



EA Engineering, P.C.  
EA Science and Technology

LOG OF SOIL BORING

Coordinates: Northing 1027406.49 Easting: 1084478.18  
Surface Elevation: 595.04  
Casing Below Surface: N/A  
Reference Elevation: 595.04  
Reference Description: Surface Elevation

Job. No. 1490710	Client: NYSDEC	Location: Lackawanna, NY
Project: Lackawanna Incinerator Site	Drilling Method: Geoprobe Direct-Push	Soil Boring Number: SB-05
Sampling Method: Sterilized acetate sleeves	Sheet 1 of 1	
Water Level:		Drilling
Time:		Start Finish
Date:		DATE: 10-26-12 DATE: 10-26-12
		TIME: 08:15 TIME: 08:27

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions: Athletic Field (Grass, Topsoil)
						Weather: Sunny, 5-10 mph S
						Temperature: 67F
			0.0	0	OL	0.0': Topsoil: Dark brown; SILT and CLAY, some fine SAND, trace organic matter; medium stiff; moist.
					OL	0.2' - 4.0': Light brown; SILT and CLAY, trace fine SAND, trace organic matter; hard; moist.
	4/4		3.3	1		
			3.9	2		
			2.0	3		
			2.3	4	OH	4.0' - 8.0': Reddish brown; CLAY, trace SILT, trace organic matter; hard; moist.
	4/4		5.7	5		
			4.8	6		
			4.7	7		
				8		End of boring at 8.0-ft bgs.
				9		
				10		
				11		
				12		
				13		
				14		
				15		
				16		
				17		
				18		
				19		
				20		
				21		
				22		
				23		
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				25		
				26		
				27		
				28		
				29		

Logged by: Robert Peterson  
Drilling Contractor: GeoLogic NY, Inc.

Date: 10-26-12  
Driller: Dave Lyons



EA Engineering, P.C.  
EA Science and Technology

LOG OF SOIL BORING


Coordinates: Northing 1027291.35 Easting: 1084476.19  
Surface Elevation: 595.64  
Casing Below Surface: N/A  
Reference Elevation: 595.64  
Reference Description: Surface Elevation

Job. No. 1490710	Client: NYSDEC	Location: Lackawanna, NY
Project: Lackawanna Incinerator Site	Drilling Method: Geoprobe Direct-Push	Soil Boring Number: SB-06
Sampling Method: Sterilized acetate sleeves	Sheet 1 of 1	
Water Level:		Drilling
Time:		Start Finish
Date:		DATE: 10-26-12 DATE: 10-26-12
		TIME: 07:52 TIME: 08:00

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions: Athletic Field (Grass, Topsoil)
						Weather: Sunny, 5-10 mph S
						Temperature: 67F
			0.8	0	OL	0.0': Topsoil: Dark brown; SILT and CLAY, some fine SAND, trace organic matter; medium stiff; moist.
					OL	0.2' - 2.0': Light brown; SILT and CLAY, trace fine SAND; hard; moist.
	4/4		1.1	1		
			2.7	2	SM	2.0' - 2.5': Light brown; fine SAND, some SILT.
					OL	2.5' - 4.0': Light brown; SILT and CLAY, trace organic matter; hard; moist.
			0.6	3		
	4/4		1.5	4	OH	4.0' - 8.0': Reddish brown; CLAY, some SILT, trace organic matter; hard; moist.
			1.4	5		
			1.3	6		
			0.6	7		
				8		End of boring at 8.0-ft bgs.
				9		
				10		
				11		
				12		
				13		
				14		
				15		
				16		
				17		
				18		
				19		
				20		
				21		
				22		
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				28		
				29		

Logged by: Robert Peterson  
Drilling Contractor: GeoLogic NY, Inc.

Date: 10-26-12  
Driller: Dave Lyons

<div><div>EA Engineering, P.C. EA Science and Technology</div><div>LOG OF SOIL BORING</div><div>Coordinates: Northing 1027157.14 Easting: 1084484.46</div><div>Surface Elevation: 595.65</div><div>Casing Below Surface: N/A</div><div>Reference Elevation: 595.65</div><div>Reference Description: Surface Elevation</div></div>						Job. No. 1490710	Client: NYSDEC Project: Lackawanna Incinerator Site				Location: Lackawanna, NY		
						Drilling Method: Geoprobe Direct-Push						Soil Boring Number: SB-07	
						Sampling Method: Sterilized acetate sleeves						Sheet 1 of 1	
												Drilling	
												Water Level:	
						Time:				DATE: 10-26-12	DATE: 10-26-12		
						Date:				TIME: 07:25	TIME: 07:36		
Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions: Athletic Field (Grass, Topsoil)							
						Weather: Sunny, 5-10 mph S							
						Temperature: 67F							
	4/4		0.0	0	OL	0.0': Topsoil: Dark brown; SILT and CLAY, some fine SAND, trace Organic Matter; soft; moist.							
					0.2' - 2.0': Fill: Black to dark brown; brick, cinders, gravel; hard; moist.								
			1.4										
			0.9	2	SM	2.0' - 4.0': Brown; SILT and fine SAND; hard; moist.							
	4/4		0.0	3									
			0.0	4	CH	4.0' - 8.0': Light brown; CLAY, trace SILT; hard; moist.							
			0.0	5									
			0.0	6									
	4/4		0.0	7									
			0.0	8		8.0' - 12.0': Gray, CLAY, tr. Silt, hard; moist.							
			0.0	9									
			0.0	10									
			0.0	11									
				12		End of boring at 12.0-ft bgs.							
				13									
				14									
				15									
				16									
				17									
				18									
				19									
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				22									
				23									
				24									
				25									
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		27											
		28											
		29											
Logged by:						Robert Peterson			Date: 10-26-12				
Drilling Contractor:						GeoLogic NY, Inc.			Driller: Dave Lyons				



EA Engineering, P.C.  
EA Science and Technology

LOG OF SOIL BORING

Coordinates: Northing 1027392.75 Easting: 1084834.94

Surface Elevation: 597.12

Casing Below Surface: N/A

Reference Elevation: 597.12

Reference Description: Surface Elevation

Job. No. 1490710 Client: NYSDEC  
Project: Lackawanna Incinerator Site

Location:  
Lackawanna, NY

Drilling Method: Geoprobe Direct-Push

Soil Boring Number:  
SB-08

Sampling Method: Sterilized acetate sleeves

Sheet 1 of 1

Drilling

Water Level:					Start	Finish
Time:					DATE: 10-26-12	DATE: 10-26-12
Date:					TIME: 09:40	TIME: 09:47

Surface Conditions: Grass, Topsoil

Weather: Sunny, 5-10 mph S

Temperature: 67F

0.0' - 4.0': Fill: Dark brown; cinders, glass, gravel; soft; dry.

4.0' - 6.0': Brownish gray; SILT and CLAY, trace organic matter; hard; moist.

6.0' - 8.0': Gray; CLAY; hard; moist.

End of boring at 8.0-ft bgs.

Logged by: Robert Peterson  
Drilling Contractor: GeoLogic NY, Inc.

Date: 10-26-12  
Driller: Dave Lyons



EA Engineering, P.C.  
EA Science and Technology

LOG OF SOIL BORING

Coordinates: Northing 1027245.62 Easting: 1084853.39  
Surface Elevation: 595.60  
Casing Below Surface: N/A  
Reference Elevation: 595.60  
Reference Description: Surface Elevation

Job. No. 1490710	Client: NYSDEC	Location: Lackawanna, NY
Project: Lackawanna Incinerator Site	Drilling Method: Geoprobe Direct-Push	Soil Boring Number: SB-09
Sampling Method: Sterilized acetate sleeves	Sheet 1 of 1	
Water Level:		Drilling
Time:		Start Finish
Date:		DATE: 10-26-12 DATE: 10-26-12
		TIME: 09:20 TIME: 09:30

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions: Grass, Topsoil Weather: Sunny, 5-10 mph S Temperature: 67F
	4/4		4.7	0	SP	0.0': Topsoil: Dark brown; medium to coarse SAND, some GRAVEL, trace organic matter; medium stiff; moist.
			2.6	1	OL	0.2' - 4.0': Brown; SILT, trace CLAY, trace organic matter; hard; dry.
			2.4	2		
			1.2	3		
	4/4		1.0	4	OH	4.0' - 8.0': Brown; CLAY, trace SILT, trace organic matter; medium plasticity, hard; moist.
			2.3	5		
			0.3	6		
			1.6	7		
				8		End of boring at 8.0-ft bgs.
				9		
				10		
				11		
				12		
				13		
				14		
				15		
				16		
				17		
				18		
				19		
				20		
				21		
				22		
				23		
				24		
				25		
				26		
				27		
				28		
				29		

Logged by: Robert Peterson  
Drilling Contractor: GeoLogic NY, Inc.

Date: 10-26-12  
Driller: Dave Lyons



EA Engineering, P.C.  
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LOG OF SOIL BORING

Coordinates: Northing 1027087.15 Easting: 1084843.41  
Surface Elevation: 595.68  
Casing Below Surface: N/A  
Reference Elevation: 595.68  
Reference Description: Surface Elevation

Job. No. 1490710	Client: NYSDEC	Location: Lackawanna, NY
Project: Lackawanna Incinerator Site	Drilling Method: Geoprobe Direct-Push	Soil Boring Number: SB-10
Sampling Method: Sterilized acetate sleeves	Sheet 1 of 1	
Water Level:		Drilling
Time:		Start Finish
Date:		DATE: 10-26-12 DATE: 10-26-12
		TIME: 09:00 TIME: 09:10

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions: Grass, Topsoil Weather: Sunny, 5-10 mph S Temperature: 67F
	4/4		0.0	0	SP	0.0': Topsoil: Dark brown; medium to coarse SAND, some GRAVEL, trace organic matter; medium stiff; moist.
				1	OL	0.2' - 4.0': Light brown; SILT, some CLAY, trace fine SAND, trace organic matter; soft; dry.
			2.2			
			1.8	2		
			1.5	3		
	4/4		0.1	4	OH	4.0' - 6.0': Light brown; CLAY and SILT, trace fine SAND; hard; dry.
			0.3	5		
			1.4	6		6.0' - 8.0': Gray; CLAY, moderate plasticity; hard; moist.
			1.3	7		
				8		End of boring at 8.0-ft bgs.
				9		
				10		
				11		
				12		
				13		
				14		
				15		
				16		
				17		
				18		
				19		
				20		
				21		
				22		
				23		
				24		
				25		
				26		
				27		
				28		
				29		

Logged by: Robert Peterson  
Drilling Contractor: GeoLogic NY, Inc.

