/grey SAND, some clay, little wood chips; wet throughout.	0
12	14	1.0	9,7,7,8	grey SAND and GRAVEL.	0
14	16	0.7	8,5,8,15	grey f-c GRAVEL, some sand, trace wood chips.	0
16	18	0.8	17,20,16,16	grey f-c SAND, w/ gravel.	0
18	20	0.2	49,8,3,3	f-c GRAVEL, trace sand.	0
20	22	0.2	WOH,1,1,1	f-c SAND, some gravel.	0
22	24	1.8	2,2,2,3	f-m SAND, some f-c gravel.	0
24	26	0.5	2,3,4,4	brown/grey f-m SAND and some f-c gravel.	0
26	28	0.3	6,5,6,6	grey f-m SAND, some clay.	0
28	30	2	4,4,4,4	grey SAND, loose at top of spoon, tightly packed throughout.	0
30	32	1.8	3,4,4,3	grey f-m SAND, w/f-m gravel.	5.5
32	34	2.0	5,5,6,9	grey f-m SAND, w/f-m gravel, little clay, low plasticity.	0.4
34	36	1.2	5,5,8,5	SAME AS 32-34'	0.3
36	38	2.0	8,15,20,16	SAME AS 34-36'	0.4
38	40	0.5	17,31,43,51	SAME AS 36-38', c angular gravel.	0.5
40	42	1.1	33,42,50/.3	SAME AS 38-40', small clay layer, low plasticity.	2.3

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Sample/Core Log (Cont.d)

Boring/Well MW-18

Page 2 of 2

Prepared by DD/MB

Sample/Core Depth (feet below land surface)		Core Recovery	Time/Hydraulic Pressure or Blows per 6 Inches	Sample/Core Description	PID
From	To	(feet)			
42	44	0.5	20, 50/.4	grey f-m SAND, w/ angular GRAVEL, some silt, little clay, slight odor.	1.6
44	46	0.6	9-60	SAME AS 42-44', more gravel, slight odor.	0.6
46	48	1.0	22,15,14,13	grey SILT, w/ c angular gravel, some clay lenses, less odor.	0.8
48	50	1.3	9,53,30,15	SAME AS 46-48', some clay, low plasticity, med. Dense, no odor.	0.8
50	52	1.7	14,14,20,12	SAME AS 48-50', v. dense	0.5
52	54	1	14,21,13,14	SAME AS 50-52', f-m gravel, low plasticity, med. Dense.	0.3
54	56	1	11,17,17,14	grey f-m SAND and gravel, trace clay lenses, no odor.	0.3
56	58	0.8	1,14,14,50/.2	SAME AS 54-56', less clay.	0.3
58	60	0.2	70/.4	grey f-m SAND, some f-m gravel and clay.	0.3
60	62	1.8	13,14,15,14	grey f-m SAND, some gravel and silt, less clay, low plasticity, slight odor.	0.2
62	64	0.4	15,22,12,12	grey f-m SAND, some gravel, little clay, slight odor.	0.3
64	66	1.8	11,34,24,15	SAME AS 62-64', med. Odor.	1.2
66	68	0.2	70/.3	grey f-m SAND and SILT, some gravel, little clay, slight odor.	0.3
68	70	1	27,25,33,39	SAME AS 66-68', GEOTECH. SAMPLE	0
70	72	0.2	14,14,12,14	grey f-m GRAVEL, some f-m sand.	0
72	74	1.6	14,10,11,14	grey f-m SAND and SILT, some f-c gravel.	0.2
74	76	1	17,21,26,25	brown/grey f-m SAND, loose, no odor.	0.3
76	78	1	11,16,15,14	SAME AS 74-76'	0.4
78	80	0.8	9,9,12,21	grey/dk. Grey SAND, very dense.	0.7
80	82	2	5,9,18,23	lt/dk. Brown f-c SAND.	0.4
82	84	1.0	16,14,20,22	SAME AS 80-82'	0.5
84	86	1	22,15,22,21	brown f SAND, med. Dense.	0.3
86	88	0.8	11,11,16,21	SAME AS 84-86', loose at bottom of spoon.	0.2
88	90	1.5	40,50,75,81	SAME AS 86-88', very dense.	0.1
90	92	1.8	9,17,19,23	SAME AS 88-90'	0.2
92	94	1.5	20,22,38,38	SAME AS 90-92'	0.3

Date Start/Finish: 6/9/2008 Drilling Company: Parratt-Wolff, Inc. Driller's Name: Jim Lansing Drilling Method: HSA Auger Size: 10.25" OD Rig Type: Diedrich D-50 Sampling Method: 2"x2" SS	Northing: 1112376.817 Easting: 933532.1081 Casing Elevation: NA 390.73 Borehole Depth: 20' bgs Surface Elevation: NA 391.1 Descriptions By: Ricardo Jaimes	Well/Boring ID: MW-19 Client: National Grid Location: Erie Boulevard Syracuse, NY
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0										ASPHALT	
		1	0-2	1.0	4	9	0.0				Brown to dark gray coarse SAND and fine to coarse angular GRAVEL, trace Silt, loose, moist.	Steel flushmount cover
					5							Locking J-Plug
					4						Brown to dark brown SILT and SAND, some angular Gravel, little Brick fragments, loose, moist.	Concrete patch (0-0.5' bgs)
		2	2-4	0.9	5	9	1.6					
					4							
					2						Brown CLAY and SILT, little Brick fragments, stiff, plastic, moist.	
-5	-5	3	4-6	1.05	2	5	0.0					
					3						Light brown fine to coarse SAND, some Silt, medium dense, moist.	
					4						Orange to pale yellow angular GRAVEL and fine to coarse SAND, some Silt, medium dense, moist.	
		4	6-8	0.4	8	11	0.0					Type I/II Portland/5% Bentonite Cement Grout (0.5'-14' bgs)
					3						Brown to gray fine to coarse SAND and SILT, some Clay, trace Brick and Coal fragments, loose, moist.	Sch. 40 PVC 4" Riser (0.5'-18' bgs)
		5	8-10	0.43	3	5	0.0					
					2							
-10	-10				2						Brown fine to medium SAND and CLAY, Silt, little fine to coarse angular Gravel, loose, non-plastic to slightly plastic, moist.	
		6	10-12	1.27	2	4	0.0					
					2						Trace Brick fragments, and moist @ 12' bgs	
					3							
		7	12-14	0.65	2	4	0.0					
					2						Slightly stained @ 14' bgs	
					3							
-15	-15	8	14-16	1.48	2	4	2.0				Dark brown-stained fine to coarse SAND and SILT, trace Gravel and Clay, petroleum like odor (PLO), slightly plastic to non-plastic, loose, wet to moist.	3/8" Bentonite Seal (14'-16' bgs)
					2						Dark gray to black, trace Wood and Glass @ 16' bgs	
					3							

Remarks: bgs = below ground surface; NA = Not Applicable/Available; HSA = Hollow Stem Auger; OD = outer diameter; OLM = Oil Like Material; TLM = Tar Like Material; PLO = Petroleum Like Odor.



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**Offsite Groundwater Sampling
Logs**

WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd./ AY0207.002 Page 1 of 1
Site Location Syracuse, New York Date 7/11/1997
Site/Well No. MW-9D₁ Coded/
Replicate No. _____
Weather Sunny, 75 Time Sampling Began 9:10 Time Sampling Completed 10:05

EVACUATION DATA

Description of Measuring Point (MP) TOC
Height of MP Above/Below Land Surface _____ MP Elevation _____
Total Sounded Depth of Well Below MP 86.10 Water-Level Elevation _____
Held _____ Depth to Water Below MP 29.95 Diameter of Casing 2"
Gallons Pumped/Bailed Prior to Sampling 27.0
Wet _____ Water Column in Well 56.15
Gallons per Foot 0.16
Gallons in Well 8.98 Sampling Pump Intake Setting (feet below land surface) _____

Evacuation Method Disposable poly tubing and foot valve

SAMPLING DATA/FIELD PARAMETERS

Color Clear Odor Strong Appearance Clear Temperature 15.2 F/C

Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 7000 pH 7.85

Sampling Method and Material Disposable poly bailer and poly rope

Constituents Sampled	Container Description From Lab <u>X</u> or G&M _____	Preservative
_____	_____	_____
_____	_____	_____
_____	_____	_____

Remarks _____

Sampling Personne C. Carr/ J. Bonsteel

WELL CASING VOLUMES				
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WATER SAMPLING LOG

Project/No. Nemo Fire / NY 0207-002 Page 1 of 1
 Site Location Syracuse, NY
 Site/Well No. BNW-01 Coded/Replicate No. _____ Date 9/18/97
 Weather Sunny Time Sampling Began 13:40 Time Sampling Completed 15:00

EVACUATION DATA

Description of Measuring Point (MP) TOC
 Height of MP Above/Below Land Surface _____ MP Elevation _____
 Total Sounded Depth of Well Below MP 84.79 Water-Level Elevation _____
 Held _____ Depth to Water Below MP 70.21 Diameter of Casing 2"
 Wet _____ Water Column in Well 54.58 Gallons Pumped/Bailed Prior to Sampling 26
 Gallons per Foot 0.16
 Gallons in Well 8.7 Sampling Pump Intake Setting (feet below land surface) _____
 Evacuation Method Submersible pump & disposable poly tubing

SAMPLING DATA/FIELD PARAMETERS

Color Clear Odor Strong Appearance Clear Temperature 13 °F/°C
 Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 10000 pH 7.68
 Sampling Method and Material Disposable poly tubing & poly rope

Constituents Sampled	Container Description From Lab <u>X</u> or G&M _____	Preservative
<u>EC/AM</u>		

Remarks 2
 Sampling Personnel DL/JD

WELL CASING VOLUMES					
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47	

Groundwater Sampling Form

Project/No. AY000207.0005.00007 Well MW-9D1 Date 11/06/02

Static		Measured Width	_____	Well Materials	<u>X</u> PVC
Water Level	29.34				ST. Steel

Purge Method Redi-Flo Pump Off: 16:10 Volumes Purged:

Submersible	2'	Sampled
-------------	----	---------

Other _____ Bailer Type: _____ By: MB/TM

[illegible]

Page 1 of 1

[illegible]

National Grid Erie Boulevard
Former MGP Site Syracuse, NY

Site GROUNDWATER SAMPLING LOG Event

Sampling Personnel: Jennifer Sandorf / Carey Healey Well ID: MW-901
Client / Job Number: National Grid / B0036694.00001 Date: 4/10/2008
Weather: Cloudy, mid 40s Time In: 8:15 Time Out: 9:00

Well Information

Depth to Water:	(feet)	<u>33.67</u>	(from MP)
Total Depth:	(feet)	<u>83.91</u>	(from MP)
Length of Water Column:	(feet)	<u>50.24</u>	
Volume of Water in Well:	(gal)	<u>8.189</u>	
Three Well Volumes:	(gal)	<u>24.567</u>	

Well Type:	<u>Flushmount</u>	Stick-Up
Well Material:	<u>Stainless Steel</u>	<u>PVC</u>
Well Locked:	<u>Yes</u>	No
Measuring Point Marked:	<u>Yes</u>	<u>No</u>
Well Diameter:	1" <u>(2)</u>	Other:

Purging Information

Purging Method:	Bailer	Peristaltic	Grundfos	Other: <u>Monsoon</u>
Tubing/Bailer Material:	St. Steel	<u>Polyethylene</u>	Teflon	Other:
Sampling Method:	<u>Bailer</u>	Peristaltic	Grundfos	Other: <u>Monsoon</u>
Duration of Pumping:	(min)	<u>50</u>		
Average Pumping Rate:	(ml/min)	<u>320</u>	Water-Quality Meter Type:	<u>Horiba U-22</u>
Total Volume Removed:	(gal)	<u>6</u>	Did well go dry:	Yes <u>No</u>

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3875 ml = 0.1337 cubic feet				

pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	8:20 ¹	8:25 ²	8:30 ³	8:35 ⁴	8:40 ⁵	8:45 ⁶	8:50 ⁷	8:55 ⁸	9 ⁹
Volume Purged (gal)	0.2	0.4	0.75	2	2.5	3.5	4.0	4.5	
Rate (mL/min)	200	200	320	320	300	360	320	320	
Depth to Water (ft.)	33.67	33.67	33.67	33.67	33.67	33.67	33.67	33.67	
pH	6.03	6.00	6.58	6.59	6.55	6.55	6.55	6.53	
Temp. (C)	11.51	12.12	12.29	12.35	12.84	13.13	12.65	12.45	
Conductivity (mS/cm)	22.6	43	41.7	41.0	40.5	41.2	41.0	41.3	
Dissolved Oxygen (mg/L)	1.25	0.06	0.02	0.01	0.00	0.00	0.00	0.00	
ORP (mV)	-182	-257	-297	-305	-308	-316	-318	-317	
Turbidity (NTU)	12.3	7.95	4.19	9.37	7.47	14.0	7.88	5.96	
Notes:			Variable Flow						

Sampling Information		
Analyses	#	Laboratory
BTEX	2	TestAmerica Shelton CT
PAHs	2	TestAmerica Shelton CT
Total Cyanide	1	TestAmerica Shelton CT
Available Cyanide	1	TestAmerica Pittsburgh, PA
Sample ID: <u>MW-901</u> Sample Time: <u>0902</u>		
MS/MSD:	Yes <u>No</u>	
Duplicate:	Yes <u>No</u>	
Duplicate ID	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations

Hydrometer (density) reading: 1.00

Initial Surge - Clean no odor no sheet

WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd./ AY0207.002

Site Location Syracuse, New York

Site/Well No. MW-9D₂ Coded/
Replicate No. _____

Weather Sunny, 75 Time Sampling
Began 13:00

Page 1 of 1

Date 7/10/1997

Time Sampling
Completed 15:15

EVACUATION DATA

Description of Measuring Point (MP) TOC

Height of MP Above/Below Land Surface	_____	MP Elevation	_____
Total Sounded Depth of Well Below MP	<u>157.31</u>	Water-Level Elevation	_____
Held _____ Depth to Water Below MP	<u>25.79</u>	Diameter of Casing	<u>2"</u>
Wet _____ Water Column in Well	<u>131.52</u>	Gallons Pumped/Bailed Prior to Sampling	<u>65.0</u>
	Gallons per Foot <u>0.16</u>	Sampling Pump Intake Setting (feet below land surface)	_____
	Gallons in Well <u>21.00</u>		

Evacuation Method Disposable poly tubing and foot valve

SAMPLING DATA/FIELD PARAMETERS

Color Clear Odor None Appearance Clear Temperature 13.7 F/C

Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 5000 pH 6.18

Sampling Method and Material Disposable poly bailer and poly rope

Container Description

Constituents Sampled From Lab X or G&M _____ Preservative _____

Remarks _____

Sampling Personne C. Carr/ J. Bonsteel

WELL CASING VOLUMES

GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WATER SAMPLING LOG

Project/No. Nimrod - Pine / A40207.002

Page 1 of 1

Site Location Spartanburg, SC

Site/Well No. MW 9A

Coded/
Replicate No. _____

Date 9/8/97

Weather Sunny 75°

Time Sampling
Began 11:45

Time Sampling
Completed 12:30

EVACUATION DATA

Description of Measuring Point (MP) TOL

Height of MP Above/Below Land Surface _____ MP Elevation _____

Total Sounded Depth of Well Below MP 157.00 Water-Level Elevation _____

Held _____ Depth to Water Below MP 33.79 Diameter of Casing 2"

Wet _____ Water Column in Well 123.21 Gallons Pumped/Bailed
Prior to Sampling 60

Gallons per Foot 6.16

Gallons in Well 19.7 Sampling Pump Intake Setting
(feet below land surface) _____

Evacuation Method Submersible pump

SAMPLING DATA/FIELD PARAMETERS

Color Clear Odor None Appearance Clear Temperature 12.9 °F/°C

Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance,
umhos/cm 6000 pH 6.89

Sampling Method and Material Disposable poly barrel 4' poly pipe

Constituents Sampled	Container Description From Lab _____ or G&M _____	Preservative
<u>TCL/THL</u>	_____	_____
_____	_____	_____
_____	_____	_____

Remarks _____

Sampling Personnel CU/TH

WELL CASING VOLUMES					
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47	

Groundwater Sampling Form

Project/No. AY000207.0005.00007 Well MW-9D2 Date 11/06/02

Centrifugal _____ Sample Time: 14:35 _____
Submersible 2' _____ Sampled _____
Other _____ Bailer Type: _____ By: MB/TM

[illegible]

ARCADIS

Groundwater Sampling Form

Page 1 of 1

Project/No. AY000207.0005.00007 Well MW-9D2

Date 01/21/03

Screen Setting	Measuring Point Description	Top of PVC
----------------	-----------------------------	------------

Casing Diameter (inches)	2
--------------------------	---

Static Water Level 28.56 Measured Width _____

Well Materials X PVC
 ST. Steel

Total depth _____ Pump On: _____ 840

Pump
Intake: 6" from bottom

Purge Method Redi-Flo Pump Off: 935

Volumes Purged:

Centrifugal _____ Sample Time: 930
Submersible 2" _____
Other _____ Bailer Type: _____

Sampled
By: DD

[illegible]

WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd./ AY0207.002

Page 1 of 1

Site Location Syracuse, New York

Date 7/10/1997

Site/Well No. MW-10S Coded/
Replicate No.

Weather Sunny, 75 Time Sampling
Began 14:00

Time Sampling
Completed 14:30

EVACUATION DATA

Description of Measuring Point (MP) TOC

Height of MP Above/Below Land Surface	<u> </u>	MP Elevation	<u> </u>
Total Sounded Depth of Well Below MP	<u>40.10</u>	Water-Level Elevation	<u> </u>
Held <u> </u> Depth to Water Below MP	<u>25.72</u>	Diameter of Casing	<u>2"</u>
Wet <u> </u> Water Column in Well	<u>14.38</u>	Gallons Pumped/Bailed Prior to Sampling	<u>7.0</u>
	Gallons per Foot <u>0.16</u>	Sampling Pump Intake Setting (feet below land surface)	<u> </u>
	Gallons in Well <u>2.30</u>		

Evacuation Method Disposable poly bailer and poly rope

SAMPLING DATA/FIELD PARAMETERS

Color Light brown Odor None Appearance Slightly turbid Temperature 14.7 F/C

Other (specific ion; OVA; HNU; etc.)

Specific Conductance, umhos/cm 2400 pH 6.85

Sampling Method and Material Disposable poly bailer and poly rope

Constituents Sampled	Container Description		Preservative
	From Lab	or G&M	
<u> </u>	<u>X</u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>

Remarks

Sampling Personne C. Carr/ J. Bonsteel

WELL CASING VOLUMES				
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WATER SAMPLING LOG

Project/No. Nimo-Eric / 140207 Page 1 of 1
 Site Location Sydney, NY
 Site/Well No. NW-105 Coded/
 Replicate No. _____ Date 9/5/97
 Weather Sunny 75° Time Sampling
 Began 2:00 Time Sampling
 Completed 7:30

EVACUATION DATA

Description of Measuring Point (MP) TOC
 Height of MP Above/Below Land Surface _____ MP Elevation _____
 Total Sounded Depth of Well Below MP 40.05 Water-Level Elevation _____
 Held _____ Depth to Water Below MP 25.87 Diameter of Casing 2"
 Wet _____ Water Column in Well 14.18 Gallons Pumped/Bailed
 Prior to Sampling 7.0
 Gallons per Foot 0.16
 Gallons in Well 2.2 Sampling Pump Intake Setting
 (feet below land surface) _____
 Evacuation Method Peristaltic pump, check valve & disposable poly tube

SAMPLING DATA/FIELD PARAMETERS

Color brown Odor none Appearance turbid Temperature 13.0 °F/°C
 Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 8500 pH 6.60

Sampling Method and Material Drip poly hauler to poly rope

Constituents Sampled	Container Description From Lab ☒ or G&M _____	Preservative
<u>TCL / TAL</u>	_____	_____
_____	_____	_____
_____	_____	_____

Remarks _____

Sampling Personnel LL / JB

WELL CASING VOLUMES				
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

Groundwater Sampling Form

Project/No. AY000207.0005.00007 Well MW-10S Date 11/07/02

Static Water Level 25.76 Measured Width _____ Well Materials X PVC
ST. Steel

Purge Method Redi-Flo Pump Off: 11:20 Volumes Purged:

Centrifugal _____ Sample Time: 11:00
Submersible 2'
Other _____ Bailer Type: _____

Sampled
By: DD/TM

[illegible]

Groundwater Sampling Form

Page 1 of 1

Project/No. AY000207.0005.00007 Well MW-10S

Date 01/22/03

Screen Setting	Measuring Point Description	Top of PVC

Casing
Diameter (inches) 2

Static Water Level 25.27 Measured Width _____

Well Materials X PVC
 ST. Steel

Total depth _____ Pump On: 934

Pump
Intake 6" from bottom

Purge Methc Redi-Flc Pump Off: 1055

Volumes Purged

Centrifugal _____ Sample Time: 1050

Sampled
By: DD/TM

Other _____ Bailer Type: _____

By: DD/TM

[illegible]

National Grid Erie Boulevard
Former MGP Site Syracuse, NY

Site GROUNDWATER SAMPLING LOG Event

Sampling Personnel: Jennifer Sandorf / Carey Hooley WWD/NPS Well ID: MW-10S
Client / Job Number: National Grid / B0036694.00001 Date: 4/10/08
Weather: Cloudy 45° Time In: 10:40 Time Out:

Well Information

Depth to Water: (feet) 29.81 (from MP)
Total Depth: (feet) 40.07 (from MP)
Length of Water Column: (feet) 10.26
Volume of Water in Well: (gal) 1.67
Three Well Volumes: (gal) 5

Well Type: Flushmount Stick-Up
Well Material: Stainless Steel PVC
Well Locked: Yes No
Measuring Point Marked: Yes No
Well Diameter: 1" 2" Other:

Purging Information

Purging Method: Bailor Peristaltic Grundfos Other: Monsoon
Tubing/Bailor Material: St. Steel Polyethylene Teflon Other:
Sampling Method: Bailor Peristaltic Grundfos Other: Monsoon
Duration of Pumping: 40 (min)
Average Pumping Rate: 300 (ml/min) Water-Quality Meter Type: Horiba U-22
Total Volume Removed: 24 (gal) Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L = 3875 ml = 0.1337 cubic feet

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9	1145
Volume Purged (gal)	0.4	0.8	1.2	1.6	2.0	2.4	2.8	3.2	3.6	
Rate (mL/min)	300	300	300	300	300	300	300	300	300	
Depth to Water (ft.)	29.83	29.82	29.82	29.82	29.82	29.82	29.82	29.82	29.82	
pH	7.07	6.98	6.96	7.00	7.05	7.07	7.07	7.07	7.07	
Temp. (C)	14.4	14.6	15.0	15.1	15.1	15.1	15.1	15.2	15.1	
Conductivity (mS/cm)	5.03	4.10	3.78	3.69	3.65	3.68	3.69	3.69	3.66	
Dissolved Oxygen (mg/L)	6.12	5.57	4.81	4.34	3.71	3.08	2.92	2.78	2.83	
ORP (mV)	32	51	59	57	54	52	52	52	51	
Turbidity (NTU)	105.1	84.8	30.4	14.1	5.73	2.91	2.20	1.87	8.53	
Notes:										

Sampling Information

Analyses	#	Laboratory
BTEX	2	TestAmerica Shelton CT
PAHs	2	TestAmerica Shelton CT
Total Cyanide	1	TestAmerica Shelton CT
Available Cyanide	1	TestAmerica Pittsburgh, PA
Sample ID	MW-10S	Sample Time: 1145
MS/MSD:	Yes	No
Duplicate:	Yes	No
Duplicate ID	—	Dup. Time: —
Chain of Custody Signed By:	WAS	

Problems / Observations

Hydrometer (density) reading: 1.0

INITIAL PURGE: OPOR 1055

FINAL PURGE: CLEAR

WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd./ AY0207.002 Page 1 of 1
Site Location Syracuse, New York Date 7/10/1997
Site/Well No. MW-10D Coded/
Replicate No. _____
Weather Sunny, 75 Time Sampling Began 15:40 Time Sampling Completed 17:00

EVACUATION DATA

Description of Measuring Point (MP) TOC
Height of MP Above/Below Land Surface _____ MP Elevation _____
Total Sounded Depth of Well Below MP 126.81 Water-Level Elevation _____
Held _____ Depth to Water Below MP 24.23 Diameter of Casing 2"
Wet _____ Water Column in Well 102.58 Gallons Pumped/Bailed Prior to Sampling 50.0
Gallons per Foot 0.16
Gallons in Well 16.50 Sampling Pump Intake Setting (feet below land surface) _____
Evacuation Method Disposable poly tubing and foot valve

SAMPLING DATA/FIELD PARAMETERS

Color Clear/milky Odor Strong Appearance Cloudy/opaque Temperature 14.3 F/C
Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 6500 pH 6.1

Sampling Method and Material Disposable poly bailer and poly rope

Constituents Sampled	Container Description		Preservative
	From Lab	or G&M	
_____	<u>X</u>	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Remarks _____

Sampling Personne C. Carr/ J. Bonsteel

WELL CASING VOLUMES				
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WATER SAMPLING LOG

Project/No. Nine - Erie / 1470207.002

Page 1 of 1

Site Location Syracuse

Site/Well No. MW-100

Coded/
Replicate No. _____

Date 9/8/97

Weather clear 75°

Time Sampling
Began 15:40

Time Sampling
Completed 17:30

EVACUATION DATA

Description of Measuring Point (MP) TCL

Height of MP Above/Below Land Surface _____ MP Elevation _____

Total Sounded Depth of Well Below MP 126.75 Water-Level Elevation _____

Held _____ Depth to Water Below MP 31.00 Diameter of Casing 2"

Wet _____ Water Column in Well 95.75 Gallons Pumped/Bailed
Prior to Sampling 45

Gallons per Foot 0.16

Gallons in Well 15.32 Sampling Pump Intake Setting
(feet below land surface) _____

Evacuation Method Pneumatic, check valve, deep poly tubing

SAMPLING DATA/FIELD PARAMETERS

Color clear/white Odor strong Appearance opaque/klar Temperature 13.2 °F/°C

Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance
umhos/cm 9000 pH 6.85

Sampling Method and Material Disp. poly barrel & poly rope

Constituents Sampled _____ Container Description
From Lab ☒ or G&M _____ Preservative _____

TCL/TAL

Remarks _____

Sampling Personnel CC/JS

WELL CASING VOLUMES				
GAL/FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

Groundwater Sampling Form

Project/No. AY000207.0005.00007 Well MW-10D Date 11/07/02

Total depth _____ Pump On: 8:40 _____ Pump _____

Purge Method Redi-Flo Pump Off: 10:00 Volumes Purged:

Centrifugal _____ Sample Time: 9:45

Submersible	2'	Sampled
-------------	----	---------

Other _____ Bailer Type: _____ By: DD/TM

[illegible]

Groundwater Sampling Form

Page 1 of 1

Well MW-10D

Date 01/22/03

Screen Setting

Measuring Point	
Description	Top of PVC

Casing
Diameter (inches) 2

Static
Water Level 22.71

Measured Width

Well Materials X PVC
 ST, Steel

Total depth

Pump On: 759

Pump
Intake 6" from bottom

Purge Methc Redi-Fic

Pump Off: 914

Volumes Purged

Centrifugal _____
Submersible 27
Other _____

Sample Time: 909

Sampled
By: DD/TM

[illegible]

National Grid Erie Boulevard
Former MGP Site Syracuse, NY

Site **GROUNDWATER SAMPLING LOG** Event

Sampling Personnel: Jennifer Sandorf / Carey Healey *NPS* Well ID: *MW-10D*
Client / Job Number: National Grid / B0036694.00001 Date: *4/10/08*
Weather: *cloudy 42°* Time In: *0800* Time Out:

Well Information

Depth to Water: (feet) *27.32* (from MP)
Total Depth: (feet) *125.57* (from MP)
Length of Water Column: (feet) *98.25*
Volume of Water in Well: (gal) *16*
Three Well Volumes: (gal) *48*

Well Type: *Flushmount* Stick-Up
Well Material: *Stainless Steel* *PVC*
Well Locked: Yes *NO*
Measuring Point Marked: Yes *NO*
Well Diameter: 1" *2* Other:

Purging Information

Purging Method: *Bailer* Peristaltic *Grundfos* Other: *Monsoon*
Tubing/Bailer Material: *St. Steel* *Polyethylene* Teflon Other:
Sampling Method: *Bailer* Peristaltic *Grundfos* Other: *Monsoon*

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3875 ml = 0.1337 cubic feet				

Duration of Pumping *75* *40* (min)
Average Pumping Rate: *300* (ml/min) Water-Quality Meter Type: *Horiba U-22*
Total Volume Removed: *7* (gal) Did well go dry: Yes *No*

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Volume Purged (gal)	<i>0.25</i>	<i>0.30</i>	<i>0.75</i>	<i>0.25</i>	<i>1.5</i>	<i>2.0</i>	<i>2.5</i>	<i>3.0</i>	<i>3.5</i>
Rate (mL/min)	<i>200</i>	<i>200</i>	<i>200</i>	<i>200</i>	<i>400</i>	<i>400</i>	<i>400</i>	<i>400</i>	<i>400</i>
Depth to Water (ft.)	<i>27.32</i>	<i>27.32</i>	<i>27.32</i>	<i>27.32</i>	<i>27.32</i>	<i>27.32</i>	<i>27.32</i>	<i>27.32</i>	<i>27.32</i>
pH	<i>6.53</i>	<i>6.73</i>	<i>6.14</i>	<i>6.25</i>	<i>6.35</i>	<i>6.39</i>	<i>6.41</i>	<i>6.42</i>	<i>6.42</i>
Temp. (C)	<i>12.3</i>	<i>12.9</i>	<i>13.2</i>	<i>13.3</i>	<i>13.4</i>	<i>13.4</i>	<i>13.5</i>	<i>13.5</i>	<i>13.3</i>
Conductivity (mS/cm)	<i>3.60</i>	<i>37.6</i>	<i>799.9</i>	<i>799.9</i>	<i>799.9</i>	<i>799.9</i>	<i>799.9</i>	<i>799.9</i>	<i>799.9</i>
Dissolved Oxygen (mg/L)	<i>2.00</i>	<i>0.70</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
ORP (mV)	<i>139</i>	<i>-18</i>	<i>7</i>	<i>-11</i>	<i>-24</i>	<i>-32</i>	<i>-39</i>	<i>-45</i>	<i>-47</i>
Turbidity (NTU)	<i>11.8</i>	<i>3.43</i>	<i>258</i>	<i>212</i>	<i>215</i>	<i>205</i>	<i>208</i>	<i>91.6</i>	<i>60.2</i>
Notes:				<i>cloudy</i> <i>H₂O</i>					

Sampling Information

Analyses	#	Laboratory
BTEX	(2)	TestAmerica Shelton CT
PAHs	(2)	TestAmerica Shelton CT
Total Cyanide	1	TestAmerica Shelton CT . . .
Available Cyanide	1	TestAmerica Pittsburgh, PA
Sample ID:	Sample Time:	
MS/MSD:	Yes	No
Duplicate:	Yes	No
Duplicate ID	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations

Hydrometer (density) reading: *1.05* *1.1*

INITIAL PURGE : 08:40 LIGHT BROWN
ODOR

FINAL PURGE : 10:15

National Grid Erie Boulevard
Former MGP Site Syracuse, NY

Site

GROUNDWATER SAMPLING LOG

Event

Sampling Personnel: Jennifer Sandorf / Carey Healey

Well ID: ~~MW-105~~ MW-100

Client / Job Number: National Grid / B0036694.00001

Date: 4/10/08

Weather:

Time In: 0800

Time Out:

Well Information

Depth to Water: (feet) ~~27.32~~ (from MP)
Total Depth: (feet) (from MP)
Length of Water Column: (feet)
Volume of Water in Well: (gal)
Three Well Volumes: (gal)

SEE PAGE #

Well Type: Flushmount Stick-Up
Well Material: Stainless Steel PVC
Well Locked: Yes No
Measuring Point Marked: Yes No
Well Diameter: 1" 2" Other:

Purging Information

Purging Method: Bailer Peristaltic Grundfos Other:
Tubing/Bailer Material: St. Steel Polyethylene Teflon Other:
Sampling Method: Bailer Peristaltic Grundfos Other:

Duration of Pumping: (min)

Average Pumping Rate: (ml/min)

Water-Quality Meter Type: Horiba U-22

Total Volume Removed: (gal)

Did well go dry: Yes No

Conversion Factors				
gal / ft of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Volume Purged (gal)	935	940	945	950	0955	1000	1005		
Rate (mL/min)	4.0	4.5	5.0	5.5	6.0	6.5	7.0		
Depth to Water (ft.)	400	400	400	400	400	400	400		
pH	27.32	27.32	27.32	27.32	27.32	27.32	27.32		
Temp. (C)	6.43	6.43	6.45	6.45	6.45	6.47	6.46		
Conductivity (mS/cm)	13.3	13.5	13.3	13.3	13.3	13.5	13.5		
Dissolved Oxygen (mg/L)	> 99.9	799.9	799.9	799.9	799.9	799.9	799.9		
ORP (mV)	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Turbidity (NTU)	-40	-40	-47	-53	-65	-71	-73		
Notes:	65.2	187	80.7	63.7	36.0	38.9	15.4		
							SAMPLED		

Sampling Information

Analyses	#	Laboratory
BTEX	(2)	TestAmerica Shelton CT
PAHs	(2)	TestAmerica Shelton CT
Total Cyanide	1	TestAmerica Shelton CT
Available Cyanide	1	TestAmerica Pittsburgh, PA
Sample ID: MW-100	Sample Time: 1005	
MS/MSD: Yes	No	
Duplicate: Yes	No	
Duplicate ID	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations

Hydrometer (density) reading: 1.10

* Sample 1005

WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd./ AY0207.002 Page 1 of 1
Site Location Syracuse, New York Date 7/11/1997
Site/Well No. MW-11D Coded/
Replicate No. _____
Weather Sunny, 75 Time Sampling Began 7:15 Time Sampling Completed 8:20

EVACUATION DATA

Description of Measuring Point (MP) TOC
Height of MP Above/Below Land Surface _____ MP Elevation _____
Total Sounded Depth of Well Below MP 94.29 Water-Level Elevation _____
Held _____ Depth to Water Below MP 25.94 Diameter of Casing 2"
Wet _____ Water Column in Well 68.35 Gallons Pumped/Bailed Prior to Sampling 33.0
Gallons per Foot 0.16
Gallons in Well 10.94 Sampling Pump Intake Setting (feet below land surface) _____

Evacuation Method Disposable poly tubing and foot valve

SAMPLING DATA/FIELD PARAMETERS

Color Clear Odor Strong Appearance Clear Temperature 14.3 F/C

Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 7500 pH 15.8

Sampling Method and Material Disposable poly bailer and poly rope

Constituents Sampled	Container Description From Lab <u>X</u> or G&M _____	Preservative
_____	_____	_____
_____	_____	_____
_____	_____	_____

Remarks _____

Sampling Personne C. Carr/ J. Bonsteel

WELL CASING VOLUMES				
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WATER SAMPLING LOG

Project/No. Nimrod-Eric / A90207.002

Page 1 of

Site Location Syracuse, NY

Site/Well No. MW-115

Coded/
Replicate No.

Date 9/10/97

Weather Cloudy 60°

Time Sampling
Began 7:00

Time Sampling
Completed 7:30

EVACUATION DATA

Description of Measuring Point (MP) TOC

Height of MP Above/Below Land Surface MP Elevation

Total Sounded Depth of Well Below MP 93.18 Water-Level Elevation

Held Depth to Water Below MP 27.89 Diameter of Casing 2"

Wet Water Column in Well 65.29 Gallons Pumped/Bailed
Prior to Sampling 30

Gallons per Foot 0.46

Gallons in Well 10 Sampling Pump Intake Setting
(feet below land surface)

Evacuation Method Peristaltic pump, check valve & disposable poly tubing

SAMPLING DATA/FIELD PARAMETERS

Color Clear Odor Very strong Appearance Clear Temperature 12.8 °F/°C

Other (specific ion; OVA; HNU; etc.)

Specific Conductance, 9000 umhos/cm pH 7.42

Sampling Method and Material Disposable poly bucket & poly rope

Constituents Sampled Container Description
From Lab X or G&M Preservative

TCL/PAH

Remarks

Sampling Personnel CC/SB

WELL CASING VOLUMES				
GAL/FT	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

Groundwater Sampling Form

Project/No.	AY000207.0005.00007		Well	MW-11D	Date	11/07/02
Screen	Measuring Point		Casing			
Setting	Description	Top of PVC	Diameter (inches)		2	
Static	Measured Width		Well Materials		X PVC	
Water Level	27.71				ST. Steel	
Total depth	Pump On:	13:55	Pump			
			Intake: 6" from bottom			
Purge Method Redi-Flo	Pump Off:	15:10	Volumes Purged:			
Centrifugal	Sample Time:	14:50				
Submersible	2'		Sampled			
Other	Bailer Type:		By: DD/TM			

[illegible]

Groundwater Sampling Form

Page 1 of 1

Well MW-11D

Date 01/16/03

Measuring Point	Top of PVC
-----------------	------------

Casing
Diameter (inches) 2

Measured Width

Well Materials X PVC
 ST. Steel

Pump On: 1125

Pump
Intake 6" from bottom

Pump Off: 1220

Volumes Purged

Sample Time: 1215

Sampled
By: DD/TM

[illegible]

National Grid Erie Boulevard
Former MGP Site Syracuse, NY

Site **GROUNDWATER SAMPLING LOG** Event

Sampling Personnel: Jennifer Sandoz / Corey Healey WMO/NPS Well ID: MW-11D
Client / Job Number: National Grid / B0036694.00001 Date: 4/9/08
Weather: Cloudy / RAIN 60° Time In: 15:00 Time Out:

Well Information

Depth to Water: (feet) 31.25 (from MP)
Total Depth: (feet) 93.20 (from MP)
Length of Water Column: (feet) 61.95
Volume of Water in Well: (gal) 10.0
Three Well Volumes: (gal) 30

Well Type: Flushmount Stick-Up
Well Material: Stainless Steel PVC
Well Locked: Yes No
Measuring Point Marked: Yes No
Well Diameter: 1" 2" Other:

Purging Information

Purging Method: Bailer Peristaltic Grindos Other: Monsoon
Tubing/Bailer Material: St. Steel Polyethylene Teflon Other:
Sampling Method: Bailer Peristaltic Grindos Other: Monsoon

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3875 ml = 0.1337 cubic feet				

Duration of Pumping: 35 (min)
Average Pumping Rate: 500 (ml/min) Water-Quality Meter Type: Horba U-22
Total Volume Removed: 25 (gal) Did well go dry: Yes No

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Volume Purged (gal)	<u>0.66</u>	<u>1.33</u>	<u>2.0</u>	<u>2.66</u>	<u>3.33</u>	<u>4.0</u>	<u>4.66</u>	<u>5.33</u>	
Rate (mL/min)	<u>500</u>	<u>500</u>	<u>500</u>	<u>500</u>	<u>500</u>	<u>500</u>	<u>500</u>	<u>500</u>	<u>500</u>
Depth to Water (ft.)	<u>31.20</u>	<u>31.20</u>	<u>31.22</u>	<u>31.22</u>	<u>31.22</u>	<u>31.22</u>	<u>31.22</u>	<u>31.22</u>	<u>31.22</u>
pH	<u>6.82</u>	<u>6.85</u>	<u>6.82</u>	<u>6.80</u>	<u>6.80</u>	<u>6.80</u>	<u>6.81</u>	<u>6.81</u>	<u>6.81</u>
Temp. (C)	<u>14.5</u>	<u>14.3</u>	<u>14.2</u>	<u>14.1</u>	<u>14.1</u>	<u>14.0</u>	<u>13.9</u>	<u>13.9</u>	<u>13.9</u>
Conductivity (mS/cm)	<u>99.9</u>	<u>99.9</u>	<u>99.9</u>	<u>99.9</u>	<u>99.9</u>	<u>99.9</u>	<u>99.9</u>	<u>99.9</u>	<u>99.9</u>
Dissolved Oxygen (mg/L)	<u>1.30</u>	<u>0.59</u>	<u>0.03</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
ORP (mV)	<u>-147</u>	<u>-153</u>	<u>-166</u>	<u>-229</u>	<u>-268</u>	<u>-284</u>	<u>-293</u>	<u>-298</u>	<u>-298</u>
Turbidity (NTU)	<u>99.9</u>	<u>5730</u>	<u>64.8</u>	<u>21.7</u>	<u>14.5</u>	<u>15.9</u>	<u>12.2</u>	<u>11.2</u>	
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX	<u>2</u>	TestAmerica Shelton CT
PAHs	<u>2</u>	TestAmerica Shelton CT
Total Cyanide	<u>1</u>	TestAmerica Shelton CT
Available Cyanide	<u>1</u>	TestAmerica Pittsburgh, PA
Sample ID: <u>MW-11D</u>	Sample Time: <u>16:10</u>	
MS/MSD: Yes <u>No</u>		
Duplicate: Yes <u>No</u>		
Duplicate ID	Dup. Time:	
Chain of Custody Signed By: <u>JH</u>		

Problems / Observations

Hydrometer (density) reading: 1.07

INITIAL PURGE: 15:25
CLEAR
SHEEN, ODOR

FINAL PURGE: 16:15
CLEAR
SHEEN, ODOR

WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd./ AY0207.002 Page 1 of 1
Site Location Syracuse, New York Date 7/8/1997
Site/Well No. MW-12D Coded/
Replicate No. _____
Weather Sunny, 75 Time Sampling Began 12:30 Time Sampling Completed 13:30

EVACUATION DATA

Description of Measuring Point (MP) TOC
Height of MP Above/Below Land Surface _____ MP Elevation _____
Total Sounded Depth of Well Below MP 100.70 Water-Level Elevation _____
Held _____ Depth to Water Below MP 26.70 Diameter of Casing 2"
Gallons Pumped/Bailed Prior to Sampling 36.0
Wet _____ Water Column in Well 74.00
Gallons per Foot 0.16
Gallons in Well 11.84 Sampling Pump Intake Setting (feet below land surface) _____
Evacuation Method Disposable poly tubing and foot valve

SAMPLING DATA/FIELD PARAMETERS

Color Clear Odor Sewer like odor Appearance Clear Temperature 17 F/C
Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 3000 pH 6.42

Sampling Method and Material Disposable poly bailer and poly rope

Constituents Sampled	Container Description From Lab <u>X</u> or G&M _____	Preservative
_____	_____	_____
_____	_____	_____
_____	_____	_____