Date: 10-26-12  
Driller: Dave Lyons



EA Engineering, P.C.  
EA Science and Technology

LOG OF SOIL BORING

Coordinates: Northing 1027171.74 Easting: 1084688.56

Surface Elevation: 604.21

Casing Below Surface: N/A

Reference Elevation: 604.21

Reference Description: Surface Elevation

Job. No. 1490710	Client: NYSDEC	Location: Lackawanna, NY
Project: Lackawanna Incinerator Site	Drilling Method: 4.5" Hollow Stem Auger	Soil Boring Number: SB-11
Sampling Method: 55 / macro Cores	Sheet 1 of 1	
Water Level:		Drilling
Time:		Start Finish
Date:		DATE: 11-16-12 DATE: 11-16-12
		TIME: 14:40 TIME: 1650

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth	USCS Log	Surface Conditions: Gravel	
				in		Weather: Sunny	
				Feet		Temperature: 38F	
12	2/1.5		1.1	0		0.0'-1.5': Fill: CLAY and SILT, some fine SAND, some GRAVEL, glass, slag, wood; hard; moist.	
23				1			
14							
18							
21	2/2		3.7	2		2.0'-2.5': Fill: brown; CLAY and SILT, some fine SAND, trace GRAVEL, trace glass, trace slag; hard; moist.	
19					2.5'-4.0': Fill: black; CLAY and SILT, some fine SAND, trace GRAVEL, trace glass, trace slag; hard; moist.		
31				3			
24							
5	2/2		11.1	4		4.0'-6.0': Fill: Gray; CLAY and SILT, some fine SAND, trace GRAVEL, trace glass, trace slag, brick; hard; moist.	
6							
7				5			
10							
10	2/2		10.5	6		6.0'-8.0': Fill: Brown; CLAY and SILT, trace glass, trace slag, trace metal fragments; hard; moist.	
10							
9				7			
9							
6	2/2		10.8	8		8.0'-9.0': Fill: Brown; CLAY and SILT, trace glass, trace slag, trace metal fragments; hard; moist.	
2							
8				9		9.0'-10.0': Fill: loose slag and gravel; saturated. Unable to sample, no sediment.	
21							
15	2/2		6.2	10		10.0'-12.0': Fill: Black; CLAY and SILT, some fine SAND, coal, slag, glass; stiff; saturated.	
14							
20				11			
16							
10	2/1.5		5.1	12		12.0'-13.5': Fill: Black; CLAY and SILT, some fine SAND, coal, slag, glass; stiff; saturated.	
6							
5				13			
18							
6	2/1.8		0.0	14		14.0'-15.8': Light brown; SILT and CLAY; hard; moist; moderate plasticity.	
9							
16				15			
24							
25	2/2		0.0	16		16.0'-18.0': Light brown; SILT and CLAY; hard; moist; moderate plasticity.	
28							
33				17			
40							
				18		End of boring at 18 ft bgs.	
				19			
				20			
				21			
				22			
				23			
				24			
				25			
				26			
				27			
				28			
				29			

Logged by: Robert Peterson  
Drilling Contractor: GeoLogic NY, Inc.

Date: 11-16-12  
Driller: Dave Lyons



EA Engineering, P.C.  
EA Science and Technology

LOG OF SOIL BORING

Coordinates: Northing 1027237.4 Easting: 1084662.13  
Surface Elevation: 609.54  
Casing Below Surface: N/A  
Reference Elevation: 609.54  
Reference Description: Surface Elevation

Job. No.	Client: NYSDEC		
1490710	Project: Lackawanna Incinerator Site		
Drilling Method: Geoprobe Direct-Push			
Sampling Method: Sterilized acetate sleeves			
Water Level:			
Time:			
Date:			

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth	USCS Log	Surface Conditions: Grass, Topsoil
				in		Weather: Sunny, 10-15 mph S
				Feet		Temperature: 75F
	4/2		0.0	0		0.0'-2.0': Brown (fill); GRAVEL, some medium SAND, trace glass.
			0.1	1		
				2		2.0'-4.0': No recovery.
				3		
				4		4.0' - 8.0': No recovery.
	4/0			5		
				6		
				7		
				8		8.0'-10.0': Brown (fill); GRAVEL, some medium SAND, trace glass.
	4/2			9		
				10		10.0'-12.0': No recovery.
				11		
				12		12.0'-16.0': Brown; CLAY, some SILT.
	4/4			13		
				14		
				15		
				16		16.0'-18.0': Black (fill); ash GRAVEL, coarse SAND; moist.
	4/4			17		
				18		18.0'-20.0': Reddish brown; CLAY, trace SILT; moist; soft.
				19		
				20		End of boring at 20 ft bgs.
				21		
				22		
				23		
				24		
				25		
				26		
				27		
				28		
				29		

Logged by: Robert Peterson  
Drilling Contractor: GeoLogic NY, Inc.

Date: 10-25-12  
Driller: Dave Lyons





EA Engineering, P.C.  
EA Science and Technology

LOG OF SOIL BORING

Coordinates: Northing 1027311.77 Easting: 1084718.06  
Surface Elevation: 613.95  
Casing Below Surface: N/A  
Reference Elevation: 613.95  
Reference Description: Surface Elevation

Job. No. 1490710	Client: NYSDEC	Location: Lackawanna, NY
Project: Lackawanna Incinerator Site	Drilling Method: Geoprobe Direct-Push	Soil Boring Number: SB-13
Sampling Method: Sterilized acetate sleeves	Sheet 1 of 1	
Water Level:		Drilling
Time:		Start Finish
Date:		DATE: 10-25-12 DATE: 10-25-12
		TIME: 14:00 TIME: 15:00

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions: Gravel, debris Weather: Sunny Temperature: 70F
	4/1		19.5	0		0.0'-1.0': Brown; GRAVEL and SAND, some SILT, ash (fill); dry.
				1		1.0'-4.0': No recovery.
	4/0.5		0.7	2		2.0'-2.5': Black; Ash, GRAVEL, some medium SAND (fill); dry.
				3		
	4/2			4		4.0' - 6.0': Brown; fill (ash, slag, medium SAND, trace GRAVEL).
				5		
	4/4			6		6.0'-8.0': Brown; fill (ash, slag, medium SAND, trace GRAVEL).
				7		
				8		8.0'-12.0': Tan; SILT, trace CLAY, trace GRAVEL; dry; hard.
				9		
				10		
				11		
				12		
				13		
				14		
				15		
	4/2		0.0	16		16.0'-18.0': Dark brown; CLAY and SILT, some GRAVEL, trace glass; moist.
				17		
				18		18.0'-20.0': No recovery.
				19		
	4/2		0.0	20		20'-22': Fill; black; medium to coarse SAND and GRAVEL, some glass.
			9.1	21		
				22		
				23		23.0'-25.0': Gray; CLAY, trace SILT; hard; moist.
	4/2			24		
				25		End of boring at 25 ft bgs.
				26		
				27		
				28		
				29		

Logged by: Robert Peterson  
Drilling Contractor: GeoLogic NY, Inc.

Date: 10-25-12  
Driller: Dave Lyons



EA Engineering, P.C.  
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LOG OF SOIL BORING

Coordinates: Northing 1027413.6 Easting: 1084762.29  
Surface Elevation: 594.22  
Casing Below Surface: N/A  
Reference Elevation: 594.22  
Reference Description: Surface Elevation

Job. No. 1490710	Client: NYSDEC	Location: Lackawanna, NY
Project: Lackawanna Incinerator Site	Drilling Method: Geoprobe Direct-Push	Soil Boring Number: SB-14
Sampling Method: Sterilized acetate sleeves	Sheet 1 of 1	
Water Level:		Drilling
Time:		Start Finish
Date:		DATE: 10-25-12 DATE: 10-25-12
		TIME: 13:05 TIME: 13:25

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions: Grass / topsoil Weather: Sunny Temperature: 75F
	4/4		0.9	0		0.0'-3.0': Reddish brown; SILT, trace CLAY, trace organics; soft; dry.
			1.6	1		
			1.1	2		
			0.3	3		3.0'-4.0': Brown; CLAYEY SILT, trace organics; hard; dry.
	4/4		0.0	4		4.0' - 7.0': Brown; CLAYEY SILT, trace organics; hard; dry.
			0.6	5		
			0.2	6		
			0.0	7		7.0'-8.0': Grayish brown; SILT and CLAY; moderate plasticity; moist; hard.
	4/4		0.0	8		8.0'-12.0': Gray; CLAY; very plastic; soft; moist.
			0.0	9		
			0.0	10		
			0.0	11		
				12		End of boring at 12 ft bgs.
				13		
				14		
				15		
				16		
				17		
				18		
				19		
				20		
				21		
				22		
				23		
				24		
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				26		
				27		
				28		
				29		

Logged by: Robert Peterson  
Drilling Contractor: GeoLogic NY, Inc.

Date: 10-25-12  
Driller: Dave Lyons



EA Engineering, P.C.  
EA Science and Technology

LOG OF SOIL BORING

Coordinates: Northing 1027403.71 Easting: 1084594.06  
Surface Elevation: 594.98  
Casing Below Surface: N/A  
Reference Elevation: 594.98  
Reference Description: Surface Elevation

<b>Job. No.</b> 1490710	<b>Client:</b> NYSDEC				<b>Location:</b>	
	<b>Project:</b> Lackawanna Incinerator Site				Lackawanna, NY	
<b>Drilling Method:</b> Geoprobe Direct-Push					<b>Soil Boring Number:</b> SB-15	
<b>Sampling Method:</b> Sterilized acetate sleeves					<b>Sheet   1   of   1</b>	
					<b>Drilling</b>	
<b>Water Level:</b>					<b>Start</b>	<b>Finish</b>
<b>Time:</b>					DATE: 10-25-12	DATE: 10-25-12
<b>Date:</b>					TIME: 11:45	TIME: 12:00

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions: Grass / topsoil
						Weather: Sunny
						Temperature: 75F
			1.0	0		0.0'-1.0': Brown; medium to fine SAND, some GRAVEL; dry; fill.
			2.8	1		1.0'-2.0': Dark brown; CLAY, some SILT, trace SAND, trace organics; moist.
			x	2		2.0'-4.0': No recovery.
			x	3		
			1.2	4		4.0' - 8.0': Brown; CLAYEY SILT; hard; moist.
			5.4	5		
			6.3	6		
			3.6	7		
			0.0	8		8.0'-11.0': Brown; CLAYEY SILT; hard; moist.
			0.0	9		
			0.0	10		
			0.0	11		11.0'-12.0': Gray; CLAYEY SILT; hard; moist.
				12		End of boring at 12 ft bgs.
				13		
				14		
				15		
				16		
				17		
				18		
				19		
				20		
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				22		
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				27		
				28		
				29		

Logged by: Robert Peterson  
Drilling Contractor: GeoLogic NY, Inc.

Date: 10-25-12  
Driller: Dave Lyons



EA Engineering, P.C.  
EA Science and Technology

LOG OF SOIL BORING

Coordinates: Northing 1027293.29 Easting: 1084577.36  
Surface Elevation: 595.53  
Casing Below Surface: N/A  
Reference Elevation: 595.53  
Reference Description: Surface Elevation

Job. No. 1490710	Client: NYSDEC	Location: Lackawanna, NY
Project: Lackawanna Incinerator Site		Soil Boring Number: SB-16
Drilling Method: Geoprobe Direct-Push		Sheet 1 of 1
Sampling Method: Sterilized acetate sleeves		Drilling
Water Level:		Start
Time:		Finish
Date:		DATE: 10-25-12
		TIME: 10:50

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions: Grass / topsoil
						Weather: Sunny
						Temperature: 75F
	4/4		0.0	0		0.0'-2.0': Dark brown; fine to medium SAND, trace SILT, trace GRAVEL (fill); moist.
			5.6	1		
			3.9	2		2.0'-4.0': Reddish brown; SILTY CLAY, trace organics; moist; moderate plasticity.
			3.4	3		
	4/4		0.2	4		4.0' - 8.0': Reddish brown; SILTY CLAY, trace organics; moist; moderate plasticity.
			2.4	5		
			1.0	6		
			0.0	7		
	4/4		0.0	8		8.0'-10.0': Reddish brown; SILTY CLAY, trace organics; moist; moderate plasticity.
			0.0	9		
			0.0	10		10.0'-12.0': Gray; CLAYEY SILT; moderate plasticity; hard; moist.
			0.0	11		
	4/4		0.0	12		10.0'-16.0': Gray; CLAYEY SILT; moderate plasticity; hard; moist.
			0.0	13		
			0.0	14		
			0.0	15		
				16		End of boring at 16' bgs.
				17		
				18		
				19		
				20		
				21		
				22		
				23		
				24		
				25		
				26		
				27		
				28		
				29		

Logged by: Robert Peterson  
Drilling Contractor: GeoLogic NY, Inc.

Date: 10-25-12  
Driller: Dave Lyons



EA Engineering, P.C.  
EA Science and Technology

LOG OF SOIL BORING

Coordinates: Northing 1027251.88 Easting: 1084580.34  
Surface Elevation: 595.53  
Casing Below Surface: N/A  
Reference Elevation: 595.53  
Reference Description: Surface Elevation

Job. No. 1490710	Client: NYSDEC	Location: Lackawanna, NY
Project: Lackawanna Incinerator Site	Drilling Method: Geoprobe Direct-Push	Soil Boring Number: SB-17
Sampling Method: Sterilized acetate sleeves	Sheet 1 of 1	
Water Level:		Drilling
Time:		Start Finish
Date:		DATE: 10-25-12 DATE: 10-25-12
		TIME: 10:10 TIME: 10:25

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions: Gravel / soil
						Weather: Sunny, 10-15 mph south
						Temperature: 75F
			0.0	0		0.0'-1.0': Dark brown; SAND and SILT, trace GRAVEL (fill); moist.
	4/4		0.5	1		1.0'-4.0': Reddish brown; CLAY, trace SILT; moist.
			9.6	2		
			4.5	3		
	4/4		0.8	4		4.0' - 8.0': Reddish brown; CLAY, trace SILT; moist.
			0.9	5		
			0.3	6		
			0.7	7		
	4/4		13.6	8		8.0'-12.0': Reddish brown; CLAY, trace SILT; moist.
			10.3	9		
			4.8	10		
			3.7	11		
				12		End of boring at 12 ft bgs.
				13		
				14		
				15		
				16		
				17		
				18		
				19		
				20		
				21		
				22		
				23		
				24		
				25		
				26		
				27		
				28		
				29		

Logged by: Robert Peterson  
Drilling Contractor: GeoLogic NY, Inc.

Date: 10-25-12  
Driller: Dave Lyons



EA Engineering, P.C.  
EA Science and Technology

LOG OF SOIL BORING

Coordinates: Northing 1027162.28 Easting: 1084602.83

Surface Elevation: 596.40

Casing Below Surface: N/A

Reference Elevation: 596.40

Reference Description: Surface Elevation

Job. No. 1490710	Client: NYSDEC	Location: Lackawanna, NY
Project: Lackawanna Incinerator Site	Drilling Method: Geoprobe Direct-Push	Soil Boring Number: SB-18
Sampling Method: Sterilized acetate sleeves	Sheet 1 of 1	
Water Level:		Drilling
Time:		Start Finish
Date:		DATE: 10-26-12 DATE: 10-26-12
		TIME: 10:05 TIME: 10:20

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions: Gravel / soil
						Weather: Sunny, 10-15 mph south
						Temperature: 75F
			2.2	0		0.0'-3.0': Dark brown; CLAYEY SILT, some GRAVEL, some glass; hard; moist (fill).
			3.4	1		
			1.7	2		
			x	3		3.0'-4.0': No recovery.
			x	4		4.0' - 4.5': Black; CLAYEY SILT, some GRAVEL, some glass; hard; wet (fill).
			x	5		4.5'-8.0': No recovery.
			x	6		
			x	7		
			0.0	8		8.0'-12.0': Gray; CLAY, trace organics; hard; high plasticity.
			0.0	9		
			0.0	10		
			0.0	11		
				12		12.0'-16.0': Gray; CLAY, trace organics; hard; high plasticity.
				13		
				14		
				15		
				16		16.0'-20.0': Gray; CLAY, trace organics; hard; high plasticity.
				17		
				18		
				19		
				20		20.0'-24.0': Gray; CLAY, trace organics; hard; high plasticity; wet/saturated.
				21		
				22		
				23		
				24		24.0'-28.0': Gray; CLAY, trace organics; hard; high plasticity; wet/saturated.
				25		
				26		
				27		
				28		End of boring at 28 ft bgs.
				29		

Logged by: Robert Peterson  
Drilling Contractor: GeoLogic NY, Inc.

Date: 10-26-12  
Driller: Dave Lyons



**EA Engineering, P.C.**  
**EA Science and Technology**

**LOG OF SOIL BORING**

Coordinates: Northing 1027477.65 Easting: 1084405.18  
Surface Elevation: 593.50  
Casing Below Surface: N/A  
Reference Elevation: 593.50  
Reference Description: Surface Elevation

Job No.	Client:	NYSDEC		Location:	
1490710	Project:	Lackawanna Incinerator Site		Lackawanna, NY	
Drilling Method: Geoprobe				Soil Boring Number:	
				SB-19	
Sampling Method: MacroCore				Sheet 1 of 1	
				Drilling	
Water Level:				Start	Finish
Time:				DATE 04-15-13	DATE 04-15-13
Date:				TIME 13:30	TIME

Blow Counts (140-lb)	Ft. Driven/ Recvrd	Ft.	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions:	Weather:	Temperature:
							Grass, Topsoil	Sunny	60F
				0	0		0' - 1'	Brown; silty CLAY, some organics, trace glass [fill]; moist.	
				0	1				
	4/3			0	2		2' - 3'	Dark brown; SILT and CLAY, some medium sand, trace gravel, trace glass, trace brick [fill]; moist.	
				0	3				
				0	4		4' - 7'	Brown; SILTY CLAY; hard; moist; moderate plasticity.	
				0	5				
	4/3			0	6				
				0	7			End of boring at 7 ft bgs.	
					8				
					9			915206-SB-DUPLICATE-06 collected from 2-4 bgs	
					10			MS/MSD collected from 2-4 bgs	
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				
					21				
					22				
					23				
					24				
					25				
					26				
					27				
					28				
					29				


Logged by:	Robert Peterson	Date:	04/15/13
Drilling Contractor:	GeoLogic NY, Inc.	Driller:	Scott Breeds

<b>Job No.</b> 1490710	<b>Client:</b> NYSDEC				<b>Location:</b>	
	<b>Project:</b> Lackawanna Incinerator Site				Lackawanna, NY	
<b>Drilling Method:</b> Geoprobe					<b>Soil Boring Number:</b> SB-20	
<b>Sampling Method:</b> MacroCore					<b>Sheet 1 of 1</b>	
					<b>Drilling</b>	
<b>Water Level:</b>					<b>Start</b>	<b>Finish</b>
<b>Time:</b>					DATE 04-15-13	DATE 04-15-13
<b>Date:</b>					TIME 13:30	TIME 10:15