Remarks _____

Sampling Personne C. Carr/ J. Bonsteel

WELL CASING VOLUMES				
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WATER SAMPLING LOG

Project/No. _____ Page _____ of _____

Site Location _____

Site/Well No. MW-125 Coded/
Replicate No. _____ Date _____

Weather _____ Time Sampling
Began 10:45 Time Sampling
Completed _____

EVACUATION DATA

Description of Measuring Point (MP) _____

Height of MP Above/Below Land Surface _____ MP Elevation _____

Total Sounded Depth of Well Below MP 101.52' Water-Level Elevation _____

Held _____ Depth to Water Below MP 32.05' Diameter of Casing 2"

Wet _____ Water Column in Well 67.47 Gallons Pumped/Bailed
Prior to Sampling 33.0

Gallons per Foot 0.16

Gallons in Well 11.1 Sampling Pump Intake Setting
(feet below land surface) _____

Evacuation Method Submersible

SAMPLING DATA/FIELD PARAMETERS

Color clear Odor None Appearance None Temperature 14.6 °F/°C

Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance,
umhos/cm 10,000 pH 6.85

Sampling Method and Material _____

Constituents Sampled	Container Description		Preservative
	From Lab	or G&M	
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Remarks _____

Sampling Personnel C. JTB

GAL./FT		WELL CASING VOLUMES			
		1-1/4"	2"	3"	4"
		= 0.06	= 0.16	= 0.37	= 0.65
		= 0.09	= 0.26	= 0.50	= 1.47

Groundwater Sampling Form

Project/No. AY000207.0005.00007 Well MW-12D Date 11/07/02

Centrifugal _____ Sample Time: 13:00 _____
Submersible 2' _____ Sampled
Other _____ Bailer Type: _____ By: DD/TM _____

[illegible]

Groundwater Sampling Form

Project/No. AY000207.0005.00007

Well MW-12D

Date 01/16/03

Screen Setting

Measuring Point Description

Casing

Diameter (inches) 2

Static
Water Level 30.81

Measured Width

Well Materials

PVC
ST. Steel

Total depth

Pump On: 900

Pump

Intake 6" from bottom

Purge Methic Redi-Flc

Pump Off: 950

Volumes Purged

Centrifugal _____
Submersible 2
Other _____

Sample Time: 945

Sampled

By: DD/TM

[illegible]

National Grid Erie Boulevard
Former MGP Site Syracuse, NY

Site: **GROUNDWATER SAMPLING LOG** Event:

Sampling Personnel: Jennifer Sandorf / Carey Healey Well ID: MW 12-D
Client / Job Number: National Grid / B0036694.00001 Date: 4/10/2008
Weather: Sunny 50s Time In: 4:00 Time Out: 4:40

Well Information

Depth to Water: (feet) 34.75 (from MP)
Total Depth: (feet) 99.40 (from MP)
Length of Water Column: (feet) 64.65
Volume of Water in Well: (gal) 10.54
Three Well Volumes: (gal) 31.61

Well Type: Flushmount Stick-Up
Well Material: Stainless Steel PVC
Well Locked: Yes No
Measuring Point Marked: Yes No
Well Diameter: 1" 2" Other:

Purging Information

Purging Method: Bailer Peristaltic Grundfos Other: Monsoon
Tubing/Bailer Material: St. Steel Polyethylene Teflon Other:
Sampling Method: Bailer Peristaltic Grundfos Other: Monsoon
Duration of Pumping: (min) 35
Average Pumping Rate: (ml/min) 350 Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) 5 Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Volume Purged (gal)	0.1	1	2	3	3.5	4.0			
Rate (ml/min)	400	400	400	400	300	200			
Depth to Water (ft.)	34.75	34.75	34.75	34.75	34.75	34.75			
pH	6.55	6.36	6.24	6.22	6.21	6.21			
Temp. (C)	12.94	12.99	13.02	13.06	13.05	12.95			
Conductivity (mS/cm)	799.9	799.9	799.9	799.9	799.9	799.9			
Dissolved Oxygen (mg/L)	1.37	0.03	0.00	0.00	0.00	0.00			
ORP (mV)	-12	-50	-59	-67	-68	-72			
Turbidity (NTU)	16.3	59.0	9.21	6.70	4.27	4.27			
Notes:									

Sampling Information

Analyses	#	Laboratory
BTX	2	TestAmerica Shelton CT
PAHs	2	TestAmerica Shelton CT
Total Cyanide	1	TestAmerica Shelton CT
Available Cyanide	1	TestAmerica Pittsburgh, PA
Sample ID: <u>MW 12-D</u>	Sample Time: <u>16:35</u>	
MS/MSD: Yes <u>No</u>		
Duplicate: Yes <u>No</u>		
Duplicate ID	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations

Hydrometer (density) reading: 1.07

Initial Purge: clear than light brown cloudy, no sheen, no odor
Had to break through sediment to reach bottom

Groundwater Sampling Form

Project/No. AY000207.0005.00007 Well MW-13D Date 11/07/02

Centrifugal _____ Sample Time: 16:00
Submersible 2' _____ Sampled
Other _____ Boiler Type: _____ By: DD/TM

[illegible]

Groundwater Sampling Form

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Project/No. AY000207.0005.00007

Well MW-13D

Date 01/22/03

Screen Setting

Measuring Point Description

Casina

Diameter (inches)

2

Static

Measured Width

Well Materials

X PVC
ST. Steel

Water Level 29.95

Total depth

Pump On:

1233

Pump

Intake 6" from bottom

Purge Methc Redi-Flc

Pump Off:

1325

Volumes Purged

Centrifugal
Submersible
Other

Sample Time:

1320

Sampled

By: DD/TM

[illegible]

National Grid Erie Boulevard
Former MGP Site Syracuse, NY

Site **GROUNDWATER SAMPLING LOG** Event

Sampling Personnel: Jennifer Sandorf / Carey Healey WALD/NPS Well ID: MW-13D
Client / Job Number: National Grid / B0036694.00001 Date: 4/10/08
Weather: SUNNY 60° Time In: 1540 Time Out: 1615

Well Information

Depth to Water: (feet) 34.53 (from MP)
Total Depth: (feet) 49.80 (from MP)
Length of Water Column: (feet) 15.27
Volume of Water in Well: (gal) 2.5
Three Well Volumes: (gal) 7.5

Well Type: Flushmount Stick-Up
Well Material: Stainless Steel
Well Locked: Yes
Measuring Point Marked: Yes
Well Diameter: 1" 2" Other:

Purging Information

Purging Method: Bailer Peristaltic Grundfos Other Monsoon
Tubing/Bailer Material: St. Steel Polyethylene Teflon Other
Sampling Method: Bailer Peristaltic Grundfos Other Monsoon
Duration of Pumping: 30 (min)
Average Pumping Rate: 520 (ml/min) Water-Quality Meter Type: Horiba U-22
Total Volume Removed: 4.66 (gal) Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L = 3875 ml = 0.1337 cubic feet

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Volume Purged (gal)	0.66	1.33	2.0	2.66	3.33	4.0	4.66		
Rate (mL/min)	600	500	500	500	500	800	800		
Depth to Water (ft.)	34.53	34.53	34.53	34.53	34.53	34.53	34.53		
pH	7.69	7.63	7.62	7.62	7.63	7.63	7.63		
Temp. (C)	9.84	9.99	10.13	10.12	9.98	9.95	9.97		
Conductivity (mS/cm)	3.36	3.35	3.34	3.35	3.36	3.36	3.37		
Dissolved Oxygen (mg/L)	2.85	2.66	2.58	2.66	2.70	2.75	2.78		
ORP (mV)	79	94	96	101	120	124	126		
Turbidity (NTU)	120	72.4	108.6	24.4	5.35	2.50	2.32		
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX	<u>(2)</u>	TestAmerica Shelton CT
PAHs	<u>(2)</u>	TestAmerica Shelton CT
Total Cyanide	1	TestAmerica Shelton CT
Available Cyanide	1	TestAmerica Pittsburgh, PA
Sample ID: <u>MW-13D</u> Sample Time: <u>1640</u>		
MS/MSD:	Yes	<u>No</u>
Duplicate:	Yes	<u>No</u>
Duplicate ID	—	Dup. Time: —
Chain of Custody Signed By: <u>MS</u>		

Problems / Observations

Hydrometer (density) reading: 0.99

INITIAL PURGE: 16:00 VERY CLOUDY

Groundwater Sampling Form

Project/No.	AY000207.0005.00007		Well	MW-14D	Date	11/08/02	
Screen Setting		Measuring Point Description	Top of PVC		Casing Diameter (inches)	2	
Static Water Level	25.1	Measured Width			Well Materials	☒ PVC ☐ ST. Steel	
Total depth		Pump On:	8:40		Pump Intake:	6" from bottom	
Purge Method Redi-Flo		Pump Off:	10:15		Volumes Purged:		
Centrifugal Submersible	2'	Sample Time:	10:00		Sampled By:	DD/TM	
Other		Bailer Type:					

[illegible]

National Grid Erie Boulevard
Former MGP Site Syracuse, NY

Site GROUNDWATER SAMPLING LOG Event

Sampling Personnel: Jennifer Sandorf / Carey Healey Well ID: MW-140
Client / Job Number: National Grid / B0036694.00001 Date: 4/11/2008
Weather: Time In: 10:40 Time Out: 11:40

Well Information

Depth to Water:	(feet) <u>28.30</u>	(from MP)
Total Depth:	(feet) <u>92.58</u>	(from MP)
Length of Water Column:	(feet) <u>64.28</u>	
Volume of Water in Well:	(gal) <u>10.48</u>	
Three Well Volumes:	(gal) <u>31.43</u>	

Well Type:	Flushmount	Stick-Up
Well Material:	Stainless Steel	PVC
Well Locked:	Yes	No
Measuring Point Marked:	Yes	No
Well Diameter:	1" <u>(2")</u>	Other:

Purging Information

Purging Method:	Bailer	Peristaltic	Grundfos	Other: <u>Monsoon</u>
Tubing/Bailer Material:	St. Steel	<u>Polyethylene</u>	Teflon	Other:
Sampling Method:	<u>Bailer</u>	Peristaltic	Grundfos	Other: <u>Monsoon</u>
Duration of Pumping:	(min) <u>60</u>			
Average Pumping Rate:	(ml/min) <u>300</u>	Water-Quality Meter Type:	Horiba U-22	
Total Volume Removed:	(gal) <u>6</u>	Did well go dry:	Yes	<u>No</u>

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3875 ml = 0.1337 cubic feet				

pH	DO	Cond.	% ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Volume Purged (gal)	1	2	2.5	3	3.5	4.0			
Rate (ml/min)	300	300	300	300	300	300			
Depth to Water (ft.)	28.52	28.47	28.48	28.69	28.75	28.68			
pH	6.14	6.27	6.28	6.29	6.30	6.30			
Temp. (C)	11.54	11.35	11.30	12.1	12.15	11.95			
Conductivity (mS/cm)	3.95	3.95	3.89	3.89	3.89	3.89			
Dissolved Oxygen (mg/L)	0.07	0.60	0.55	0.00	0.00	0.00			
ORP (mV)	-20	-24	-16	-32	-36	-36			
Turbidity (NTU)	4528	1731	1113	260	87.0	44.1			
Notes:		Lost Flow for second and water drained from cell							

Sampling Information

Analyses	#	Laboratory
BTEX	<u>2</u>	TestAmerica Shelton CT
PAHs	<u>2</u>	TestAmerica Shelton CT
Total Cyanide	1	TestAmerica Shelton CT
Available Cyanide	1	TestAmerica Pittsburgh, PA
Sample ID:	<u>MW-140</u>	Sample Time: <u>11:20</u>
MS/MSD:	Yes	<u>No</u>
Duplicate:	Yes	<u>No</u>
Duplicate ID		Dup. Time:
Chain of Custody Signed By:		

Problems / Observations

Hydrometer (density) reading: 1.00

Initial: Purge - Clear - than gray-brown cloudy
- NO SHEEN NO ODOR

Groundwater Sampling Form

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Project/No. AY000207.0005.00007 Well MW-15D Date 11/12/02

Screen	Measuring Point	Casing	
Setting	Description	Diameter (inches)	2
	Top of PVC		

Static Water Level	31.45	Measured Width		Well Materials	<u>X</u> PVC
					<u> </u> ST. Steel

Total depth _____ Pump On: 15:40 Pump
Intake: 6" from bottom

Purge Method Redi-Flo Pump Off: 16:55 Volumes Purged: _____

Centrifugal _____ Sample Time: 16:35 _____
Submersible 2' _____ Sampled _____
Other _____ Bailer Type: _____ By: MB/TM _____

[illegible]

National Grid Erie Boulevard
Former MGP Site Syracuse, NY

Site: GROUNDWATER SAMPLING LOG Event:

Sampling Personnel: Jennifer Sandorf / Carey Healey *WMD* Well ID: *MW-15D*
Client / Job Number: National Grid / B0036694.00001 Date: *4/10/08*
Weather: *Sunny 60°* Time In: *1330* Time Out:

Well Information

Depth to Water: *35.13* (feet) (from MP)
Total Depth: *92.05* (feet) (from MP)
Length of Water Column: (feet) *56.92*
Volume of Water in Well: (gal) *9.3*
Three Well Volumes: (gal) *27.8*

Well Type: *Flushmount* Stick-Up
Well Material: *Stainless Steel* *PVC*
Well Locked: Yes *NO*
Measuring Point Marked: Yes *NO*
Well Diameter: 1" *2"* Other:

Purging Information

Purging Method: Bailer Peristaltic Grundfos *Other: Monsoon*
Tubing/Bailer Material: St. Steel *Polyethylene* Teflon Other:
Sampling Method: *Bailer* Peristaltic Grundfos *Other: Monsoon*
Duration of Pumping: *50* (min)
Average Pumping Rate: *500* (ml/min) Water-Quality Meter Type: *Horiba U-22*
Total Volume Removed: *27.5* (gal) Did well go dry: Yes *No*

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.459
1 gal = 3.785 L = 3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± .10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Volume Purged (gal)	<i>0.66</i>	<i>1.33</i>	<i>2.0</i>	<i>2.66</i>	<i>3.33</i>	<i>4.0</i>	<i>4.66</i>	<i>5.33</i>	<i>6.0</i>
Rate (mL/min)	<i>500</i>	<i>500</i>	<i>500</i>	<i>500</i>	<i>500</i>	<i>500</i>	<i>500</i>	<i>500</i>	<i>500</i>
Depth to Water (ft.)	<i>35.13</i>	<i>35.14</i>	<i>35.15</i>	<i>35.15</i>	<i>35.15</i>	<i>35.15</i>	<i>35.15</i>	<i>35.15</i>	<i>35.15</i>
pH	<i>7.03</i>	<i>7.00</i>	<i>7.00</i>	<i>7.01</i>	<i>7.01</i>	<i>7.01</i>	<i>7.02</i>	<i>7.02</i>	<i>7.02</i>
Temp. (C)	<i>13.48</i>	<i>13.53</i>	<i>13.46</i>	<i>13.74</i>	<i>13.85</i>	<i>13.85</i>	<i>13.70</i>	<i>13.72</i>	<i>13.59</i>
Conductivity (mS/cm)	<i>79.2</i>	<i>799.9</i>	<i>799.9</i>	<i>799.9</i>	<i>799.9</i>	<i>799.9</i>	<i>799.9</i>	<i>799.9</i>	<i>799.9</i>
Dissolved Oxygen (mg/L)	<i>1.30</i>	<i>0.06</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
ORP (mV)	<i>-278</i>	<i>-290</i>	<i>-292</i>	<i>-295</i>	<i>-294</i>	<i>-295</i>	<i>-298</i>	<i>-299</i>	<i>-302</i>
Turbidity (NTU)	<i>—</i>	<i>700.0</i>	<i>464.0</i>	<i>34.0</i>	<i>223.0</i>	<i>207.0</i>	<i>170.0</i>	<i>140.0</i>	<i>28.2</i>
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX	<i>2</i>	TestAmerica Shelton CT
PAHs	<i>2</i>	TestAmerica Shelton CT
Total Cyanide	1	TestAmerica Shelton CT
Available Cyanide	1	TestAmerica Pittsburgh, PA
Sample ID: <i>MW-15D</i>	Sample Time: <i>1455</i>	
MS/MSD:	Yes	No
Duplicate:	Yes	No
Duplicate ID	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations

Hydrometer (density) reading: *1.05*

INITIAL PURGE - CLOUDY
ODOR
1355

National Grid Erie Boulevard
Former MGP Site Syracuse, NY

Site: GROUNDWATER SAMPLING LOG Event:

Sampling Personnel: ~~Jennifer Smith~~ ~~Healey~~ *WWD/NPS* Well ID: *MW-15D*
Client / Job Number: National Grid / B0036694.00001 Date: *4/10/08*
Weather: *SEMI 60°* Time In: Time Out:

Well Information		Well Type:	Flushmount	Stick-Up
Depth to Water:	(feet)	(from MP)		
Total Depth:	(feet)	(from MP)	Stainless Steel	PVC
Length of Water Column:	(feet)		Well Locked:	Yes No
Volume of Water in Well:	(gal)		Measuring Point Marked:	Yes No
Three Well Volumes:	(gal)		Well Diameter:	1" 2" Other:

Purging Information					Conversion Factors				
Purging Method:	Bailer	Peristaltic	Grundfos	Other:	gal / ft. of water	1" ID	2" ID	4" ID	6" ID
Tubing/Bailer Material:	St. Steel	Polyethylene	Teflon	Other:		0.041	0.163	0.653	1.469
Sampling Method:	Bailer	Peristaltic	Grundfos	Other:	1 gal = 3.785 L = 3875 ml = 0.1337 cubic feet				
Duration of Pumping:	(min)				Unit Stability				
Average Pumping Rate:	(ml/min)	Water-Quality Meter Type:			pH	DO	Cond.	ORP	
Total Volume Removed:	(gal)	Did well go dry:			± 0.1	± 10%	± 3.0%	± 10 mV	

Parameter:	1	2	3	4	5	6	7	8	9
Volume Purged (gal)	1445	1450	1455						
Rate (ml/min)	6.66	7.33							
Depth to Water (ft.)	500	500							
pH	35.15	35.15							
Temp. (C)	7.02	7.01							
Conductivity (mS/cm)	13.45	13.39							
Dissolved Oxygen (mg/L)	779.9	799.9							
ORP (mV)	0.00	0.00							
Turbidity (NTU)	-304	-304							
Notes:	14.3	10.8							

Sampling Information		
Analyses	#	Laboratory
BTEX	2	TestAmerica Shelton CT
PAHs	2	TestAmerica Shelton CT
Total Cyanide	1	TestAmerica Shelton CT
Available Cyanide	1	TestAmerica Pittsburgh, PA
Sample ID: <i>MW-15D</i> Sample Time: <i>1455</i>		
MS/MSD:	Yes No	
Duplicate:	Yes No	
Duplicate ID	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations
Hydrometer (density) reading: *1.05*
FINAL PURGE: CLEAR ODR
± 15:00

Groundwater Sampling Form

Project/No. AY000207.0005.00007 Well MW-16D Date 11/13/02

Total depth _____ Pump On: 8:35 _____ Pump _____

Purge Method Redi-Flo Pump Off: 9:45 Volumes Purged: _____

Centrifugal _____ Sample Time: 9:10 _____
Submersible 2' _____ Sampled _____

Other _____ Bailer Type: _____ By: MB/TM

[illegible]

Groundwater Sampling Form

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Project/No. AY000207.0005.00007 Well MW-16D

Date 01/22/03

Screen Setting	Measuring Point Description	Top of PVC
----------------	-----------------------------	------------

Casing
Diameter (inches) 2

Static Water Level 30.96 Measured Width _____

Well Materials X PVC
 ST. Steel

Total depth _____ Pump On: 1405

Pump
Intake 6" from bottom

Purge Methc Redi-Flc Pump Off: 1500

Volumes Purged

Centrifugal _____ Sample Time: 1455
Submersible 2"
Other _____ Bailer Type: _____

Sampled
By: DD/TM

[illegible]

National Grid Erie Boulevard
Former MGP Site Syracuse, NY

Site	GROUNDWATER SAMPLING LOG		Event
Sampling Personnel: <u>Nathan Smith</u> <u>Jennifer Sandorf / Carey Healey</u>	Well ID: <u>NW-16D</u>		
Client / Job Number: <u>National Grid / B0036694.00001</u>	Date: <u>4/14/08</u>		
Weather: <u>Partly Sunny mid 40's</u>	Time In: <u>11:40</u>	Time Out:	

Well Information

Depth to Water:	(feet)	<u>35.47</u>	(from MP)
Total Depth:	(feet)	<u>92.15</u>	(from MP)
Length of Water Column:	(feet)	<u>56.68</u>	
Volume of Water in Well:	(gal)	<u>9.24</u>	
Three Well Volumes:	(gal)	<u>27.72</u>	

Well Type:	<u>Flushmount</u>	Stick-Up:
Well Material:	<u>Stainless Steel</u>	<u>PVC</u>
Well Locked:	<u>Yes</u>	No
Measuring Point Marked:	<u>Yes</u>	<u>No</u>
Well Diameter:	<u>1"</u>	Other:

Purging Information

Purging Method:	<u>Bailer</u>	<u>Peristaltic</u>	<u>Grundfos</u>	Other: <u>Bladder Pump</u>
Tubing/Bailer Material:	<u>St. Steel</u>	<u>Polyethylene</u>	<u>Teflon</u>	Other:
Sampling Method:	<u>Bailer</u>	<u>Peristaltic</u>	<u>Grundfos</u>	Other: <u>Bladder Pump</u>

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet

Duration of Pumping: 40 (min)

Average Pumping Rate: 100 (ml/min)

Water-Quality Meter Type:

Horiba U-22

Total Volume Removed: ~1 (gal)

Did well go dry: Yes

No

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Volume Purged (gal)	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>	<u>0.8</u>	<u>0.9</u>
Rate (mL/min)	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>
Depth to Water (ft.)	<u>35.50</u>	<u>35.50</u>	<u>35.50</u>	<u>35.50</u>	<u>35.50</u>	<u>35.50</u>	<u>35.50</u>	<u>35.50</u>	<u>35.50</u>
pH	<u>6.54</u>	<u>6.49</u>	<u>6.50</u>	<u>6.51</u>	<u>6.52</u>	<u>6.52</u>	<u>6.52</u>	<u>6.52</u>	<u>6.52</u>
Temp. (C)	<u>12.89</u>	<u>13.26</u>	<u>13.51</u>	<u>13.77</u>	<u>14.20</u>	<u>14.36</u>	<u>14.66</u>	<u>13.61</u>	<u>13.35</u>
Conductivity (mS/cm)	<u>799.9</u>	<u>799.9</u>	<u>799.9</u>	<u>799.9</u>	<u>799.9</u>	<u>799.9</u>	<u>799.9</u>	<u>799.9</u>	<u>799.9</u>
Dissolved Oxygen (mg/L)	<u>2.53</u>	<u>0.58</u>	<u>0.25</u>	<u>0.53</u>	<u>0.98</u>	<u>1.18</u>	<u>1.27</u>	<u>1.30</u>	<u>1.31</u>
ORP (mV)	<u>-98</u>	<u>-86</u>	<u>-75</u>	<u>-92</u>	<u>-96</u>	<u>-93</u>	<u>-90</u>	<u>-87</u>	<u>-85</u>
Turbidity (NTU)	<u>43.0</u>	<u>39.7</u>	<u>33.7</u>	<u>35.6</u>	<u>38.5</u>	<u>38.8</u>	<u>31.6</u>	<u>31.0</u>	<u>27.6</u>
Notes:	<u>Slightly Cloudy</u>	<u>" "</u>							<u>DO kit #3</u>

Sampling Information

Analyses	#	Laboratory
BTEX	<u>2</u>	TestAmerica Shelton CT
PAHs	<u>2</u>	TestAmerica Shelton CT
Total Cyanide	<u>1</u>	TestAmerica Shelton CT
Available Cyanide	<u>1</u>	TestAmerica Pittsburgh, PA
Sample ID: <u>NW-16D</u>	Sample Time: <u>1420</u>	
MS/MSD: <u>Yes</u>	<u>No</u>	
Duplicate: <u>Yes</u>	<u>No</u>	
Duplicate ID	Dup. Time:	
Chain of Custody Signed By: <u>MS</u>		

Problems / Observations

Hydrometer (density) reading: 1.04

- Start Pumping @ 12:05 - trouble w/ Bladder pump.
- Restart Pumping after bladder pump repair @ 1330

Groundwater Sampling Form

Page 1 of 1

Project/No. AY000207.0005.00007 Well MW-17D Date 11/13/02

Screen Setting	Measuring Point Description	Top of PVC	Casing Diameter (inches)	2
----------------	-----------------------------	------------	--------------------------	---

Static Water Level 22.11 Measured Width _____ Well Materials X PVC
ST. Steel

Total depth _____ Pump On: 10:24 _____ Pump
Intake: 6'' from bottom

Purge Method Redi-Flo Pump Off: 12:00 Volumes Purged: _____

Centrifugal _____ Sample Time: 11:45
Submersible 2'
Other _____ Bailer Type: _____
Sampled
By: MB/TM

[illegible]

Groundwater Sampling Form

Page 1 of 1

Well MW-17D

Date 01/21/03

Screen Setting

Measuring Point Description

Casing

Diameter (inches) 2

Static
Water Level 21.6

Measured Width

Well Materials X PVC
 ST. Steel

Total depth

Pump On: 1355

Pump
Intake 6' from bottom

Purge Methc Redi-Flc

Pump Off: 1450

Volumes Purged

Centrifugal	<u>27</u>
Submersible	
Other	

Sample Time: 1445

Sampled
By: DD

[illegible]

National Grid Erie Boulevard
Former MGP Site Syracuse, NY

Site **GROUNDWATER SAMPLING LOG** Event

Sampling Personnel: Jennifer Sandorf / Carey Healey Well ID: MW-17D
Client / Job Number: National Grid / B0036694.00001 Date: 4/11/08
Weather: CLOUDY / RAINY 40° Time In: 10:15 Time Out:

Well Information

Depth to Water: (feet) 23.52 (from MP)
Total Depth: (feet) 88.02 (from MP)
Length of Water Column: (feet) 64.50
Volume of Water in Well: (gal) 10.32
Three Well Volumes: (gal) 30.96

Well Type: Flushmount Stick-Up
Well Material: Stainless Steel VC
Well Locked: Yes No
Measuring Point Marked: Yes No
Well Diameter: 1" 2" Other:

Purging Information

Purging Method: Bailer Peristaltic Grundfos Other Monsoon
Tubing/Bailer Material: St. Steel Polyethylene Teflon Other:
Sampling Method: Bailer Peristaltic Grundfos Other Monsoon
Duration of Pumping: 4.0 (min)
Average Pumping Rate: 500 (ml/min) Water-Quality Meter Type: Horiba U-22
Total Volume Removed: 6 (gal) Did well go dry: Yes No

Conversion Factors				
gal / ft of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.409
1 gal = 3.785 L = 3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Volume Purged (gal)	0.66	1.32	2.0	2.66	3.33	4.0	4.66	5.33	6.0
Rate (ml/min)	500	500	500	500	500	500	500	500	500
Depth to Water (ft.)	23.58	23.58	23.58	23.58	23.58	23.58	23.58	23.58	23.58
pH	6.90	6.95	6.94	6.94	6.94	6.94	6.94	6.94	6.81
Temp. (C)	10.65	11.92	11.98	11.99	12.01	11.47	11.75	11.75	11.78
Conductivity (mS/cm)	799.9	799.9	799.9	799.9	799.9	799.9	799.9	799.9	799.9
Dissolved Oxygen (mg/L)	0.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ORP (mV)	-65	-60	-82	-57	-49	-50	-46	-48	-47
Turbidity (NTU)	952	174	128	141	128	162	83.5	45.5	33.6
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX	2	TestAmerica Shelton CT
PAHs	2	TestAmerica Shelton CT
Total Cyanide	1	TestAmerica Shelton CT
Available Cyanide	1	TestAmerica Pittsburgh, PA
Sample ID:	Sample Time: <u>11:30</u>	
MS/MSD:	Yes	<u>No</u>
Duplicate:	Yes	<u>No</u>
Duplicate ID	Dup. Time: <u>✓</u>	
Chain of Custody Signed By:	<u>JMS</u>	

Problems / Observations

Hydrometer (density) reading: 1.08

INITIAL PURGE: CLEAR 1040
TWEN CLOUDY @ 1045

Groundwater Sampling Form

Page 1 of 1

Centrifugal _____ Sample Time: 1310
Submersible 2' _____ Sampled
Other _____ Bailer Type: _____ By: MB/TM

[illegible]

National Grid Erie Boulevard
Former MGP Site Syracuse, NY

Site **GROUNDWATER SAMPLING LOG** Event

Sampling Personnel: Jennifer Sandorf / Carey Healey Well ID: MW-18D
Client / Job Number: National Grid / B0036694.00001 Date: 4/11/08
Weather: RAINING ~40°F Time In: 0800 Time Out:

Well Information

Depth to Water: 12.48 (feet) (from MP)
Total Depth: 72.12 (feet) (from MP)
Length of Water Column: (feet) 59.64
Volume of Water in Well: (gal) 9.7
Three Well Volumes: (gal) ~30

Well Type: (Flushmount) Stick-Up
Well Material: Stainless Steel PVC
Well Locked: Yes No
Measuring Point Marked: Yes No
Well Diameter: 1" 2" Other:

Purging Information

Purging Method: Bailer Peristaltic Grundfos Other Monsoon
Tubing/Bailer Material: St. Steel Polyethylene Teflon Other
Sampling Method: Bailer Peristaltic Grundfos Other Monsoon

Duration of Pumping: 35 (min)

Average Pumping Rate: 50 gal/min

Water-Quality Meter Type:

Horiba U-23

Total Volume Removed: ~5.5 (gal)

Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Volume Purged (gal)	<u>0.66</u>	<u>1.33</u>	<u>2.0</u>	<u>2.66</u>	<u>3.33</u>	<u>4.0</u>	<u>4.66</u>	<u>5.33</u>	
Rate (mL/min)	<u>600</u>	<u>500</u>	<u>500</u>	<u>500</u>	<u>500</u>	<u>500</u>	<u>500</u>	<u>500</u>	
Depth to Water (ft.)	<u>12.58</u>	<u>12.57</u>	<u>12.57</u>	<u>12.57</u>	<u>12.57</u>	<u>12.57</u>	<u>12.57</u>	<u>12.57</u>	
pH	<u>6.90</u>	<u>6.91</u>	<u>6.91</u>	<u>6.91</u>	<u>6.91</u>	<u>6.91</u>	<u>6.91</u>	<u>6.91</u>	
Temp. (C)	<u>12.00</u>	<u>12.09</u>	<u>12.04</u>	<u>12.03</u>	<u>12.03</u>	<u>12.03</u>	<u>12.03</u>	<u>12.04</u>	
Conductivity (mS/cm)	<u>>99.9</u>	<u>>99.9</u>	<u>>99.9</u>	<u>>99.9</u>	<u>>99.9</u>	<u>>99.9</u>	<u>>99.9</u>	<u>>99.9</u>	
Dissolved Oxygen (mg/L)	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	
ORP (mV)	<u>-53</u>	<u>-57</u>	<u>-52</u>	<u>-53</u>	<u>-57</u>	<u>-57</u>	<u>-57</u>	<u>-57</u>	
Turbidity (NTU)	<u>215</u>	<u>96.7</u>	<u>82.5</u>	<u>74.0</u>	<u>75.0</u>	<u>25.2</u>	<u>24.3</u>	<u>16.1</u>	
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX	<u>(2)</u>	TestAmerica Shelton CT
PAHs	<u>(2)</u>	TestAmerica Shelton CT
Total Cyanide	<u>1</u>	TestAmerica Shelton CT
Available Cyanide	<u>1</u>	TestAmerica Pittsburgh, PA
Sample ID: <u>MW-18D</u>	Sample Time: <u>0805</u>	
MS/MSD: <u>Yes</u>	<u>(No)</u>	
Duplicate: <u>Yes</u>	<u>(No)</u>	
Duplicate ID	Dup. Time:	
Chain of Custody Signed By: <u>JAS</u>		

Problems / Observations

Hydrometer (density) reading: 1.07

Initial Purge @ 8:31 cloudy.

ARCADIS

Appendix B

Groundwater Sampling Logs

ARCADIS

Onsite Groundwater Sampling
Logs

WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd. / AY0207.001 Page 1 of 1
Site Location Syracuse - Erie Blvd. Date 8/30/1995
Site/Well No. MW-1S Coded/
Replicate No. _____
Weather Sunny, hot, humid Time Sampling Began 15:00 Time Sampling Completed 15:45

EVACUATION DATA

Description of Measuring Point (MP) Top of PVC casing
Height of MP Above/Below Land Surface _____ MP Elevation _____
Total Sounded Depth of Well Below MP 29.50 Water-Level Elevation _____
Held _____ Depth to Water Below MP 22.93 Diameter of Casing 2"
Wet _____ Water Column in Well 6.57 Gallons Pumped/Bailed Prior to Sampling 10.0
Gallons per Foot 0.16
Gallons in Well 1.05 Sampling Pump Intake Setting (feet below land surface) _____
Evacuation Method Submersible pump (pump at 1.25 gpm)

SAMPLING DATA/FIELD PARAMETERS*

Color clear/ tan Odor none Appearance turbid with bailing Temperature 15.5 C°
Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 3000 pH 6.71
Sampling Method and Material Polyethylene disposable bailer and polypropylene rope
Container Description
Constituents Sampled From Lab X or G&M _____ Preservative _____
See chain of custody _____ See chain of custody _____

Remarks * pH, temperature and specific conductance taken after sampling. DTW on 8/31/95 = 22.91
Sampling Personne Stacie Blackmer/ Chris Moul

WELL CASING VOLUMES				
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WELL SAMPLING RECORD

Site Name Erie Blvd. Site Well MW-15 Date 11/20/95

Samplers: TNL of GIM
_____ of _____

Initial Static Water Level (from top of well protective casing) 21.93'

Evacuation:

Using: Submersible ☒ Centrifugal _____ 2" Casing: 7.57 ft. of water x .16 = 1.21 gals
Airlift _____ Positive Displacement _____ 3" Casing: _____ ft. of water x .36 = _____ gals
Bailed _____ Times 4" Casing: _____ ft. of water x .65 = _____ gals

Depth to intake from top of protective well casing 29'

Volume of water removed 10 Gals. (> 3 Well Volumes)

Sampling: Time 12:00 _____ a.m.
_____ ☒ p.m.

Bailer Type: Stainless Steel _____
Teflon _____

From Pos. Dis. Discharge Tube _____
Other disposable polyethylene

No. of Bottles Filled	I.D. No.	Analyses
--------------------------	----------	----------

Trip Blank	_____	_____	_____
Field Blank - Wash / Atmospheric (circle one)	_____	_____	_____
Groundwater Sample	<u>14</u>	<u>ERIE-MW-15</u>	<u>TCL/TAL</u>

Physical Appearance and Odor clear, no odor

Refrigerate: Date: 11/20/95 Time 12:30 P

Field Tests:

Temperature (°F)	<u>15.2</u>	_____
pH	<u>6.83</u>	_____
Spec. Conduc (umhos/cm)	<u>2750</u>	_____

Weather Sunny, high 20s

Comments _____



WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd./ AY0207.002 Page 1 of 1
Site Location Syracuse, New York Date 7/10/1997
Site/Well No. MW-1S Coded/
Replicate No. _____
Weather Sunny, 70 Time Sampling Began 7:50 Time Sampling Completed 8:20

EVACUATION DATA

Description of Measuring Point (MP) TOC
Height of MP Above/Below Land Surface _____ MP Elevation _____
Total Sounded Depth of Well Below MP 29.50 Water-Level Elevation _____
Held _____ Depth to Water Below MP 22.12 Diameter of Casing 2"
Wet _____ Water Column in Well 7.38 Gallons Pumped/Bailed Prior to Sampling 4.0
Gallons per Foot 0.16
Gallons in Well 1.18 Sampling Pump Intake Setting (feet below land surface) _____
Evacuation Method Disposable poly bailer and poly rope

SAMPLING DATA/FIELD PARAMETERS

Color Brown Odor None Appearance Turbid Temperature 13.6 F/C
Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 2600 pH 6.61

Sampling Method and Material Disposable poly bailer and poly rope

Constituents Sampled	Container Description		Preservative
	From Lab	or G&M	
_____	<u>X</u>	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Remarks _____

Sampling Personne C. Carr/J. Bonsteel

WELL CASING VOLUMES

GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WATER SAMPLING LOG

Project/No. NIMRO-Env / A40202.002

Page 1 of 1

Site Location Syracuse, NY

Site/Well No. AW-15 Coded/
Replicate No. _____

Date 9/9/97

Weather Sunny, 75° Time Sampling
Began 15:40

Time Sampling
Completed 16:00

EVACUATION DATA

Description of Measuring Point (MP) TDC

Height of MP Above/Below Land Surface _____ MP Elevation _____

Total Sounded Depth of Well Below MP 29.54 Water-Level Elevation _____

Held _____ Depth to Water Below MP 22.58 Diameter of Casing 2"

Wet _____ Water Column in Well 6.96 Gallons Pumped/Bailed
Prior to Sampling 4 gal. less

Gallons per Foot 0.16

Gallons in Well 1.11 Sampling Pump Intake Setting
(feet below land surface) _____

Evacuation Method Disposable poly barrel & poly rope

SAMPLING DATA/FIELD PARAMETERS

Color Brown Odor none Appearance turbid Temperature 13.1 °F/°C

Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 1600 pH 6.59

Sampling Method and Material Disposable poly barrel & poly rope

Constituents Sampled	Container Description From Lab ☒ or G&M _____	Preservative
<u>TCL / TAL</u>	_____	_____
_____	_____	_____
_____	_____	_____

Remarks _____

Sampling Personnel CC / JTB

WELL CASING VOLUMES					
GAL/FT	1-1/8" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47	

Groundwater Sampling Form

Page 1 of 1

Well MW-1S

Date 11/08/02

Measuring Point Description

Top of PVC

Casing
Diameter (inches)

Measured Width

Well Materials $\frac{X}{\text{ST. Steel}}$ PVC

Total depth

Pump On: 10:35

Pump
Intake: 6" from bottom

Purge Method Redi-Flo

Pump Off: 11:40

Volumes Purged:

Centrifugal
Submersible
Other

Sample Time: 11:30

Sampled
By: DD/TM

[illegible]

Groundwater Sampling Form

Project/No. AY000207.0005.00007

Date 01/29/03

Measuring Point Description	Top of PVC
-----------------------------	------------

Casing
Diameter (inches) 2

Static
Water Level 21.80

Measured Width

Well Materials X PVC
 ST. Steel

Total depth

Pump On: 820

Pump
Intake 6" from bottom

Purge Methc Redi-Fic

Pump Off: 921

Volumes Purged

Centrifugal	2'
Submersible	
Other	

Sample Time: 910

Sampled
By: DD/TM

[illegible]

National Grid Erie Boulevard
Former MGP Site Syracuse, NY

Site **GROUNDWATER SAMPLING LOG** Event

Sampling Personnel: Jennifer Sandorf / Carey Healey Well ID: mw-15
Client / Job Number: National Grid / B0036694.00001 Date: 4/9/2008
Weather: Partly Cloudy - Warm Time In: 13:40 Time Out:

Well Information

Depth to Water: (feet) 26.12 (from MP)
Total Depth: (feet) 29.17 (from MP)
Length of Water Column: (feet) 3.05
Volume of Water in Well: (gal) 0.49715
Three Well Volumes: (gal) 1.49145

Well Type: Flushmount Stick-Up
Well Material: Stainless Steel PVC
Well Locked: Yes No
Measuring Point Marked: Yes No
Well Diameter: 1" 2" Other:

Purging Information

Purging Method: Bailer Peristaltic Grundfos Other: Monsoon
Tubing/Bailer Material: St. Steel Polyethylene Teflon Other:
Sampling Method: Bailer BTEX Peristaltic Grundfos Other: Monsoon
Duration of Pumping: (min) 50
Average Pumping Rate: (ml/min) 2360 Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) 9 Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	13:50	13:55	14:00	14:05	14:10	14:15	14:20	14:25	14:30
Volume Purged (gal)	1	1.25	1.5	2	2.25	3	3.5	4.5	6.5
Rate (mL/min)	260	260	300	300	300	300	300	1000	300
Depth to Water (ft.)	26.23	26.30	26.28	26.23	26.38	26.49	26.24	26.47	26.20
pH	7.44	7.51	7.48	7.47	7.45	7.42	7.37	7.37	7.34
Temp. (C)	11.85	11.70	11.68	11.67	12.23	11.50	11.62	11.57	11.21
Conductivity (mS/cm)	6.73	6.72	6.75	6.90	6.72	6.75	6.76	6.75	6.72
Dissolved Oxygen (mg/L)	5.49	4.81	4.12	4.01	4.09	3.85	3.36	3.74	3.29
ORP (mV)	10	12	17	24	26	44	43	48	50
Turbidity (NTU)	172	41.4	6.88	0.74	8.0	3.28	2.68	1.17	1.61
Notes:			chunky flowable	Rate	Variable				

Sampling Information

Analyses	#	Laboratory
BTEX	2	TestAmerica Shelton CT
PAHs	2	TestAmerica Shelton CT
Total Cyanide	1	TestAmerica Shelton CT
Available Cyanide	1	TestAmerica Pittsburgh, PA
Sample ID: <u>mw-15</u>	Sample Time: <u>1445</u>	
MS/MSD: Yes <u>No</u>		
Duplicate: Yes <u>No</u>		
Duplicate ID	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations

Hydrometer (density) reading: 1.00

Dark Gray Silty
NO ODOR OR SHEEN

Sampled at 14:45

final purge: clear, colorless, no odor or sheen

National Grid Erie Boulevard
Former MGP Site Syracuse, NY

Site **GROUNDWATER SAMPLING LOG** Event

Sampling Personnel: Jennifer Sandorf / Carey Healey Well ID: MW-15
Client / Job Number: National Grid / B0036694.00001 Date: 4/9/2008
Weather: Time In: Time Out:

Well Information

Depth to Water: (feet) (from MP)
Total Depth: (feet) (from MP)
Length of Water Column: (feet)
Volume of Water in Well: (gal)
Three Well Volumes: (gal)

Well Type: Flushmount Stick-Up
Well Material: Stainless Steel PVC
Well Locked: Yes No
Measuring Point Marked: Yes No
Well Diameter: 1" 2" Other:

Purging Information

Purging Method: Bailer Peristaltic Grundfos Other:
Tubing/Bailer Material: St. Steel Polyethylene Teflon Other:
Sampling Method: Bailer Peristaltic Grundfos Other:
Duration of Pumping: (min)
Average Pumping Rate: (ml/min) Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Volume Purged (gal)	14.35	14.40							
Rate (mL/min)	7.00	8.00							
Depth to Water (ft.)	360	360							
pH	26.40	26.38							
Temp. (C)	7.35	7.32							
Conductivity (mS/cm)	11.58	11.45							
Dissolved Oxygen (mg/L)	6.74	6.75							
ORP (mV)	3.53	3.26							
Turbidity (NTU)	52	58							
Notes:	0.81	0.00							

Sampling Information

Analyses	#	Laboratory
BTEX	2	TestAmerica Shelton CT
PAHs	2	TestAmerica Shelton CT
Total Cyanide	1	TestAmerica Shelton CT
Available Cyanide	1	TestAmerica Pittsburgh, PA
Sample ID:	Sample Time:	
MS/MSD:	Yes No	
Duplicate:	Yes No	
Duplicate ID	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations

Hydrometer (density) reading: 1.00

Sampled at 14:45

WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd. / AY0207.001 Page 1 of 1
Site Location Syracuse - Erie Blvd. Date 8/30/1995
Site/Well No. MW-1D Coded/
Replicate No. _____
Weather Sunny, hot, humid Time Sampling Began 15:45 Time Sampling Completed 16:30

EVACUATION DATA

Description of Measuring Point (MP) Top of PVC casing
Height of MP Above/Below Land Surface _____ MP Elevation _____
Total Sounded Depth of Well Below MP 54.90 Water-Level Elevation _____
Held _____ Depth to Water Below MP 22.97 Diameter of Casing 2"
Wet _____ Water Column in Well 31.93 Gallons Pumped/Bailed Prior to Sampling 30.0
Gallons per Foot 0.16
Gallons in Well 5.11 Sampling Pump Intake Setting (feet below land surface) _____
Evacuation Method Submersible pump (pump at 1.2 pgm)

SAMPLING DATA/FIELD PARAMETERS*

Color clear Odor none Appearance slightly turbid w/ bailing Temperature 15.9 C°
Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 1500 pH 6.8
Sampling Method and Material Polyethylene disposable bailer and polypropylene rope
Container Description
Constituents Sampled From Lab X or G&M _____ Preservative _____
See chain of custody _____ See chain of custody _____

Remarks * pH, temperature and specific conductance taken after sampling.
Sampling Personne Stacie Blackmer/ Chris Moul

WELL CASING VOLUMES				
GAL./FT.	1-1/4" = 0.08	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WELL SAMPLING RECORD

Site Name Erie Blvd. Site Well MW-1D Date 11/20/95

Samplers: TNL of GIM
 _____ of _____

Initial Static Water Level (from top of well protective casing) 22.02'

Evacuation:

Using: Submersible X Centrifugal _____ 2" Casing: 32.88 ft. of water x .16 = 5.26 gals
 Airlift _____ Positive Displacement _____ 3" Casing: _____ ft. of water x .36 = _____ gals
 Bailed _____ Times 4" Casing: _____ ft. of water x .65 = _____ gals

Depth to intake from top of protective well casing 50'

Volume of water removed 20 Gals. (> 3 Well Volumes)

Sampling: Time 1:15 _____ a.m.
 _____ X _____ p.m.

Bailer Type: Stainless Steel _____
 Teflon _____

From Pos. Dis. Discharge Tube _____
 Other disposable polyethylene

No. of Bottles Filled	I.D. No.	Analyses
--------------------------	----------	----------

Trip Blank	_____	_____	_____
Field Blank - Wash / Atmospheric (circle one)	_____	_____	_____
Groundwater Sample	<u>14</u>	<u>ERIE-MW-1D</u>	<u>TCL/TAL</u>

Physical Appearance and Odor clear, no odor

Refrigerate: Date: 11/20/95 Time: 1:45 P

Field Tests:

Temperature (°F)	<u>15.6</u>	_____
pH	<u>7.1</u>	_____
Spec. Conduc (umhos/cm)	<u>1750</u>	_____

Weather Sunny, high 20s

Comments _____



WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd./ AY0207.002 Page 1 of 1
Site Location Syracuse, New York Date 7/10/1997
Site/Well No. MW-1D Coded/
Replicate No. _____
Weather Sunny, 70 Time Sampling Began 7:00 Time Sampling Completed 7:40

EVACUATION DATA

Description of Measuring Point (MP) TOC
Height of MP Above/Below Land Surface _____ MP Elevation _____
Total Sounded Depth of Well Below MP 56.34 Water-Level Elevation _____
Held _____ Depth to Water Below MP 22.40 Diameter of Casing 2"
Wet _____ Water Column in Well 33.94 Gallons Pumped/Bailed Prior to Sampling 17.0
Gallons per Foot 0.16
Gallons in Well 5.43 Sampling Pump Intake Setting (feet below land surface) _____
Evacuation Method Disposable poly tubing and foot valve

SAMPLING DATA/FIELD PARAMETERS

Color Gray Odor Slight Appearance Turbid Temperature 14 F/C
Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 250 pH 6.8

Sampling Method and Material Disposable poly bailer and poly rope

Constituents Sampled	Container Description		Preservative
	From Lab	or G&M	
_____	<u>X</u>	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Remarks Slight odor and sheen noted on purge water.

Sampling Personne C. Carr/J. Bonsteel

WELL CASING VOLUMES				
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WATER SAMPLING LOG

Project/No. Nimrod - Erie / A90207.002

Page 1 of 1

Site Location Syracuse, NY

Site/Well No. MW-1D Coded/
Replicate No. _____

Date 9/7/97

Weather Sunny, 75° Time Sampling
Began 15:10

Time Sampling
Completed 15:35

EVACUATION DATA

Description of Measuring Point (MP) TOC

Height of MP Above/Below Land Surface 56.12 MP Elevation _____

Total Sounded Depth of Well Below MP 22.68 Water-Level Elevation _____

Held _____ Depth to Water Below MP 133.44 Diameter of Casing 2"

Wet _____ Water Column in Well 0.16 Gallons Pumped/Bailed
Prior to Sampling 16.0

Gallons per Foot 5.35

Gallons in Well _____ Sampling Pump Intake Setting
(feet below land surface) _____

Evacuation Method peristaltic pump, check valve & disposable poly tubing

SAMPLING DATA/FIELD PARAMETERS

Color 500 Odor slight Appearance turbid Temperature 13.9 °F/°C

Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 1000 pH 6.75

Sampling Method and Material disposable poly bottle & poly rope

Constituents Sampled Container Description
From Lab X or G&M _____ Preservative _____

TCL / TAP

Remarks slight odor

Sampling Personnel OC/TB

WELL CASING VOLUMES

GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

Groundwater Sampling Form

[illegible]

Groundwater Sampling Form

Project/No. AY000207.0005.00007

Well MW-1D

Date 01/29/03

Screen
Setting

Measuring Point	
Description	Top of PVC

Casing
Diameter (inches) 2

Static
Water Level 21.48

Measured Width

Well Materials $\frac{X}{\text{ST. Steel}}$ PVC

Total depth

Pump On: 944

Pump
Intake 6' from bottom

Purge Methc Redi-Flc

Pump Off: 1053

Volumes Purged

Centrifugal _____
Submersible 27
Other _____

Sample Time: 1045

Sampled
By: DD/TM

[illegible]

WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd. / AY0207.001 Page 1 of 1
Site Location Syracuse - Erie Blvd. Date 8/30/1995
Site/Well No. MW-2 Coded/
Replicate No.
Weather Sunny, hot, humid Time Sampling Began 14:00 Time Sampling Completed 15:00

EVACUATION DATA

Description of Measuring Point (MP) Top of PVC casing
Height of MP Above/Below Land Surface 0.00 MP Elevation
Total Sounded Depth of Well Below MP 33.70 Water-Level Elevation
Held Depth to Water Below MP 23.16 Diameter of Casing 2"
Wet Water Column in Well 10.54 Gallons Pumped/Bailed Prior to Sampling 5.0
Gallons per Foot 0.16
Gallons in Well 1.69 Sampling Pump Intake Setting (feet below land surface)
Evacuation Method Submersible pump

SAMPLING DATA/FIELD PARAMETERS*

Color clear Odor none Appearance Turbid with bailing Temperature 15.0 C°
Other (specific ion; OVA; HNU; etc.)

Specific Conductance, umhos/cm 750 pH 7.35
Sampling Method and Material Polyethylene disposable bailer and polypropylene rope
Container Description
Constituents Sampled From Lab X or G&M Preservative
See chain of custody See chain of custody

Remarks * pH, temperature and specific conductance taken after sampling. DTW on 8/31=23.13
Sampling Personne Stacie Blackmer/ Chris Moul

WELL CASING VOLUMES

GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WELL SAMPLING RECORD

Site Name Erie Blvd. Site Well MW-2 Date 11/20/95
 Samplers: TNL of GIM

Initial Static Water Level (from top of well protective casing) 22.16' (11/14/95)

Evacuation:

Using: Submersible X Centrifugal _____ 2" Casing: 11.59 ft. of water x .16 = 1.84 gals
 Airlift _____ Positive Displacement _____ 3" Casing: _____ ft. of water x .36 = _____ gals
 Bailed _____ Times 4" Casing: _____ ft. of water x .65 = _____ gals

Depth to intake from top of protective well casing 30'

Volume of water removed 12 Gals. (> 3 Well Volumes)

Sampling: Time 11:00 X a.m.
 _____ p.m.

Bailer Type: Stainless Steel _____
 Teflon _____

From Pos. Dis. Discharge Tube _____
 Other disposable polyethylene

No. of Bottles Filled	I.D. No.	Analyses
--------------------------	----------	----------

Trip Blank	_____	_____	_____
Field Blank - Wash / Atmospheric (circle one)	_____	_____	_____
Groundwater Sample	<u>14</u>	<u>ERIE-MW-2</u>	<u>TCL/TAL</u>

Physical Appearance and Odor clear, no odor

Refrigerate: Date: 11/20/95 Time 11:15 A

Field Tests:

Temperature (C/F)	<u>12.7</u>	_____
pH	<u>6.98</u>	_____
Spec. Conduc (umhos/cm)	<u>760</u>	_____

Weather Sunny, 20s - 30

Comments _____



WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd./ AY0207.002 Page 1 of 1
Site Location Syracuse, New York Date 7/9/1997
Site/Well No. MW-2 Coded/
Replicate No. _____
Weather Sunny, 70 Time Sampling Began 16:30 Time Sampling Completed 17:15

EVACUATION DATA

Description of Measuring Point (MP) TOC
Height of MP Above/Below Land Surface _____ MP Elevation _____
Total Sounded Depth of Well Below MP 33.60 Water-Level Elevation _____
Held _____ Depth to Water Below MP 22.68 Diameter of Casing 2"
Wet _____ Water Column in Well 10.92 Gallons Pumped/Bailed Prior to Sampling 6.0
Gallons per Foot 0.16
Gallons in Well 1.75 Sampling Pump Intake Setting (feet below land surface) _____
Evacuation Method Disposable poly bailer and poly rope

SAMPLING DATA/FIELD PARAMETERS

Color Brown Odor None Appearance Turbid Temperature 13.9 F/C
Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 800 pH 7.26

Sampling Method and Material Disposable poly bailer and poly rope

Constituents Sampled	Container Description		Preservative
	From Lab	or G&M	
_____	<u>X</u>	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Remarks _____

Sampling Personne J. Bonsteel

WELL CASING VOLUMES				
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WATER SAMPLING LOG

Project/No. _____

Page 1 of 1

Site Location _____

Site/Well No. NW-2

Coded/
Replicate No. _____

Date 9/10/97

Weather _____

Time Sampling
Began 7:45

Time Sampling
Completed 8:10

EVACUATION DATA

Description of Measuring Point (MP) _____

Height of MP Above/Below Land Surface _____ MP Elevation _____

Total Sounded Depth of Well Below MP 33.72 Water-Level Elevation _____

Held _____ Depth to Water Below MP 22.94 Diameter of Casing 2"

Wet _____ Water Column in Well 10.78 Gallons Pumped/Bailed
Prior to Sampling 5.5

Gallons per Foot 0.16

Gallons in Well 1.72 Sampling Pump Intake Setting
(feet below land surface) _____

Evacuation Method _____

SAMPLING DATA/FIELD PARAMETERS

Color light brown Odor none Appearance slightly turbid Temperature 13.0 °F/°C

Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 2300 pH 7.10

Sampling Method and Material _____

Constituents Sampled	Container Description From Lab ☒ or G&M _____	Preservative
<u>TEL/TAL</u>	_____	_____
_____	_____	_____
_____	_____	_____

Remarks _____

Sampling Personnel CL/TB

WELL CASING VOLUMES					
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47	

Groundwater Sampling Form

Project/No. AY000207.0005.00007 Well MW-2 Date 11/06/02

Static Water Level	22.85	Measured Width		Well Materials	X PVC ST. Steel
--------------------	-------	----------------	--	----------------	--------------------

Total depth _____ Pump On: 11:00 _____ Pump
Intake: 6" from bottom

Purge Method Redi-Flo Pump Off: 12:00 Volumes Purged: _____

Centrifugal _____ Sample Time: 11:44
Submersible 2'
Other _____ Bailer Type: _____

Sampled
By: MB/TM

[illegible]

National Grid Erie Boulevard
Former MGP Site Syracuse, NY

Site	GROUNDWATER SAMPLING LOG		Event
Sampling Personnel:	Nathan Smith Jennifer Sandorf / Carey Healey	Well ID:	MW-2
Client / Job Number:	National Grid / B0036694.00001	Date:	4/14/08
Weather:	cloudy ~ 40°F	Time In:	8:50
		Time Out:	11:00

Well Information

Depth to Water:	(feet) 27.38	(from MP)
Total Depth:	(feet) 33.66	(from MP)
Length of Water Column:	(feet) 6.28	
Volume of Water in Well:	(gal) 1.02364	
Three Well Volumes:	(gal) 3.07	

Well Type:	Flushmount	Stick-Up
Well Material:	Stainless Steel	PVC
Well Locked:	Yes	No
Measuring Point Marked:	Yes	No
Well Diameter:	1"	2" Other:

Purging Information

Purging Method:	Bailer	Peristaltic	Grundfos	Other: Slabber Pump
Tubing/Bailer Material:	St. Steel	Polyethylene	Teflon	Other:
Sampling Method:	Bailer	Peristaltic	Grundfos	Other: Slabber Pump
Duration of Pumping:	(min) 70			
Average Pumping Rate:	(ml/min) 75	Water-Quality Meter Type:	Horiba U-22	
Total Volume Removed:	(gal) 2	Did well go dry:	Yes	No (No)

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L = 3875 ml = 0.1337 cubic feet

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Volume Purged (gal):	0.1	0.2	0.3	0.4	0.5	0.6	0.7		
Rate (ml/min)	75	75	75	75	75	75	75		
Depth to Water (ft.)	27.40	27.40	27.40	27.40	27.40	27.40	27.40		
pH	6.50	6.89	7.01	7.07	7.14	7.17	7.19		
Temp. (C)	10.94	11.51	11.58	11.54	11.67	11.71	11.67		
Conductivity (mS/cm)	2.72	2.61	2.56	2.50	2.45	2.41	2.39		
Dissolved Oxygen (mg/L)	3.88	5.40	6.10	6.57	6.89	7.12	7.35		
ORP (mV)	94	88	90	91	92	94	96		
Turbidity (NTU)	4.88	4.64	3.38	3.12	4.62	1.74	1.29		
Notes:				DO kit 4-5 mg/L					

Sampling Information

Analyses	#	Laboratory
BTEX	(2)	TestAmerica Shelton CT
PAHs	(2)	TestAmerica Shelton CT
Total Cyanide	1	TestAmerica Shelton CT
Available Cyanide	1	TestAmerica Pittsburgh, PA
Sample ID:	MW-2	Sample Time: 10:30
MS/MSD:	Yes	(No)
Duplicate:	Yes	(No)
Duplicate ID		Dup. Time:
Chain of Custody Signed By:		

Problems / Observations

Hydrometer (density) reading: 1.00
Screen Interval 22-32
Initial Purge - Clear, no odor, no SHEEN
DO kit 5mg/L at sampling time

WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd. / AY0207.001 Page 1 of 1
Site Location Syracuse - Erie Blvd. Date 8/30/1995
Site/Well No. MW-3S Coded/
Replicate No.
Weather sunny, hot, humid Time Sampling Began 12:15 Time Sampling Completed 12:45

EVACUATION DATA

Description of Measuring Point (MP) Top of PVC casing
Height of MP Above/Below Land Surface 0.00 MP Elevation
Total Sounded Depth of Well Below MP 36.76 Water-Level Elevation
Held Depth to Water Below MP 27.03 Diameter of Casing 2"
Wet Water Column in Well 9.73 Gallons Pumped/Bailed Prior to Sampling 15.0
Gallons per Foot 0.16
Gallons in Well 1.56 Sampling Pump Intake Setting (feet below land surface)
Evacuation Method Submersible pump

SAMPLING DATA/FIELD PARAMETERS*

Color yellow to clear Odor None Appearance turbid w/ bailing Temperature 14.3 C°
Other (specific ion; OVA; HNU; etc.)

Specific Conductance, umhos/cm 700 pH 6.84
Sampling Method and Material Polyethylene disposable bailer and polypropylene rope
Container Description
Constituents Sampled From Lab X or G&M Preservative
See chain of custody See chain of custody

Remarks clear with purging @ 1.8gpm. * pH, temperature and specific conductance taken after sampling.
Sampling Personnel Stacie Blackmer/ Chris Moul

WELL CASING VOLUMES				
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WELL SAMPLING RECORD

Site Name Erie Blvd. Site Well MW-35 Date 11/20/95
 Samplers: TNL of GIM

Initial Static Water Level (from top of well protective casing) 26.07 (11/14/95)

Evacuation:

Using: Submersible X Centrifugal 10.69 2" Casing: 1.71 ft. of water x .16 = gals
 Airlift Positive Displacement 3" Casing: ft. of water x .36 = gals
 Bailed Times 4" Casing: ft. of water x .65 = gals

Depth to intake from top of protective well casing 32'

Volume of water removed 5 Gals. (> 3 Well Volumes)

Sampling: Time 9:00 X a.m.
 p.m.

Bailer Type: Stainless Steel
 Teflon

From Pos. Dis. Discharge Tube
 Other disposable polyethylene

No. of Bottles
 Filled I.D. No. Analyses

Trip Blank

Field Blank - Wash / Atmospheric (circle one)

Groundwater Sample 14 ERIE-MW-35 TCL/TAL

Physical Appearance and Odor light gray, light sheen, no odor

Refrigerate: Date: 11/20/95 Time 9:30 A

Field Tests:

Temperature (°F) 11.8
 pH 7.42
 Spec. Conduc (umhos/cm) 880

Weather Sunny, high 20s

Comments



WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd./ AY0207.002 Page 1 of 1
Site Location Syracuse, New York Date 7/9/1997
Site/Well No. MW-3S Coded/
Replicate No. _____
Weather Cloudy, 70 Time Sampling Began 15:30 Time Sampling Completed 16:10

EVACUATION DATA

Description of Measuring Point (MP) TOC
Height of MP Above/Below Land Surface _____ MP Elevation _____
Total Sounded Depth of Well Below MP 36.70 Water-Level Elevation _____
Held _____ Depth to Water Below MP 26.54 Diameter of Casing 2"
Wet _____ Water Column in Well 10.16 Gallons Pumped/Bailed Prior to Sampling 5.0
Gallons per Foot 0.16
Gallons in Well 1.62 Sampling Pump Intake Setting (feet below land surface) _____
Evacuation Method Disposable poly bailer and poly rope

SAMPLING DATA/FIELD PARAMETERS

Color Brown Odor None Appearance Turbid Temperature 14.3 F/C
Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 1500 pH 7.45

Sampling Method and Material Disposable poly bailer and poly rope

Constituents Sampled	Container Description		Preservative
	From Lab	or G&M	
_____	<u>X</u>	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Remarks _____

Sampling Personne J. Bonsteel

WELL CASING VOLUMES

GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WATER SAMPLING LOG

Project/No. Nano-Elec / A420202002 Page 1 of 1
 Site Location Sydney, NY
 Site/Well No. NW-35 Coded/Replicate No. _____ Date 7/9/97
 Weather Sunny, 75° Time Sampling Began 13:50 Time Sampling Completed 14:15

EVACUATION DATA

Description of Measuring Point (MP) TOC
 Height of MP Above/Below Land Surface _____ MP Elevation _____
 Total Sounded Depth of Well Below MP 36.43 Water-Level Elevation _____
 Held _____ Depth to Water Below MP 26.85 Diameter of Casing 2"
 Wet _____ Water Column in Well 9.58 Gallons Pumped/Bailed Prior to Sampling 4.5
 Gallons per Foot 0.11
 Gallons in Well 1.5 Sampling Pump Intake Setting (feet below land surface) _____
 Evacuation Method Disposable poly barrel & poly rope

SAMPLING DATA/FIELD PARAMETERS

Color Brown Odor None Appearance Translucent Temperature 13.0 °F/°C
 Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 1600 pH 6.75

Sampling Method and Material Disposable poly barrel & poly rope

Constituents Sampled	Container Description From Lab ☒ or G&M _____	Preservative
<u>TOC/TAC</u>	_____	_____
_____	_____	_____
_____	_____	_____

Remarks _____

Sampling Personnel CC/JB

		WELL CASING VOLUMES			
GAL./FT	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47	

Groundwater Sampling Form

Project/No. AY000207.0005.00007 Well MW-3S Date 11/12/02

Centrifugal _____ Sample Time: 9:50
Submersible 2'
Other _____ Bailer Type: _____

Sampled
By: MB/TM

[illegible]

National Grid Erie Boulevard
Former MGP Site Syracuse, NY

Site **GROUNDWATER SAMPLING LOG** Event

Sampling Personnel: Jennifer Sandorf / Carey Healey WMO / NPS Well ID: MW-35
Client / Job Number: National Grid / B0036694.00001 Date: 9/9/08
Weather: Partly cloudy 50° Time In: 8:20 Time Out: 09:55

Well Information

Depth to Water: (feet) <u>30.82</u> (from MP)	Well Type: <u>Flushmount</u> <u>Stick-Up</u>
Total Depth: (feet) <u>36.52</u> (from MP)	Well Material: <u>Stainless Steel</u> <u>PVC</u>
Length of Water Column: (feet) <u>5.70</u>	Well Locked: <u>Yes</u> <u>No</u>
Volume of Water in Well: (gal) <u>0.91</u>	Measuring Point Marked: <u>Yes</u> <u>No</u>
Three Well Volumes: (gal) <u>2.73</u>	Well Diameter: <u>1"</u> <u>2"</u> Other:

Purging Information

Purging Method: <u>Bailer</u> <u>Peristaltic</u> <u>Grundfos</u> <u>Other: mwd soon</u>	Conversion Factors <table border="1"> <tr> <th>gal / ft. of water</th> <th>1" ID</th> <th>2" ID</th> <th>4" ID</th> <th>6" ID</th> </tr> <tr> <td></td> <td>0.041</td> <td>0.163</td> <td>0.653</td> <td>1.469</td> </tr> </table> 1 gal = 3.785 L = 3875 ml = 0.1337 cubic feet	gal / ft. of water	1" ID	2" ID	4" ID	6" ID		0.041	0.163	0.653	1.469
gal / ft. of water		1" ID	2" ID	4" ID	6" ID						
		0.041	0.163	0.653	1.469						
Tubing/Bailer Material: <u>St. Steel</u> <u>Polyethylene</u> <u>Teflon</u> <u>Other:</u>											
Sampling Method: <u>Bailer</u> <u>Peristaltic</u> <u>Grundfos</u> <u>Other:</u>											

Duration of Pumping: 30 (min)
Average Pumping Rate: 500 (ml/min) Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) Did well go dry: Yes No

pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
	09:10	09:15	09:20	09:25	09:30	09:35	09:40	09:45	
Volume Purged (gal)	0.66	1.33	2.0	2.66	3.33	4.0	4.66		
Rate (mL/min)	500	500	500	500	500	500	500		
Depth to Water (ft.)	30.85	30.85	30.85	30.86	30.85	30.85	30.85	U	
pH	7.28	7.35	7.37	7.42	7.40	7.35	7.38	7	
Temp. (C)	13.5	13.6	14.5	14.5	14.3	14.2	14.7	14	
Conductivity (mS/cm)	3.08	3.18	3.17	3.09	3.04	2.98	2.91	2.91	
Dissolved Oxygen (mg/L)	0.64	0.89	0.15	0.03	0.00	0.00	0.00	0.00	
ORP (mV)	218	218	202	185	176	164	164	164	
Turbidity (NTU)	7999	7999	831.0	174.0	289.0	154.0	3.0		
Notes:	VERY cloudy / turbid	" "				USED THE TURBIDIMETER FOR TURBIDITY READING			

Sampling Information

Analyses	#	Laboratory
BTEX	②	TestAmerica Shelton CT
PAHs	②	TestAmerica Shelton CT
Total Cyanide	1	TestAmerica Shelton CT
Available Cyanide	1	TestAmerica Pittsburgh, PA

Sample ID: MW-35 Sample Time: 09:45
MS/MSD: Yes No
Duplicate: Yes No
Duplicate ID Dup. Time:
Chain of Custody Signed By: JAG

Problems / Observations

Hydrometer (density) reading: 1.0
Screen 26'-36' bgs.
INITIAL PURGE: VERY CLOUDY 7:00
FINAL PURGE: 09:50 CLEAR

WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd. / AY0207.001 Page 1 of 1
Site Location Syracuse - Erie Blvd. Date 8/30/1995
Site/Well No. MW-3D Coded/
Replicate No.
Weather Sunny, hot, humid Time Sampling
Began 12:45 Time Sampling
Completed 13:30

EVACUATION DATA

Description of Measuring Point (MP) Top of PVC casing
Height of MP Above/Below Land Surface 0.00 MP Elevation
Total Sounded Depth of Well Below MP 59.40 Water-Level Elevation
Held Depth to Water Below MP 27.48 Diameter of Casing 2"
Wet Water Column in Well 31.92 Gallons Pumped/Bailed
Prior to Sampling 30.0
Gallons per Foot 0.16
Gallons in Well 5.11 Sampling Pump Intake Setting
(feet below land surface)
Evacuation Method Submersible pump (@ 1.25 gpm)

SAMPLING DATA/FIELD PARAMETERS*

Color clear Odor None Appearance turbid with bailing Temperature 13.6 C°
Other (specific ion; OVA; HNU; etc.)

Specific Conductance, umhos/cm 1400 pH 7.15
Sampling Method and Material Polyethylene disposable bailer and polypropylene rope
Container Description
Constituents Sampled From Lab X or G&M Preservative
See chain of custody See chain of custody

Remarks * pH, temperature, and specific conductance taken after sampling.
Sampling Personne Stacie Blackmer/ Chris Moul

WELL CASING VOLUMES				
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WELL SAMPLING RECORD

Site Name Erie Blvd. Site Well MW-3D Date 11/20/95
 Samplers: TNL of G:M

Initial Static Water Level (from top of well protective casing) 26.50' (11/14/95)

Evacuation:

Using: Submersible X Centrifugal 32.90 2" Casing: 5.26 ft. of water x .16 = gals
 Airlift Positive Displacement 3" Casing: ft. of water x .36 = gals
 Bailed Times 4" Casing: ft. of water x .65 = gals

Depth to intake from top of protective well casing 55'

Volume of water removed 20 Gals. (> 3 Well Volumes)

Sampling: Time 10:00 X a.m.
 p.m.

Bailer Type: Stainless Steel
 Teflon

From Pos. Dis. Discharge Tube
 Other disposable polyethylene

No. of Bottles Filled	I.D. No.	Analyses
--------------------------	----------	----------

Trip Blank	<u> </u>	<u> </u>	<u> </u>
Field Blank - Wash / Atmospheric (circle one)	<u> </u>	<u> </u>	<u> </u>
Groundwater Sample	<u>14</u>	<u>ERIE-MW-3D</u>	<u>TCL/TAL</u>

Physical Appearance and Odor clear, no odor

Refrigerate: Date: 11/20/95 Time 10:15 A

Field Tests:

Temperature (C/F)	<u>11.8</u>	<u> </u>
pH	<u>7.43</u>	<u> </u>
Spec. Conduc (umhos/cm)	<u>1250</u>	<u> </u>

Weather Sunny, high 20s

Comments



WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd./ AY0207.002 Page 1 of 1
Site Location Syracuse, New York Date 7/10/1997
Site/Well No. MW-3D Coded/
Replicate No. _____
Weather Cloudy, 70 Time Sampling Began 9:00 Time Sampling Completed 10:00

EVACUATION DATA

Description of Measuring Point (MP) TOC
Height of MP Above/Below Land Surface _____ MP Elevation _____
Total Sounded Depth of Well Below MP 59.50 Water-Level Elevation _____
Held _____ Depth to Water Below MP 26.95 Diameter of Casing 2"
Wet _____ Water Column in Well 32.55 Gallons Pumped/Bailed Prior to Sampling 16.0
Gallons per Foot 0.16
Gallons in Well 5.20 Sampling Pump Intake Setting (feet below land surface) _____

Evacuation Method Disposable poly tubing and foot valve

SAMPLING DATA/FIELD PARAMETERS

Color Clear Odor None Appearance Clear Temperature 14.1 F/C
Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 2000 pH 7.31

Sampling Method and Material Disposable poly bailer and poly rope

Constituents Sampled	Container Description		Preservative
	From Lab	or G&M	
_____	<u>X</u>	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Remarks _____

Sampling Personne C. Carr/ J. Bonsteel

WELL CASING VOLUMES				
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WATER SAMPLING LOG

Project/No. NW- Eric / PW 207.002

Page (1) of

Site Location Superior, NY

Site/Well No. NW- 3D Coded/
Replicate No.

Date 9/9/97

Weather Sunny, 71° Time Sampling
Began 12:20

Time Sampling
Completed 12:50

EVACUATION DATA

Description of Measuring Point (MP) TOC

Height of MP Above/Below Land Surface MP Elevation

Total Sounded Depth of Well Below MP 59.56' Water-Level Elevation

Held Depth to Water Below MP 27.50' Diameter of Casing 2"

Wet Water Column in Well 32.06' Gallons Pumped/Bailed
Prior to Sampling 15.0

Gallons per Foot 0.16

Gallons in Well 5.0 Sampling Pump Intake Setting
(feet below land surface)

Evacuation Method Peristaltic pump & check valve & disposable poly tubing

SAMPLING DATA/FIELD PARAMETERS

Color clear Odor None Appearance Clear Temperature 13.2 °F/°C

Other (specific ion; OVA; HNU; etc.)

Specific Conductance, umhos/cm 3300 pH 7.81

Sampling Method and Material

Constituents Sampled	Container Description From Lab ☒ or G&M <u> </u>	Preservative
<u>TCL/TAL</u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>

Remarks

Sampling Personnel CC/JB

WELL CASING VOLUMES				
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

Groundwater Sampling Form

Project/No. AY000207.0005.00007 Well MW-3D Date 11/12/02

Purge Method Redi-Flo Pump Off: 12:35 Volumes Purged:

Centrifugal _____ Sample Time: 12:20
Submersible 2'
Other _____ Bailer Type: _____

Sampled
By: MB/TM

[illegible]

Groundwater Sampling Form

Project/No. AY000207.0005.00007

Date 01/17/03Diameter (inches) 2

Well Materials

Pump

Volumes Purged

Sampled

By: DD/TM

[illegible]

WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd. / AY0207.001 Page 1 of 1
Site Location Syracuse - Erie Blvd. Date 8/31/1995
Site/Well No. MW-4 Coded/
Replicate No. MW-Dup
Weather Overcast Time Sampling
Began 9:00 Time Sampling
Completed 10:00

EVACUATION DATA

Description of Measuring Point (MP) Top of PVC casing
Height of MP Above/Below Land Surface _____ MP Elevation _____
Total Sounded Depth of Well Below MP 30.10 Water-Level Elevation _____
Held _____ Depth to Water Below MP 20.44 Diameter of Casing 2"
Wet _____ Water Column in Well 9.66 Gallons Pumped/Bailed
Prior to Sampling 10.0
Gallons per Foot 0.16
Gallons in Well 1.55 Sampling Pump Intake Setting
(feet below land surface) _____
Evacuation Method Submersible pump (pumped at 1.1 gpm)

SAMPLING DATA/FIELD PARAMETERS

Color gray-black Odor strong Appearance more turbid w/ bailing Temperature 16.1 C°
Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 1500 pH 6.94

Sampling Method and Material Polyethylene disposable bailer and polypropylene rope

Container Description		Preservative
Constituents Sampled	From Lab <u>X</u> or G&M _____	
See chain of custody	_____	See chain of custody
_____	_____	_____
_____	_____	_____

Remarks Product on tubing and pump.

Sampling Personne Stacie Blackmer/ Chris Moul

WELL CASING VOLUMES

GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WELL SAMPLING RECORD

Site Name Erie Blvd. Site Well MW-4 Date 11/15/95

Samplers: MW, JG of GIM
 _____ of _____

Initial Static Water Level (from top of well protective casing) 19.48' (11/14/95)

Evacuation:

Using: Submersible X Centrifugal _____ 2" Casing: 10.62 ft. of water x .16 = 1.70 gals
 Airlift _____ Positive Displacement _____ 3" Casing: _____ ft. of water x .36 = _____ gals
 Bailed _____ Times 4" Casing: _____ ft. of water x .65 = _____ gals

Depth to intake from top of protective well casing 30'

Volume of water removed 10 Gals. (> 3 Well Volumes)

Sampling: Time 1:30 _____ a.m.
 _____ X _____ p.m.

Bailer Type: Stainless Steel _____
 Teflon _____

From Pos. Dis. Discharge Tube _____
 Other disposable polyethylene

No. of Bottles Filled	I.D. No.	Analyses
--------------------------	----------	----------

Trip Blank _____

Field Blank - Wash / Atmospheric (circle one) _____

Groundwater Sample 14 ERIE-MW-4 TCL/TAL

Physical Appearance and Odor gray-black, turbid, sheer, strong odor

Refrigerate: Date: 11/15/95 Time 1:45 P

Field Tests:

Temperature (C/F) 13.1
 pH 7.68
 Spec. Conduc (umhos/cm) 1250

Weather cloudy, snow, low 30s

Comments _____



WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd./ AY0207.002 Page 1 of 1
Site Location Syracuse, New York Date 7/9/1997
Site/Well No. MW-4S Coded/
Replicate No. _____
Weather Rainy, 70 Time Sampling Began 8:30 Time Sampling Completed 9:00

EVACUATION DATA

Description of Measuring Point (MP) TOC
Height of MP Above/Below Land Surface _____ MP Elevation _____
Total Sounded Depth of Well Below MP 29.94 Water-Level Elevation _____
Held _____ Depth to Water Below MP 18.45 Diameter of Casing 2"
Wet _____ Water Column in Well 11.49 Gallons Pumped/Bailed Prior to Sampling 6.0
Gallons per Foot 0.16
Gallons in Well 1.84 Sampling Pump Intake Setting (feet below land surface) _____
Evacuation Method Disposable poly bailer and poly rope

SAMPLING DATA/FIELD PARAMETERS

Color Gray Odor Strong Appearance Turbid Temperature 15.9 F/C
Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 2000 pH 7.24

Sampling Method and Material Disposable poly bailer and poly rope

Constituents Sampled	Container Description		Preservative
	From Lab	or G&M	
_____	<u>X</u>	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Remarks _____

Sampling Personne C. Carr/ J. Bonsteel

WELL CASING VOLUMES				
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WATER SAMPLING LOG

Project/No. Nano-Tec / PY0207.002 Page 1 of 1
 Site Location Syracuse, NY
 Site/Well No. MW-45 Coded/Replicate No. _____ Date 9/8/97
 Weather Sunny, 75° Time Sampling Began 4:45 Time Sampling Completed 5:15

EVACUATION DATA

Description of Measuring Point (MP) TOC
 Height of MP Above/Below Land Surface _____ MP Elevation _____
 Total Sounded Depth of Well Below MP 30.05' Water-Level Elevation _____
 Held _____ Depth to Water Below MP 20.21' Diameter of Casing 2"
 Wet _____ Water Column in Well 9.84' Gallons Pumped/Bailed Prior to Sampling 510
 Gallons per Foot 0.16
 Gallons in Well 1.57 Sampling Pump Intake Setting (feet below land surface) _____
 Evacuation Method Disposable poly bailer & poly rope

SAMPLING DATA/FIELD PARAMETERS

Color gray Odor strong Appearance slightly turbid Temperature 13.4 °F/°C
 Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 3500 pH 7.16

Sampling Method and Material Disposable poly bailer & poly rope

Constituents Sampled	Container Description From Lab <u>✓</u> or G&M _____	Preservative
<u>PCP/MCL</u>	_____	_____
_____	_____	_____
_____	_____	_____

Remarks Shells noted on pump water
 Sampling Personnel CC/JB

GAL/FT.		WELL CASING VOLUMES			
1-1/4"	= 0.06	2"	= 0.16	3"	= 0.37
1-1/2"	= 0.09	2-1/2"	= 0.26	3-1/2"	= 0.50
				4"	= 0.65
				6"	= 1.47

Groundwater Sampling Form

Project/No. AY000207.0005.00007 Well MW-4S Date 11/05/02

Static Water Level 20.13 Measured Width _____ Well Materials X PVC
ST. Steel

Total depth _____ Pump On: 8:59 _____ Pump
Intake: 6" from bottom

Purge Method Redi-Flo Pump Off: 10:20 Volumes Purged: _____

Centrifugal Sample Time: 10:10

Submersible _____
Other _____

Bailer Type: _____

Sampled By: MB/TM

[illegible]

Groundwater Sampling Form

[illegible]

National Grid Erie Boulevard
Former MGP Site Syracuse, NY

Site **GROUNDWATER SAMPLING LOG** Event:

Sampling Personnel: Jennifer Sandorf / Carey Healey Well ID: MW-45
Client / Job Number: National Grid / B0036694.00001 Date: 4/10/08
Weather: Breezy 40's Partly Cloudy Time In: 9:55 Time Out: 11:30

Well Information

Depth to Water: (feet) 24.13 (from MP)
Total Depth: (feet) 29.98 (from MP)
Length of Water Column: (feet) 5.85
Volume of Water in Well: (gal) 0.95355
Three Well Volumes: (gal) 2.86065

Well Type: Flushmount Stick-Up
Well Material: Stainless Steel PVC
Well Locked: Yes No
Measuring Point Marked: Yes No
Well Diameter: 1" 2" Other:

Purging Information

Purging Method: Bailer Peristaltic Grundfos Other: Monsoon
Tubing/Bailer Material: St. Steel Polyethylene Teflon Other:
Sampling Method: Bailer Peristaltic Grundfos Other: Monsoon
Duration of Pumping: (min) 65:90
Average Pumping Rate: (ml/min) 300 Water-Quality Meter Type: Honba U-22
Total Volume Removed: (gal) 8 Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L = 3875 ml = 0.1337 cubic feet

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Volume Purged (gal)	0.1	0.4	1.0	1.5	2.0	2.5	3.0	4.0	4.75
Rate (mL/min)	200	200	300	300	300	300	300	360	320
Depth to Water (ft.)	24.33	24.52	24.46	24.45	24.60	24.67	24.72	24.67	24.53
pH	6.99	7.08	7.05	6.93	6.87	6.78	6.75	6.73	6.73
Temp. (C)	12.56	13.06	13.26	13.26	13.41	13.41	13.36	13.38	13.35
Conductivity (mS/cm)	5.14	4.28	4.60	5.24	5.88	6.32	6.75	6.72	6.93
Dissolved Oxygen (mg/L)	0.12	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ORP (mV)	-255	-257	-269	-291	-304	-316	-320	-323	-327
Turbidity (NTU)	822	141	66.40	28.0	8.16	9.00	7.29	3.53	2.89
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX	2	TestAmerica Shelton CT
PAHs	2	TestAmerica Shelton CT
Total Cyanide	1	TestAmerica Shelton CT
Available Cyanide	1	TestAmerica Pittsburgh, PA
Sample ID: <u>MW-45</u> Sample Time: <u>4:10</u>		
MS/MSD:	Yes <u>No</u>	
Duplicate:	Yes <u>No</u>	
Duplicate ID: <u>DUP 4/10/08</u>	Dup. Time:	
Chain of Custody Signed By: <u>←</u>		

Problems / Observations

Hydrometer (density) reading: 1.00

Initial Surge Cloudy - Light Gray
Faint odor, NO sheen

Inorganic Oily Sheen Visible
in bucket towards 10:40

National Grid Erie Boulevard
Former MGP Site Syracuse, NY

Site GROUNDWATER SAMPLING LOG Event

Sampling Personnel: Jennifer Sandorf / Carey Healey Well ID: MW-45
Client / Job Number: National Grid / B0036694.00001 Date: 4/10/08
Weather: Time In: Time Out:

Well Information

Depth to Water: (feet) (from MP)
Total Depth: (feet) (from MP)
Length of Water Column: (feet)
Volume of Water in Well: (gal)
Three Well Volumes: (gal)

Well Type: Flushmount Stick-Up
Well Material: Stainless Steel PVC
Well Locked: Yes No
Measuring Point Marked: Yes No
Well Diameter: 1" 2" Other:

Purging Information

Purging Method: Bailer Peristaltic Grundfos Other:
Tubing/Bailer Material: St. Steel Polyethylene Teflon Other:
Sampling Method: Bailer Peristaltic Grundfos Other:
Duration of Pumping: (min)
Average Pumping Rate: (ml/min) Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L = 3875 ml = 0.1337 cubic feet

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Volume Purged (gal)	10:45 5	10:50 5.5	10:55 5.80						
Rate (mL/min)	320	360	250						
Depth to Water (ft.)	24.51	24.55	24.35						
pH	6.73	6.71	6.72						
Temp. (C)	13.35	13.44	13.03						
Conductivity (mS/cm)	7.04	7.15	7.12						
Dissolved Oxygen (mg/L)	0.00	0.00	0.00						
ORP (mV)	-328	-330	-333						
Turbidity (NTU)	3.32	2.43	1.52						
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX	2	TestAmerica Shelton CT
PAHs	2	TestAmerica Shelton CT
Total Cyanide	1	TestAmerica Shelton CT
Available Cyanide	1	TestAmerica Pittsburgh, PA
Sample ID: MW-45	Sample Time:	1100
MS/MSD: Yes	No	
Duplicate: Yes	No	
Duplicate ID	Dup. Time.	
Chain of Custody Signed By:		

Problems / Observations

Hydrometer (density) reading: 1.00

WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd./ AY0207.002

Page 1 of 1

Site Location Syracuse, New York

Date 7/9/1997

Site/Well No. MW-4D Coded/
Replicate No. Dup-1

Weather Rainy, 70 Time Sampling
Began 7:00

Time Sampling
Completed 10:00

EVACUATION DATA

Description of Measuring Point (MP) TOC

Height of MP Above/Below Land Surface _____ MP Elevation _____

Total Sounded Depth of Well Below MP 137.33 Water-Level Elevation _____

Held _____ Depth to Water Below MP 18.42 Diameter of Casing 2"

Wet _____ Water Column in Well 118.91 Gallons Pumped/Bailed
Prior to Sampling 60.0

Gallons per Foot 0.16

Gallons in Well 19.00 Sampling Pump Intake Setting
(feet below land surface) _____

Evacuation Method Disposable poly tubing and foot valve

SAMPLING DATA/FIELD PARAMETERS

Color Clear Odor None Appearance Clear Temperature 13.9 F/C

Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 2000 pH 7.21

Sampling Method and Material Disposable poly bailer and poly rope

Container Description
Constituents Sampled From Lab X or G&M _____ Preservative _____

Remarks _____

Sampling Personne C. Carr/ J. Bonsteel

WELL CASING VOLUMES

GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WATER SAMPLING LOG

Project/No. Nimro Eric / 1040207.002 Page 1 of 1
 Site Location Syracuse, NY
 Site/Well No. NW-4A Coded/Replicate No. MS/MSD Date 9/8/97
 Weather Sunny, 75° Time Sampling Began 6:30 Time Sampling Completed 8:00

EVACUATION DATA

Description of Measuring Point (MP) TOC
 Height of MP Above/Below Land Surface _____ MP Elevation _____
 Total Sounded Depth of Well Below MP 137.30 Water-Level Elevation _____
 Held _____ Depth to Water Below MP 23.85 Diameter of Casing 2"
 Wet _____ Water Column in Well 113.45 Gallons Pumped/Bailed Prior to Sampling 55
 Gallons per Foot 6.16
 Gallons in Well 18 Sampling Pump Intake Setting (feet below land surface) _____
 Evacuation Method Peristaltic pump, check valve & disposable poly tubing

SAMPLING DATA/FIELD PARAMETERS

Color Clear Odor None Appearance Clear Temperature 12.8 °F/°C
 Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 4000 pH 7.31

Sampling Method and Material Disposable poly bottle & poly rope

Constituents Sampled	Container Description From Lab ☒ or G&M _____	Preservative
<u>TEL/TAL</u>	_____	_____
_____	_____	_____
_____	_____	_____

Remarks _____

Sampling Personnel CE / JB

WELL CASING VOLUMES				
GAL/FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

Groundwater Sampling Form

Project/No. AY000207.0005.00007 Well MW-4D Date 11/05/02

Static		Measured Width	_____	Well Materials	<u> X </u> PVC
Water Level	17.71				ST. Steel

Purge Method Redi-Flo Pump Off: 11:52 Volumes Purged:

Centrifugal _____ Sample Time: 11:29
Submersible 2'
Other _____ Bailer Type: _____

Sampled
By: MB/TM

[illegible]

Groundwater Sampling Form

Project/No. AY000207.0005.00007

Well MW-4D

Date 01/23/03

Screen Setting

Measuring Point Description	Top of PVC
-----------------------------	------------

Casing
Diameter (inches) 2

Static
Water Level 17.49

Measured Width

Well Materials X PVC
 ST. Steel

Total depth

Pump On: 1400

Pump
Intake 6" from bottom

Purge Methic Redi-Flc

Pump Off: 1455

Volumes Purged

Centrifugal _____
Submersible 2
Other _____

Sample Time: 1450

Sampled
By: DD/TM

[illegible]

WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd. / AY0207.001 Page 1 of 1
Site Location Syracuse - Erie Blvd. Date 8/30/1995
Site/Well No. MW-6 Coded/
Replicate No. _____
Weather Sunny, hot and humid Time Sampling Began 11:00 Time Sampling Completed 12:00

EVACUATION DATA

Description of Measuring Point (MP) Top of PVC casing
Height of MP Above Land Surface 2.00 MP Elevation _____
Total Sounded Depth of Well Below MP 40.80 Water-Level Elevation _____
Held _____ Depth to Water Below MP 32.56 Diameter of Casing 2"
Wet _____ Water Column in Well 8.24 Gallons Pumped/Bailed Prior to Sampling 8.0
Gallons per Foot 0.16
Gallons in Well 1.32 Sampling Pump Intake Setting (feet below land surface) _____
Evacuation Method Submersible pump

SAMPLING DATA/FIELD PARAMETERS*

Color clear / brown Odor some Appearance more turbid w/ bailing Temperature 15.1 C°
Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 700 pH 6.63
Sampling Method and Material Polyethylene disposable bailer and polypropylene rope
Container Description
Constituents Sampled From Lab X or G&M _____ Preservative _____
See chain of custody _____ See chain of custody _____

Remarks * pH, temperature, and specific conductance taken after sampling. Pump @ 0.5gpm very turbid.
Sampling Personne Stacie Blackmer/ Chris Moul

WELL CASING VOLUMES			
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50
			4" = 0.65
			6" = 1.47

WELL SAMPLING RECORD

Site Name Eric Blvd. Site Well MW-6 Date 11/15/95

Samplers: MW, JG of 6:1M
 _____ of _____

Initial Static Water Level (from top of well protective casing) 31.61' (11/14/95)

Evacuation:

Using: Submersible X Centrifugal _____ 2" Casing: 9.19 ft. of water x .16 = _____ gals
 Airlift _____ Positive Displacement _____ 3" Casing: _____ ft. of water x .36 = _____ gals
 Bailed _____ Times _____ 4" Casing: _____ ft. of water x .65 = _____ gals

Depth to intake from top of protective well casing 35'

Volume of water removed 8 Gals. (> 3 Well Volumes)

Sampling: Time 9:30 X a.m.
 _____ p.m.