Blow Counts (140-lb)	Ft. Driven/ Recvrdr	Ft.	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions:	Tall Grass/Topsail
							Weather:	Sunny
							Temperature:	50F
	4/3			0	0		0' - 0.5'	Dark brown; SILTY CLAY, some organics, trace fine SAND; moist; soft.
			0	1		0.5' - 2'	Light brown; CLAYEY SILT, trace organics; oxidized laminations; moist; hard.	
			0.2	2		2' - 3.9'	Light brown; CLAYEY SILT, trace fine SAND; moist; hard.	
			0	3				
				4		4'	Light brown; fine SAND, some SILT; moist; stiff.	
				5			MS/MSD collected from 2'-4' bgs 915206-SB-20 (2-4) MSMSD	
				6				
				7				
				8			End of boring at 8 ft bgs.	
				9				
				10				
				11				
				12				
				13				
				14				
				15				
				16				
				17				
				18				
				19				
				20				
				21				
				22				
				23				
				24				
				25				
				26				
				27				
				28				
			29					

Logged by:	<u>Robert Peterson</u>	Date:	<u>04/16/13</u>
Drilling Contractor:	<u>GeoLogic NY, Inc.</u>	Driller:	<u>Scott Breeds</u>



 <div> <b>EA Engineering, P.C.</b>  <b>EA Science and Technology</b> </div> <div> <b>LOG OF SOIL BORING</b>  Coordinates:    Northing <u>1027151.64</u>    Easting: <u>1084390.86</u>  Surface Elevation:    <u>595.09</u>  Casing Below Surface:    <u>N/A</u>  Reference Elevation:    <u>595.09</u>  Reference Description:    <u>Surface Elevation</u> </div>						<b>Job. No.</b> 1490710	<b>Client:</b> NYSDEC <b>Project:</b> Lackawanna Incinerator Site			<b>Location:</b> Lackawanna, NY		
						<b>Drilling Method:</b> Geoprobe					<b>Soil Boring Number:</b> SB-21	
						<b>Sampling Method:</b> MacroCore					<b>Sheet</b> 1    of    1	
											<b>Drilling</b>	
<b>Water Level:</b>						<b>Start</b>	<b>Finish</b>					
<b>Time:</b>						DATE 04-15-13	DATE 04-15-13					
<b>Date:</b>						TIME 13:30	TIME 10:15					
<b>Blow Counts (140-lb)</b>	<b>Ft. Driven/ Ft. Recvrd</b>	<b>Boring Diagram</b>	<b>PID (ppm)</b>	<b>Depth in Feet</b>	<b>USCS Log</b>	<b>Surface Conditions:</b> Tall Grass/Topsoil						
						<b>Weather:</b> Sunny						
						<b>Temperature:</b> 50F						
	4/3			0		0' - 2'    Dark brown; SILTY CLAY, some fine SAND trace organics, trace brick; moist; stiff.						
			0	1								
			0.2	2		2' - 3.8'    Light brown; SILT, some fine SAND; moist; stiff.						
			0	3								
				4		3.8' - 4'    Light brown; CLAY and SILT; oxidized laminations; moist; hard.						
				5		915206-SB-DUPLICATE-07 collected from 0' - 2' bgs						
				6								
				7								
				8		End of boring at 8 ft bgs.						
				9								
				10								
				11								
				12								
				13								
				14								
				15								
				16								
				17								
				18								
				19								
				20								
				21								
				22								
				23								
				24								
				25								
				26								
				27								
				28								
				29								
<div> Logged by:    <u>Robert Peterson</u>    Date:    <u>04/16/13</u>  Drilling Contractor:    <u>GeoLogic NY, Inc.</u>    Driller:    <u>Scott Breeds</u> </div>												



EA Engineering, P.C.  
EA Science and Technology

LOG OF SOIL BORING

Coordinates: Northing 1027462.28 Easting: 1084943.94  
Surface Elevation: 596.36  
Casing Below Surface: N/A  
Reference Elevation: 596.36  
Reference Description: Surface Elevation


Job. No. 1490710 Client: NYSDEC  
Project: Lackawanna Incinerator Site  
Drilling Method: Geoprobe  
Sampling Method: MacroCore  
Water Level:   
Time:   
Date:


Location: Lackawanna, NY  
Soil Boring Number: SB-22  
Sheet 1 of 1  
Drilling  
Start  Finish   
DATE 04-15-13 DATE 04-15-13  
TIME 13:30 TIME 10:15

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth	USCS Log	Surface Conditions:		Grass, Topsoil
				in Feet		Weather:		Sunny
						Temperature:		60F
	4/4		0	0		0' - 1'	Dark brown; FILL: slag, broken glass, brick, gravel.	
			7.5	1		1' - 3'	Gray; CLAYEY SILT, trace organics; moist; stiff; moderate plasticity; oxidized laminations.	
			10.5	2				
			0	3		3' - 4'	Light brown; SILT, some fine SAND; moist; soft.	
	4/3		1.2	4		4' - 7'	Light brown; SILTY CLAY; trace organics moist; hard.	
			1.6	5				
			1.6	6				
			0	7			End of boring at 7 ft bgs.	
				8				
				9				
				10				
				11				
				12				
				13				
				14				
				15				
				16				
				17				
				18				
				19				
				20				
				21				
				22				
				23				
				24				
				25				
				26				
				27				
				28				
				29				

Logged by: Robert Peterson  
Drilling Contractor: GeoLogic NY, Inc.

Date: 04/15/13  
Driller: Scott Breeds

<div><div>EA Engineering, P.C. EA Science and Technology</div></div> <div>LOG OF SOIL BORING</div> <div>Coordinates: Northing 1027445.29 Easting: 1084860.45</div> <div>Surface Elevation: 596.34</div> <div>Casing Below Surface: N/A</div> <div>Reference Elevation: 596.34</div> <div>Reference Description: Surface Elevation</div>						Job No. 1490710		Client: NYSDEC Project: Lackawanna Incinerator Site		Location: Lackawanna, NY	
						Drilling Method: Geoprobe		Soil Boring Number: SB-23			
						Sampling Method: MacroCore		Sheet 1 of 1			
						Water Level:		Start			
						Time:		Finish			
						Date:		DATE 04-15-13 TIME 13:30			
						Date:		TIME 10:15			
Blow Counts (140-lb)		Ft. Driven/ Recvrd	Ft.	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions: Gravel, Debris, FILL			
								Weather: Sunny			
								Temperature: 60F			
					0	0		1' - 3' Dark brown; medium to fine SAND some CLAY some SILT, some brick, some glass (fill); moist.			
						1					
		4/4			0	2					
						3		3' - 4' Dark gray; CLAYEY SILT, some organics; stiff; moist.			
					0	4		4' - 8' Light brown; CLAYEY SILT, trace organics; stiff; wet; oxidized laminations.			
		4/4				5					
					0	6					
						7					
					0	8		End of boring at 8 ft bgs.			
						9					
						10					
						11					
						12					
						13					
						14					
						15					
						16					
						17					
						18					
						19					
						20					
						21					
						22					
						23					
						24					
						25					
						26					
						27					
						28					
						29					
Logged by: Robert Peterson						Date: 04/15/13					
Drilling Contractor: GeoLogic NY, Inc.						Driller: Scott Breeds					

<div><div>EA Engineering, P.C. EA Science and Technology</div></div> <div>LOG OF SOIL BORING</div> <div>Coordinates: Northing 1027345.12 Easting: 1084881.01</div> <div>Surface Elevation: 595.66</div> <div>Casing Below Surface: N/A</div> <div>Reference Elevation: 595.66</div> <div>Reference Description: Surface Elevation</div>						<div>Job. No. 1490710</div> <div>Client: NYSDEC</div> <div>Project: Lackawanna Incinerator Site</div>		<div>Location: Lackawanna, NY</div> <div>Soil Boring Number: SB-24</div> <div>Sheet 1 of 1</div>	
<div>Drilling Method: Geoprobe</div> <div>Sampling Method: MacroCore</div>						<div>Water Level:</div> <div>Time:</div> <div>Date:</div>		<div>Start</div> <div>Finish</div> <div>DATE 04-15-13</div> <div>DATE 04-15-13</div> <div>TIME 13:30</div> <div>TIME 10:15</div>	
<div>Blow Counts (140-lb)</div> <div>4/3</div> <div>4/4</div>	<div>Ft. Driven/ Recvrd</div>	<div>Boring Diagram</div>	PID (ppm)	Depth in Feet	USCS Log	<div>Surface Conditions: Tall Grass/Topsoil</div> <div>Weather: Sunny</div> <div>Temperature: 50F</div>			
			0	0		0' - 0.5' Black; SILTY CLAY, some medium SAND trace organics, trace brick, trace glass; moist; soft.			
			0	1		0.5' - 3' Light brown; SILTY CLAY; moist; hard.			
			1.1	2					
			0	3					
			0	4		4' - 8' Light brown; CLAY and SILT, trace organics; stiff; dry; oxidized laminations.			
			0	5					
			1.0	6					
			0	7					
				8		End of boring at 8 ft bgs.			
				9					
				10					
				11					
				12					
				13					
				14					
				15					
				16					
				17					
				18					
				19					
				20					
				21					
				22					
				23					
				24					
				25					
				26					
				27					
				28					
	29								


Logged by: Robert Peterson

Drilling Contractor: GeoLogic NY, Inc.