Bailer Type: Stainless Steel _____

Teflon _____

From Pos. Dis. Discharge Tube _____

Other disposable polyethylene

No. of Bottles
 Filled

I.D. No.

Analyses

Trip Blank _____

Field Blank - Wash / Atmospheric (circle one) _____

Groundwater Sample _____

14 ERIE-MW-6 TCL/TAL

Physical Appearance and Odor light brown, turbid, odor (slight)

Refrigerate: Date: 11/15/95 Time 10:00 A

Field Tests:

Temperature (C/F) 10.1

pH 7.37

Spec. Conduc (umhos/cm) 790

Weather Cloudy, light rain, mid-30s

Comments _____



WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd./ AY0207.002 Page 1 of 1
Site Location Syracuse, New York Date 7/10/1997
Site/Well No. MW-6 Coded/
Replicate No. _____
Weather Rainy, 70 Time Sampling Began 10:40 Time Sampling Completed 11:15

EVACUATION DATA

Description of Measuring Point (MP) TOC
Height of MP Above/Below Land Surface _____ MP Elevation _____
Total Sounded Depth of Well Below MP 41.88 Water-Level Elevation _____
Held _____ Depth to Water Below MP 31.97 Diameter of Casing 2"
Wet _____ Water Column in Well 9.91 Gallons Pumped/Bailed Prior to Sampling 5.0
Gallons per Foot 0.16
Gallons in Well 1.50 Sampling Pump Intake Setting (feet below land surface) _____
Evacuation Method Disposable poly bailer and poly rope

SAMPLING DATA/FIELD PARAMETERS

Color Brown Odor Slight Appearance Turbid Temperature 17.1 F/C
Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 1300 pH 6.6

Sampling Method and Material Disposable poly bailer and poly rope

Constituents Sampled	Container Description		Preservative
	From Lab	or G&M	
_____	<u>X</u>	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Remarks _____

Sampling Personne C. Carr/ J. Bonsteel

WELL CASING VOLUMES				
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WATER SAMPLING LOG

Project/No. _____

Page 1 of 1

Site Location _____

Site/Well No. NW-6

Coded/
Replicate No. _____

Date 9/10/17

Weather _____

Time Sampling
Began 8:20

Time Sampling
Completed 8:10

EVACUATION DATA

Description of Measuring Point (MP) _____

Height of MP Above/Below Land Surface _____ MP Elevation _____

Total Sounded Depth of Well Below MP 41.63 Water-Level Elevation _____

Held _____ Depth to Water Below MP 32.39 Diameter of Casing 2"

Wet _____ Water Column in Well 9.24 Gallons Pumped/Bailed
Prior to Sampling 4.5

Gallons per Foot 0.14

Gallons in Well 1.5 Sampling Pump Intake Setting
(feet below land surface) _____

Evacuation Method _____

SAMPLING DATA/FIELD PARAMETERS

Color Brown Odor none Appearance turbid Temperature _____ °F/°C

Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, _____
umhos/cm _____ pH _____

Sampling Method and Material _____

Constituents Sampled	Container Description From Lab <u>K</u> or G&M _____	Preservative
<u>TEL/TAL</u>	_____	_____
_____	_____	_____
_____	_____	_____

Remarks _____

Sampling Personnel CC/TB

WELL CASING VOLUMES				
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

Page 1 of 1

[illegible]

ARCADIS
Groundwater Sampling Form

Page 1 of 1

Project/No. AY000207.0005.00007 Well MW-6

Date 01/23/03

Screen Setting	Measuring Point Description
	Top of PVC

Casing Diameter (inches)	2
--------------------------	---

Static Water Level 31.8 Measured Width _____

Well Materials X PVC
 ST. Steel

Total depth Pump On: 1025

Pump
Intake: 6" from bottom

Purge Method Redi-Flo	Pump Off:	1140
-----------------------	-----------	------

Volumes Purged:

Centrifugal _____ Sample Time: 1135
Submersible 2"

Sampled
By: DD/TM

Other _____ Bailer Type: _____

[illegible]

National Grid Erie Boulevard
Former MGP Site Syracuse, NY

Site GROUNDWATER SAMPLING LOG Event

Sampling Personnel: Jennifer Sandorf / Carey Hooley WMD/NPS Well ID: MW-6
Client / Job Number: National Grid / B0036694.00001 Date: 4/9/08
Weather: Time In: 12:25 Time Out: 1:30

Well Information

Depth to Water: (feet) 33.38 (from MP)
Total Depth: (feet) 46.54 (from MP)
Length of Water Column: (feet) 13.16
Volume of Water in Well: (gal) 2.14
Three Well Volumes: (gal) 6

Well Type: Flushmount Stick-Up
Well Material: Stainless Steel PVC
Well Locked: Yes No
Measuring Point Marked: Yes No
Well Diameter: 1" 2" Other:

Purging Information

Purging Method: Bailer Peristaltic Grundfos Others: Monsoon
Tubing/Bailer Material: St. Steel Polyethylene Teflon Other:
Sampling Method: Bailer Peristaltic Grundfos Other: Monsoon
Duration of Pumping: 45 (min)
Average Pumping Rate: 500 (ml/min) Water-Quality Meter Type: Horiba U-22
Total Volume Removed: 6 (gal) Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L = 3875 ml = 0.1337 cubic feet

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9	10
Volume Purged (gal)	0.66	1.33	2.0	2.66	3.33	4.0	4.66	5.33	6.0	6.66
Rate (mL/min)	500	500	500	500	500	500	500	500	500	500
Depth to Water (ft.)	36.40	36.40	36.40	36.40	36.40	36.40	36.40	36.40	36.40	36.40
pH	7.19	7.07	7.01	7.04	7.08	7.17	7.18	7.19	7.17	7.17
Temp. (C)	16.4	15.9	15.7	15.7	15.7	15.8	15.8	15.8	15.8	15.8
Conductivity (mS/cm)	1.64	1.92	2.19	2.24	2.31	2.31	2.34	2.35	2.36	2.36
Dissolved Oxygen (mg/L)	2.50	1.43	0.90	0.71	0.66	0.66	0.48	0.45	0.32	0.32
ORP (mV)	196	192	184	177	172	164	160	157	156	156
Turbidity (NTU)	2999	308.0	147.0	6.44	1.74	2.92	0.85	0.26	0.20	0.20
Notes:				TURBIDIMETER						

SAMPLE 13:30

Sampling Information

Analyses	#	Laboratory
BTEX	2	TestAmerica Shelton CT
PAHs	2	TestAmerica Shelton CT
Total Cyanide	1	TestAmerica Shelton CT
Available Cyanide	1	TestAmerica Pittsburgh, PA
Sample ID: MW-6	Sample Time: 13:30	
MS/MSD: Yes	No	
Duplicate: Yes	No	
Duplicate ID: —	Dup Time: —	
Chain of Custody Signed By: JAS		

Problems / Observations

Hydrometer (density) reading: 1.0
Screen ~ 26-38

INITIAL PURGE: 12:40 cloudy

FINAL PURGE: 13:35

WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd. / AY0207.001 Page 1 of 1
Site Location Syracuse - Erie Blvd. Date 8/31/1995
Site/Well No. MW-7 Coded/
Replicate No. MS/MSD
Weather Over cast Time Sampling Began 8:00 Time Sampling Completed 9:00

EVACUATION DATA

Description of Measuring Point (MP) Top of PVC casing
Height of MP Above/Below Land Surface _____ MP Elevation _____
Total Sounded Depth of Well Below MP 29.20 Water-Level Elevation _____
Held _____ Depth to Water Below MP 19.94 Diameter of Casing 2"
Wet _____ Water Column in Well 9.26 Gallons Pumped/Bailed Prior to Sampling 10.0
Gallons per Foot 0.16
Gallons in Well 1.48 Sampling Pump Intake Setting (feet below land surface) _____
Evacuation Method Submersible pump (pumped at 1.15 gpm)

SAMPLING DATA/FIELD PARAMETERS

Color brown Odor strong Appearance turbid with bailing Temperature 15.9 C°
Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 2100 pH 6.66

Sampling Method and Material Polyethylene disposable bailer and polypropylene rope

Constituents Sampled	Container Description From Lab <u>X</u> or G&M _____	Preservative
<u>See chain of custody</u>	<u>See chain of custody</u>	<u>See chain of custody</u>
_____	_____	_____
_____	_____	_____

Remarks _____

Sampling Personne Stacie Blackmer/ Chris Moul

WELL CASING VOLUMES			
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50
			4" = 0.65
			6" = 1.47

WELL SAMPLING RECORD

Site Name Erie Blvd. Site Well MW-7 Date 11/15/95
 Samplers: MW, JG of G.M.

Initial Static Water Level (from top of well protective casing) 18.98' (11/14/95)

Evacuation:

Using: Submersible ☒ Centrifugal 10.22 2" Casing: 1.60 ft. of water x .16 = gals
 Airlift Positive Displacement 3" Casing: ft. of water x .36 = gals
 Bailed Times 4" Casing: ft. of water x .65 = gals

Depth to intake from top of protective well casing 29'

Volume of water removed 5 Gals. (> 3 Well Volumes)

Sampling: Time 2:00 a.m.
X p.m.

Bailer Type: Stainless Steel

Teflon

From Pos. Dis. Discharge Tube

Other disposable polyethylene

No. of Bottles
Filled

I.D. No.

Analyses

Trip Blank

Field Blank - Wash / Atmospheric (circle one)

Groundwater Sample 14

ERIE-MW-7

TCL/TAL

Physical Appearance and Odor brown, turbid, odor

Refrigerate: Date: 11/15/95 Time 2:30 P

Field Tests:

Temperature (C/F) 9.9
 pH 6.8
 Spec. Conduc (umhos/cm) 1220

Weather Cloudy, snow, 30s

Comments Collected MS/MSD @ this location



WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd./ AY0207.002 Page 1 of 1
Site Location Syracuse, New York Date 7/9/1997
Site/Well No. MW-7S Coded/
Replicate No. _____
Weather Cloudy, 70 Time Sampling Began 13:30 Time Sampling Completed 14:10

EVACUATION DATA

Description of Measuring Point (MP) TOC
Height of MP Above/Below Land Surface _____ MP Elevation _____
Total Sounded Depth of Well Below MP 29.00 Water-Level Elevation _____
Held _____ Depth to Water Below MP 18.13 Diameter of Casing 2"
Wet _____ Water Column in Well 10.87 Gallons Pumped/Bailed Prior to Sampling 6.0
Gallons per Foot 0.16
Gallons in Well 1.74 Sampling Pump Intake Setting (feet below land surface) _____
Evacuation Method Disposable poly bailer and poly rope

SAMPLING DATA/FIELD PARAMETERS

Color Gray Odor Strong Appearance Turbid Temperature 14.4 F/C
Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 5000 pH 7.32

Sampling Method and Material Disposable poly bailer and poly rope

Constituents Sampled	Container Description		Preservative
	From Lab	or G&M	
_____	<u>X</u>	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Remarks Very strong odor; sheen and product globules noted in purge water.

Sampling Personne C. Carr/ J. Bonsteel

WELL CASING VOLUMES

GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WATER SAMPLING LOG

Project/No. Nimro-Erie / A40107.002 Page 1 of 1
 Site Location Syracuse, NY
 Site/Well No. MW-75 Coded/ Replicate No. _____ Date 9/9/97
 Weather Sunny, 75° Time Sampling Began 9:10 Time Sampling Completed 9:30

EVACUATION DATA

Description of Measuring Point (MP) TOC
 Height of MP Above/Below Land Surface _____ MP Elevation _____
 Total Sounded Depth of Well Below MP 29.10 Water-Level Elevation _____
 Held _____ Depth to Water Below MP 19.71 Diameter of Casing 2"
 Wet _____ Water Column in Well 9.39 Gallons Pumped/Bailed Prior to Sampling 4.5
 Gallons per Foot 0.16
 Gallons in Well 1.5 Sampling Pump Intake Setting (feet below land surface) _____
 Evacuation Method Disposable poly bottle & poly rope

SAMPLING DATA/FIELD PARAMETERS

Color Gray Odor Very Strong Appearance Thick Temperature 13.0 °F/°C
 Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 7000 pH 7.50

Sampling Method and Material Disposable poly bottle & poly rope

Constituents Sampled	Container Description From Lab ☒ or G&M _____	Preservative
<u>TCL/TML</u>	_____	_____
_____	_____	_____
_____	_____	_____

Remarks Brown product globules, very heavy spec noted in purge H₂O
 Sampling Personnel CC/SB

WELL CASING VOLUMES				
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

Groundwater Sampling Form

Project/No.	AY000207.0005.00007	Well	MW-7S	Date	11/05/02
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Total depth _____ Pump On: 12:12 _____ Pump _____

Purge Method Redi-Flo Pump Off: 13:15 Volumes Purged: _____

Centrifugal _____ Sample Time: 12:47
Submersible 2'
Other _____ Bailer Type: _____

Sampled
By: MB/TM

[illegible]

National Grid Erie Boulevard
Former MGP Site Syracuse, NY

Site GROUNDWATER SAMPLING LOG Event

Sampling Personnel: Jennifer Sandorf / Carey Healey Well ID: MW-75
Client / Job Number: National Grid / B0036694.00001 Date: 4/10/2008
Weather: Sunny 50's Time In: 13:08 Time Out: 16:00

Well Information

Depth to Water: (feet) 23.60 (from MP)
Total Depth: (feet) 27.90 (from MP)
Length of Water Column: (feet) 4.30
Volume of Water in Well: (gal) 0.70
Three Well Volumes: (gal) 2.1027

Well Type: Flushmount Stick-Up
Well Material: Stainless Steel PVC
Well Locked: Yes No
Measuring Point Marked: Yes No
Well Diameter: 1" 2" Other:

Purging Information

Purging Method: Bailer Peristaltic Grundfos Other: Monsoon
Tubing/Bailer Material: St. Steel Polyethylene Teflon Other:
Sampling Method: Bailer Peristaltic Grundfos Other: Monsoon
Duration of Pumping: (min) 90
Average Pumping Rate: (ml/min) 30 Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) 15 Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L = 3875 ml = 0.1337 cubic feet

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Volume Purged (gal)	1	2	2.5	3	3.5	4.0	4.5	4.80	5.0
Rate (mL/min)	400	400	360	300	300	300	300	200	200
Depth to Water (ft.)	24.02	23.95	23.95	23.81	23.81	23.95	23.74	23.71	23.75
pH	6.50	6.68	6.77	6.80	6.79	6.80	6.82	6.82	6.81
Temp. (C)	13.99	13.91	13.74	14.11	14.11	13.98	14.35	13.91	14.60
Conductivity (mS/cm)	22.5	16.1	13.3	11.8	11.3	10.2	9.5	9.4	9.1
Dissolved Oxygen (mg/L)	0.20	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ORP (mV)	-267	-294	-303	-303	-301	-307	-310	-300	-307
Turbidity (NTU)	37.2	4.50	8.98	6.21	5.27	14.70	3.76	3.06	2.36
Notes:				Depth to 11.0 = 23.67					

Sampling Information

Analyses	#	Laboratory
BTEX	2	TestAmerica Shelton CT
PAHs	2	TestAmerica Shelton CT
Total Cyanide	1	TestAmerica Shelton CT
Available Cyanide	1	TestAmerica Pittsburgh, PA
Sample ID: MW-75	Sample Time: 14:35	
MS/MSD: Yes	No	
Duplicate: Yes	No	
Duplicate ID: -	Dup. Time: -	
Chain of Custody Signed By:		

Problems / Observations

Hydrometer (density) reading: 1.00

Initial Purge: Dark Gray silty
Strong Odor, No. Sheen

National Grid Erie Boulevard
Former MGP Site Syracuse, NY

Site **GROUNDWATER SAMPLING LOG** Event

Sampling Personnel: Jennifer Sandorf / Carey Healey Well ID: MW-75
Client / Job Number: National Grid / B0036694.00001 Date: 4/10/2008
Weather: Time In: Time Out:

Well Information

Depth to Water: (feet) (from MP)
Total Depth: (feet) (from MP)
Length of Water Column: (feet)
Volume of Water in Well: (gal)
Three Well Volumes: (gal)

Well Type: Flushmount Stick-Up
Well Material: Stainless Steel PVC
Well Locked: Yes No
Measuring Point Marked: Yes No
Well Diameter: 1" 2" Other:

Purging Information

Purging Method: Bailer Peristaltic Grundfos Other:
Tubing/Bailer Material: St. Steel Polyethylene Teflon Other:
Sampling Method: Bailer Peristaltic Grundfos Other:
Duration of Pumping: (min)
Average Pumping Rate: (ml/min) Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Volume Purged (gal)	2.00	2.05	2.10	2.15	2.20	2.25			
Rate (ml/min)	5.5	6.20	7.00	7.80	8.00	8.50			
Depth to Water (ft.)	300	320	320	350	200	200			
pH	2382	2384	2387	2385	23.74	23.75			
Temp. (C)	6.81	6.82	6.82	6.82	6.84	6.83			
Conductivity (mS/cm)	14.25	14.25	14.14	14.20	14.11	14.38			
Dissolved Oxygen (mg/L)	5.48	5.35	5.22	5.09	5.03	4.98			
ORP (mV)	0.06	0.00	0.00	0.00	0.00	0.00			
Turbidity (NTU)	-310	-311	-311	-312	-304	-307			
Notes:	1.31	1.20	1.06	0.66	0.99	0.80			

Sampling Information

Analyses	#	Laboratory
BTEX	2	TestAmerica Shelton CT
PAHs	2	TestAmerica Shelton CT
Total Cyanide	1	TestAmerica Shelton CT
Available Cyanide	1	TestAmerica Pittsburgh, PA
Sample ID:	MW-75	Sample Time: 14:35
MS/MSD:	(Yes)	No
Duplicate:	Yes	No
Duplicate ID		Dup. Time:
Chain of Custody Signed By:		

Problems / Observations

Hydrometer (density) reading: _____

WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd./ AY0207.002 Page 1 of 1
Site Location Syracuse, New York Date 7/9/1997
Site/Well No. MW-7D Coded/
Replicate No. MS/MSD
Weather Cloudy, 70 Time Sampling Began 15:30 Time Sampling Completed 17:00

EVACUATION DATA

Description of Measuring Point (MP) TOC
Height of MP Above/Below Land Surface _____ MP Elevation _____
Total Sounded Depth of Well Below MP 76.60 Water-Level Elevation _____
Held _____ Depth to Water Below MP 19.25 Diameter of Casing 2"
Wet _____ Water Column in Well 57.35 Gallons Pumped/Bailed Prior to Sampling 28.0
Gallons per Foot 0.16
Gallons in Well 9.18 Sampling Pump Intake Setting (feet below land surface) _____
Evacuation Method Disposable poly tubing and foot valve

SAMPLING DATA/FIELD PARAMETERS

Color Clear Odor None Appearance Clear Temperature 13.7 F/C
Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 4900 pH 7.44

Sampling Method and Material Disposable poly bailer and poly rope

Constituents Sampled	Container Description		Preservative
	From Lab	or G&M	
_____	<u>X</u>	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Remarks _____

Sampling Personne C. Carr

WELL CASING VOLUMES			
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50
			4" = 0.65
			6" = 1.47

WATER SAMPLING LOG

Project/No. Kemo - Erie / HW0207.002

Page 1 of 1

Site Location Syracuse, NY

Site/Well No. MW-7D Coded/
Replicate No. _____

Date 9/9/97

Weather Sunny, 75° Time Sampling
Began 8:40

Time Sampling
Completed 9:00

EVACUATION DATA

Description of Measuring Point (MP) TOL

Height of MP Above/Below Land Surface _____ MP Elevation _____

Total Sounded Depth of Well Below MP 75.70 Water-Level Elevation _____

Held _____ Depth to Water Below MP 20.09 Diameter of Casing 2"

Wet _____ Water Column in Well 55.61 Gallons Pumped/Bailed
Prior to Sampling 2.7

Gallons per Foot 0.14

Gallons in Well 9.0 Sampling Pump Intake Setting
(feet below land surface) _____

Evacuation Method Peristaltic pump, check valve & disposable poly tubing

SAMPLING DATA/FIELD PARAMETERS

Color Clear Odor None Appearance Clear Temperature 13 °F/°C

Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 5000 pH 7.38

Sampling Method and Material Disposable poly tube & poly. cap

Constituents Sampled	Container Description From Lab ☒ or G&M _____	Preservative
<u>CE/TA</u>	_____	_____
_____	_____	_____
_____	_____	_____

Remarks _____

Sampling Personnel CE/EB

WELL CASING VOLUMES				
GAL/FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

Groundwater Sampling Form

Project/No. AY000207.0005.00007 Well MW-7D Date 11/05/02

Total depth _____ Pump On: 13:20 _____ Pump _____

Purge Method Redi-Flo Pump Off: 14:20 Volumes Purged: _____

Centrifugal _____ Sample Time: 14:00
Submersible 2' _____ Sampled

Other _____ Bailer Type: _____ By: MB/TM

[illegible]

WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd. / AY0207.001 Page 1 of 1
Site Location Syracuse - Erie Blvd. Date 8/30/1995
Site/Well No. MW-8S Coded/
Replicate No. _____
Weather Sunny, hot, humid Time Sampling Began 16:30 Time Sampling Completed 17:15

EVACUATION DATA

Description of Measuring Point (MP) Top of PVC casing
Height of MP Above/Below Land Surface _____ MP Elevation _____
Total Sounded Depth of Well Below MP 38.50 Water-Level Elevation _____
Held _____ Depth to Water Below MP 29.73 Diameter of Casing 2"
Wet _____ Water Column in Well 8.77 Gallons Pumped/Bailed Prior to Sampling 3.0 (purged dry x2)
Gallons per Foot 0.16
Gallons in Well 1.40 Sampling Pump Intake Setting (feet below land surface) _____
Evacuation Method Submersible pump (pumped at .75 gpm)

SAMPLING DATA/FIELD PARAMETERS*

Color brown Odor very strong Appearance more turbid w/ bailing Temperature 15.7 C°
Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 6000 pH 7.71
Sampling Method and Material Polyethylene disposable bailer and polypropylene rope
Container Description
Constituents Sampled From Lab X or G&M _____ Preservative _____
See chain of custody _____ See chain of custody _____

Remarks * pH, temperature and specific conductance taken after sampling.
Product on bottom 2' of tubing and pump. Depth to water on 8/31/95 = 29.72

Sampling Personne Stacie Blackmer/ Chris Moul

WELL CASING VOLUMES

GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WELL SAMPLING RECORD

Site Name Eric Blvd. Site Well MW-8S Date 11/15/95
 Samplers: MW, JG of GIM

Initial Static Water Level (from top of well protective casing) 28.76' (11/14/95)

Evacuation:

Using: Submersible X Centrifugal _____ 2" Casing: 9.74 ft. of water x .16 = 1.50 gals
 Airlift _____ Positive Displacement _____ 3" Casing: _____ ft. of water x .36 = _____ gals
 Bailed _____ Times _____ 4" Casing: _____ ft. of water x .65 = _____ gals

Depth to intake from top of protective well casing 38.5'

Volume of water removed 8 Gals. (> 3 Well Volumes)

Sampling: Time 11:45 X a.m.
 _____ p.m.

Bailer Type: Stainless Steel _____
 Teflon _____

From Pos. Dis. Discharge Tube _____
 Other disposable polyethylene

No. of Bottles	I.D. No.	Analyses
Filled		

Trip Blank	_____	_____	_____
Field Blank - Wash / Atmospheric (circle one)	_____	_____	_____
Groundwater Sample	<u>14</u>	<u>ERIC-MW-8S</u>	<u>TCL/TAL</u>

Physical Appearance and Odor light brown, sheen, turbid, odor

Refrigerate: Date: 11/15/95 Time 12:15 P

Field Tests:

Temperature (°F)	<u>12.1</u>	_____
pH	<u>7.57</u>	_____
Spec. Conduc (umhos/cm)	<u>3600</u>	_____

Weather Cloudy, snow, 30s

Comments Petroleum on bottom 10' of tubing after removal;
strong odor



WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd./ AY0207.002 Page 1 of 1
Site Location Syracuse, New York Date 7/8/1997
Site/Well No. MW-8S Coded/
Replicate No. _____
Weather Cloudy, 70 Time Sampling Began 14:50 Time Sampling Completed 15:15

EVACUATION DATA

Description of Measuring Point (MP) TOC
Height of MP Above/Below Land Surface _____ MP Elevation _____
Total Sounded Depth of Well Below MP 38.03 Water-Level Elevation _____
Held _____ Depth to Water Below MP 28.86 Diameter of Casing 2"
Wet _____ Water Column in Well 9.17 Gallons Pumped/Bailed Prior to Sampling 5.0
Gallons per Foot 0.16
Gallons in Well 1.46 Sampling Pump Intake Setting (feet below land surface) _____
Evacuation Method Disposable poly bailer and poly rope

SAMPLING DATA/FIELD PARAMETERS

Color Brown/gray Odor Strong Appearance Turbid Temperature 17.2 F/C
Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 5000 pH 7.4

Sampling Method and Material Disposable poly bailer and poly rope

Constituents Sampled	Container Description		Preservative
	From Lab	or G&M	
_____	<u>X</u>	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Remarks Strong odor; sheen and product globules note in purge water; well went dry during purging.

Sampling Personne C. Carr/ J. Bonsteel

WELL CASING VOLUMES

GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WATER SAMPLING LOG

Project/No. Nimrod Fire / A70207.002

Page 1 of 1

Site Location Syracuse, NY

Site/Well No. MW-85

Coded/
Replicate No. _____

Date 9/9/97

Weather Sunny, 75°

Time Sampling
Began 10:00

Time Sampling
Completed 10:20

EVACUATION DATA

Description of Measuring Point (MP) TBL

Height of MP Above/Below Land Surface _____ MP Elevation _____

Total Sounded Depth of Well Below MP 37.67' Water-Level Elevation _____

Held _____ Depth to Water Below MP 29.57' Diameter of Casing 2"

Wet _____ Water Column in Well 8.10 Gallons Pumped/Bailed
Prior to Sampling 4.0

Gallons per Foot 8.16

Gallons in Well 1.3 Sampling Pump Intake Setting
(feet below land surface) _____

Evacuation Method Disposable poly barrel & poly rope

SAMPLING DATA/FIELD PARAMETERS

Color Brownish grey Odor strong Appearance clear Turbid Temperature 13.1 °F/°C

Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 10000 pH 7.52

Sampling Method and Material Disposable poly barrel & poly rope

Constituents Sampled	Container Description From Lab ☒ or G&M _____	Preservative
<u>TCL/TBL</u>	_____	_____
_____	_____	_____
_____	_____	_____

Remarks Very strong chem & product globules on pump water

Sampling Personnel CC/TB

WELL CASING VOLUMES				
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

Groundwater Sampling Form

Project/No. AY000207.0005.00007 Well MW-8S Date 11/05/02

Total depth _____ Pump On: 15:20 _____ Pump _____

Purge Method Redi-Flo Pump Off: 16:10 Volumes Purged: _____

Centrifugal _____ Sample Time: 15:55 _____
Submersible 2' _____ Sampled _____
Other _____ Bailer Type: _____ By: MB/TM _____

[illegible]

National Grid Erie Boulevard
Former MGP Site Syracuse, NY

Site **GROUNDWATER SAMPLING LOG** Event

Sampling Personnel: ~~Jennifer Sander~~ ~~Garrey Healey~~ **WWD/NPS** Well ID: ~~MW-88~~ **MW-88**
Client / Job Number: National Grid / B0036694.00001 Date: **4/9/08**
Weather: **Sunny 55°** Time In: **10:45** Time Out: **12:10**

Well Information		Well Type: <u>Flushmount</u> <u>Stick-Up</u>
Depth to Water: (feet) 33.49 (from MP)	Well Material: <u>Stainless Steel</u> <u>PVC</u>	Well Locked: <u>Yes</u> <u>No</u>
Total Depth: (feet) 37.72 (from MP)	Measuring Point Marked: <u>Yes</u> <u>No</u>	Well Diameter: <u>1"</u> <u>Other:</u>
Length of Water Column: (feet) 4.23		
Volume of Water in Well: (gal) 0.68		
Three Well Volumes: (gal) 2.04		

Purging Information		Conversion Factors				
Purging Method: <u>Bailer</u> <u>Peristaltic</u> <u>Grundfos</u> Other: <u>MAN 3000</u>		gal / ft. of water	1" ID	2" ID	4" ID	6" ID
Tubing/Bailer Material: <u>St. Steel</u> <u>Polyethylene</u> <u>Teflon</u> Other:		0.041	0.163	0.653	1.469	
Sampling Method: <u>Bailer</u> <u>Peristaltic</u> <u>Grundfos</u> Other: <u>MAN 3000</u>		1 gal = 3.785 L = 3875 ml = 0.1337 cubic feet				
Duration of Pumping: 30 (min)		Unit Stability				
Average Pumping Rate: 500 (ml/min)	Water-Quality Meter Type: <u>Horiba U-22</u>	pH	DO	Cond.	ORP	
Total Volume Removed: 25 (gal)	Did well go dry: <u>Yes</u> <u>No</u>	± 0.1	± 10%	± 3.0%	± 10 mV	

Parameter:	1	2	3	4	5	6	7	8	9
Volume Purged (gal)	0.66	1.33	2.0	2.66	3.33	4.0	4.66		
Rate (mL/min)	500	500	500	500	500	500	500	✓	
Depth to Water (ft.)	33.72	33.55	33.55	33.78	33.74	33.78	37.81	✓	
pH	7.33	7.37	7.45	7.56	7.60	7.68	7.72	✓	
Temp. (C)	13.4	13.5	13.4	13.5	13.3	13.3	13.3	✓	
Conductivity (mS/cm)	3.16	3.18	3.22	3.33	3.42	3.47	3.50	✓	
Dissolved Oxygen (mg/L)	0.54	0.00	0.02	0.00	0.00	0.00	0.00	✓	
ORP (mV)	54	-21	-40	-78	-90	-98	-99		
Turbidity (NTU)	464.0	248.0	209.0	102.5	1.17	1.71	1.07		
Notes:				SWITCH HEAD TO TURBIDIMETER					

Sampling Information		
Analyses	#	Laboratory
BTEX	2	TestAmerica Shelton CT
PAHs	2	TestAmerica Shelton CT
Total Cyanide	1	TestAmerica Shelton CT
Available Cyanide	1	TestAmerica Pittsburgh, PA
Sample ID: MW-88 Sample Time: 11:50		
MS/MSD:	Yes	No
Duplicate:	Yes	No
Duplicate ID	Dup. Time:	
Chain of Custody Signed By: JAS		

Problems / Observations

Hydrometer (density) reading: 1.0

INITIAL PURGE: LIGHT BROWN 11:10
SHEEN & ODOR

FINAL PURGE: 11:55 ~~11:55~~
SHEEN & ODOR

WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd. / AY0207.001 Page 1 of 1
Site Location Syracuse - Erie Blvd. Date 8/30/1995
Site/Well No. MW-8D Coded/
Replicate No. _____
Weather Sunny, hot, humid Time Sampling Began 17:30 Time Sampling Completed 18:30

EVACUATION DATA

Description of Measuring Point (MP) Top of PVC casing
Height of MP Above/Below Land Surface _____ MP Elevation _____
Total Sounded Depth of Well Below MP 64.00 Water-Level Elevation _____
Held _____ Depth to Water Below MP 29.74 Diameter of Casing 2"
Wet _____ Water Column in Well 34.26 Gallons Pumped/Bailed Prior to Sampling 8 (pumped dry)
Gallons per Foot 0.16
Gallons in Well 5.48 Sampling Pump Intake Setting (feet below land surface) _____
Evacuation Method Submersible pump (pumped at .75 gpm)

SAMPLING DATA/FIELD PARAMETERS*

Color brown Odor hydrocarbon odor Appearance more turbid w/ bailing Temperature 15.5 C°

Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 3000 pH 7.34

Sampling Method and Material Polyethylene disposable bailer and polypropylene rope

Container Description		Preservative
Constituents Sampled	From Lab <u>X</u> or G&M _____	
See chain of custody	_____	See chain of custody
_____	_____	_____
_____	_____	_____

Remarks * pH, temperature and specific conductance taken after sampling. DTW 8/31/95= 30.13

Sampling Personne Stacie Blackmer/ Chris Moul

WELL CASING VOLUMES			
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50
			4" = 0.65
			6" = 1.47

WELL SAMPLING RECORD

Site Name Erie Blvd. Site Well MW-8D Date 11/15/95
 Samplers: MW, JG of GIM

Initial Static Water Level (from top of well protective casing) 28.79' (11/14/95)

Evacuation:

Using: Submersible X Centrifugal _____ 2" Casing: 35.21 ft. of water x .16 = 5.63 gals
 Airlift _____ Positive Displacement _____ 3" Casing: _____ ft. of water x .36 = _____ gals
 Bailed _____ Times 4" Casing: _____ ft. of water x .65 = _____ gals

Depth to intake from top of protective well casing 64'

Volume of water removed 17 Gals. (> 3 Well Volumes)

Sampling: Time 2:00 _____ a.m.
 _____ X p.m.

Bailer Type: Stainless Steel _____
 Teflon _____
 From Pos. Dis. Discharge Tube _____
 Other disposable polyethylene

	No. of Bottles Filled	I.D. No.	Analyses
Trip Blank	_____	_____	_____
Field Blank - Wash / Atmospheric (circle one)	_____	_____	_____
Groundwater Sample	<u>14</u>	<u>ERIE-MW-8D</u>	<u>TCL/TAL</u>
	<u>14</u>	<u>ERIE-DUP-2</u>	<u>TCL/TAL</u>

Physical Appearance and Odor brown, turbid, odor

Refrigerate: Date: 11/15/95 Time 2:30 - 5:20 P *

Field Tests:

Temperature (C/F) 11.9
 pH 7.4
 Spec. Conduc (umhos/cm) 1250

Weather _____

Comments Well dried during purging
Collected duplicate sample (ERIE-DUP-2) here
* Long recovery time prior to collecting sufficient volume for duplicate sample.



WATER SAMPLING LOG

Project/No. Niagara Mohawk - Erie Blvd./ AY0207.002 Page 1 of 1
Site Location Syracuse, New York Date 7/8/1997
Site/Well No. MW-8D Coded/
Replicate No. _____
Weather Cloudy, 70 Time Sampling Began 15:45 Time Sampling Completed 17:30

EVACUATION DATA

Description of Measuring Point (MP) TOC
Height of MP Above/Below Land Surface _____ MP Elevation _____
Total Sounded Depth of Well Below MP 63.92 Water-Level Elevation _____
Held _____ Depth to Water Below MP 29.12 Diameter of Casing 2"
Wet _____ Water Column in Well 34.80 Gallons Pumped/Bailed Prior to Sampling 17.0
Gallons per Foot 0.16
Gallons in Well 5.57 Sampling Pump Intake Setting (feet below land surface) _____

Evacuation Method Disposable poly bailer and poly rope

SAMPLING DATA/FIELD PARAMETERS

Color Brown/gray Odor Slight Appearance Turbid Temperature 18 F/C
Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 1900 pH 7.12

Sampling Method and Material Disposable poly bailer and poly rope

Constituents Sampled	Container Description		Preservative
	From Lab	or G&M	
_____	<u>X</u>	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Remarks _____

Sampling Personne C. Carr/ J. Bonsteel

WELL CASING VOLUMES				
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

WATER SAMPLING LOG

Project/No. Nemo Erie 1A40207.002 Page 1 of 1
 Site Location Syracuse, NY
 Site/Well No. MW-8D Coded/Replicate No. _____ Date 9/9/97
 Weather Sunny 75° Time Sampling Began 10:30 Time Sampling Completed 13:20

EVACUATION DATA

Description of Measuring Point (MP) TOL
 Height of MP Above/Below Land Surface _____ MP Elevation _____
 Total Sounded Depth of Well Below MP 64.84 Water-Level Elevation _____
 Held _____ Depth to Water Below MP 29.66 Diameter of Casing 2"
 Wet _____ Water Column in Well 35.18 Gallons Pumped/Bailed Prior to Sampling 17 gallon
 Gallons per Foot 0.16
 Gallons in Well 5.6 Sampling Pump Intake Setting (feet below land surface) _____
 Evacuation Method Disposable poly barrel & poly rope

SAMPLING DATA/FIELD PARAMETERS

Color Brownish gray Odor slight Appearance Turbid Temperature 13 °F/°C
 Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 2300 pH 7.30

Sampling Method and Material Disposable poly barrel & poly rope

Constituents Sampled	Container Description From Lab ☒ or G&M _____	Preservative
<u>TOL/TAL</u>	_____	_____
_____	_____	_____
_____	_____	_____

Remarks _____

Sampling Personnel CC/TR

WELL CASING VOLUMES					
GAL./FT.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47	

Groundwater Sampling Form

Project/No. AY000207.0005.00007 Well MW-8D Date 11/06/02

Other _____ Bailer Type: _____ By: MB/TM

[illegible]

Groundwater Sampling Form

Project/No. AY000207.0005.00007

Well MW-8D

Date 01/28/03

Measuring Point Description	Top of PVC
-----------------------------	------------

Casing
Diameter (inches) 2

Measured Width

Well Materials X PVC
 ST. Steel

Pump On: 1050

Pump
Intake 6" from bottom

Pump Off: 1205

Volumes Purged

Sample Time: 1140

Sampled
By: DD/TM

[illegible]

ARCADIS

Appendix C

Laboratory Geotechnical Results

ARCADIS

**Laboratory Geotechnical
Results, 1995**

June 7, 1995

Mr. William Lilley
Niagara Mohawk Power Corporation
Environmental Affairs, C-1
300 Erie Boulevard West
Syracuse, New York 13202

Re: L-95079
NMPC Headquarters Building
300 Erie Boulevard West
Syracuse, New York

Dear Lilley:

Enclosed are the results of laboratory testing performed at your request on five jar soil samples delivered to our laboratory on June 2, 1995 for the above referenced project. Results include:

1. Sieve Analysis ASTM D422 & D1140 5 each
2. Hydrometer Analysis ASTM D422 5 each

All requested tests have been completed on the previously received sample(s) for the above project. All sample remains are scheduled to be disposed of on July 7, 1995. Please notify Parratt-Wolff, Inc. by letter or telephone prior to July 7, 1995 if you would prefer to pick up the sample(s) or that the sample(s) be retained by Parratt-Wolff, Inc. for an additional period of time.

Thank you for this opportunity to work with you.

Very truly yours,

PARRATT - WOLFF, INC.

Donald P. Blasland, SET
V.P. - Laboratory Manager
DPB/lms
encs:





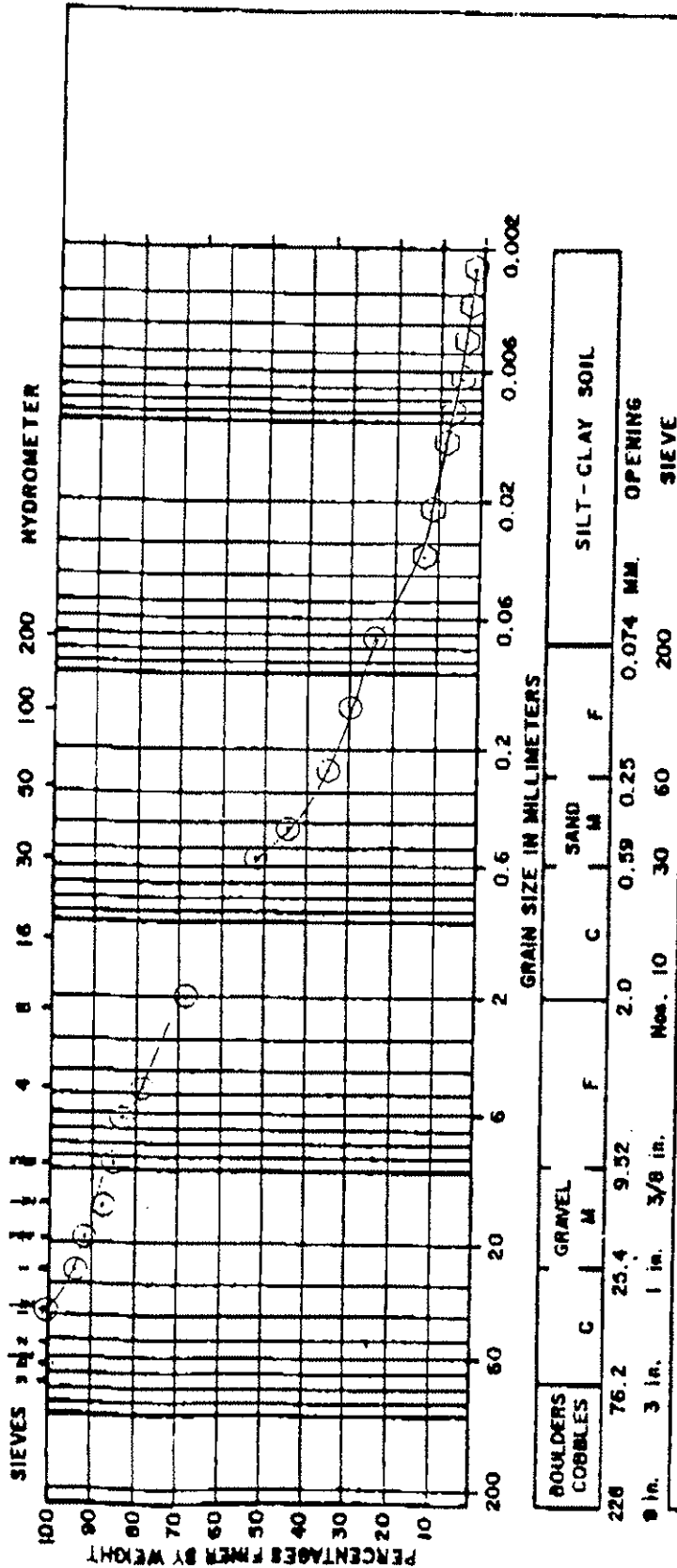
pamatt
wolff

FISHER RD. EAST SYRACUSE N.Y. 13057
TELEPHONE AREA CODE 315/437-1429

JOB NO. 1-9507
REPORT NO. 1

June 7, 1995

GRAIN SIZE ANALYSIS



L-95079

Lab ID #: 7030

Laboratory Testing

Boring #: Composite WB-1

NMPC Headquarters Building

Depth: 0.0'-6.0'

300 Erie Boulevard West

Syracuse, New York

○ Sieve Analysis ASTM D422 & D1140

○ Hydrometer Analysis ASTM D422

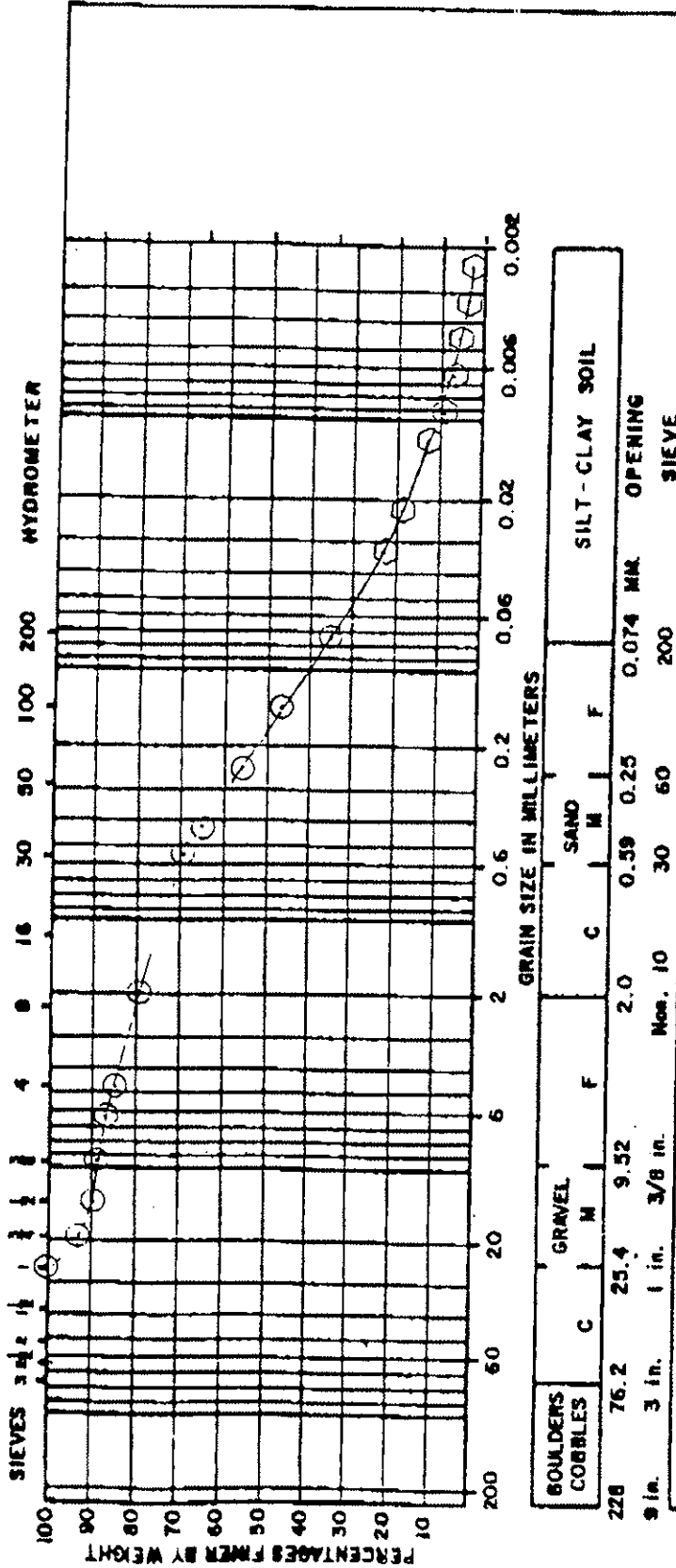


**parratt
wolff**

FISHER RD. EAST SYRACUSE N.Y. 13057
TELEPHONE AREA CODE 315/437 1428

JOB NO. L-950
REPORT NO. 2
June 7, 1995

GRAIN SIZE ANALYSIS



L-95079

Lab ID #: 7031

Laboratory Testing

Boring #: Composite WB-2

NMPC Headquarters Building

Depth: 0.0'-6.0'

300 Erie Boulevard West

Syracuse, New York

○ Sieve Analysis ASTM D422 & D1140

○ Hydrometer Analysis ASTM D422

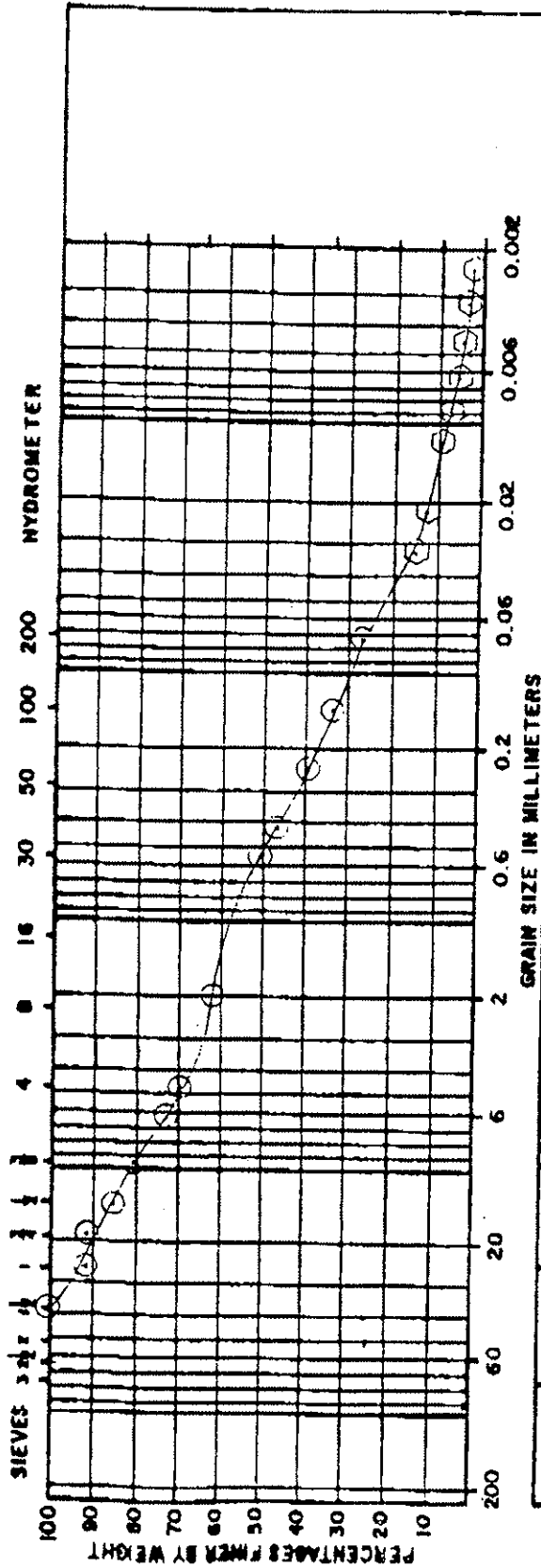


**parratt
wolff inc**

FISHER ROAD, EAST SYRACUSE, NY 13057
TELEPHONE AREA CODE 315/437-1429

JOB NO. L-95079
REPORT NO. 3
June 7, 1995

GRAIN SIZE ANALYSIS



BOULDERS COBBLES		GRAVEL		SAND		SILT-CLAY SOIL	
228	16.2	25.4	9.52	2.0	0.59	0.074	0.002
9 in.	5 in.	1 in.	3/8 in.	No. 10	30	200	SIEVE

L-95079

Lab ID #: 7032

Laboratory Testing

Boring #: Composite WB-3

NMPC Headquarters Building

Depth: 0.0'-6.0'

300 Erie Boulevard West

Syracuse, New York

○ Sieve Analysis ASTM D422 & D1140

○ Hydrometer Analysis ASTM D422

September 8, 1995



Mr. Theodore Loukides
Geraghty and Miller, Inc.
24 Madison Avenue Extension
Albany, New York 12203

Re: B-95190
Erie Boulevard Former MGP
Syracuse, New York
G&M Job No. AY0207.001

SEP 11

Dear Mr. Loukides:

Enclosed are the results of laboratory testing performed at your request on four jar and two tube soil samples obtained by a Parratt-Wolff, Inc. drilling crew during the month of August, 1995 for the above referenced project. Results include:

- | | |
|---|--------|
| 1. Natural Moisture Content ASTM D2216 | 6 each |
| 2. Sieve Analysis ASTM D422 & D1140 | 5 each |
| 3. Hydrometer Analysis ASTM D422 | 5 each |
| 4. Atterberg Limits ASTM D4318 | 5 each |
| 5. Bulk (Natural) Soil Density Corp of Engineers
EM-1110-2-1906 Appendix II, Displacement Method | 2 each |
| 6. Bulk (Natural) Soil Density Corp of Engineers
EM-1110-2-1906 Appendix II, Volumetric Method | 2 each |
| 7. pH ASTM D4972 | 6 each |
| 8. Total Organic Content | 1 each |

The Total Organic Analysis was performed by Life Science Laboratories, Inc. at the direction of Parratt-Wolff, Inc.

The results of additional laboratory testing will be forwarded immediately upon completion.

Thank you for this opportunity to work with you.

Very truly yours,

PARRATT - WOLFF, INC.

A handwritten signature in cursive script, reading 'Virginia J. Thoma'.

Virginia J. Thoma
Assistant Laboratory Manager
VJT/lms
encs:



September 8, 1995



B-95190
Erie Boulevard Former MGP
300 Erie Boulevard West
Syracuse, New York
G&M Job No. AY0207.001

NATURAL MOISTURE CONTENT ASTM D2216

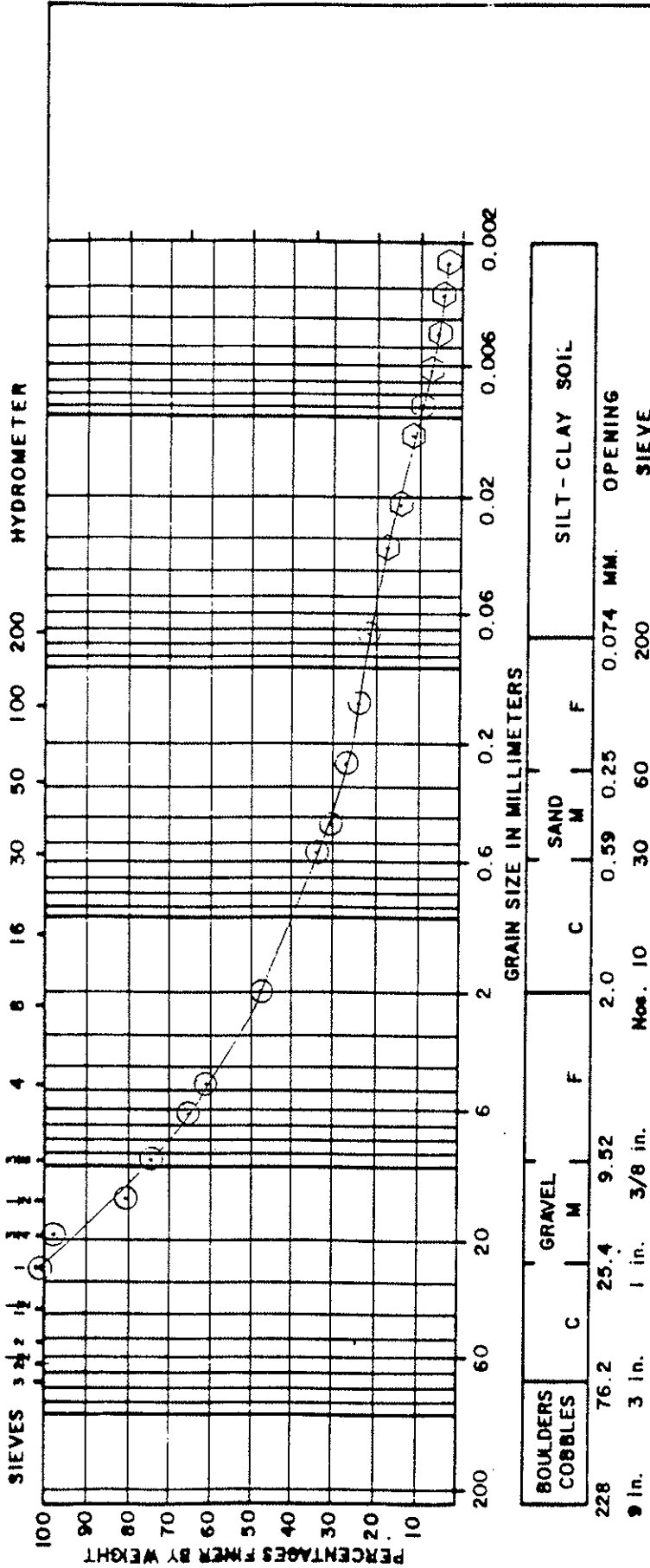
<u>Lab ID#</u>	<u>Sample #</u>	<u>Depth (feet)</u>	<u>Moisture Content as a Percent of Dry Weight</u>
7355	MW-6	28.0-30.0	6.1
7356	MW-2	30.0-32.0	13.3
7357	MW-3D	36.0-38.0	7.1
7393	MW-7	8.0-10.0	9.9
7437	MW-1S	30.0	12.9
7600	MW-4	22.0	13.0

REPORT DATE September 8, 1995

[illegible]

Checked By VJT

GRAIN SIZE ANALYSIS



B95190

Laboratory Testing

Erie Boulevard Former MGP

300 Erie Boulevard West

Syracuse, New York

G&M Job No. AY0207.001

Lab ID#: 7355

Sample: MW-6

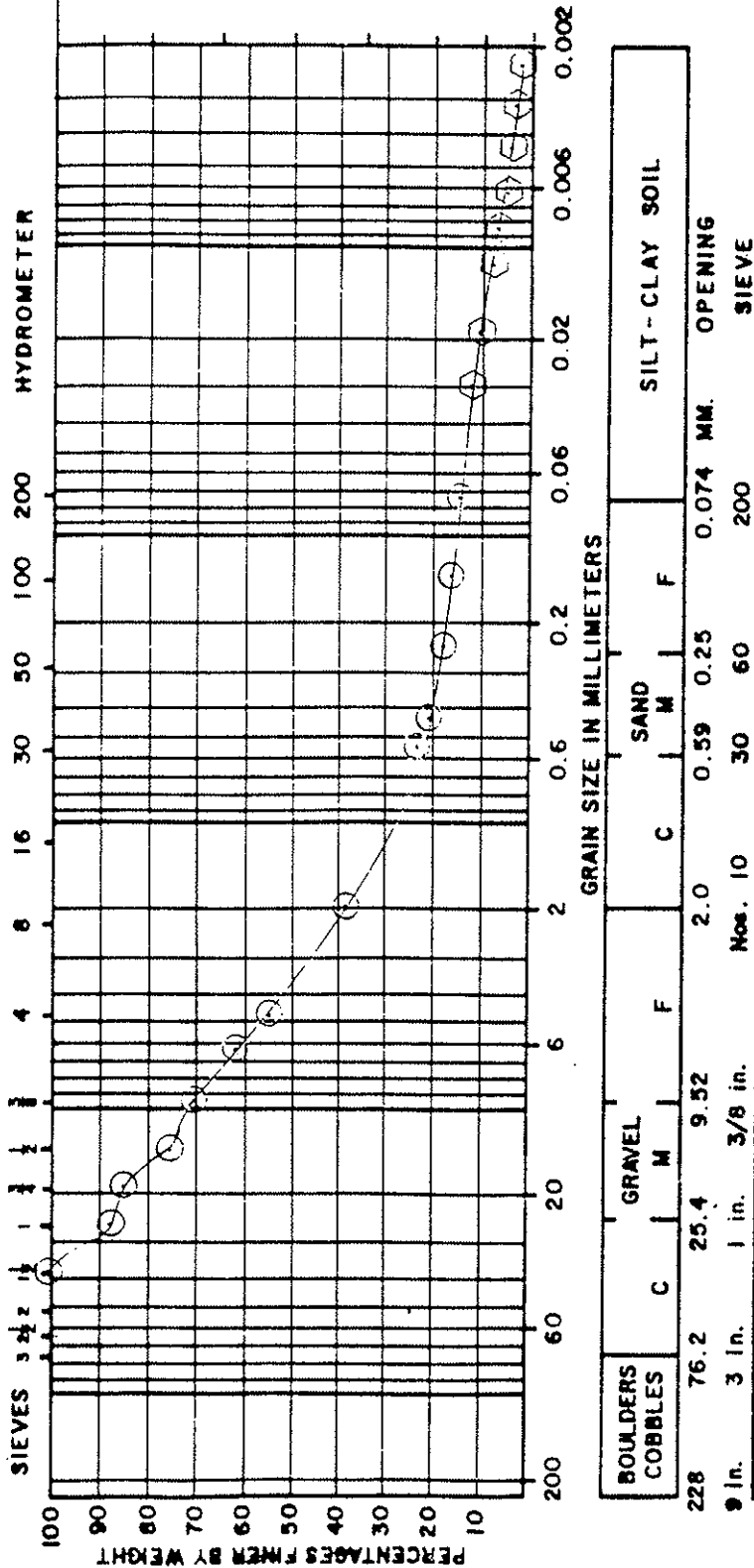
Depth: 28.0'-30.0'

○ Sieve Analysis ASTM D422 & D1140

◇ Hydrometer Analysis ASTM D422

September 8, 1995

GRAIN SIZE ANALYSIS



B-95190

Lab ID#: 7357

Laboratory Testing

Sample: MW-3D

Erie Boulevard former MGP

Depth: 36.0'-38.0'

Syracuse, New York

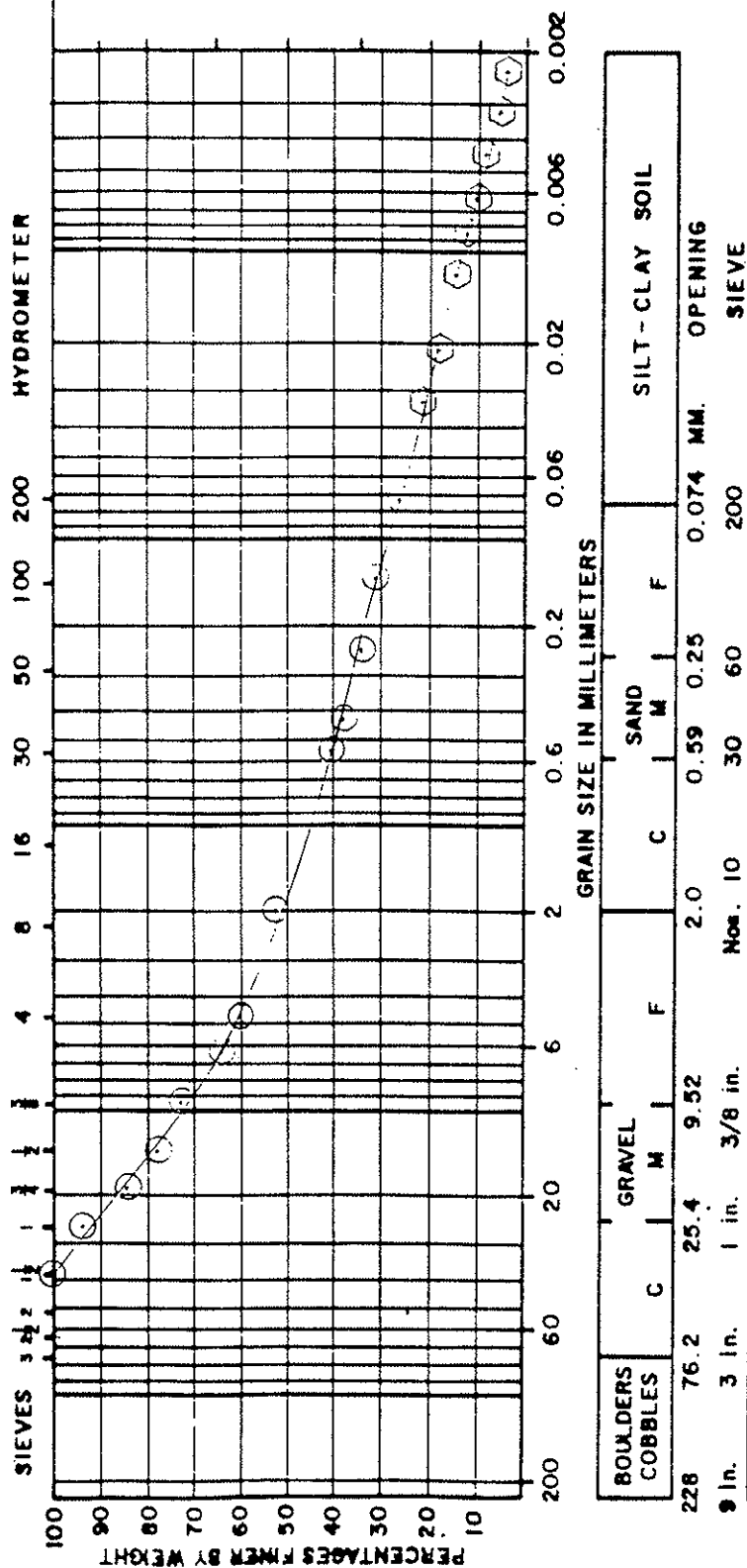
G&M Job No. AY0207.001

○ Sieve Analysis ASTM D422 & D1140

○ Hydrometer Analysis ASTM D422

September 8, 1995

GRAIN SIZE ANALYSIS



B-95190

Lab ID #: 7393

Laboratory Testing

Sample: MW-7

Erie Boulevard former MCP

Depth: 8.0'-10.0'

300 Erie Boulevard West

Syracuse, New York

G&M Job No. AY0207.001

⊙ Sieve Analysis ASTM D422 & D1140

Hydrometer Analysis ASTM D422



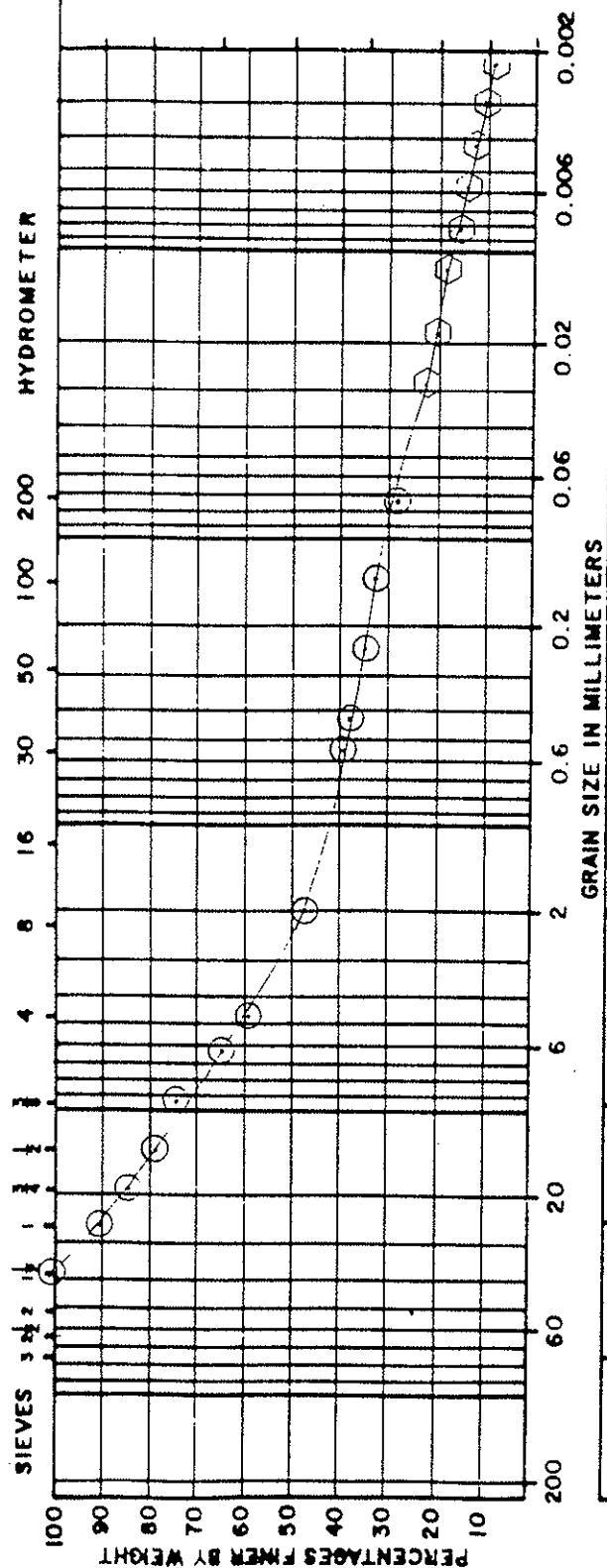
FIS- ER RD EAST SYRACUSE NY 13057
TELEPHONE AREA CODE 315 437 1429

JOB NO. B-951

REPORT NO. 5

September 1, 1995

GRAIN SIZE ANALYSIS



GRAIN SIZE IN MILLIMETERS											
BOULDERS COBBLES		GRAVEL			SAND			SILT-CLAY SOIL			
		C	M	F	C M F						
228	76.2	25.4	9.52		2.0	0.59	0.25	0.074	MM.		
9 in.	3 in.	1 in.	3/8 in.		No. 10	30	60	200	SIEVE		

B-95190

Lab ID#: 7437

Laboratory Testing

Sample: MW-1S

Erie Boulevard Former MGP

Depth: 30.0'

300 Erie Boulevard West

Syracuse, New York

G&M Job No. AY0207.001

Sieve Analysis ASTM D422 & D1140

Hydrometer Analysis ASTM D422

September 8, 1995



B-95190
Erie Boulevard Former MGP
300 Erie Boulevard West
Syracuse, New York
G&M Job No. AY0207.001

Atterberg Limits
ASTM D4318

<u>Lab</u> <u>ID#</u>	<u>Sample</u>	<u>Depth</u> <u>(feet)</u>	<u>Plastic</u> <u>Limit</u>	<u>Liquid</u> <u>Limit</u>	<u>Plasticity</u> <u>Index</u>
7355	MW-6	28.0-30.0	16	20	4
7356	MW-2	30.0-32.0	Non-Plastic	--	--
7357	MW-3D	36.0-38.0	14	16	2
7393	MW-7	8.0-10.0	15	26	11
7437	MW-1S	30.0	16	23	7

September 8, 1995



B-95190
Erie Boulevard Former MGP
300 Erie Boulevard West
Syracuse, New York
G&M Job No. AY0207.001

BULK (NATURAL) SOIL DENSITY
CORP OF ENGINEERS EM-1110-2-1906
APPENDIX. II, DISPLACEMENT METHOD

<u>Lab ID#</u>	<u>Sample #</u>	<u>Depth(feet)</u>	<u>Bulk (Natural) Soil Density Dry Density (PCF)</u>
7355	MW-6	28.0-30.0	133.3
7393	MW-7	8.0-10.0	124.5

September 8, 1995



B-95190
Erie Boulevard Former MGP
300 Erie Boulevard West
Syracuse, New York
G&M Job No. AY0207.001

BULK (NATURAL) SOIL DENSITY
CORP OF ENGINEERS EM-1110-2-1906
APPENDIX, II. VOLUMETRIC METHOD

<u>Lab ID#</u>	<u>Sample #</u>	<u>Depth(feet)</u>	<u>Bulk (Natural) Soil Density</u> <u>Dry Density (PCF)</u>
7437	MW-1S	30.0	122.1
7600	MW-4	22.0	94.1(1)

(1)Sample contained large amounts of wood, brick, etc.

September 8, 1995



B-95190
Erie Boulevard Former MGP
300 Erie Boulevard West
Syracuse, New York
G&M Job No. AY0207.001

pH
ASTM D4972

<u>Lab ID #</u>	<u>Shelby Tube #</u>	<u>Depth (feet)</u>	<u>pH(1)</u>
7355	MW-6	28.0-30.0	7.5
7356	MW-2	30.0-32.0	7.8
7357	MW-3D	36.0-38.0	7.6
7393	MW-7	8.0-10.0	8.2
7437	MW-1S	30.0	7.1
7600	MW-4	22.0	8.4

(1)Average of multiple determinations



SAMPLE ANALYSIS REPORT

L2206-26

LSL Project No.

Jechlorus QNO

Reviewed By

8/17/95

Date

Life Science Laboratories, Inc. warrants, to the best of its knowledge and belief, the accuracy of the analytical test results contained in this report, but makes no other warranty, expressed or implied, especially no warranties of merchantability or fitness for a particular purpose. By Client's acceptance and/or use of this report, Client agrees that LSL is hereby released from any and all liabilities, claims, damages or causes of action affecting or which may affect Client as regards to the results contained in this report. Client further agrees that the only remedy available to Client in the event of proven non-conformity with the above warranty shall be for LSL to re-perform the analytical test(s) at no charge to Client.

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LIFE SCIENCE LABORATORIES, INC.

5854 Butternut Drive, East Syracuse, New York 13057 Telephone: (315) 445-1105 Fax: (315) 445-1301

** SAMPLE ANALYSIS REPORT **

08/17/95

Parratt-Wolff, Inc.
Don Blasland
Fisher Road
East Syracuse, NY 13057

Contacts: Don Blasland
Phone: (315) 437-1429

Sample # 50820474 Project #: L2206 -26
Customer ID: MW-6 - 28'-30' - 08/09/95 595190
Matrix: SHW Authorization: ~~895489~~

Test Name	Results	Units	Comment	Completed	Initials
-----	-----	-----	-----	-----	-----
TOC, SM 17 ed. 5310	8.0	mg/kg	a	08/16/95	JLL

a- This analysis was performed by NYS DOH ELAP #10900.

October 4, 1995

Mr. Theodore Loukides
Geraghty and Miller, Inc.
24 Madison Avenue Extension
Albany, New York 12203

Re: B-95190
Erie Boulevard Former MGP
Syracuse, New York
G&M Job No. AY0207.001

Dear Mr. Loukides:

Enclosed are the results of laboratory testing performed at your request on soil samples obtained by a Parratt-Wolff, Inc. drilling crew during the month of August, 1995 for the above referenced project. Results include:

- | | | |
|----|----------------------------------|--------|
| 1. | Sieve Analysis ASTM D422 & D1140 | 1 each |
| 2. | Hydrometer Analysis ASTM D422 | 1 each |
| 3. | Atterberg Limits ASTM D4318 | 1 each |
| 4. | Total Organic Content | 3 each |

The Total Organic Analysis was performed by Life Science Laboratories, Inc. at the direction of Parratt-Wolff, Inc.

The results of additional laboratory testing will be forwarded immediately upon completion.

Thank you for this opportunity to work with you.

Very truly yours,

PARRATT - WOLFF, INC.



Virginia J. Thoma
Assistant Laboratory Manager
VJT/lms
encs:



PROJECT # B-95190

REPORT # 2

REPORT DATE October 4, 1995

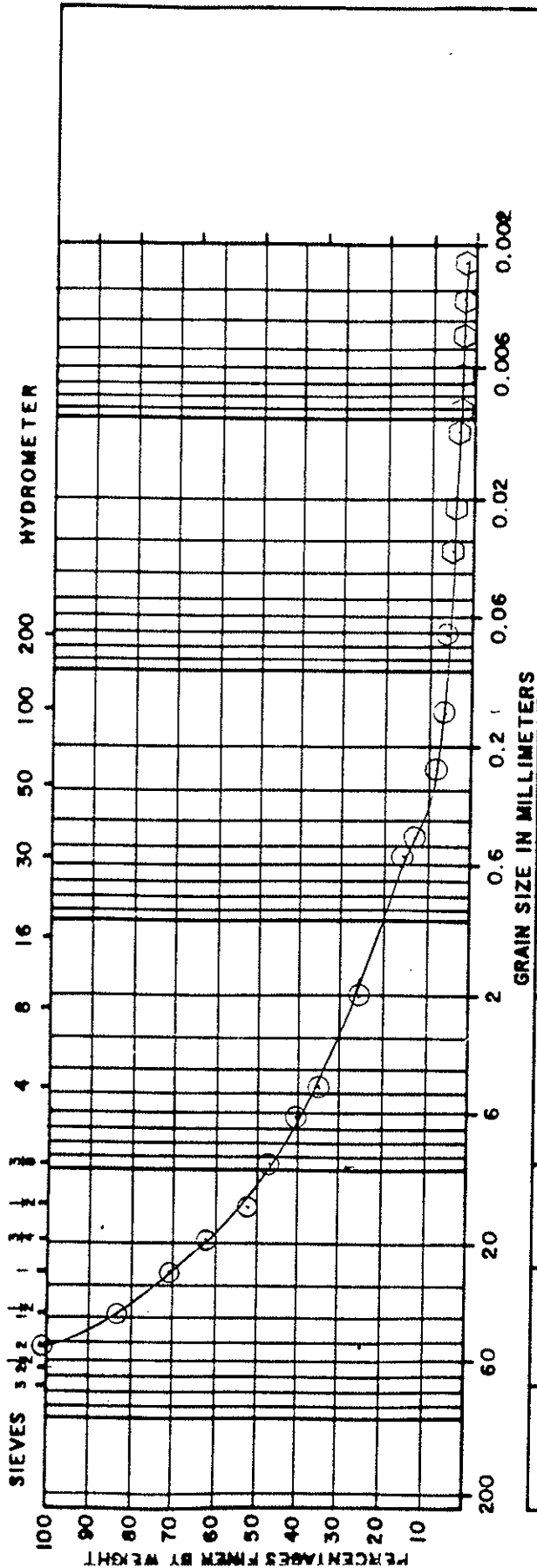
Sample mass, as received, meets minimum requirements of test method:

Prewashed: Yes ☒ No ☐

Performed By CS

Checked By VJT

GRAIN SIZE ANALYSIS



BOULDERS COBBLES		GRAVEL		SAND		SILT-CLAY SOIL	
C	M	F	C	M	F	0.074 MM.	OPENING
228	76.2	25.4	9.52	2.0	0.59	0.074	200
9 in.	3 in.	1 in.	3/8 in.	Nos. 10	30	60	SIEVE

B-95190
Laboratory Testing
Erie Boulevard former MGP
300 Erie Boulevard West
Syracuse, New York
G&M Job No.: AY0207.001
Lab ID #: 7600
Sample: MW-4
Depth: 22.0'

- Sieve Analysis ASTM D422 & D1140
- Hydrometer Analysis ASTM D422

October 4, 1995



B-95190
Erie Boulevard Former MGP
300 Erie Boulevard West
Syracuse, New York
G&M Job No. AY0207.001

Atterberg Limits
ASTM D4318

<u>Lab</u> <u>ID#</u>	<u>Sample</u>	<u>Depth</u> <u>(feet)</u>	<u>Plastic</u> <u>Limit</u>	<u>Liquid</u> <u>Limit</u>	<u>Plasticity</u> <u>Index</u>
7600	MW-4	22.0	Non-Plastic	--	--



SAMPLE ANALYSIS REPORT

L2206 - 28

LSL Project No.

Joseph Marcuse

Reviewed By

9/21/95

Date

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** SAMPLE ANALYSIS REPORT **

09/21/95

Parratt-Wolff, Inc.
Don Blasland
Fisher Road
East Syracuse, NY 13057

Contacts: Don Blasland
Phone: (315) 437-1429

Sample # 50922686 Project #: L2206 -28
Customer ID: MW-3D 36'-38' ID #7537
Matrix: SHW Authorization: B95190

Test Name	Results	Units	Comment	Completed	Initials
TOC, SM 17 ed. 5310	6550	mg/kg	a	09/18/95	ATL

a- This analysis was performed by NYS DOH ELAP #11071.

Sample # 50922687 Project #: L2206 -28
Customer ID: MW-1S 30' ID #7437
Matrix: SHW Authorization: B95190

Test Name	Results	Units	Comment	Completed	Initials
TOC, SM 17 ed. 5310	8150	mg/kg	a	09/18/95	ATL

a- This analysis was performed by NYS DOH ELAP #11071.

Sample # 50922688 Project #: L2206 -28
Customer ID: MW-2 30'-32' ID #7356
Matrix: SHW Authorization: B95190

Test Name	Results	Units	Comment	Completed	Initials
TOC, SM 17 ed. 5310	7880	mg/kg	a	09/18/95	ATL

a- This analysis was performed by NYS DOH ELAP #11071.

October 11, 1995

Mr. Theodore Loukides
Geraghty and Miller, Inc.
24 Madison Avenue Extension
Albany, New York 12203

Re: B-95190
Erie Boulevard Former MGP
Syracuse, New York
G&M Job No. AY0207.001

Dear Mr. Loukides:

Enclosed are the results of laboratory testing performed at your request on a soil sample obtained by a Parratt-Wolff, Inc. drilling crew during the month of August, 1995 for the above referenced project. Results include:

1. Total Organic Content 1 each

The Total Organic Analysis was performed by Life Science Laboratories, Inc. at the direction of Parratt-Wolff, Inc.