Date: 04/15/13

Driller: Scott Breeds

**EA Engineering, P.C.**  
**EA Science and Technology**

 <b>EA Engineering, P.C.</b> <b>EA Science and Technology</b>					<b>Job No.</b> 1490710		<b>Client:</b> NYSDEC		<b>Location:</b> Lackawanna, NY		
<b>LOG OF SOIL BORING</b> <b>Coordinates:</b> Northing: 1027315.04      Easting: 1084720.95 <b>Surface Elevation:</b> 613.09 <b>Casing Below Surface:</b> N/A <b>Reference Elevation:</b> 613.09 <b>Reference Description:</b> Surface Elevation					<b>Drilling Method:</b> Geoprobe				<b>Soil Boring Number:</b> SB-WC		
					<b>Sampling Method:</b> MacroCore				<b>Sheet 1 of 1</b>		
					<b>Water Level:</b>				<b>Drilling</b>		
					<b>Time:</b>				<b>Start</b> <b>Finish</b>		
<b>Date:</b>				DATE 04-15-13      DATE 04-15-13 TIME 13:30      TIME 10:15							
<b>Blow Counts (140-lb)</b>	<b>Ft. Driven/ Recvrd</b>	<b>Ft.</b>	<b>Boring Diagram</b>	<b>PID (ppm)</b>	<b>Depth in Feet</b>	<b>USCS Log</b>	<b>Surface Conditions:</b> Gravel, Debris, FILL.				
							<b>Weather:</b> Sunny				
							<b>Temperature:</b> 60F				
	4/1			0	0		0' - 4'      Dark brown to black; coarse SAND and GRAVEL, some glass trace brick (fill) moist.				
	4/1			0	1						
				0	2						
				0	3						
				0	4		4' - 8'      Brown to reddish brown; coarse to medium SAND, some GRAVEL, some broken glass, trace brick, trace slag (FILL); moist.				
				0	5						
				0	6						
				0	7		Multiple runs were completed for enough recovery.				
					8		End of boring at 8 ft bgs.				
					9						
					10						
					11						
					12						
					13						
					14						
					15						
					16						
					17						
					18						
					19						
		20									
		21									
		22									
		23									
		24									
		25									
		26									
		27									
		28									
		29									
Logged by:      Robert Peterson      Date:      04/15/13 Drilling Contractor:      GeoLogic NY, Inc.      Driller:      Scott Breeds											



EA Engineering, P.C.  
EA Science and Technology


LOG OF SOIL BORING

Coordinates: Northing 1027475.37 Easting: 1084322.97  
Surface Elevation: 593.6  
Casing Below Surface:  
Reference Elevation:  
Reference Description: Surface Elevation

Job. No. 1490710	Client: NYSDEC	Location: Lackawanna, NY
Project: Lackawanna Incinerator Site		Soil Boring Number: SB-34
Drilling Method: Slide hammer		Sheet 1 of 1
Sampling Method: MacroCore		
Water Level:		Start
Time:		Finish
Date:		DATE 07-01-13
		TIME 0725

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions: Grass, Topsoil
						Weather: overcast
						Temperature: 70F
			0	0	0.0' - 0.2'	[Topsoil], clayey SILT, some organic matter
				1	0.2' - 1.0'	[Fill], CLAY and SILT, some glass, some brick, trace slag. Soft, moist.
			0	1	1' - 2'	[Fill] SAA
			0	2	2' - 4'	[CLAY] Brown, silty CLAY, trace organic matter. Moderate plasticity. Hard, dry.
			0	3		
				4		
				5		EOB at 4 ft bgs.
				6		Sampled @ 0745
				7		
				8		
				9		
				10		
				11		
				12		
				13		
				14		
				15		
				16		
				17		
				18		
				19		
				20		
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				26		
				27		
				28		
				29		

Monitoring Well Construction Information		Soil Vapor Point Installation Information	
Monitoring Well Diameter: _____ in		Depth of Soil Vapor Point: _____ ft	
Bottom of Monitoring Well: _____ ft bgs		Bottom of Tubing: _____ ft	
Stick Up or Flush Mount: _____		Top of Sand Pack: _____ ft	
Screen Interval: _____ To _____ ft bgs		Top of Bentonite Seal: _____ ft	
Riser Interval: _____ To _____ ft bgs			
Sand Pack Interval: _____ To _____ ft bgs			
Bentonite Seal: _____ To _____ ft bgs			
Grout Interval: _____ To _____ ft bgs			
Logged by: Robert Peterson/ Charles Yarrington		Date: 07/1/13	
Drilling Contractor: GeoLogic NY, Inc.		Driller: NA	

 <div>EA Engineering, P.C. EA Science and Technology</div>					Job. No. 1490710 Client: NYSDEC Project: Lackawanna Incinerator Site		Location: Lackawanna, NY	
LOG OF SOIL BORING					Drilling Method: Slide hammer		Soil Boring Number: SB-35	
Coordinates: Northing 1027475.11 Easting: 1084221.31					Sampling Method: MacroCore		Sheet 1 of 1	
Surface Elevation: 592.80					Water Level:		Drilling	
Casing Below Surface:					Time:		Start Finish	
Reference Elevation:					Date:		DATE 07-01-13 DATE 07-01-13	
Reference Description: Surface Elevation							TIME 0800 TIME 0820	
Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions: Grass, Topsoil		
						Weather: overcast		
						Temperature: 70F		
			0	0		0.0' - 0.4' Light brown, clayey SILT, some organic matter. Soft, moist, TOPSOIL.		
						0.4' - 2.0' Brown, SILT and CLAY, some glass, some slag. Moist, soft, FILL.		
			0	1		2' - 3.5' [Fill] SAA		
			0	2		3.5' - 4' Light Brown, CLAY, trace silt, high plasticity, moist. Stiff.		
			0	3				
				4				
				5		EOB at 4 ft bgs.		
				6		Sampled @ 0818		
				7				
				8				
				9				
				10				
				11				
				12				
				13				
				14				
				15				
				16				
				17				
				18				
				19				
				20				
				21				
				22				
				23				
				24				
				25				
				26				
				27				
				28				
				29				
Monitoring Well Construction Information						Soil Vapor Point Installation Information		
Monitoring Well Diameter: in						Depth of Soil Vapor Point: ft		
Bottom of Monitoring Well: ft bgs						Bottom of Tubing: ft		
Stick Up or Flush Mount:						Top of Sand Pack: ft		
Screen Interval: To ft bgs						Top of Bentonite Seal: ft		
Riser Interval: To ft bgs								
Sand Pack Interval: To ft bgs								
Bentonite Seal: To ft bgs								
Grout Interval: To ft bgs								
Logged by: Robert Peterson/Charles Yarrington						Date: 07/1/13		
Drilling Contractor: GeoLogic NY, Inc.						Driller: NA		





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**LOG OF SOIL BORING**

Coordinates: Northing 1027475.05 Easting: 1084114.76

Surface Elevation: 593.28

Casing Below Surface:

Reference Elevation:

Reference Description: Surface Elevation

Job. No. 1490710	Client: NYSDEC Project: Lackawanna Incinerator Site
Drilling Method: Slide hammer	
Sampling Method: MacroCore	
Water Level:	
Time:	
Date:	

Location: Lackawanna, NY	
Soil Boring Number: SB-36	
Sheet 1 of 1	
Drilling	
Start	Finish
DATE 07-01-13	DATE 07-01-13
TIME 0830	TIME 0845

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions: Grass, Topsoil	Weather: overcast	Temperature: 70F
	4/4		0	0		0.0' - 0.3'	Brown, clayey CLT, trace organic matter, soft, moist, TOPSOIL	
			0	1		0.3' - 1.0'	L. Brown, silty CLAY, trace organic matter, stiff moist, CLAY	
			0	2		1' - 2'	[Fill] SAA	
			0	3		2' - 4'	Lght grayish brown, silty CLAY, trace organic matter, hard, moist, moderate plasticity	
			0	4				
				5			EOB at 4 ft bgs.	
				6			Sampled @ 0845	
				7				
				8				
				9				
				10				
				11				
				12				
				13				
				14				
				15				
				16				
				17				
				18				
				19				
				20				
				21				
				22				
				23				
				24				
				25				
				26				
				27				
				28				
				29				

Monitoring Well Construction Information		Soil Vapor Point Installation Information	
Monitoring Well Diameter:	in	Depth of Soil Vapor Point:	ft
Bottom of Monitoring Well:	ft bgs	Bottom of Tubing:	ft
Stick Up or Flush Mount:		Top of Sand Pack:	ft
Screen Interval:	To ft bgs	Top of Bentonite Seal:	ft
Riser Interval:	To ft bgs		
Sand Pack Interval:	To ft bgs		
Bentonite Seal:	To ft bgs		
Grout Interval:	To ft bgs		
Logged by: Robert Peterson/Charles Yarrington		Date: 07/1/13	
Drilling Contractor: GeoLogic NY, Inc.		Driller: NA	



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LOG OF SOIL BORING

Coordinates: Northing 1027602.08 Easting: 1085072.78

Surface Elevation: 596.59

Casing Below Surface:

Reference Elevation:

Reference Description: Surface Elevation

Job. No. 1490710  
Client: NYSDEC  
Project: Lackawanna Incinerator Site

Location:  
Lackawanna, NY

Drilling Method: Slide hammer

Soil Boring Number:  
SB-37

Sampling Method: MacroCore

Sheet 1 of 1


Drilling

Water Level:					Start	Finish
Time:					DATE 07-01-13	DATE 07-01-13
Date:					TIME 1027	TIME 1030

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions: Grass, Topsoil
						Weather: overcast
						Temperature: 70F
			0	0		0.0' - 0.2' TOPSOIL dark brown, clayey SILT, some organic matter, trace fine sand, moist, stiff.
						0.2' - 2.0' L. Brown, silty CLAY, trace organic matter, stiff moist, CLAY
	2/2		0	1		1' - 2' [Fill] SAA
				2		
				3		
				4		
				5		EOB at 2 ft bgs.
				6		Sampled 0-1 @ 1029 (MS)
				7		Sampled 1-2 @ 1030
						Duplicate 11 collected from 0-1
				8		
				9		
				10		
				11		
				12		
				13		
				14		
				15		
				16		
				17		
				18		
				19		
				20		
				21		
				22		
				23		
				24		
				25		
				26		
				27		
				28		
				29		


Monitoring Well Construction Information	Soil Vapor Point Installation Information
Monitoring Well Diameter: _____ in	Depth of Soil Vapor Point: _____ ft
Bottom of Monitoring Well: _____ ft bgs	Bottom of Tubing: _____ ft
Stick Up or Flush Mount: _____	Top of Sand Pack: _____ ft
Screen Interval: _____ To _____ ft bgs	Top of Bentonite Seal: _____ ft
Riser Interval: _____ To _____ ft bgs	
Sand Pack Interval: _____ To _____ ft bgs	
Bentonite Seal: _____ To _____ ft bgs	
Grout Interval: _____ To _____ ft bgs	

Logged by: Robert Peterson/Charles Yarrington	Date: 07/1/13
Drilling Contractor: GeoLogic NY, Inc.	Driller: NA