All requested tests have been completed on the previously received sample(s) for the above project. All sample remains are scheduled to be disposed of on November 11, 1995. Please notify Parratt-Wolff, Inc. by letter or telephone prior to November 11, 1995 if you would prefer to pick up the sample(s) or that the sample(s) be retained by Parratt-Wolff, Inc. for an additional period of time.

Thank you for this opportunity to work with you.

Very truly yours,

PARRATT - WOLFF, INC.



Virginia J. Thoma
Assistant Laboratory Manager
VJT/lms
encs:





SAMPLE ANALYSIS REPORT

L2206-30
LSL Project No.

John Mancuso QSO
Reviewed By

10/4/95
Date

Life Science Laboratories, Inc. warrants, to the best of its knowledge and belief, the accuracy of the analytical test results contained in this report, but makes no other warranty, expressed or implied, especially no warranties of merchantability or fitness for a particular purpose. By Client's acceptance and/or use of this report, Client agrees that LSL is hereby released from any and all liabilities, claims, damages or causes of action affecting or which may affect Client as regards to the results contained in this report. Client further agrees that the only remedy available to Client in the event of proven non-conformity with the above warranty shall be for LSL to re-perform the analytical test(s) at no charge to Client.

The data contained in this report are for the exclusive use of the Client to whom it is addressed, and the release of these data to any other party, or the use of the name, trademark or service mark of Life Science Laboratories, Inc. especially for the use of advertising to the general public, is strictly prohibited without the express prior written consent of Life Science Laboratories, Inc.

LIFE SCIENCE LABORATORIES, INC.

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** SAMPLE ANALYSIS REPORT **

10/04/95

Parratt-Wolff, Inc.
Don Blasland
Fisher Road
East Syracuse, NY 13057

Contacts: Don Blasland
Phone: (315) 437-1429

Sample # 50923632
Customer ID: MW-4 - 22' - #7600
Matrix: SHW

Project #: L2206 -30

Test Name	Results	Units	Comment	Completed	Initials
TOC, SM 17 ed. 5310	3300	mg/kg	a	09/18/95	ATL

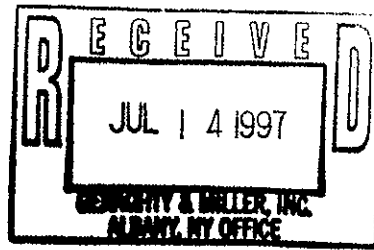
a- This analysis was performed by NYS DOH ELAP #11072.

ARCADIS

**Laboratory Geotechnical
Results, 1997**

July 9, 1997

Mr. Mark Sanford
Geraghty & Miller
24 Madison Avenue
Albany, New York 12203



Re: L-97091
Laboratory Testing
NIMO-Erie Boulevard
Supplemental (SOW)

Dear Mr. Sanford:

Enclosed are the results of laboratory testing performed at your request on six bulk soil samples delivered to our laboratory on June 13, 16, 17 and 23, 1997 for the above referenced project. Results include:

- | | | |
|----|---|--------|
| 1. | Natural Moisture Content ASTM D2216 | 6 each |
| 2. | Sieve Analysis ASTM D422 & D1140 | 6 each |
| 3. | Hydrometer Analysis ASTM D422 | 6 each |
| 4. | Atterberg Limits ASTM D4318 | 6 each |
| 5. | Bulk (Natural) Soil Density Corps of Engineers
EM-1110-2-1906 Appendix 11
Displacement Method | 4 each |
| 6 | pH ASTM D4972 | 6 each |

The results of 6 each Total Organic Carbon tests will be forwarded to you immediately upon completion.

Thank you for this opportunity to work with you.

Very truly yours,

PARRATT - WOLFF, INC.

A handwritten signature in dark ink, appearing to read "Donald P. Blasland".

Donald P. Blasland, SET
V.P. - Laboratory & Field Services
DPB/bap
encs:





PROJECT TITLE Laboratory Testing - NIMO Erie Boulevard
Supplemental (SOW)

PROJECT # L-97091

REPORT #

Power

TEST METHOD ASTM D422 & D1140

REPORT DATE

July 8, 1997

[illegible]

Sample mass, as received, meets minimum requirements of test method:

Remarks:

Yes	X
No	

Prewashed:	Yes	No
	X	

BSW, SR, JG

V. J. Thoma

July 8, 1997

L-97091
Laboratory Testing
NIMO - Erie Boulevard
Supplemental (SOW)

NATURAL MOISTURE CONTENT
ASTM D2216

<u>Lab I.D. #</u>	<u>Boring #.</u>	<u>Depth (feet)</u>	<u>Moisture Content as a Percent of Dry Weight</u>
9868	MW-4D	130.0-132.0	14.2
9869	MW-7D	70.0-72.0	3.2
9893	MW-10D	120.0-122.0	0.6
9902	MW-11S	83.0-85.0	7.2
9903	MW-12S	95.0-97.0	5.8
9904	MW-9D	150.0-152.0	14.4

July 8, 1997

L-97091
Laboratory Testing
NIMO Erie Boulevard
Supplemental (SOW)

ATTERBERG LIMITS
ASTM D4318

<u>Lab I.D. #</u>	<u>Boring #.</u>	<u>Depth (feet)</u>	<u>Plastic Limit</u>	<u>Liquid Limit</u>	<u>Plasticity Index</u>
9868	MW-4D	130.0-132.0	Non-Plastic	--	--
9869	MW-7D	70.0-72.0	Non-Plastic	--	--
9893	MW-10D	120.0-122.0	Non-Plastic	--	--
9902	MW-11S	83.0-85.0	Non-Plastic	--	--
9903	MW-12S	95.0-97.0	Non-Plastic	--	--
9904	NW-9D	150.0-152.0	Non-Plastic	--	--

July 8, 1997

L-97091
Laboratory Testing
NIMO Erie Boulevard
Supplemental (SOW)

BULK(NATURAL) SOIL DENSITY
CORPS OF ENGINEERS EM-1110-2-1906
APPENDIX II, DISPLACEMENT METHOD

<u>Lab I.D. #</u>	<u>Boring #.</u>	<u>Depth (feet)</u>	<u>Bulk (Natural) Soil Density (PCF)</u>	
			<u>Dry Density</u>	<u>Moist Density</u>
9868	MW-4D	130.0-132.0	108.6 (1)	124.3
9902	MW-11S	83.0-85.0	132.5	145.8
9903	MW-12S	95.0-97.0	146.8	153.4
9904	MW-9D	150.0-152.0	109.1 (2)	125.4

(1) Average of three determinations

(2) Average of two determinations

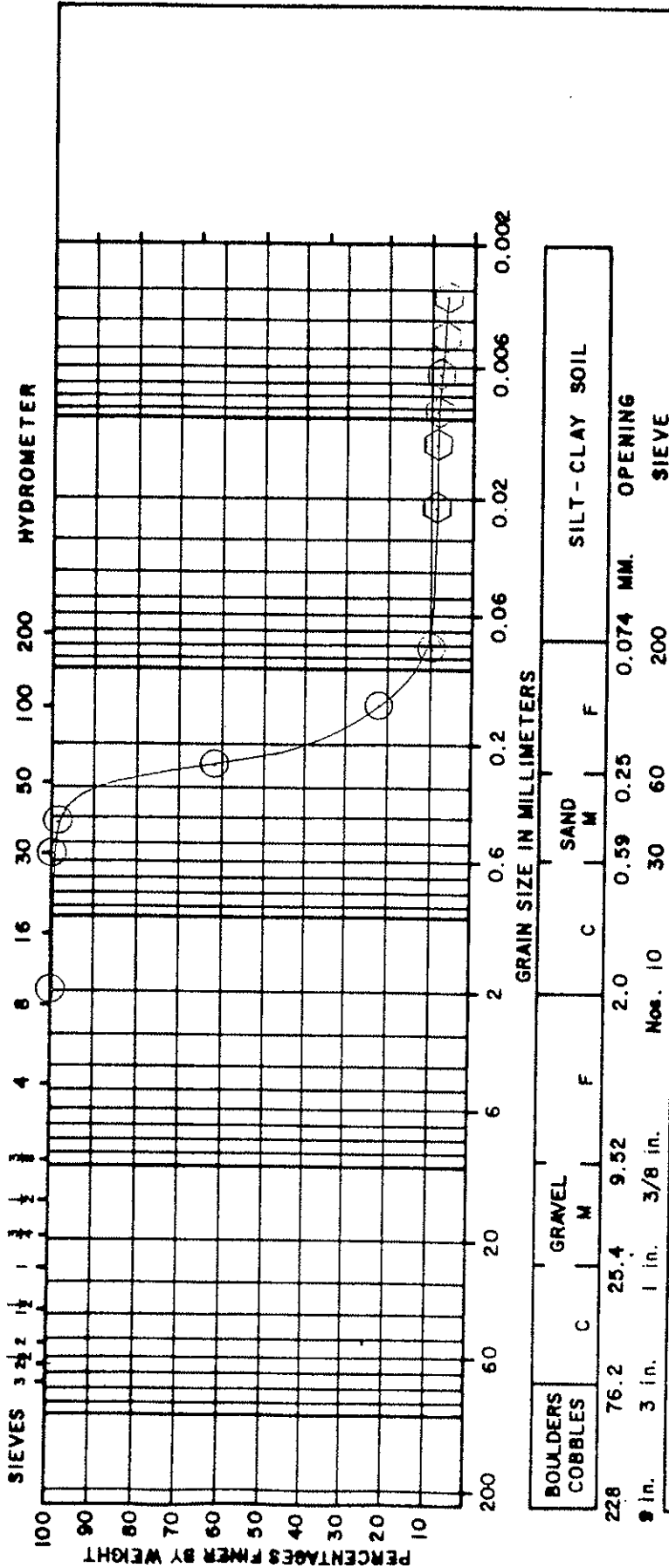
July 8, 1997

L-97091
Laboratory Testing
NIMO - Erie Boulevard
Supplemental (SOW)pH
ASTM D4972

<u>Lab I.D. #</u>	<u>Boring #.</u>	<u>Depth (feet)</u>	<u>pH (1)</u>
9868	MW-4D	130.0-132.0	8.0
9869	MW-7D	70.0-72.0	8.1
9893	MW-10D	120.0-122.0	8.2
9902	MW-11S	83.0-85.0	8.0
9903	MW-12S	95.0-97.0	8.2
9904	MW-9D	150.0-152.0	8.1

(1) Average of Ten Determinations

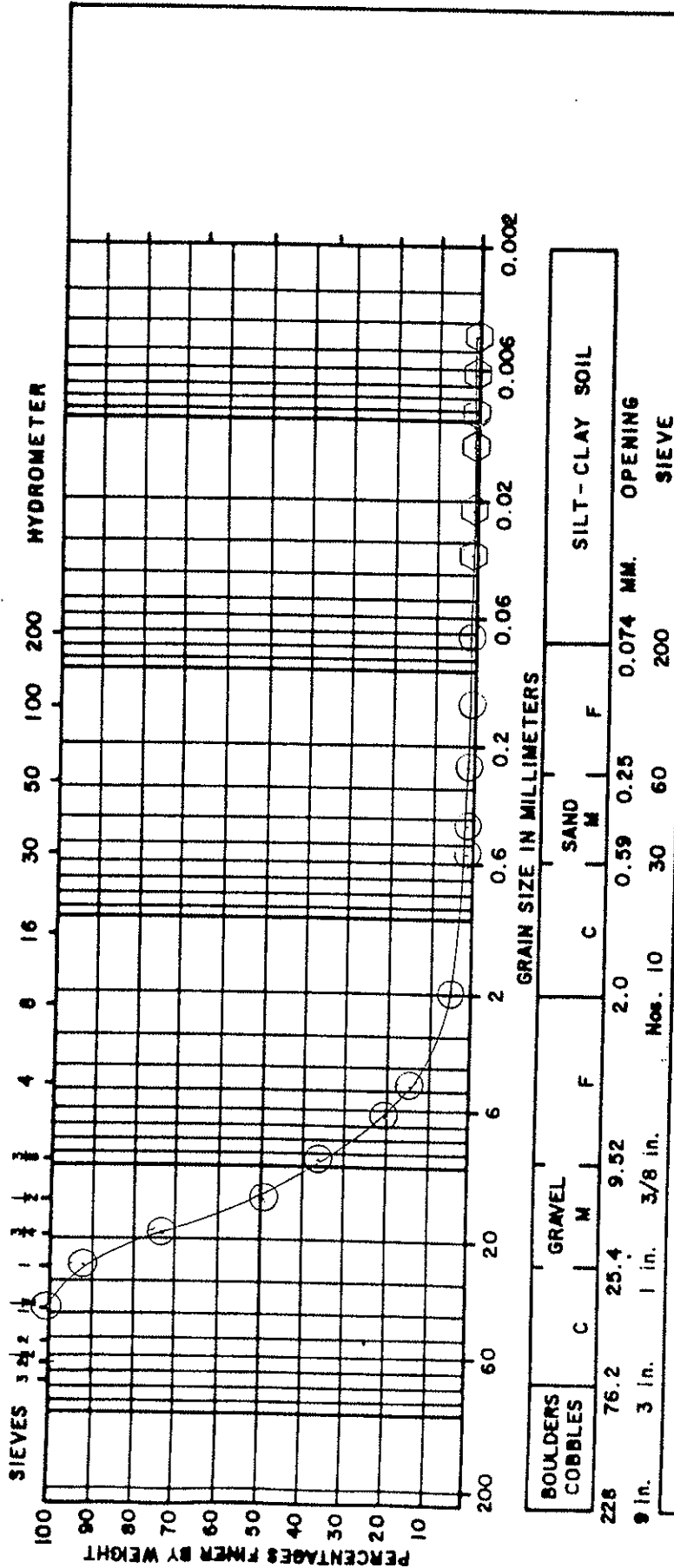
GRAIN SIZE ANALYSIS



Lab I.D. #: 9868
Boring #: MW-4D
Depth: 130.0' - 132.0'

○ Sieve Analysis ASTM D422 & D1140
◇ Hydrometer Analysis ASTM D422

GRAIN SIZE ANALYSIS

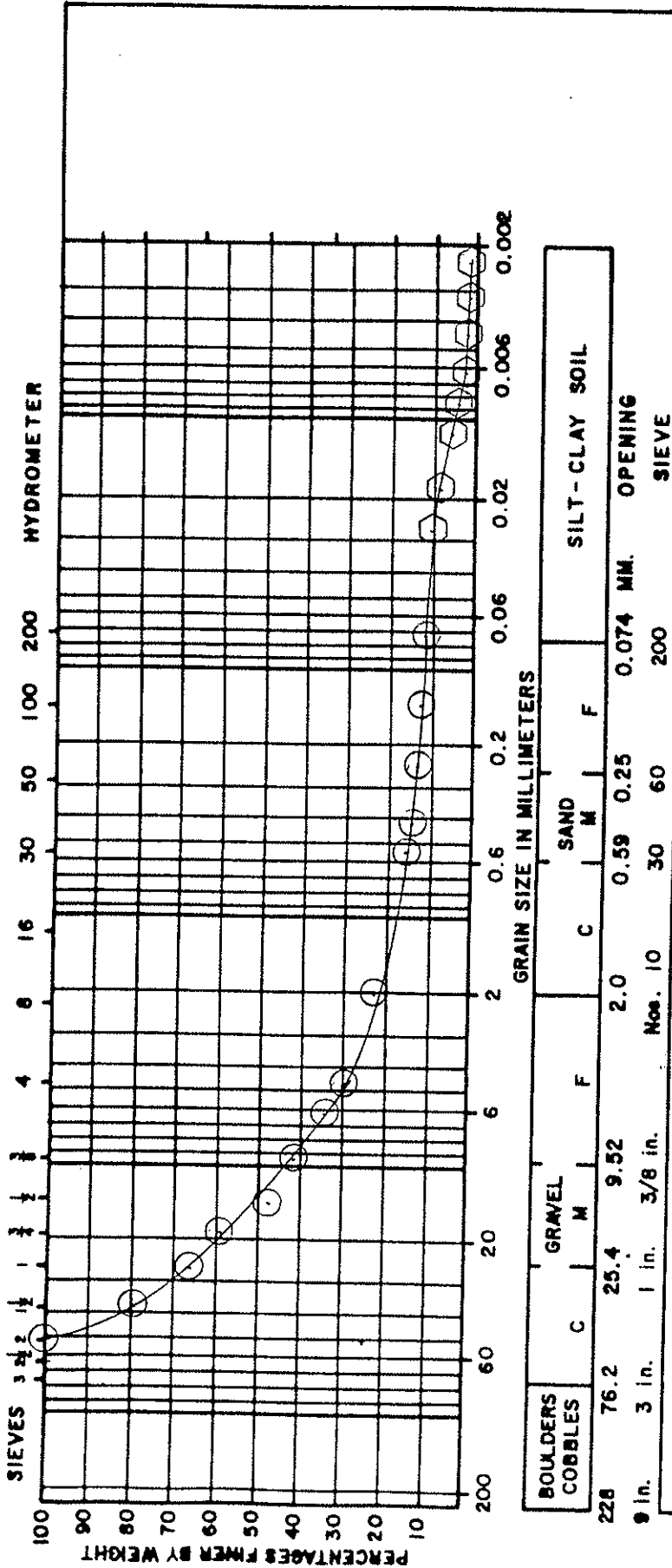


L-97091
 Laboratory Testing
 NIMO - Erie Boulevard
 Supplemental (SOW)
 Lab I.D. #: 9869
 Boring #: MW-7D
 Depth: 70.0' - 72.0'

Sieve Analysis ASTM D422 & D1140
 Hydrometer Analysis ASTM D422

July 8, 1997

GRAIN SIZE ANALYSIS



Boulders		Gravel		Silt-Clay Soil	
228	76.2	25.4	9.52	2.0	0.074 mm.
9 in.	3 in.	1 in.	3/8 in.	No. 10	200
				Sieve	
L-97091					
Laboratory Testing					
NIMO - Erie Boulevard					
Supplemental (SOW)					
Lab I.D. #: 9902					
Boring #: MW-11S					
Depth: 83.0' - 85.0'					
Sieve Analysis ASTM D422 & D1140					
Hydrometer Analysis ASTM D422					



**parratt
wolff** inc

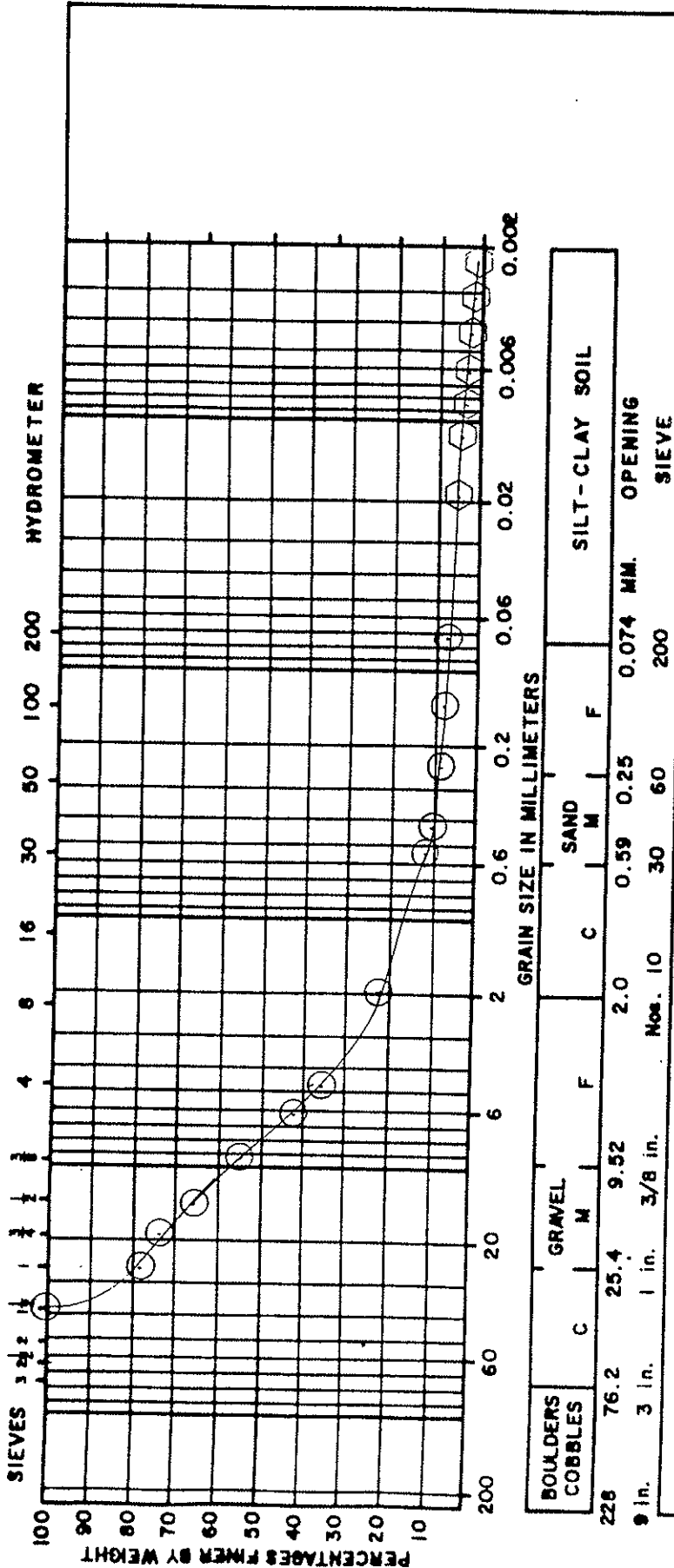
FISHER RD. EAST SYRACUSE N.Y. 13057
TELEPHONE AREA CODE 315/437 1429

JOB NO. L-97091

REPORT NO. 5

July 8, 1997

GRAIN SIZE ANALYSIS



L-97091

Laboratory Testing

NIMO - Erie Boulevard

Supplemental (SOW)

Lab I.D. #: 9903

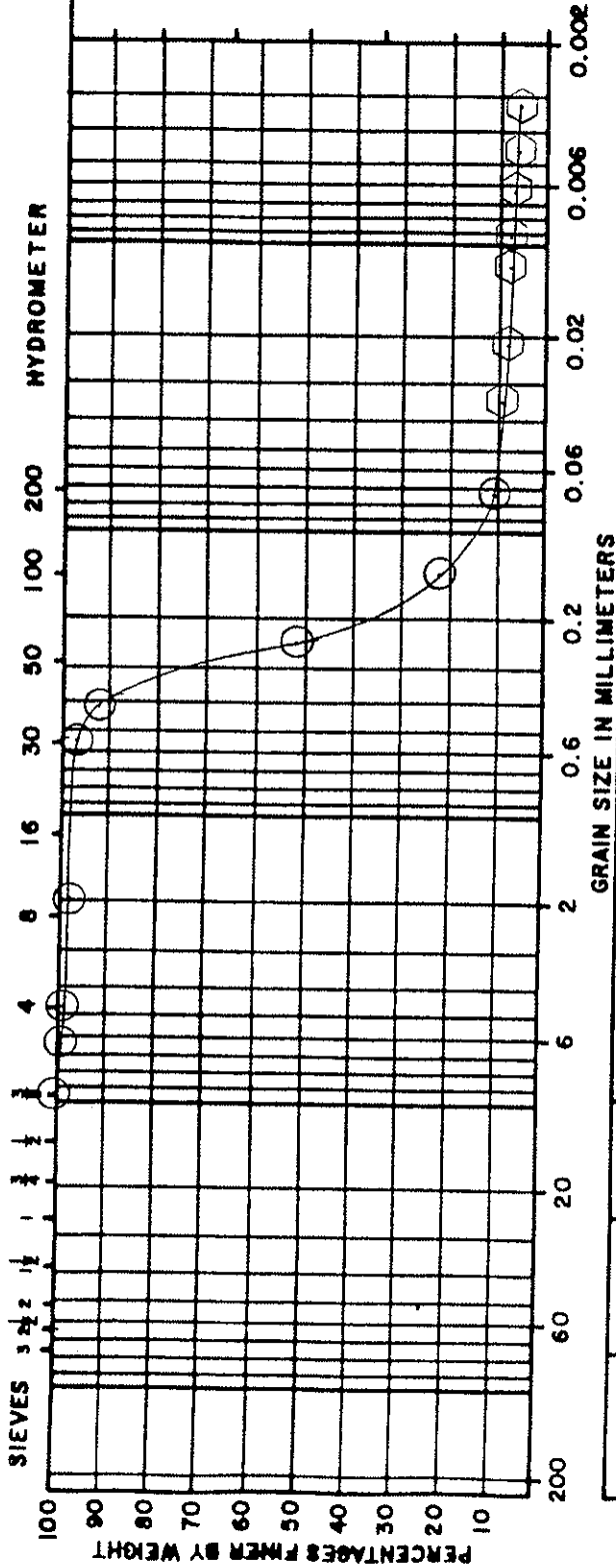
Boring #: MW-12S

Depth: 95.0' - 97.0'

○ Sieve Analysis ASTM D422 & D1140

⬡ Hydrometer Analysis ASTM D422

GRAIN SIZE ANALYSIS



BOULDERS		GRAVEL		SAND		SILT - CLAY SOIL	
COBBLES	C	M	F	C	M	F	
228	76.2	25.4	9.52	2.0	0.59	0.25	0.074 MM. OPENING
9 in.	3 in.	1 in.	3/8 in.	Nos. 10	30	60	200
							SIEVE

L-97091

Laboratory Testing

NIMO - Erie Boulevard

Supplemental (SOW)

Lab I.D. #: 9904

Boring #: MW-9D

Depth: 150.0' - 152.0'

○ Sieve Analysis ASTM D422 & D1140

○ Hydrometer Analysis ASTM D422



SIEVE ANALYSIS OF
SOIL / AGGREGATE

PROJECT TITLE

Laboratory Testing - NIMO Erie Boulevard

Supplemental (SOW)

PROJECT # L-97091

REPORT #

1

TEST METHOD ASTM D422 & D1140

REPORT DATE

July 8, 1997

Sieve Size - Percent Passing Sieve																
			2"	1 1/2"	1"	3/4"	1/2"	3/8"	1/4"	#4	#10	#30	#40	#60	#100	#200
Lab I.D. #	Boring #	Depth (feet)														
9868	MW-4D	130.0-132.0	--	--	--	--	--	--	--	--	100	99.9	98.2	62.2	22.1	9.8
9869	MW-7D	70.0-72.0	--	100	92.3	72.8	49.8	35.7	20.3	14.1	5.0	2.0	1.8	1.6	1.4	1.2
9893	MW-10D	120.0-122.0	--	--	--	100	97.7	92.2	79.6	67.5	32.6	20.6	18.2	11.8	10.0	8.2
9902	MW-11S	83.0-85.0	100	79.7	66.3	59.0	47.9	41.8	33.9	29.7	22.4	16.4	15.2	13.8	12.9	11.9
9903	MW-12S	95.0-97.0	--	100	78.1	73.6	65.6	55.0	42.2	35.5	22.1	12.3	10.7	9.0	8.5	7.4
9904	MW-9D	150.0-152.0	--	--	--	--	--	100	99.8	99.6	98.8	97.1	92.4	52.0	22.5	10.7

Sample mass, as received, meets minimum requirements of test method:

Yes No X

Prewashed: Yes

X No

Remarks:

Performed By:

BSW, SR, JG

Checked By:

V. J. Thoma

July 8, 1997

L-97091
Laboratory Testing
NIMO - Erie Boulevard
Supplemental (SOW)

NATURAL MOISTURE CONTENT
ASTM D2216

<u>Lab I.D. #</u>	<u>Boring #.</u>	<u>Depth (feet)</u>	<u>Moisture Content as a Percent of Dry Weight</u>
9868	MW-4D	130.0-132.0	14.2
9869	MW-7D	70.0-72.0	3.2
9893	MW-10D	120.0-122.0	0.6
9902	MW-11S	83.0-85.0	7.2
9903	MW-12S	95.0-97.0	5.8
9904	MW-9D	150.0-152.0	14.4

July 8, 1997

L-97091
Laboratory Testing
NIMO Erie Boulevard
Supplemental (SOW)

ATTERBERG LIMITS
ASTM D4318

<u>Lab I.D. #</u>	<u>Boring #.</u>	<u>Depth (feet)</u>	<u>Plastic Limit</u>	<u>Liquid Limit</u>	<u>Plasticity Index</u>
9868	MW-4D	130.0-132.0	Non-Plastic	--	--
9869	MW-7D	70.0-72.0	Non-Plastic	--	--
9893	MW-10D	120.0-122.0	Non-Plastic	--	--
9902	MW-11S	83.0-85.0	Non-Plastic	--	--
9903	MW-12S	95.0-97.0	Non-Plastic	--	--
9904	NW-9D	150.0-152.0	Non-Plastic	--	--

July 8, 1997

L-97091
Laboratory Testing
NIMO Erie Boulevard
Supplemental (SOW)

BULK(NATURAL) SOIL DENSITY
CORPS OF ENGINEERS EM-1110-2-1906
APPENDIX II, DISPLACEMENT METHOD

<u>Lab ID. #</u>	<u>Boring #.</u>	<u>Depth (feet)</u>	<u>Bulk (Natural) Soil Density (PCF)</u>	
			<u>Dry Density</u>	<u>Moist Density</u>
9868	MW-4D	130.0-132.0	108.6 (1)	124.3
9902	MW-11S	83.0-85.0	132.5	145.8
9903	MW-12S	95.0-97.0	146.8	153.4
9904	MW-9D	150.0-152.0	109.1 (2)	125.4

(1) Average of three determinations

(2) Average of two determinations

July 8, 1997

L-97091
Laboratory Testing
NIMO - Erie Boulevard
Supplemental (SOW)

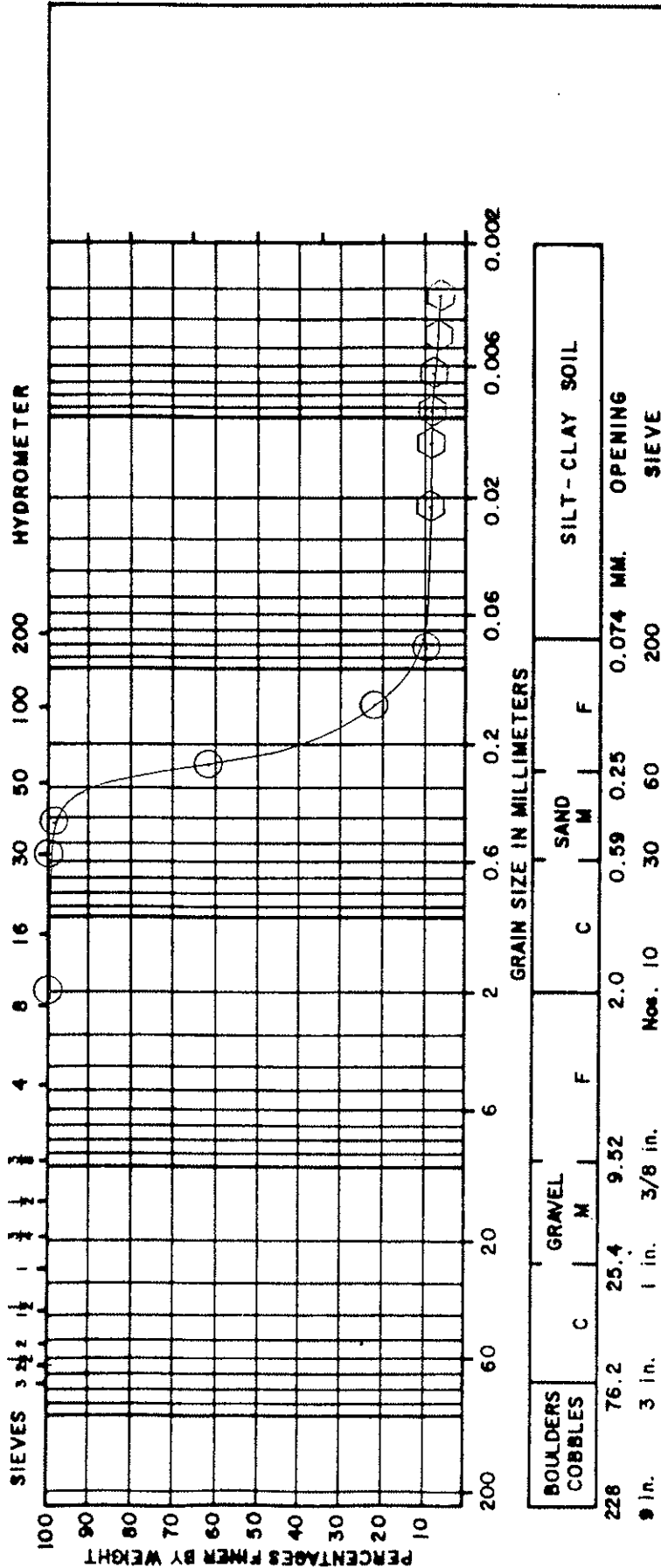
pH
ASTM D4972

<u>Lab I.D. #</u>	<u>Boring #.</u>	<u>Depth (feet)</u>	<u>pH (1)</u>
9868	MW-4D	130.0-132.0	8.0
9869	MW-7D	70.0-72.0	8.1
9893	MW-10D	120.0-122.0	8.2
9902	MW-11S	83.0-85.0	8.0
9903	MW-12S	95.0-97.0	8.2
9904	MW-9D	150.0-152.0	8.1

(1) Average of Ten Determinations

GRAIN SIZE ANALYSIS

July 8, 1997



Lab I.D. #: 9868
 Boring #: MW-4D
 Depth: 130.0' - 132.0'

L-97091
 Laboratory Testing
 NIMO - Erie Boulevard
 Supplemental (SOW)

Sieve Analysis ASTM D422 & D1140
 Hydrometer Analysis ASTM D422



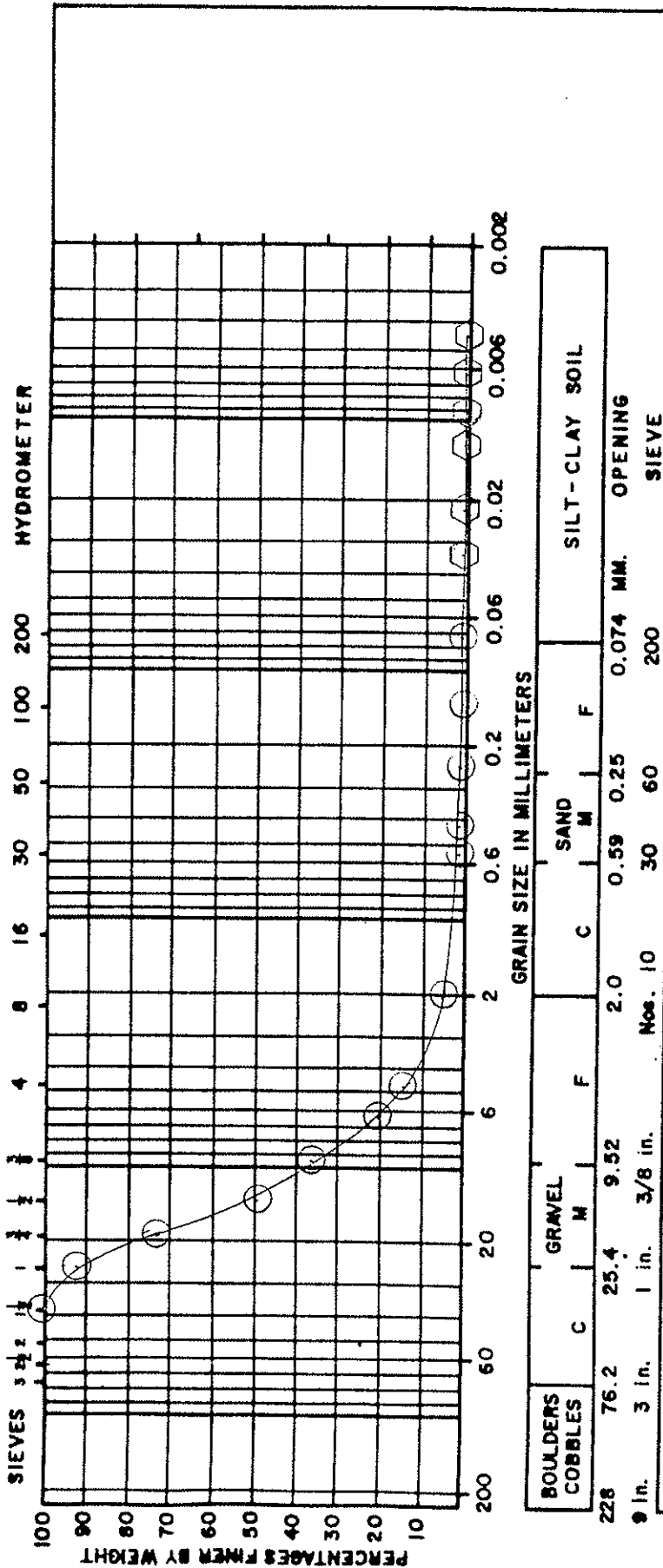
parratt
wolff inc

FISH ER RD. EAST SYRACUSE NY 13057
TELEPHONE AREA CODE 315/437 1429

JOB NO. L-97091
REPORT NO. 2

July 8, 1997

GRAIN SIZE ANALYSIS



L-97091

Lab I.D. #: 9869

Laboratory Testing

Boring #: MW-7D

NIMO - Erie Boulevard

Depth: 70.0' - 72.0'

Supplemental (SOW)

○ Sieve Analysis ASTM D422 & D1140

◇ Hydrometer Analysis ASTM D422



parratt
wolff inc

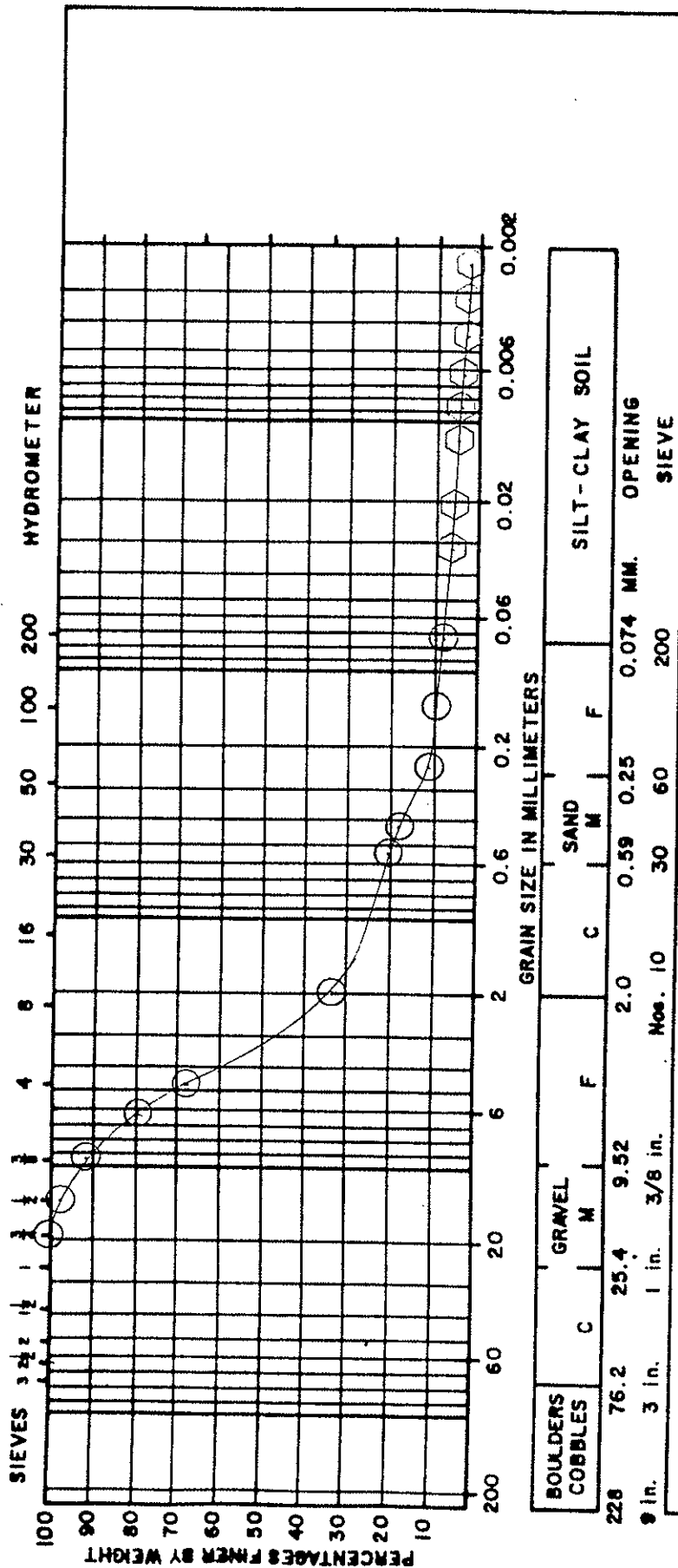
FISHER RD. EAST SYRACUSE N.Y. 13057
TELEPHONE AREA CODE 315/437 1429

JOB NO. L-97091

REPORT NO. 3

July 8, 1997

GRAIN SIZE ANALYSIS



Lab I.D. #: 9893

Boring #: MW-10D

Depth: 120.0' - 122.0'

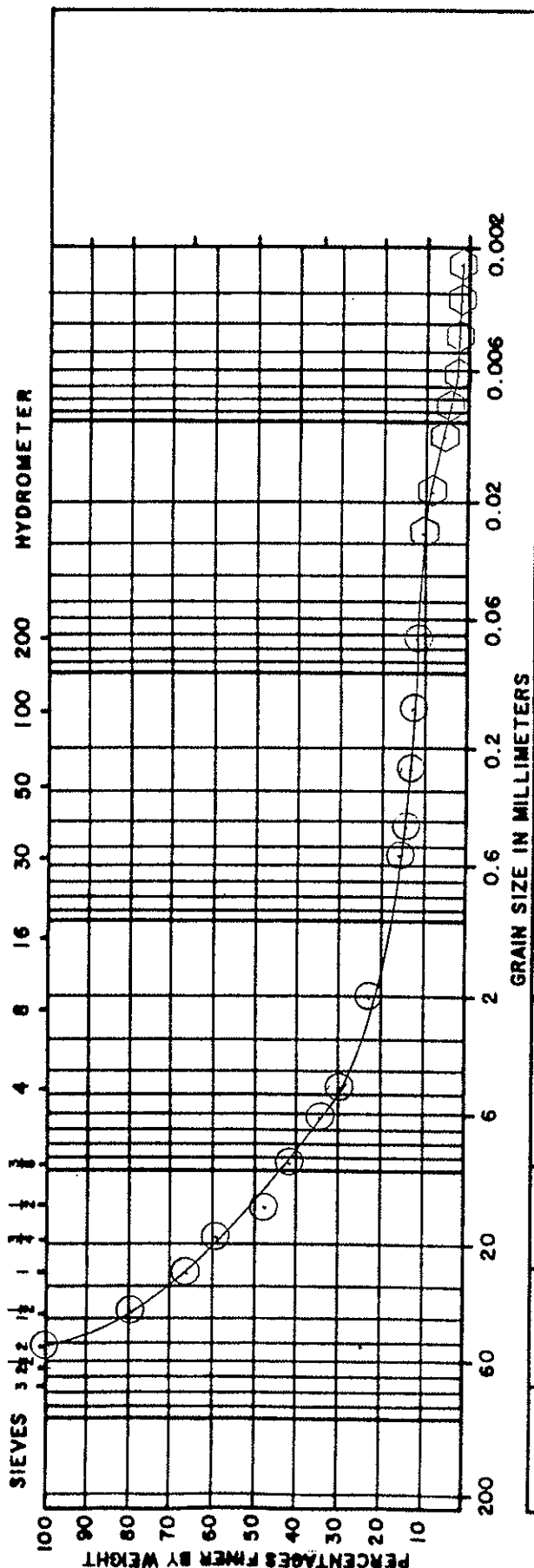
Sieve Analysis ASTM D422 & D1140

Hydrometer Analysis ASTM D422



July 8, 1997

GRAIN SIZE ANALYSIS



BOULDERS COBBLES		GRAVEL		F		SAND		SILT-CLAY SOIL	

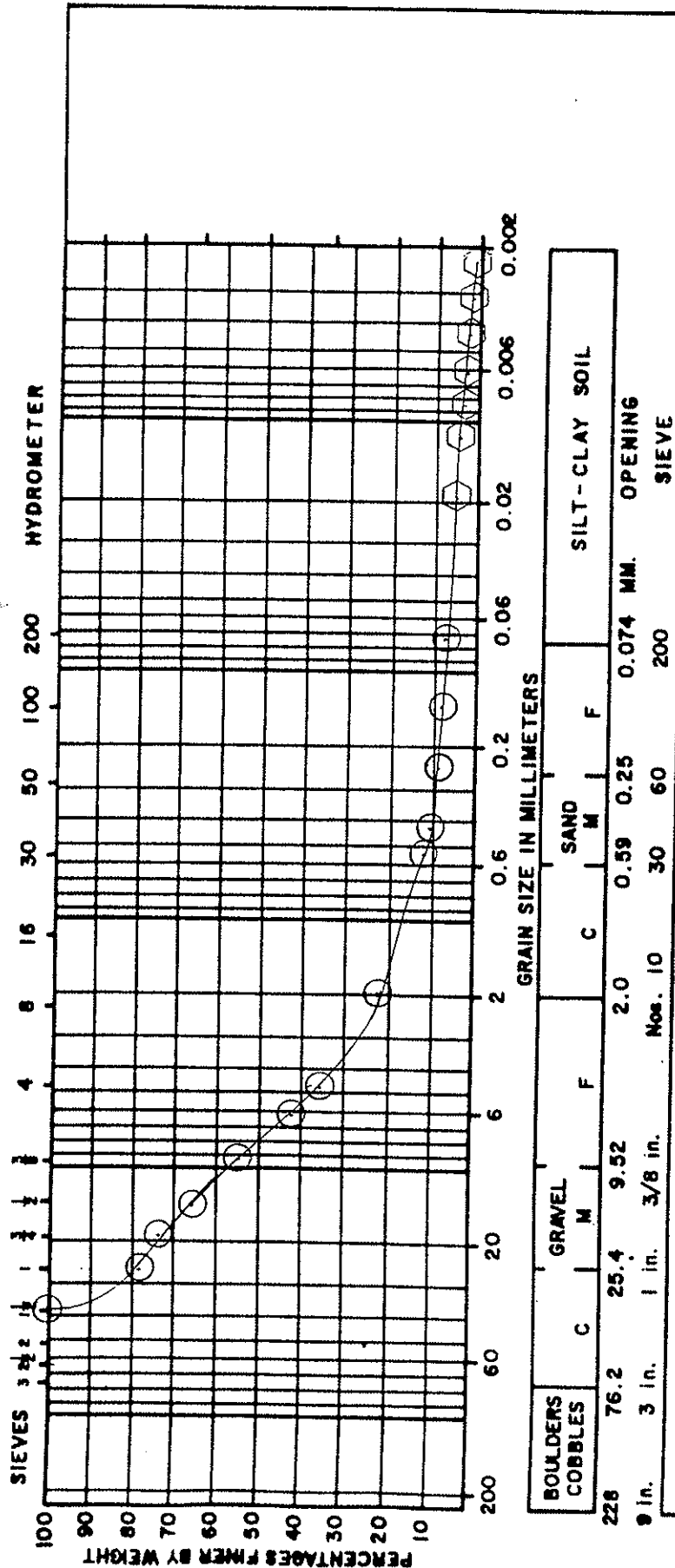
228 76.2 25.4 9.52 2.0 0.59 0.25 0.074 MM. OPENING
9 in. 3 in. 1 in. 3/8 in. Nos. 10 30 60 200 SIEVE

Lab I.D. #: 9902
Boring #: MW-11S
Depth: 83.0' - 85.0'

○ Sieve Analysis ASTM D422 & D1140
◇ Hydrometer Analysis ASTM D422

July 8, 1997

GRAIN SIZE ANALYSIS



BOULDERS COBBLES	GRAVEL	SAND		SILT-CLAY SOIL	
C	M	F	C	M	F
76.2	25.4	9.52	2.0	0.59	0.074
3 in.	1 in.	3/8 in.	Nos. 10	30	200
			SIEVE		
Lab I.D. #: 9903					
Boring #: MW-12S					
Depth: 95.0' - 97.0'					
Supplemental (SOW)					
Sieve Analysis ASTM D422 & D1140					
Hydrometer Analysis ASTM D422					



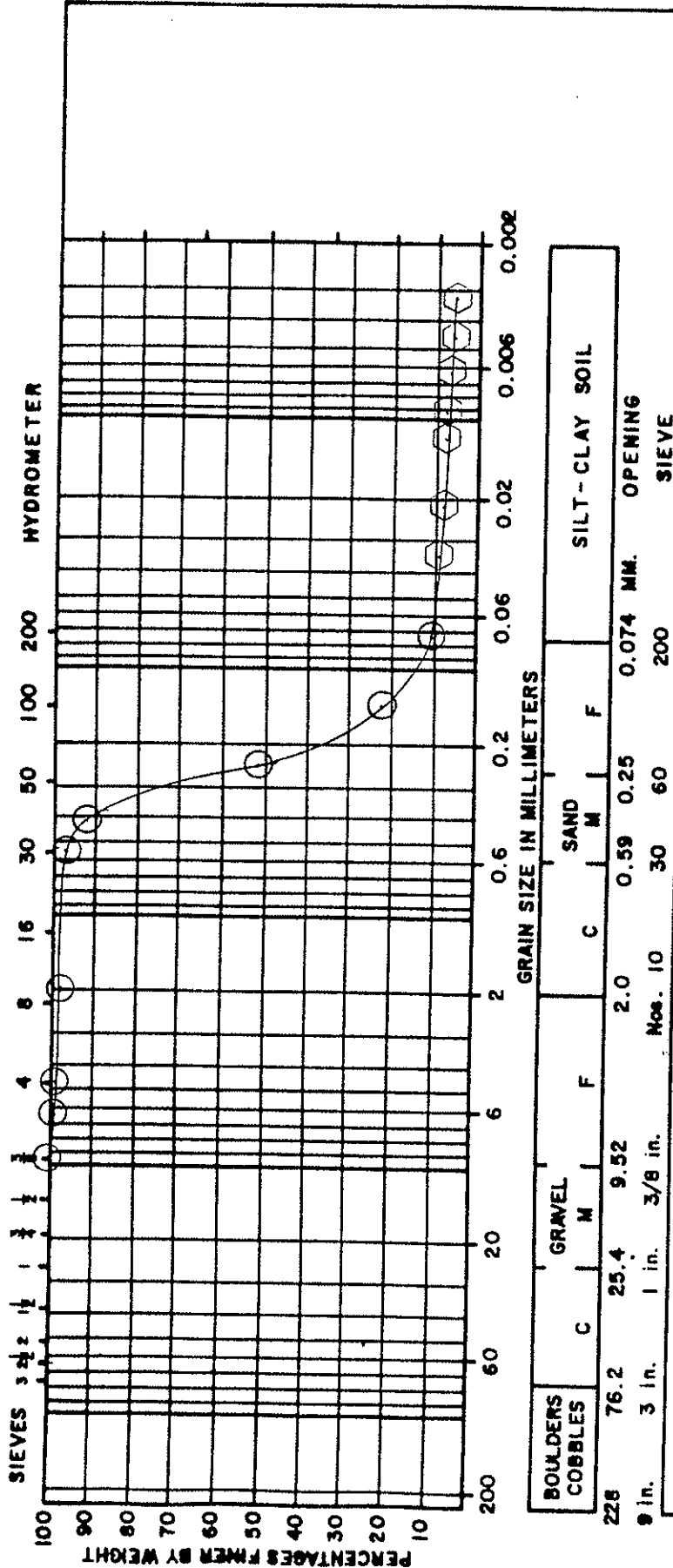
parratt
wolff inc

FISHER RD. EAST SYRACUSE N.Y. 13057
TELEPHONE AREA CODE 315/437 1429

JOB NO. L-97091
REPORT NO. 6

July 8, 1997

GRAIN SIZE ANALYSIS



Lab I.D. #: 9904

Boring #: MW-9D

Depth: 150.0' - 152.0'

L-97091

Laboratory Testing

NIMO - Erie Boulevard

Supplemental (SOW)

Sieve Analysis ASTM D422 & D1140

Hydrometer Analysis ASTM D422

ARCADIS

**Laboratory Geotechnical
Results, 2000**

RECEIVED
OCT 19 2000
ARCADIS Geraghty & Miller



October 17, 2000

Mr. Marc Sanford
ARCADIS Geraghty and Miller, Inc.
215 Washington Avenue Extension
Albany, New York 12205

Re: 00022
Niagara Mohawk Power Corporation
Erie Boulevard
Syracuse, New York

Dear Mr. Sanford:

Enclosed are the laboratory test results for the above project.

Thank you for this opportunity to work with you.

Very truly yours,

PARRATT - WOLFF, INC.

A handwritten signature in cursive script that reads 'Will. Morrow'.

William H. Morrow
WHM/blo
Enc.:





P.O. BOX 56, 5879 FISHER ROAD, EAST SYRACUSE, NY 13057

October 12, 2000

Mr. William Morrow
Parratt-Wolff, Inc.
5879 Fisher Road
P.O. Box 56
East Syracuse, New York 13057

Re: L-00164
Laboratory Testing
NIMO - Erie Boulevard
Project No. AY000207.0003
(B-00022)

Dear Mr. Morrow:

Enclosed are the results of laboratory testing performed at your request on three soil samples obtained by a Parratt-Wolff, Inc. drilling crew on September 20, September 25 and September 29, 2000 for the above referenced project. Results include:

- | | | |
|----|-------------------------------------|--------|
| 1. | Natural Moisture Content ASTM D2216 | 3 each |
| 2. | Sieve Analysis ASTM D422 & D1140 | 3 each |
| 3. | Hydrometer Analysis ASTM D422 | 3 each |
| 4. | Atterberg Limits ASTM D4318 | 3 each |
| 5. | pH ASTM D4972 | 3 each |

All requested tests have been completed on the previously received sample(s) for the above project. All sample remains are scheduled to be disposed of on November 12, 2000. Please notify PW Laboratories, Inc. by letter or telephone prior to November 12, 2000 if you would prefer to pick up the sample(s) or that the sample(s) be retained by PW Laboratories, Inc. for an additional period of time.

Additional reports will be forwarded to you as they are completed.

Thank you for this opportunity to work with you.

Very truly yours,

PW LABORATORIES, INC.

A handwritten signature in cursive script, appearing to read 'Virginia J. Thoma'.

Virginia J. Thoma
Manager - Laboratory Services
VJT/bap
encs:

Laboratory Testing - NIMO - Erie Boulevard East



REPORT # 1

REPORT DATE October 12, 2000

[illegible]

October 12, 2000

L-00164
Laboratory Testing
NIMO – Erie Boulevard East
Project No. AY000207.0003

NATURAL MOISTURE CONTENT
ASTM D2216

<u>Lab I.D. #</u>	<u>Boring #</u>	<u>Depth (feet)</u>	<u>Moisture Content as a Percent of Dry Weight</u>
14372	MW-13	46.0 – 48.0	10.5
14373	MW-14	80.0 – 82.0	8.7
14378	MW-15B	84.0 – 86.0	10.4



**parratt
wolff inc**

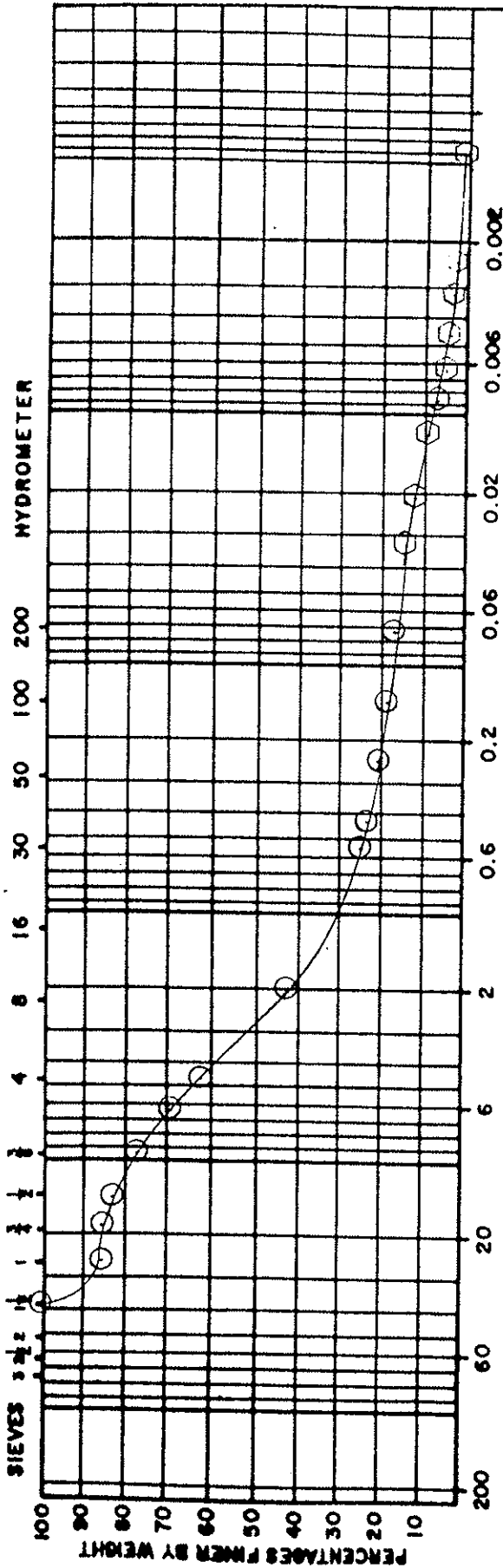
FISHER RD., EAST SYRACUSE N.Y. 13057
TELEPHONE AREA CODE 315/437-1429

JOB NO. L-00164

REPORT NO. 1

October 12, 2000

GRAIN SIZE ANALYSIS



BOULDERS COBBLES		GRAVEL		SAND		SILT-CLAY SOIL	
C	M	F	C	M	F	C	F
228	76.2	25.4	9.52	2.0	0.59	0.074	0.002
9 in.	3 in.	1 in.	3/8 in.	Nos. 10	30	200	OPENING
SIEVE							
Lab I.D. #: 14372							
Boring #: MW-13							
Depth: 46.0' - 48.0'							
Project No.: AY00207.0003							
Sieve Analysis ASTM D422 & D1140							
Hydrometer Analysis ASTM D422							



**parratt
wolff inc**

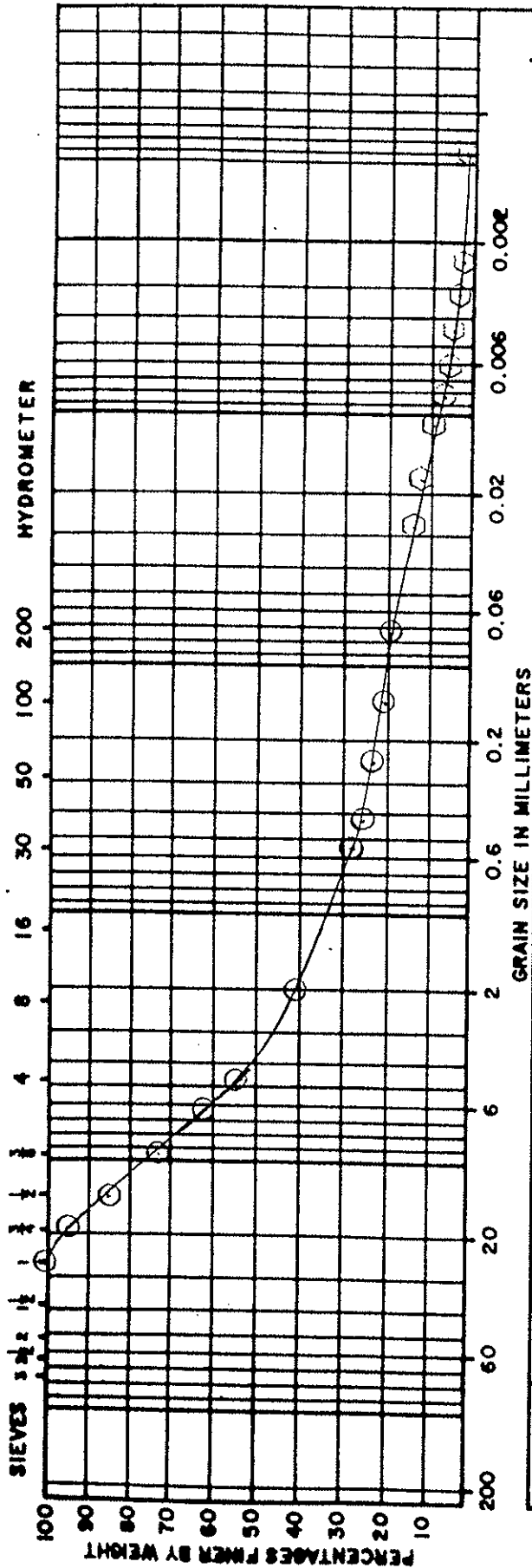
FISHER RD., EAST SYRACUSE, N.Y. 13057
TELEPHONE AREA CODE 315/437-1429

JOB NO. L-00164

REPORT NO. 2

October 12, 2000

GRAIN SIZE ANALYSIS



BOULDERS COBBLES		GRAVEL		SAND		SILT-CLAY SOIL	
C	M	F	M	C	M	F	

228	76.2	25.4	9.52	2.0	0.59	0.074	0.002
9 in.	3 in.	1 in.	3/8 in.	Nos. 10	30	200	SIEVE

L-00164

Lab I.D. #: 14373

Laboratory Testing

Boring #: MW-14

NIMO - Erie Boulevard

Depth: 80.0' - 82.0'

Project No.: AY000207.0003

○ Sieve Analysis ASTM D422 & D1140

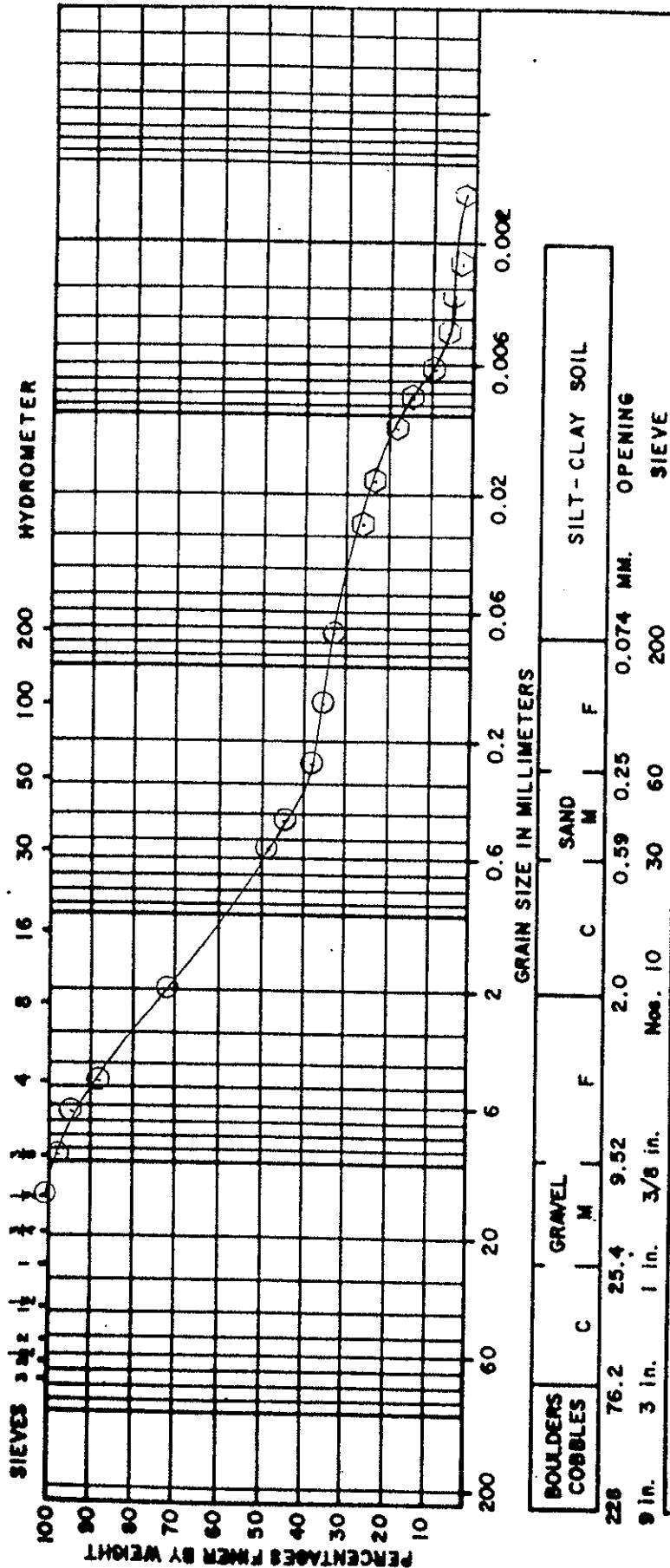
◇ Hydrometer Analysis ASTM D422



JOB NO. L-00164

REPORT NO. 3

GRAIN SIZE ANALYSIS



L-00164

Lab I.D. #:	14378
-------------	-------

Laboratory Testing

Boring #: MW-15B

NIMO - Erie Boulevard

Depth: 84.0' - 86.0'

Project No.: AY000207.0003

⊙ Sieve Analysis ASTM D422 & D1140

Hydrometer Analysis ASTM D422

October 12, 2000

L-00164
Laboratory Testing
NIMO – Erie Boulevard East
Project No. AY000207.0003

ATTERBERG LIMITS
ASTM D4318

<u>Lab ID#</u>	<u>Boring #</u>	<u>Depth (feet)</u>	<u>Plastic Limit</u>	<u>Liquid Limit</u>	<u>Plasticity Index</u>
14372	MW-13	46.0 – 48.0	Non Plastic	--	--
14373	MW-14	80.0 – 82.0	Non Plastic	--	--
14378	MW-15B	84.0 – 86.0	Non Plastic	--	--

October 12, 2000

L-00164
Laboratory Testing
NIMO – Erie Boulevard East
Project No. AY000207.0003

pH
ASTM D4972

<u>Lab. I.D.#</u>	<u>Boring #</u>	<u>Depth</u> <u>(feet)</u>	<u>pH</u> (1)
14372	MW-13	46.0 – 48.0	7.8
14373	MW-14	80.0 – 82.0	7.2
14378	MW-15B	84.0 – 86.0	7.4

(1) Average of nine determinations.

October 23, 2000

L-00164
Laboratory Testing
NIMO – Erie Boulevard East
Project No. AY000207.0003

NATURAL MOISTURE CONTENT
ASTM D2216

<u>Lab I.D. #</u>	<u>Boring #</u>	<u>Depth (feet)</u>	<u>Moisture Content as a Percent of Dry Weight</u>
14397	MW-16	88.0 – 90.0	8.8
14398	MW-17B	86.0 – 88.0	10.8

PROJECT TITLE	Laboratory Testing - NIMO - Erie Boulevard East
Project No.	AY000207 0003

Laboratory Testing - NI-MO - Erie Boulevard East
Project No. AY000207.0003

REPORT #	2
REPORT DATE	October 23, 2000

[illegible]

October 23, 2000

L-00164
Laboratory Testing
NIMO - Erie Boulevard East
Project No. AY000207.0003

ATTERBERG LIMITS
ASTM D4318

<u>Lab ID#</u>	<u>Boring #</u>	<u>Depth (feet)</u>	<u>Plastic Limit</u>	<u>Liquid Limit</u>	<u>Plasticity Index</u>
14397	MW-16	88.0 - 90.0	Non-Plastic	--	--
14398	MW-17B	86.0 - 88.0	Non-Plastic	--	--

October 23, 2000

L-00164
Laboratory Testing
NIMO - Erie Boulevard East
Project No. AY000207.0003

pH
ASTM D4972

<u>Lab. I.D.#</u>	<u>Boring #</u>	<u>Depth (feet)</u>	<u>pH (1)</u>
14397	MW-16	88.0 - 90.0	6.7
14398	MW-17B	86.0 - 88.0	5.6

(1) Average of nine determinations.



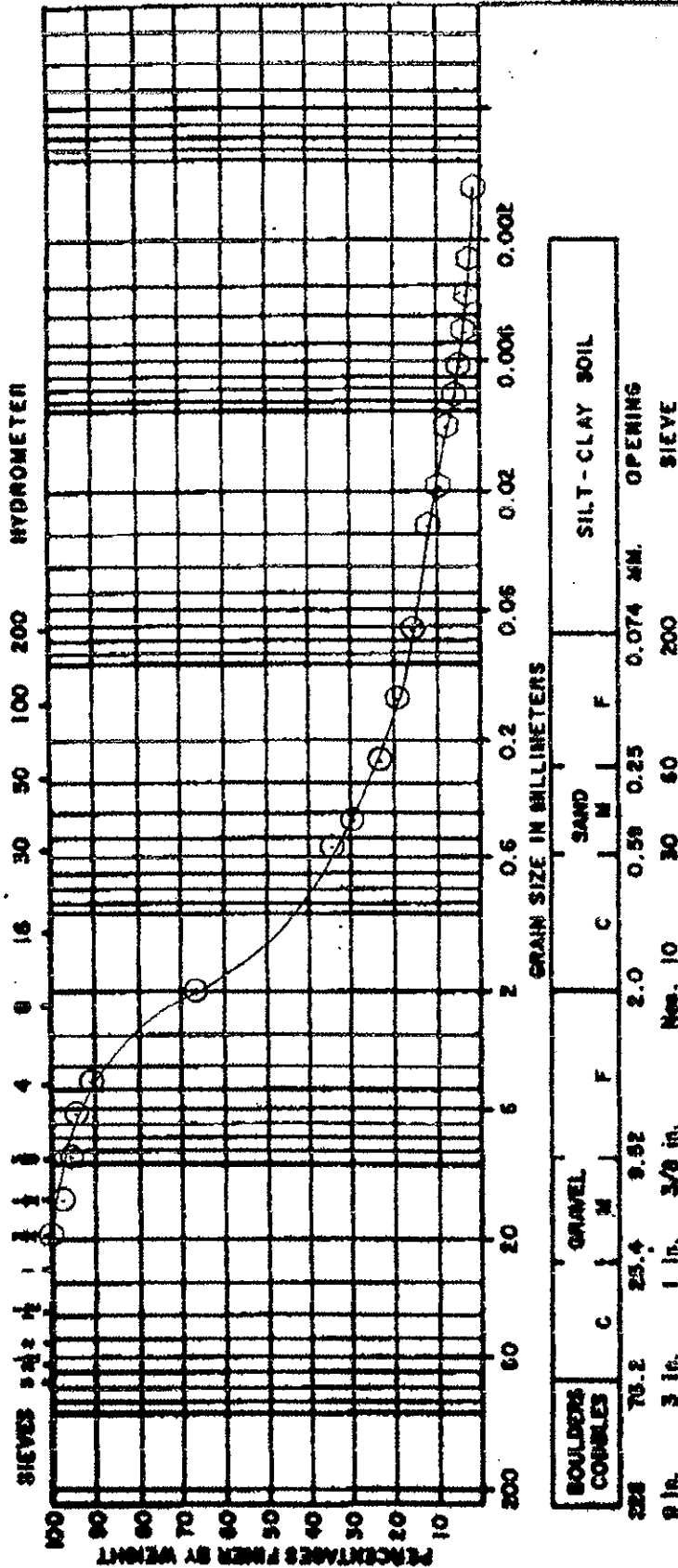
**parratt
wolff**

715 E. W. EAST SYRACUSE, N.Y. 13207
TELEPHONE AREA CODE 315/437-1429

REPORT NO. L-00164
5

October 23, 2000

GRAIN SIZE ANALYSIS



BOULDERS COMBLES		GRAVEL		SAND		SILT-CLAY SOIL	
C	M	F	C	M	F	C	F
25.4	75.2	3.52	2.0	0.58	0.074	0.074	0.002
1 in.	3 in.	3/8 in.	No. 10	No. 30	No. 200	NO. 200	NO. 400

Lab I.D. #: 14398

Sample: MW-17B

Depth: 86.0' - 88.0'

Project No. AY000207.0003

○ Sieve Analysis ASTM D422 & D1140

○ Hydrometer Analysis ASTM D422

ARCADIS

Laboratory Geotechnical
Results, 2001



PW LABORATORIES INC.
P.O. BOX 56, 5879 FISHER ROAD, EAST SYRACUSE, NY 13057
315-437-1420 • (866) 7PW-LABS • FAX 315-437-1752

September 27, 2001

Mr. Marc Sanford
ARCADIS, G & M
441 New Karner Road
Suite #4
Albany, New York 12205

RECEIVED

OCT 01 2001

ARCADIS Geraghty & Miller

Re: L-01154
Laboratory Testing
NIMO - Erie Boulevard
Project # AY000207.0005

Dear Mr. Sanford:

Enclosed are the results of laboratory testing performed at your request on seventeen bulk material samples delivered to our laboratory on September 7, and September 12, 2001 for the above referenced project. Results include:

- | | | |
|----|---|---------|
| 1. | Sieve Analysis ASTM D422 & D1140
Laboratory I.D. #'s 15213-15229 | 17 each |
| 2. | Hydrometer Analysis ASTM D422
Laboratory I.D. #'s 15213-15221, #15224,
#15227, #15229 | 12 each |

All requested tests have been completed on the previously received sample(s) for the above project. All sample remains are scheduled to be disposed of on October 27, 2001. Please notify PW Laboratories, Inc. by letter or telephone prior to October 27, 2001 if you would prefer to pick up the sample(s) or that the sample(s) be retained by PW Laboratories, Inc. for an additional period of time.

Thank you for this opportunity to work with you.

Very truly yours,

PW LABORATORIES, INC.

Virginia J. Thoma
Manager - Laboratory Services
VJT/bap
encs:



PW LABORATORIES INC.
P.O. BOX 56, 5979 FISHER ROAD, EAST SYRACUSE, NY
315-437-1420 • (666) 7PW-LABS • FAX 315-43

SIEVE ANALYSIS OF
SOIL / AGGREGATE

PROJECT TITLE

Laboratory Testing
NIMO Erie Boulevard
Project # AY000207.0005

PROJECT # L-01154

REPORT # 1

TEST METHOD ASTM D422 & D1140

REPORT DATE: September 27, 200

		Sieve Size - Percent Passing Sieve													
Lab I.D. #	Sample	1"	3/4"	1/2"	3/8"	1/4"	#4	#10	#30	#40	#60	#100	#200		
15213	SED-01-1-GS	-	100	88.0	75.0	63.4	50.3	18.9	3.3	2.6	1.5	0.8	0.6		
15214	SED-01-2-GS	-	100	95.8	92.8	85.6	78.3	51.7	16.0	8.6	2.3	1.0	0.5		
15215	SED-01-4-GS	100	88.7	82.0	75.3	68.9	64.3	54.7	34.5	24.0	10.8	6.7	4.6		
15216	SED-01-5-GS	-	100	92.3	83.7	73.2	66.0	46.6	23.5	17.2	9.0	6.0	4.3		
15217	SED-01-6-GS	-	-	-	100	96.9	94.7	78.4	39.9	27.1	8.9	3.6	1.8		
15218	SED-01-7-GS	100	97.7	92.9	86.8	71.7	59.2	31.6	9.3	4.7	1.4	0.7	0.6		
15219	SED-01-10-GS	-	-	-	100	99.9	99.8	99.3	93.8	86.2	51.3	18.4	3.9		
15220	SED-01-9-GS	-	100	97.3	95.5	93.2	87.4	65.9	18.7	9.7	3.2	1.3	0.6		
15221	SED-01-3-GS	-	100	94.6	90.4	79.2	73.5	63.3	38.4	26.1	8.9	3.0	1.1		
15222	SED-01-11	100	97.0	90.7	89.0	84.5	79.8	54.4	13.8	7.9	1.8	0.7	0.5		
15223	SED-01-12	-	-	-	100	93.9	80.0	37.1	11.1	6.7	3.2	1.4	0.4		
15224	SED-01-16	100	97.6	93.9	89.7	86.5	82.7	67.4	30.9	19.6	7.2	3.4	1.9		
15225	SED-01-15	-	-	100	98.4	96.4	94.0	83.5	42.9	24.6	3.9	1.4	1.0		
15226	SED-01-17	-	100	93.2	85.6	69.0	57.3	26.9	2.8	1.2	0.6	0.4	0.3		
15227	SED-01-8	-	-	100	98.9	97.8	96.8	88.2	32.3	15.7	4.4	1.6	0.6		
15228	SED-01-14	-	-	100	96.0	91.9	85.8	46.2	0.9	0.5	0.3	0.2	0.1		
15229	SED-01-13	-	100	90.6	78.3	64.7	57.0	37.4	17.7	13.6	9.2	7.2	5.7		

Sample mass, as received, meets minimum requirements of test method:

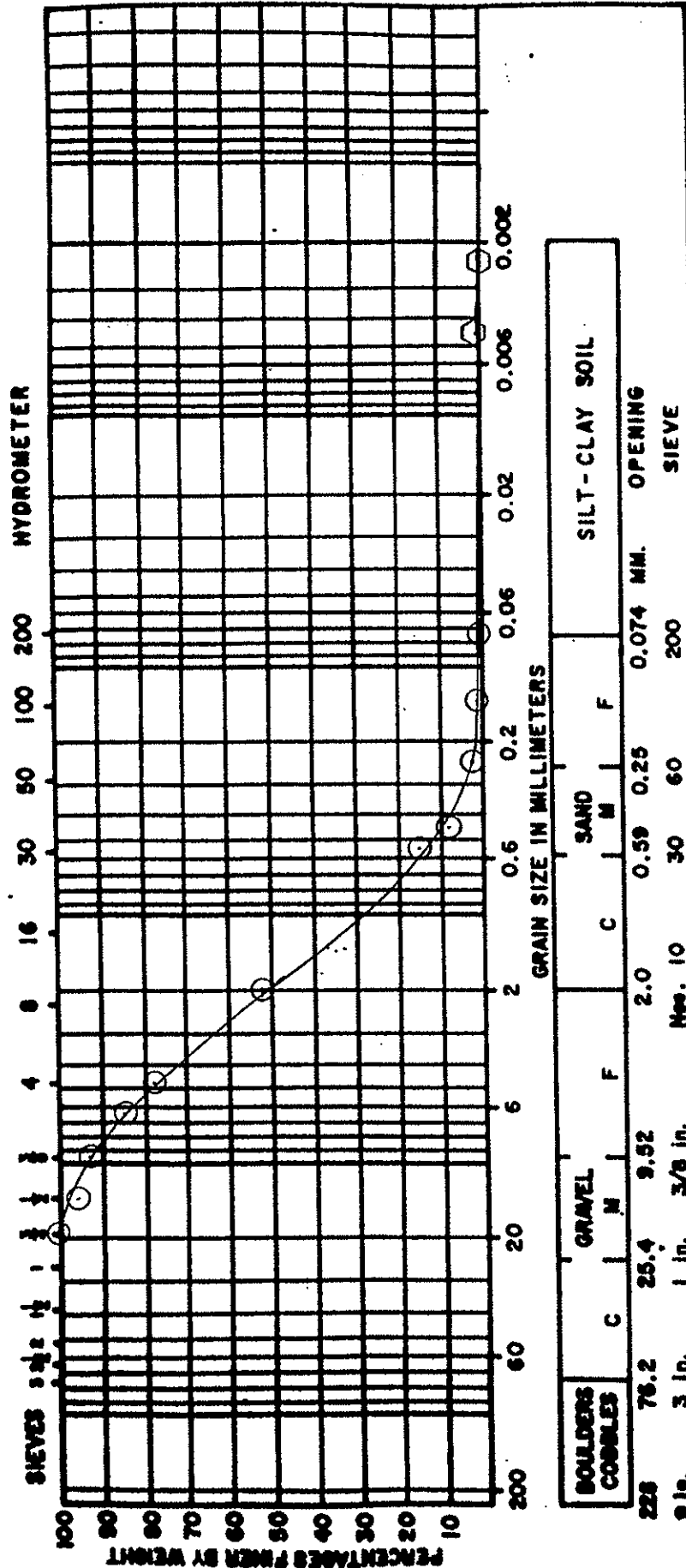
Prewashed: Yes X No
Performed By: AS, LO
Checked By: V.J. Thoma

Remarks:

September 27, 2001



GRAIN SIZE ANALYSIS



Lab I.D. #: 15214

Sample: SED-01-2-GS

L-01154

Laboratory Testing

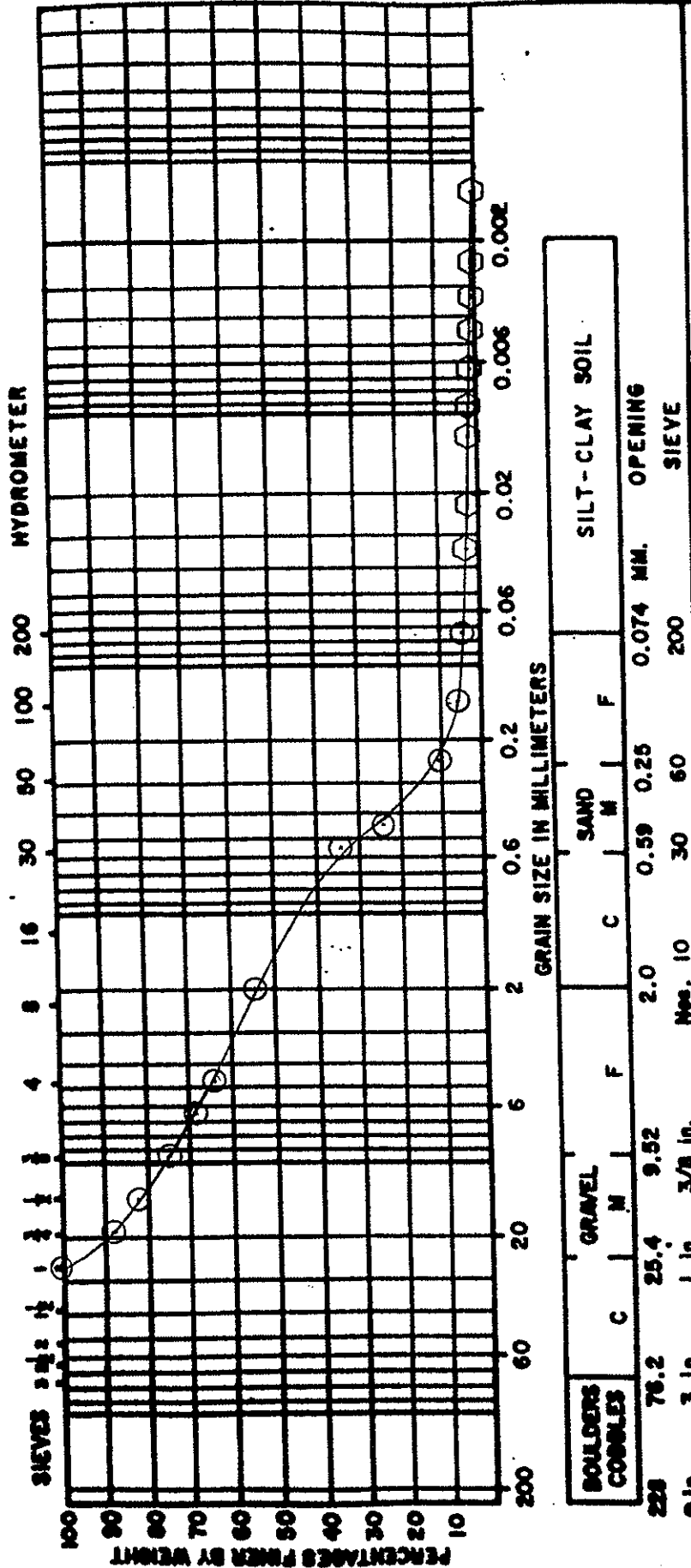
NIMO Erie Boulevard

Project # AY000207.0005

⊙ Sieve Analysis ASTM D422 & D1140

Hydrometer Analysis ASTM D422

GRAIN SIZE ANALYSIS



Lab I.D. #: 15215

Sample: SED-01-4-GS

L-01154

Laboratory Testing

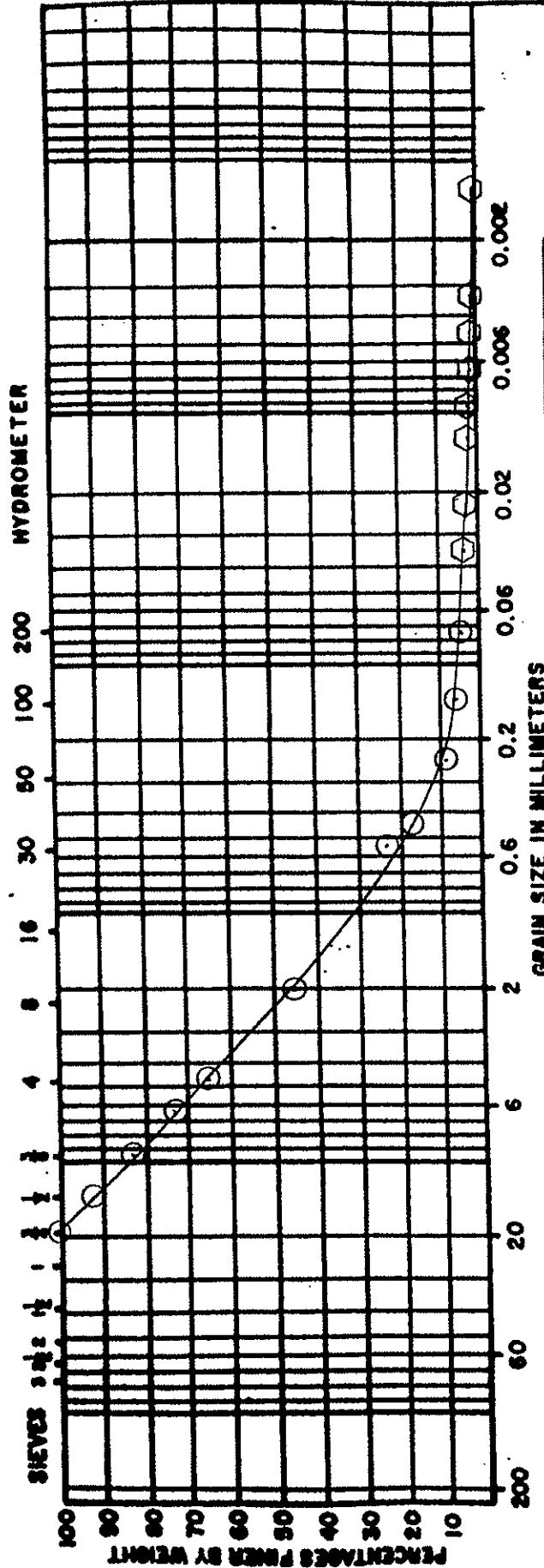
NIMO Erie Boulevard

Project # AY000207.0005

© Sieve Analysis ASTM D422 & D1140

Hydrometer Analysis ASTM D422

GRAIN SIZE ANALYSIS



BOULDERS COBBLES		GRAVEL		SAND		SILT-CLAY SOIL	
C	M	F	C	M	F		

228 76.2 25.4 9.52 2.0 0.59 0.25 0.074 MM. OPENING
9 in. 3 in. 1 in. 3/8 in. Nos. 10 30 60 200 SIEVE