 <div>EA Engineering, P.C. EA Science and Technology</div>					Job. No. 1490710 Client: NYSDEC Project: Lackawanna Incinerator Site		Location: Lackawanna, NY	
LOG OF SOIL BORING					Drilling Method: Slide hammer		Soil Boring Number: SB-38	
Coordinates: Northing 1027594.94 Easting: 1085306.64					Sampling Method: MacroCore		Sheet 1 of 1	
Surface Elevation: 596.30					Water Level:		Drilling	
Casing Below Surface:					Time:		Start Finish	
Reference Elevation:					Date:		DATE 07-01-13 DATE 07-01-13	
Reference Description: Surface Elevation							TIME 1015 TIME 1017	
Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions: Grass, Topsoil		
						Weather: overcast		
						Temperature: 70F		
	2/2		0	0		0.0' - 0.2' TOPSOIL dark brown, clayey SILT, some organic matter, trace fine sand, moist, stiff.		
						0.2' - 2.0' Brown, clayey SILT, trace glass, trace brick, hard, moist		
			0	1				
				2				
				3				
				4				
				5		EOB at 2 ft bgs.		
				6		Sampled 0-1 @ 1017		
				7		Sampled 1-2 @ 1017		
				8				
				9				
				10				
				11				
				12				
				13				
				14				
				15				
				16				
				17				
				18				
				19				
				20				
				21				
				22				
				23				
				24				
				25				
				26				
				27				
				28				
				29				
Monitoring Well Construction Information						Soil Vapor Point Installation Information		
Monitoring Well Diameter: in						Depth of Soil Vapor Point: ft		
Bottom of Monitoring Well: ft bgs						Bottom of Tubing: ft		
Stick Up or Flush Mount:						Top of Sand Pack: ft		
Screen Interval: To ft bgs						Top of Bentonite Seal: ft		
Riser Interval: To ft bgs								
Sand Pack Interval: To ft bgs								
Bentonite Seal: To ft bgs								
Grout Interval: To ft bgs								
Logged by: Robert Peterson/Charles Yarrington						Date: 07/1/13		
Drilling Contractor: GeoLogic NY, Inc.						Driller: NA		



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 <div>EA Engineering, P.C. EA Science and Technology</div>					Job. No. 1490710 Client: NYSDEC Project: Lackawanna Incinerator Site		Location: Lackawanna, NY	
LOG OF SOIL BORING					Drilling Method: Slide hammer		Soil Boring Number: SB-41	
Coordinates: Northing 1027371.34 Easting: 1085036.41					Sampling Method: MacroCore		Sheet 1 of 1	
Surface Elevation: 594.58					Water Level:		Drilling	
Casing Below Surface:					Time:		Start Finish	
Reference Elevation:					Date:		DATE 07-01-13 DATE 07-01-13	
Reference Description: Surface Elevation							TIME 1210 TIME 1217	
Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions: Grass, Topsoil		
						Weather: overcast		
						Temperature: 70F		
			0	0		0.0' - 1.0' Dark brownish Black, silty CLAY, some organic matter, trace fine sand		
	2/2					1' - 2' Light brown, silty CLAY, some fine sand, trace organic matter, stiff, moist		
			0	1				
				2				
				3				
				4				
				5		EOB at 2 ft bgs.		
				6		Sampled 0-1 @ 1217		
				7		Sampled 1-2 @ 1217		
				8				
				9				
				10				
				11				
				12				
				13				
				14				
				15				
				16				
				17				
				18				
				19				
				20				
				21				
				22				
				23				
				24				
				25				
				26				
				27				
				28				
				29				
Monitoring Well Construction Information						Soil Vapor Point Installation Information		
Monitoring Well Diameter: in						Depth of Soil Vapor Point: ft		
Bottom of Monitoring Well: ft bgs						Bottom of Tubing: ft		
Stick Up or Flush Mount:						Top of Sand Pack: ft		
Screen Interval: To ft bgs						Top of Bentonite Seal: ft		
Riser Interval: To ft bgs								
Sand Pack Interval: To ft bgs								
Bentonite Seal: To ft bgs								
Grout Interval: To ft bgs								
Logged by: Robert Peterson/ Charles Yarrington						Date: 07/1/13		
Drilling Contractor: GeoLogic NY, Inc.						Driller: NA		

## LOG OF SOIL BORING

Coordinates: Northing 1027255.06 Easting: 1085044.49

**Surface Elevation:** 594.94

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Casing Below Surface:

Reference Elevation: \_\_\_\_\_

Reference Description:	Surface Elevation
1. [Empty]	1. [Empty]
2. [Empty]	2. [Empty]
3. [Empty]	3. [Empty]
4. [Empty]	4. [Empty]
5. [Empty]	5. [Empty]
6. [Empty]	6. [Empty]
7. [Empty]	7. [Empty]
8. [Empty]	8. [Empty]
9. [Empty]	9. [Empty]
10. [Empty]	10. [Empty]
11. [Empty]	11. [Empty]
12. [Empty]	12. [Empty]
13. [Empty]	13. [Empty]
14. [Empty]	14. [Empty]
15. [Empty]	15. [Empty]
16. [Empty]	16. [Empty]
17. [Empty]	17. [Empty]
18. [Empty]	18. [Empty]
19. [Empty]	19. [Empty]
20. [Empty]	20. [Empty]
21. [Empty]	21. [Empty]
22. [Empty]	22. [Empty]
23. [Empty]	23. [Empty]
24. [Empty]	24. [Empty]
25. [Empty]	25. [Empty]
26. [Empty]	26. [Empty]
27. [Empty]	27. [Empty]
28. [Empty]	28. [Empty]
29. [Empty]	29. [Empty]
30. [Empty]	30. [Empty]
31. [Empty]	31. [Empty]
32. [Empty]	32. [Empty]
33. [Empty]	33. [Empty]
34. [Empty]	34. [Empty]
35. [Empty]	35. [Empty]
36. [Empty]	36. [Empty]
37. [Empty]	37. [Empty]
38. [Empty]	38. [Empty]
39. [Empty]	39. [Empty]
40. [Empty]	40. [Empty]
41. [Empty]	41. [Empty]
42. [Empty]	42. [Empty]
43. [Empty]	43. [Empty]
44. [Empty]	44. [Empty]
45. [Empty]	45. [Empty]
46. [Empty]	46. [Empty]
47. [Empty]	47. [Empty]
48. [Empty]	48. [Empty]
49. [Empty]	49. [Empty]
50. [Empty]	50. [Empty]
51. [Empty]	51. [Empty]
52. [Empty]	52. [Empty]
53. [Empty]	53. [Empty]
54. [Empty]	54. [Empty]
55. [Empty]	55. [Empty]
56. [Empty]	56. [Empty]
57. [Empty]	57. [Empty]
58. [Empty]	58. [Empty]
59. [Empty]	59. [Empty]
60. [Empty]	60. [Empty]
61. [Empty]	61. [Empty]
62. [Empty]	62. [Empty]
63. [Empty]	63. [Empty]
64. [Empty]	64. [Empty]
65. [Empty]	65. [Empty]
66. [Empty]	66. [Empty]
67. [Empty]	67. [Empty]
68. [Empty]	68. [Empty]
69. [Empty]	69. [Empty]
70. [Empty]	70. [Empty]
71. [Empty]	71. [Empty]
72. [Empty]	72. [Empty]
73. [Empty]	73. [Empty]
74. [Empty]	74. [Empty]
75. [Empty]	75. [Empty]
76. [Empty]	76. [Empty]
77. [Empty]	77. [Empty]
78. [Empty]	78. [Empty]
79. [Empty]	79. [Empty]
80. [Empty]	80. [Empty]
81. [Empty]	81. [Empty]
82. [Empty]	82. [Empty]
83. [Empty]	83. [Empty]
84. [Empty]	84. [Empty]
85. [Empty]	85. [Empty]
86. [Empty]	86. [Empty]
87. [Empty]	87. [Empty]
88. [Empty]	88. [Empty]
89. [Empty]	89. [Empty]
90. [Empty]	90. [Empty]
91. [Empty]	91. [Empty]
92. [Empty]	92. [Empty]
93. [Empty]	93. [Empty]
94. [Empty]	94. [Empty]
95. [Empty]	95. [Empty]
96. [Empty]	96. [Empty]
97. [Empty]	97. [Empty]
98. [Empty]	98. [Empty]
99. [Empty]	99. [Empty]
100. [Empty]	100. [Empty]

<b>Job. No.</b>	<b>Client:</b>	NYSDEC
1490710	<b>Project:</b>	Lackawanna Incinerator Site

Drilling Method: Slide hammer

Sampling Method: MacroCore

10. *Journal of the American Medical Association*, 2000; 284: 1039-1044.

Water Level:		
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Time:		
-------	--	--

Date:		
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Location:

Lackawanna, NY

Soil Boring Number:  
SB-42

Sheet 1 of 1

## Drilling

--	--

DATE \_\_\_\_\_

	TIME
--	------

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in	USCS Log
				Feet	
	2/2		0	0	
			0	1	
				2	
				3	
				4	
				5	
				6	
				7	
				8	
				9	
				10	
				11	
				12	
				13	
				14	
				15	
				16	
				17	
				18	
				19	
				20	
				21	
				22	
				23	
				24	
				25	
				26	
				27	
				28	
				29	

[illegible]

Monitoring Well Construction Information			
Monitoring Well Diameter:	_____	in	
Bottom of Monitoring Well:	_____	ft bgs	
Stick Up or Flush Mount:	_____		
Screen Interval:	To _____	ft bgs	
Riser Interval:	To _____	ft bgs	
Sand Pack Interval:	To _____	ft bgs	
Bentonite Seal:	To _____	ft bgs	
Grout Interval:	To _____	ft bgs	

Soil Vapor Point Installation Information	
Depth of Soil Vapor Point:	_____ ft
Bottom of Tubing:	_____ ft
Top of Sand Pack:	_____ ft
Top of Bentonite Seal:	_____ ft

Logged by: Robert Peterson/Charles Yarrington  
Drilling Contractor: GeoLogic NY, Inc.