Lab I.D. #: 15216
Sample: SED-01-5-GS

L-01154

Laboratory Testing

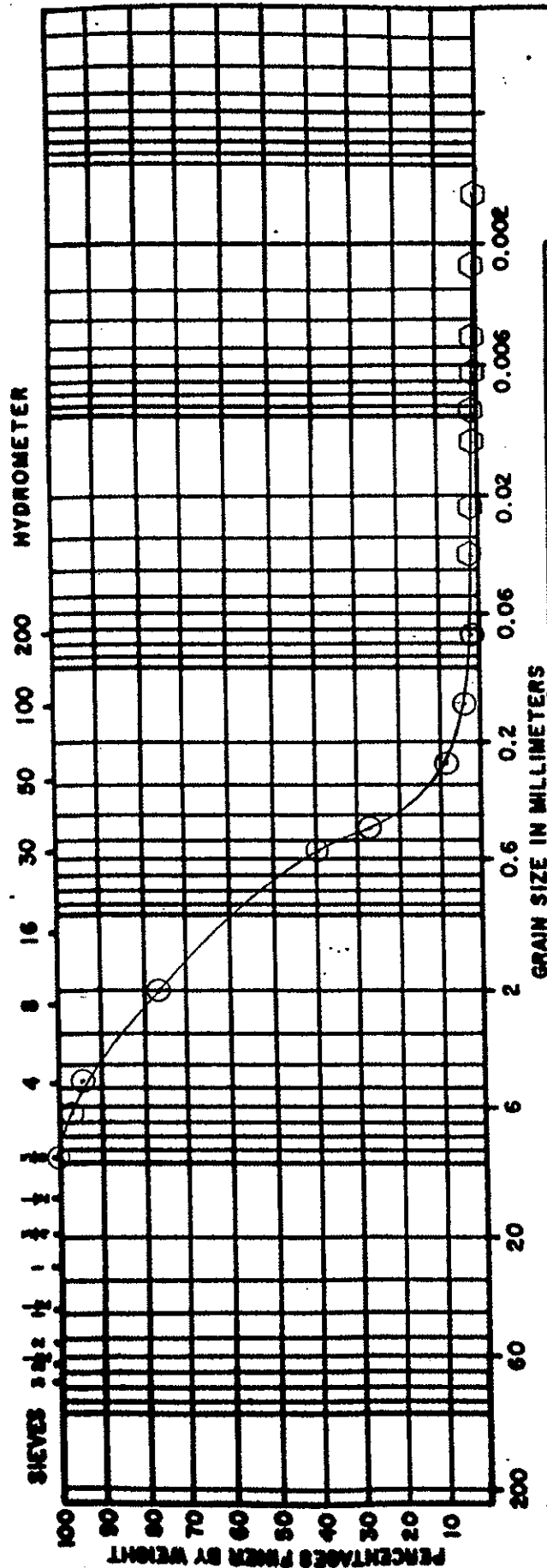
NIMO Erie Boulevard

Project # AY000207.0005

⊙ Sieve Analysis ASTM D422 & D1140

⊙ Hydrometer Analysis ASTM D422

GRAIN SIZE ANALYSIS



BOULDERS COBBLES		GRAVEL		SAND		SILT-CLAY SOIL	
228	76.2	25.4	9.52	2.0	0.59	0.074	MM. OPENING
9 in.	3 in.	1 in.	3/8 in.	No. 10	30	200	SIEVE

Lab I.D. #: 15217

Sample: SED-01-6-GS

Laboratory Testing

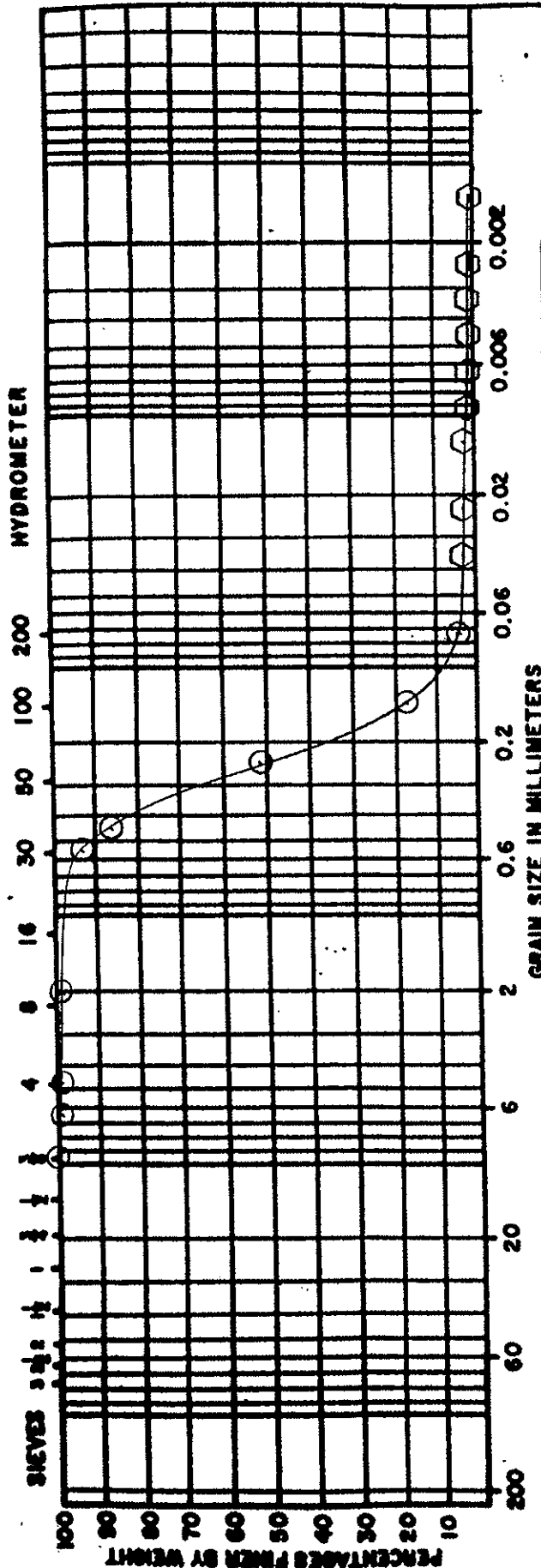
NIMO Erie Boulevard

Project # AY000207.0005

○ Sieve Analysis ASTM D422 & D1140

◇ Hydrometer Analysis ASTM D422

GRAIN SIZE ANALYSIS



BOULDERS CORBELS		GRAVEL		SAND		SILT-CLAY SOIL	
C	M	F	C	M	F		
75.2	25.4	9.52	2.0	0.59	0.25	0.074	MM.
3 in.	1 in.	3/8 in.	No. 10	30	60	200	SIEVE

228 76.2 3 in. 25.4 1 in. 9.52 3/8 in. 2.0 No. 10 0.59 30 0.25 60 0.074 200 0.002

Lab I.D. #: 15219

Sample: SED-01-10-GS

Laboratory Testing

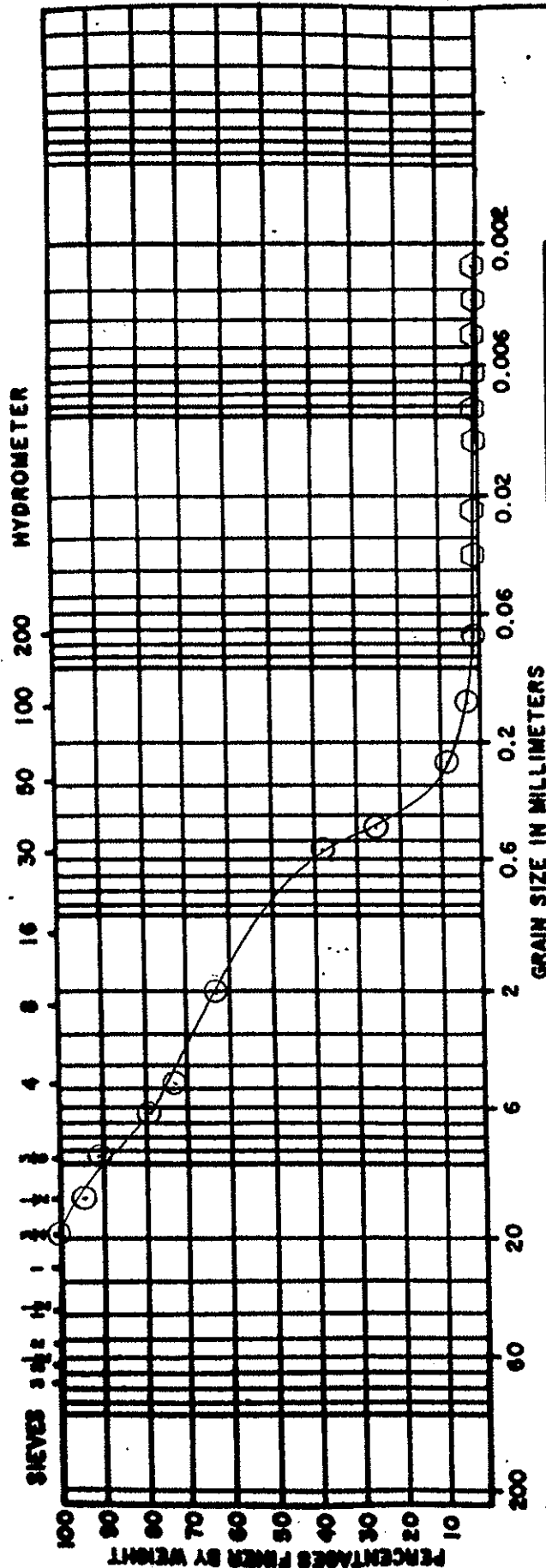
NIMO Erie Boulevard

Project # AY000207.0005

○ Sieve Analysis ASTM D422 & D1140

○ Hydrometer Analysis ASTM D422

GRAIN SIZE ANALYSIS

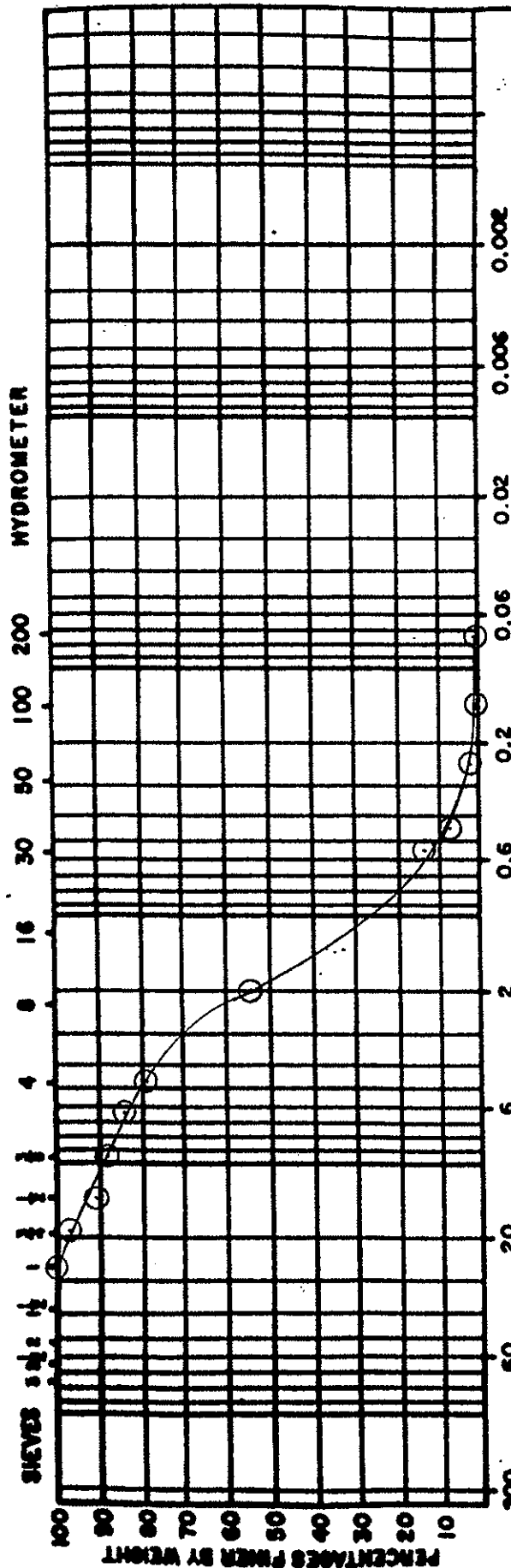


BOULDERS CORBELS		GRAVEL			SAND			SILT-CLAY SOIL		
C	M	F	C	M	F	C	M	F	0.075 MM.	OPENING SIEVE
75.2	25.4	9.52	2.0	0.59	0.25	0.074	0.02	0.002		
3 in.	1 in.	3/8 in.	No. 10	30	60	200				

Lab I.D. #: 15221
 Sample: SED-01-3-GS
 Laboratory Testing
 NIMO Erie Boulevard
 Project # AY000207.0005

- Sieve Analysis ASTM D422 & D1140
- ◇ Hydrometer Analysis ASTM D422

GRAIN SIZE ANALYSIS



BOULDERS COBBLES		GRAVEL		SAND		SILT-CLAY SOIL	
C	M	F	C	M	F	0.075 MM.	OPENING SIEVE
225	76.2	25.4	9.52	2.0	0.59	0.075	200
9 in.	3 in.	1 in.	3/8 in.	No. 10	No. 30	0.075	200

Lab I.D. #: 15222

Sample: SED-01-11

L-01154

Laboratory Testing

NIMO Erie Boulevard

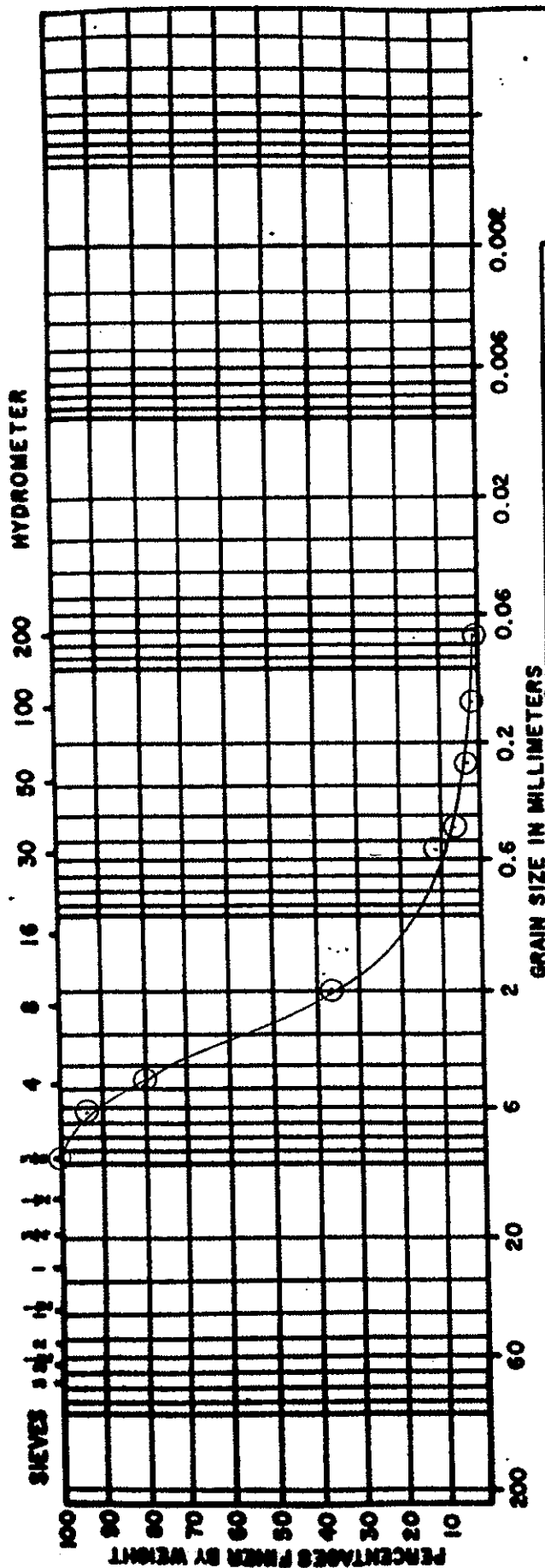
Project # AY000207.0005

- Sieve Analysis ASTM D422 & D1140
- Hydrometer Analysis ASTM D422

PERCENTAGES FINER BY WEIGHT

GRAIN SIZE IN MILLIMETERS

Grain Size (mm)	Percentage Finer (%)
200	100
60	85
20	75
6	55
2	35
0.6	15
0.2	5
0.075	1



BOULDERS COBBLES		GRAVEL		SAND		SILT-CLAY SOIL	
C	M	F	C	M	F		
76.2	25.4	9.52	2.0	0.59	0.25	0.074	MM. OPENING SIEVE
228							

Lab I.D. #: 15223

Sample: SED-01-12

L-01154

Laboratory Testing

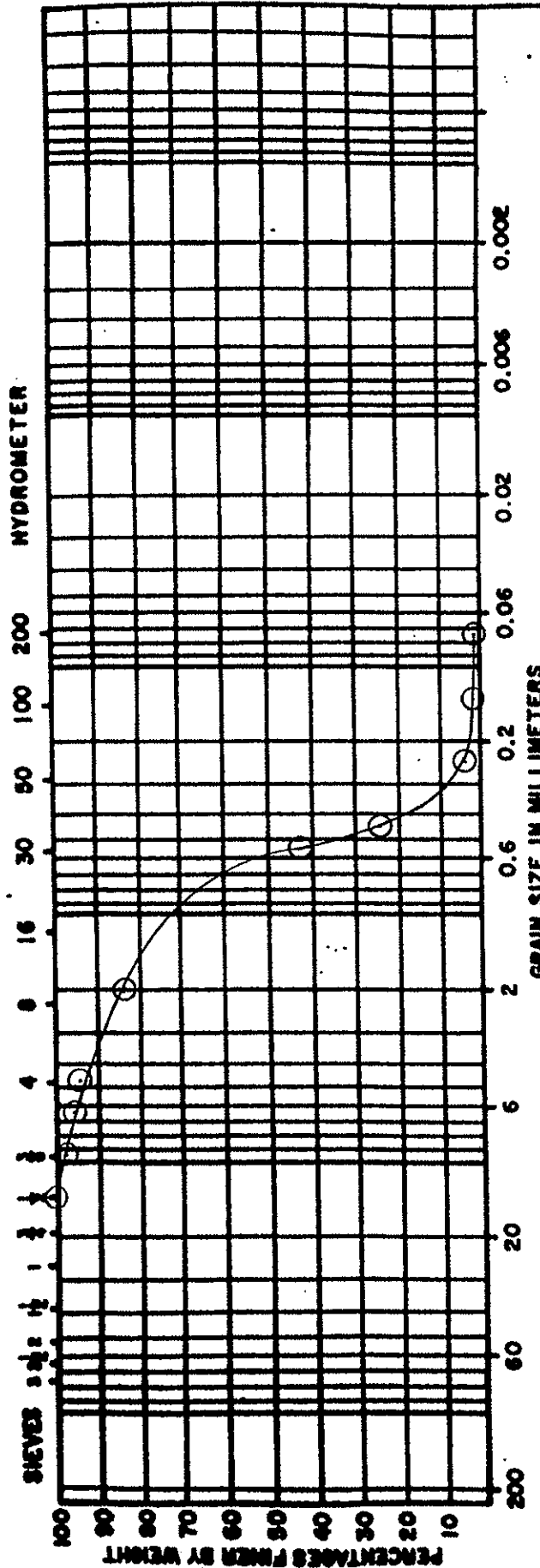
NIMO Erie Boulevard

Project # AY000207.0005

© Sieve Analysis ASTM D422 & D1140

Hydrometer Analysis ASTM D422

GRAIN SIZE ANALYSIS



BOULDERS CORRALS		GRAVEL		SAND		SILT-CLAY SOIL	
225	76.2	25.4	9.52	2.0	0.59	0.074	0.002
9 in.	3 in.	1 in.	3/8 in.	No. 10	30	200	SIEVE

Lab I.D. #: 15225

Sample: SED-01-15

Laboratory Testing

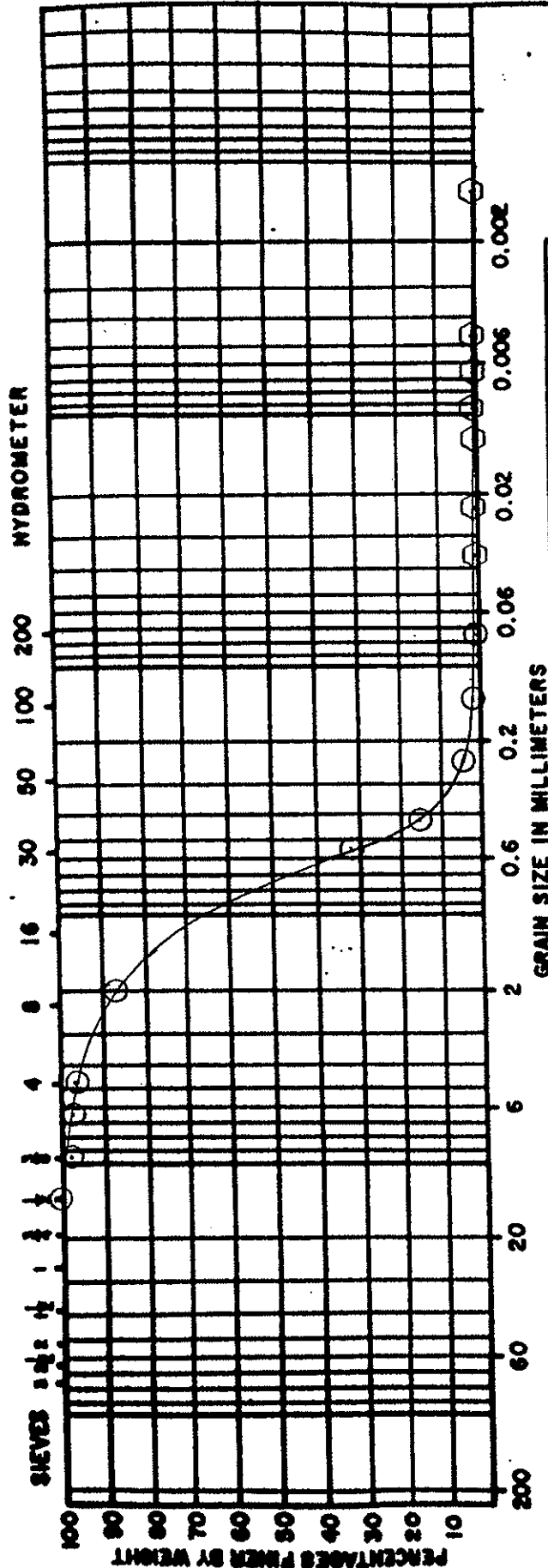
NIMO Erie Boulevard

Project # AY000207.0005

○ Sieve Analysis ASTM D422 & D1140

○ Hydrometer Analysis ASTM D422

GRAIN SIZE ANALYSIS



BOULDERS COBBLES		GRAVEL		SAND		SILT-CLAY SOIL	
C	M	F	C	M	F	0.074 MM.	OPENING SIEVE

200 76.2 25.4 9.52 2.0 0.59 0.25 0.074 MM. OPENING
9 in. 3 in. 1 in. 3/8 in. Nos. 10 30 60 200 SIEVE

Lab I.D. #: 15227

Sample: SED-01-8

L-01154

Laboratory Testing

NIMO Erie Boulevard

Project # AY000207.0005

○ Sieve Analysis ASTM D422 & D1140

◇ Hydrometer Analysis ASTM D422

BOULDERS COBBLES		GRAVEL			SAND			SILT-CLAY SOIL		
C	M	F	C	M	F	C	M	F	0.074 MM.	OPENING SIEVE
76.2	25.4	9.52	2.0	0.59	0.25	0.074	200			
3 in.	1 in.	3/8 in.	No. 10	30	60					

BOULDERS COBBLES	GRAVEL		F	SAND		F	SILT-CLAY SOIL
	C	M		C	M		

	76.2	25.4	9.52	2.0	0.59	0.25	0.074 MM.	OPENING SIEVE
228	76.2	25.4	9.52	2.0	0.59	0.25	0.074 MM.	200
114	76.2	25.4	9.52	2.0	0.59	0.25	0.074 MM.	200

Lab I.D. #: 15229

Sample: SED-01-13

L-01154

Laboratory Testing

NIMO Erie Boulevard

Project # AY000207.0005

⊙ Sieve Analysis ASTM D422 & D1140

 Hydrometer. Analysis ASTM D422

ARCADIS

**Laboratory Geotechnical
Results, 2002**



PW LABORATORIES INC.
P.O. BOX 56, 5879 FISHER ROAD, EAST SYRACUSE, NY 13057
315-437-1420 • (866) 7PW-LABS • FAX 315-437-1752

September 19, 2002

RECEIVED

SEP 23 2002

ARCADIS Goughly & Miller

Mr. Matthew Bokus
ARCADIS, G & M
441 New Karner Road
Suite #4
Albany, New York 12205

Re: L-02174
NIMO
Erie Boulevard

Dear Mr. Bokus:

Enclosed are the results of laboratory testing performed at your request on two tube soil samples delivered to our laboratory on September 5, 2002 for the above referenced project. Results include:

- | | | |
|----|-------------------------------------|--------|
| 1. | Natural Moisture Content ASTM D2216 | |
| | Laboratory I.D. #16272, 16273 | 2 each |
| 2. | Sieve Analysis ASTM D422 & D1140 | |
| | Laboratory I.D. #16272, 16273 | 2 each |
| 3. | Hydrometer Analysis ASTM D422 | |
| | Laboratory I.D. #16272, 16273 | 2 each |
| 4. | Atterberg Limits ASTM D4318 | |
| | Laboratory I.D. #16272, 16273 | 2 each |
| 5. | pH ASTM D4972 | |
| | Laboratory I.D. #16272, 16273 | 2 each |

The results of two each Total Organic Carbon Will be forwarded immediately upon completion.

Thank you for this opportunity to work with you.

Very truly yours,

PW LABORATORIES, INC.

Virginia J. Thoma
Manager - Laboratory Services
VJT/bap
encs:



SIEVE ANALYSIS OF SOIL / AGGREGATE

PROJECT TITLE	Laboratory Testing

Laboratory Testing

NIMO - Erie Boulevard

REPORT # 1

REPORT # 1
REPORT DATE September 19, 2002

PROJECT # L-02174

TEST METHOD ASTM D422 & D1140

[illegible]

Sample mass, as received, _____	Yes _____	No _____	Prewashed: _____	Yes _____	No _____
Sample mass, meets minimum mass requirements of test method: _____	Yes _____	No _____	_____	X _____	_____

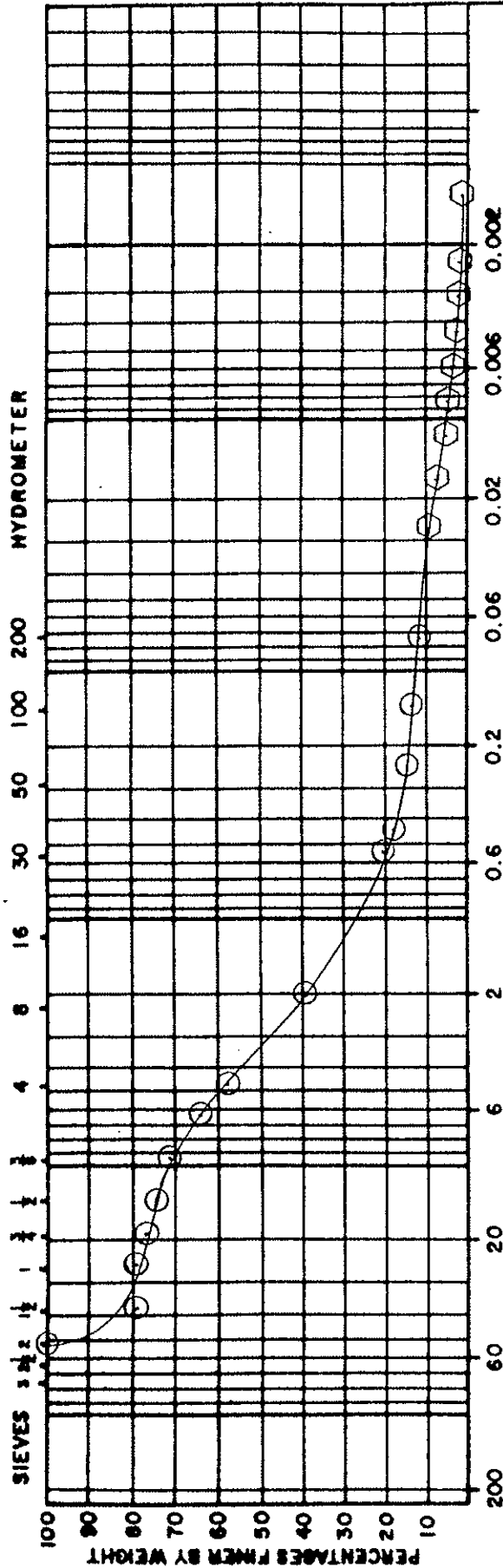
Remarks:

 Performed By: SV

Checked By: V.J. Thoma

September 19, 2002

GRAIN SIZE ANALYSIS



Lab I.D. #: 16272

Sample: MW-18

Depth: 69.5' - 70.0'

L-02174

Laboratory Testing

NIMO

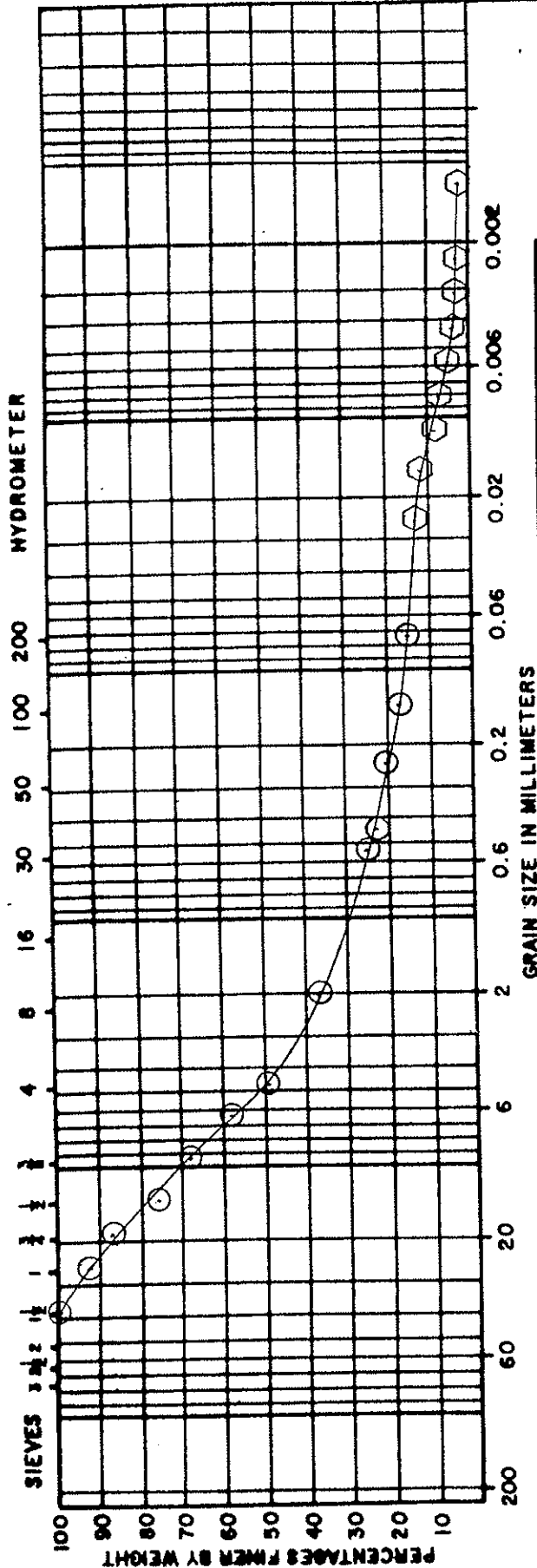
Erie Boulevard

○ Sieve Analysis ASTM D422 & D1140

○ Hydrometer Analysis ASTM D422

PW LABORATORIES INC.
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315-437-1420 • (866) 7PW-LABS • FAX 315-437-1752

GRAIN SIZE ANALYSIS



BOULDERS COBBLES	GRAVEL		SAND	SILT-CLAY SOIL
	C	M		
		F	C	F

[illegible]

L-02174	Lab I.D. #: 16273
Laboratory Testing	Sample: MW-18
NIMO	Depth: 69.0' - 69.5'
Erie Boulevard	
☉ Sieve Analysis ASTM D422 & D1140	
☉ Hydrometer Analysis ASTM D422	

September 19, 2002

L-02174
Laboratory Testing
NIMO
Erie Boulevard

pH
ASTM D4972

<u>Lab. I.D.#</u>	<u>Sample #</u>	<u>Depth</u> <u>(feet)</u>	<u>pH (1)</u>
16272	MW-18	69.5 – 70.0	7.0
16273	MW-18	69.0 – 69.5	7.5

(1) Average of ten determinations.

September 19, 2002

L-02174
Laboratory Testing
NIMO
Erie Boulevard

· ATTERBERG LIMITS
ASTM D4318

<u>Lab ID#</u>	<u>Sample #.</u>	<u>Depth (feet)</u>	<u>Plastic Limit</u>	<u>Liquid Limit</u>	<u>Plasticity Index</u>
16272	MW-18	69.5 – 70.0	Non-Plastic	--	--
16273	MW-18	69.0 – 69.5	14	17	3

September 19, 2002

L-02174
Laboratory Testing
NIMO
Erie Boulevard

NATURAL MOISTURE CONTENT
ASTM D2216

<u>Lab I.D. #</u>	<u>Sample #.</u>	<u>Depth (feet)</u>	<u>Moisture Content as a Percent of Dry Weight</u>
16272	MW-18	69.5 – 70.0	3.5
16273	MW-18	69.0 – 69.5	3.6



Laboratory Task Order No./P.O. No.:

Project Number/Name	207	James E. 134.1
---------------------	-----	----------------

Project Location Superior, Wis

Laboratory Pro Labs

Project Manager M. J. Ford

Sampler(s)/Affiliation _____

[illegible]

Sample Matrix: L = Liquid; S = Solid; A = Air

Relinquished by: <u>Matthew B. B.</u>	Organization: _____	Date <u>9/14/12</u>	Time <u>0740</u>	Seal Intact? _____
Received by: _____	Organization: _____	Date <u>1/1</u>	Time _____	Yes No N/A

Relinquished by: _____	Organization: _____	Date ____/____/____	Time _____	Seal Intact? _____
Received by: _____	Organization: _____	Date ____/____/____	Time _____	Yes No N/A

Special Instructions/Remarks:

Delivery Method: ☐ In Person☐ Common Carrier☐ Lab Courier☐ Other: _____



PW LABORATORIES INC.
P.O. BOX 56, 5879 FISHER ROAD, EAST SYRACUSE, NY 13057
315-437-1420 • (866) 7PW-LABS • FAX 315-437-1752

October 1, 2002

RECEIVED

OCT 03 2002

ARCADIS Geraghty & Miller

Mr. Matthew Bokus
ARCADIS, G & M
441 New Karner Road
Suite #4
Albany, New York 12205

Re: L-02174
NIMO
Erie Boulevard

Dear Mr. Bokus:

Enclosed are the results of laboratory testing performed at your request on two tube soil samples delivered to our laboratory on September 5, 2002 for the above referenced project. Results include:

1. Total Organic Carbon (EPA Method 9060) 2 each
Laboratory I.D. #16272, 16273

The Total Organic Carbon testing was performed by ATEL Laboratories, Inc. at the direction of PW Laboratories, Inc.

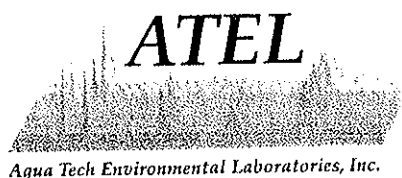
All requested tests have been completed on the previously received sample(s) for the above project. All sample remains are scheduled to be disposed of on October 1, 2002. Please notify PW Laboratories, Inc. by letter or telephone prior to October 1, 2002 if you would prefer to pick up the sample(s) or that the sample(s) be retained by PW Laboratories, Inc. for an additional period of time.

Thank you for this opportunity to work with you.

Very truly yours,

PW LABORATORIES, INC.

Virginia J. Thoma
Manager - Laboratory Services
VJT/bap
encs:



RECEIVED
SEP 3 0 2002
PW LABORATORIES, INC.

- CERTIFICATE OF ANALYSIS -

Client #: I3465
PW Laboratories Inc.
5879 Fisher Rd.
E.Syracuse, NY 13057-

Report Date: 26-Sep-02

Phone: (315) 437-1420 Ext:
FAX: (315) 437-1752

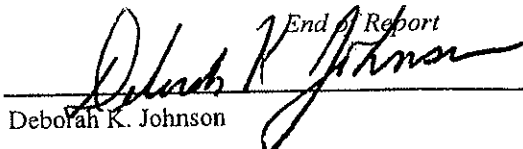
Attn: Ginny Thoma
Our Lab #: MAR02-18498
Date Logged-In: 9/16/02
Matrix: Soil
Project #: L-02174

Your Sample ID: MW-18 69.5' - 70.0' -- 16272
Sample Source: Other/Undefined
Client Project #: NIMO-Erie Blvd PO#: L-02174
Date Submitted to Lab: 9/16/2002

- COLLECTION INFORMATION -

Date/Time/By: 9/4/02

Test Group	EPA Method	Test	Result	Units	Analysis Date	Analyst	WS#
TOC-S	9060	Carbon, Total Organic, TOC	ND (1090)	MG/KG	9/23/02	DLQ	31218
TS-%	160.3	Residue, Total, TS	91.9 (0.20)	%	9/17/02	TLL	31136

Report Approved By: 

Deborah K. Johnson

End of Report

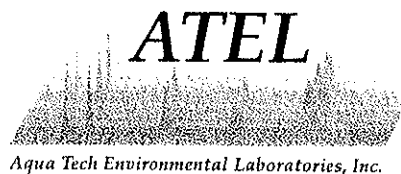
This report shall not be reproduced, except in its entirety, without the written approval of the laboratory. The results presented on this Certificate only reflect those parameters that were requested by the client on the chain of custody or other documentation received with the sample(s).

CERTIFICATIONS: NCDWQ263, NCDEH39700, AZ0071, OH4053, NY11071, A2LA102325-PB

Lab Number MAR02-18498: Page 1

Total Number of Pages for Report: 1

1776 MARION-WALDO RD. • P.O. BOX 436 • MARION, OH 43301-0436
PHONE 740-389-5991 • 1-800-873-2835 • FAX 740-389-1481



- CERTIFICATE OF ANALYSIS -

Client #: 13465
PW Laboratories Inc.
5879 Fisher Rd.
E.Syracuse, NY 13057-

Report Date: 26-Sep-02

Attn: Ginny Thoma

Phone: (315) 437-1420 Ext:

FAX: (315) 437-1752

Our Lab #: MAR02-18499

Your Sample ID: MW-18 69.0' - 69.5' -- 16273

Date Logged-In: 9/16/02

Sample Source: Other/Undefined

Matrix: Soil

Client Project #: NIMO-Erie Blvd PO#: L-02174

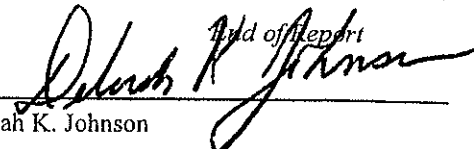
Project #: L-02174

Date Submitted to Lab: 9/16/2002

- COLLECTION INFORMATION -

Date/Time/By: 9/4/02

Test Group	EPA Method	Test	Result	Units	Analysis Date	Analyst	WS#
TOC-S	9060	Carbon, Total Organic, TOC	8250 (1060)	MG/KG	9/23/02	DLQ	31218
TS-%	160.3	Residue, Total, TS	91.6 (0.20)	%	9/17/02	TLL	31136

Report Approved By: 

Deborah K. Johnson

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