Date: 07/1/13

Driller: NA

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**LOG OF SOIL BORING**

Coordinates: Northing 1027345.32 Easting: 1085219.14

Surface Elevation: 594.45

Casing Below Surface: \_\_\_\_\_

Reference Elevation: \_\_\_\_\_

Reference Description: \_\_\_\_\_ Surface Elevation

Job. No. 1490710 Client: NYSDEC  
Project: Lackawanna Incinerator Site

Location:  
Lackawanna, NY

Drilling Method: Slide hammer

Soil Boring Number:  
SB-44


Sampling Method: MacroCore


Sheet 1 of 1

Water Level:				Start	Finish
Time:				DATE 07-02-13	DATE 07-02-13
Date:				TIME 0800	TIME 0805

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions:
						Grass, Topsoil
						Weather: overcast
						Temperature: 70F
			0	0		0.0' - 0.3' Dark brown, CLAY, some organic matter, trace silt, moist, soft, high plasticity
	2/2					0.3' - 1.0' Dark brown, CLAY, trace organic matter, trace silt, trace medium to fine sand, soft, moist, high plasticity
			0	1		1' - 2' Brown, fine SAND, and SILT, moist, soft
				2		
				3		
				4		
				5		EOB at 2 ft bgs.
				6		Sampled 0-1 @ 0805
				7		Sampled 1-2 @ 0805
				8		
				9		
				10		
				11		
				12		
				13		
				14		
				15		
				16		
				17		
				18		
				19		
				20		
				21		
				22		
				23		
				24		
				25		
				26		
				27		
				28		
				29		

Monitoring Well Construction Information		Soil Vapor Point Installation Information	
Monitoring Well Diameter: _____ in		Depth of Soil Vapor Point: _____ ft	
Bottom of Monitoring Well: _____ ft bgs		Bottom of Tubing: _____ ft	
Stick Up or Flush Mount: _____		Top of Sand Pack: _____ ft	
Screen Interval: _____ To _____ ft bgs		Top of Bentonite Seal: _____ ft	
Riser Interval: _____ To _____ ft bgs			
Sand Pack Interval: _____ To _____ ft bgs			
Bentonite Seal: _____ To _____ ft bgs			
Grout Interval: _____ To _____ ft bgs			
Logged by: Robert Peterson/Charles Yarrington		Date: 07/1/13	
Drilling Contractor: GeoLogic NY, Inc.		Driller: NA	

 <div>EA Engineering, P.C. EA Science and Technology</div>					Job. No. 1490710 Client: NYSDEC Project: Lackawanna Incinerator Site		Location: Lackawanna, NY	
LOG OF SOIL BORING					Drilling Method: Slide hammer		Soil Boring Number: SB-45	
Coordinates: Northing 1027233.21 Easting: 1085207.78					Sampling Method: MacroCore		Sheet 1 of 1	
Surface Elevation: 596.05					Water Level:		Drilling	
Casing Below Surface:					Time:		Start Finish	
Reference Elevation:					Date:		DATE 07-02-13 DATE 07-02-13	
Reference Description: Surface Elevation							TIME 0745 TIME 0745	
Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions: Tall Grass, Topsoil		
						Weather: overcast		
						Temperature: 70F		
			0	0		0.0' - 1' Dark brown, clayey SILT, some organic matter, trace fine sand, soft, moist		
	2/2					1' - 2' Light brown, clayey SILT and fine SAND, trace organic matter		
			0	1				
				2				
				3				
				4				
				5		EOB at 2 ft bgs.		
				6		Sampled 0-1 @ 0750		
				7		Sampled 1-2 @ 0750		
				8				
				9				
				10				
				11				
				12				
				13				
				14				
				15				
				16				
				17				
				18				
				19				
				20				
				21				
				22				
				23				
				24				
				25				
				26				
				27				
				28				
				29				
Monitoring Well Construction Information						Soil Vapor Point Installation Information		
Monitoring Well Diameter: in						Depth of Soil Vapor Point: ft		
Bottom of Monitoring Well: ft bgs						Bottom of Tubing: ft		
Stick Up or Flush Mount:						Top of Sand Pack: ft		
Screen Interval: To ft bgs						Top of Bentonite Seal: ft		
Riser Interval: To ft bgs								
Sand Pack Interval: To ft bgs								
Bentonite Seal: To ft bgs								
Grout Interval: To ft bgs								
Logged by: Robert Peterson/Charles Yarrington						Date: 07/1/13		
Drilling Contractor: GeoLogic NY, Inc.						Driller: NA		

 <div>EA Engineering, P.C. EA Science and Technology</div>					Job. No. 1490710 Client: NYSDEC Project: Lackawanna Incinerator Site		Location: Lackawanna, NY	
LOG OF SOIL BORING					Drilling Method: Slide hammer		Soil Boring Number: SB-46	
Coordinates: Northing 1027479.1 Easting: 1085393.56					Sampling Method: MacroCore		Sheet 1 of 1	
Surface Elevation: 595.51					Water Level:		Drilling	
Casing Below Surface:					Time:		Start Finish	
Reference Elevation:					Date:		DATE 07-02-13 DATE 07-02-13	
Reference Description: Surface Elevation							TIME 0905 TIME 0910	
Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions: Grass, Topsoil		
						Weather: overcast		
						Temperature: 70F		
			0	0		0.0' - 0.8' FILL, glass, brick slag/ ash, organic matter, trace medium to coarse sand, soft, moist		
	2/2					0.8' - 2' Gray/ dark Brown, clayey SILT, trace organic matter, hard, moist		
			0	1				
				2				
				3				
				4				
				5		EOB at 2 ft bgs.		
				6		Sampled 0-1 @ 0910 (MS)		
				7		Sampled 1-2 @ 0910		
						Duplicate 12 collected from 0-1 bgs.		
				8				
				9				
				10				
				11				
				12				
				13				
				14				
				15				
				16				
				17				
				18				
				19				
				20				
				21				
				22				
				23				
				24				
				25				
				26				
				27				
				28				
				29				
Monitoring Well Construction Information						Soil Vapor Point Installation Information		
Monitoring Well Diameter: in						Depth of Soil Vapor Point: ft		
Bottom of Monitoring Well: ft bgs						Bottom of Tubing: ft		
Stick Up or Flush Mount:						Top of Sand Pack: ft		
Screen Interval: To ft bgs						Top of Bentonite Seal: ft		
Riser Interval: To ft bgs								
Sand Pack Interval: To ft bgs								
Bentonite Seal: To ft bgs								
Grout Interval: To ft bgs								
Logged by: Robert Peterson/ Charles Yarrington						Date: 07/1/13		
Drilling Contractor: GeoLogic NY, Inc.						Driller: NA		



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**LOG OF SOIL BORING**

Coordinates: Northing 1027344.91 Easting: 1085392.78

Surface Elevation: 594.55

Casing Below Surface: \_\_\_\_\_

Reference Elevation: \_\_\_\_\_

Reference Description: \_\_\_\_\_ Surface Elevation

Job. No. 1490710 Client: NYSDEC  
Project: Lackawanna Incinerator Site

Location:  
Lackawanna, NY

Drilling Method: Slide hammer

Soil Boring Number:  
SB-47

Sampling Method: MacroCore

Sheet 1 of 1


Water Level:					Start	Finish
Time:					DATE 07-02-13	DATE 07-02-13
Date:					TIME 0840	TIME 0845

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions: Topsoil
						Weather: overcast
						Temperature: 70F
			0	0		0.0' - 0.3' Dark brown, silty CLAY, some organic matter, soft, moist
						0.3' - 0.5' Light brown, fine SAND, some coarse sand, soft, moist.
	2/2		0	1		0.5' - 2' Light brown, SILT, and FINE SAND, trace clay, soft, moist.
				2		
				3		
				4		
				5		EOB at 2 ft bgs.
				6		Sampled 0-1 @ 0845
				7		Sampled 1-2 @ 0845
				8		
				9		
				10		
				11		
				12		
				13		
				14		
				15		
				16		
				17		
				18		
				19		
				20		
				21		
				22		
				23		
				24		
				25		
				26		
				27		
				28		
				29		

Monitoring Well Construction Information	Soil Vapor Point Installation Information
Monitoring Well Diameter: _____ in	Depth of Soil Vapor Point: _____ ft
Bottom of Monitoring Well: _____ ft bgs	Bottom of Tubing: _____ ft
Stick Up or Flush Mount: _____	Top of Sand Pack: _____ ft
Screen Interval: _____ To _____ ft bgs	Top of Bentonite Seal: _____ ft
Riser Interval: _____ To _____ ft bgs	
Sand Pack Interval: _____ To _____ ft bgs	
Bentonite Seal: _____ To _____ ft bgs	
Grout Interval: _____ To _____ ft bgs	

Logged by: Robert Peterson/Charles Yarrington	Date: 07/1/13
Drilling Contractor: GeoLogic NY, Inc.	Driller: NA



<div><div>EA Engineering, P.C. EA Science and Technology</div></div> <div>LOG OF SOIL BORING</div> <div>Coordinates: Northing 1027478.02 Easting: 1085225.14</div> <div>Surface Elevation: 595.26</div> <div>Casing Below Surface:</div> <div>Reference Elevation:</div> <div>Reference Description: Surface Elevation</div>					<div>Job No. 1490710</div> <div>Client: NYSDEC</div> <div>Project: Lackawanna Incinerator Site</div>		<div>Location: Lackawanna, NY</div>	
					Drilling Method: Slide hammer		Soil Boring Number: SB-43A	
					Sampling Method: MacroCore		Sheet 1 of 1	
					Water Level:		Drilling	
					Time:		Start Finish	
					Date:		DATE 08-13-13 DATE 08-13-13	
							TIME 1010 TIME 1020	
Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions: Grass		
						Weather: Cloudy		
						Temperature: 70F		
			0	0		0.0' - 0.2' D. Brown silty SAND, trace angular gravel, loose, moist		
	2/2					0.3' - 1' Reddish brown silty SAND and non-melted glass and slag, loose, moist		
			0	1		1' - 2' Grey silty CLAY, mottled, stiff, moist.		
						2' - 3' Light brownish tan clayey SILT, mottled, non-cohesive, moist.		
				2				
				3				
				4		Re-installed. Original SB-43 was not deep enough for vertical delineation		
				5				
				6				
				7				
				8				
				9				
				10				
				11				
				12				
				13				
				14				
				15				
				16				
				17				
				18				
				19				
				20				
				21				
				22				
				23				
				24				
				25				
				26				
				27				
				28				
				29				
Logged by: Robert Peterson/Charles Yarrington						Date: 8/13/13		
Drilling Contractor: NA						Driller: NA		

Date: 8/13/13  
Driller: NA



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**EA Science and Technology**

**LOG OF SOIL BORING**

Coordinates: Northing 1027465.9 Easting: 1085499.15  
Surface Elevation: 595.79  
Casing Below Surface: \_\_\_\_\_  
Reference Elevation: \_\_\_\_\_  
Reference Description: \_\_\_\_\_ Surface Elevation

Job. No. 1490710	Client: NYSDEC Project: Lackawanna Incinerator Site	Location: Lackawanna, NY
Drilling Method: Slide hammer		Soil Boring Number: SB-50
Sampling Method: MacroCore		Sheet <b>1</b> of <b>1</b>
Drilling		
Water Level:		Start
Time:		Finish
Date:		DATE 08-13-13 TIME 0914

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions:	Grass
						Weather:	Cloudy
						Temperature:	70F
			0	0		0.0' - 0.2'	Dark brown, sandy SILT, with organic matter, loose, moist.
						0.3' - 1.0'	Brown clayey SILT with angular and rounded glass, slag, and wood, loose, moist
			0	1		1.0' - 2'	Light brown, clayey SILT, mottled, trace roots, stiff, moist
				2			
				3			
				4			
				5			Duplicate 13 collected from 0-1 interval
				6			
				7			
				8			
				9			
				10			
				11			
				12			
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			
				21			
				22			
				23			
				24			
				25			
				26			
				27			
				28			
				29			

Logged by: Robert Peterson/Charles Yarrington

Date: 8/13/13

Drilling Contractor: NA

Driller: NA





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**EA Science and Technology**

**LOG OF SOIL BORING**

Coordinates: Northing 1027471.95 Easting: 1085651.51

Surface Elevation: 596.96

Casing Below Surface:

Reference Elevation:

Reference Description: Surface Elevation

Job No. 1490710  
Client: NYSDEC  
Project: Lackawanna Incinerator Site

Location:  
Lackawanna, NY

Drilling Method: Slide hammer

Soil Boring Number:  
SB-51

Sampling Method: MacroCore

Sheet 1 of 1

Water Level:

Start

Finish

Time:

DATE 08-13-13

DATE 08-13-13

Date:

TIME 0845

TIME 0850

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth	USCS Log	Surface Conditions: Grass	
				in Feet		Weather: Cloudy	Temperature: 70F
	2/2		0	0		0.0' - 0.2'	Dark brown, silty fine SAND, trace organic matter, loose, moist
						0.3' - 1.5'	Reddish brown sandy SILT, medium gravel, some rounded and angular glass, trace slag and plastic, loose, moist
				1		1.5' - 2'	Greyish brown clayey SILT, trace organic matter, mottled, stiff, moist.
				2			
				3			
				4			
				5			
				6			
				7			
				8			
				9			
				10			
				11			
				12			
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			
				21			
				22			
				23			
				24			
				25			
				26			
				27			
				28			
				29			

Logged by: Robert Peterson/Charles Yarrington  
Drilling Contractor: NA

Date: 8/13/13  
Driller: NA



EA Engineering, P.C.  
EA Science and Technology

LOG OF SOIL BORING

Coordinates: Northing 1027472.54 Easting: 1085725.17  
Surface Elevation: 597.56  
Casing Below Surface:  
Reference Elevation:  
Reference Description: Surface Elevation

Job. No. 1490710	Client: NYSDEC Project: Lackawanna Incinerator Site	Location: Lackawanna, NY
Drilling Method: Slide hammer		Soil Boring Number: SB-52
Sampling Method: MacroCore		Sheet 1 of 1
Drilling		
Water Level:		Start
Time:		Finish
Date:		DATE 08-13-13 TIME 0905

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions:	Grass
						Weather:	Cloudy
						Temperature:	70F
			0	0		0.0' - 0.2'	Dark brown silty fine SAND and BRICK, trace organic matter, loose, moist
						0.3' - 1.5'	Reddish brown silty SAND and melted glass with slag and brick, loose, moist
			0	1		1.5' - 2'	Greyish brown clayey SILT trace organics, mottled, firm, moist
				2			
				3			
				4			
				5			
				6			
				7			
				8			
				9			
				10			
				11			
				12			
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			
				21			
				22			
				23			
				24			
				25			
				26			
				27			
				28			
				29			

Logged by: Robert Peterson/ Charles Yarrington Date: 8/13/13  
Drilling Contractor: NA Driller: NA



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EA Science and Technology

LOG OF SOIL BORING

Coordinates: Northing 1027473.78 Easting: 1085787.83

Surface Elevation: 596.53

Casing Below Surface:

Reference Elevation:

Reference Description: Surface Elevation

Job. No.	Client:	NYSDEC		
1490710	Project:	Lackawanna Incinerator Site		
Drilling Method: Slide hammer				
Sampling Method: MacroCore				
Water Level:				
Time:				
Date:				

Location:	Lackawanna, NY
Soil Boring Number:	SB-53
Sheet	1 of 1
Drilling	
Start	Finish
DATE 08-13-13	DATE 08-13-13
TIME 0833	TIME 0835

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions:	Weather:	Temperature:
						Grass	Cloudy	70F
						0.0' - 0.2'	Brown, silty fine SAND, loose, moist	
						0.3' - 2'	Brown, sandy SILT with angular glass and slag, loose, moist	
	2/2		0	0				
			0	1				
				2				
				3				
				4				
				5				
				6				
				7				
				8				
				9				
				10				
				11				
				12				
				13				
				14				
				15				
				16				
				17				
				18				
				19				
				20				
				21				
				22				
				23				
				24				
				25				
				26				
				27				
				28				
				29				

Logged by:

Robert Peterson/Charles Yarrington

Date:

8/13/13

Drilling Contractor:

NA

Driller:

NA





**EA Engineering, P.C.**  
**EA Science and Technology**

**LOG OF SOIL BORING**

Coordinates: Northing 1027468.377 Easting: 1086152.454

Surface Elevation: 599.22

Casing Below Surface: \_\_\_\_\_

Reference Elevation: \_\_\_\_\_

Reference Description: \_\_\_\_\_ Surface Elevation

Job. No. 1490710 Client: NYSDEC  
Project: Lackawanna Incinerator Site

Location:  
Lackawanna, NY

Drilling Method: Geoprobe

Soil Boring Number:  
SB-55

Sampling Method: MacroCore

Sheet 1 of 1

Water Level: \_\_\_\_\_

Drilling

Time: \_\_\_\_\_

Start

Finish

Date: \_\_\_\_\_

DATE 02-24-14

DATE 02-24-14

TIME 1050

TIME 1100

Blow Counts (140-lb)	Ft. Driven/ Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	Surface Conditions:
						grass/topsoil
						Weather: Snowing, very windy
						Temperature: 20F
			0	0		0' - 5' Brown silty SAND, trace organics, frozen
			0	1		.5' - 2.5' [FILL] Grey coarse subangular gravel and ash
			0	2		2.5' - 3' [FILL] Reddish brown fill, silt, glass, slag
				3		
				4		4' - 8' No recovery (presumed fill based on rig behavior)
				5		
				6		
				7		
			0	8		8' - 10' [FILL] Reddish brown fill, silt, glass, slag
			0	9		
			0	10		10' - 12' [NATIVE] Grey CLAY, cohesive, tight, moist
			0	11		EOB @ 12'
				12		Samples SB-55 (0-1)
						1055 (1-2)
				13		(2-3)
				14		(10-11)

Logged by: Charles Yarrington

Date: 2/24/14

Drilling Contractor: Geologic

Driller: Geologic



**EA Engineering, P.C.**  
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**LOG OF SOIL BORING**

**Coordinates:** Northing 1027502.283 Easting: 1086286.865  
**Surface Elevation:** 596.30  
**Casing Below Surface:** \_\_\_\_\_  
**Reference Elevation:** \_\_\_\_\_  
**Reference Description:** \_\_\_\_\_ Surface Elevation

**Job. No.** 1490710 **Client:** NYSDEC  
**Project:** Lackawanna Incinerator Site

**Location:**  
Lackawanna, NY

**Drilling Method:** Geoprobe

**Soil Boring Number:**  
SB-56

**Sampling Method:** MacroCore

**Sheet 1 of 1**

**Water Level:** \_\_\_\_\_

**Time:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Drilling**

**Start**

**Finish**

DATE 02-24-14

DATE 02-24-14

TIME 1115

TIME 1125

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth	USCS Log	Surface Conditions:
				in Feet		grass/topsoil
						<b>Weather:</b> Snowing, very windy
						<b>Temperature:</b> 20F
			0	0		0' - 2' [NATIVE] Light brown Sandy SILT, trace subangular gravel, cohesive, moist
			0	1		
			0	2		2' - 4' [NATIVE] Light brown silty CLAY, cohesive, moist
				3		
				4		
				5		
				6		
				7		
				8		
				9		
				10		
				11		EOB @ 4'
			12			Samples SB-56 (0-1) 1125 (1-2)
			13			(2-3) (3-4)
			14			(1-2) MS (1-2) MSD

Logged by: Charles Yarrington  
Drilling Contractor: Geologic

Date: 2/24/14  
Driller: Geologic



**EA Engineering, P.C.**  
**EA Science and Technology**

**LOG OF SOIL BORING**

Coordinates: Northing 1027514.09 Easting: 1086451.646  
Surface Elevation: 596.82  
Casing Below Surface: \_\_\_\_\_  
Reference Elevation: \_\_\_\_\_  
Reference Description: \_\_\_\_\_ Surface Elevation

Job. No. 1490710 Client: NYSDEC  
Project: Lackawanna Incinerator Site

Location:  
Lackawanna, NY

Drilling Method: Geoprobe

Soil Boring Number:  
SB-57

Sampling Method: MacroCore

Sheet **1** of **1**

Water Level: \_\_\_\_\_

Time: \_\_\_\_\_

Date: \_\_\_\_\_

Drilling

Start

Finish

DATE 02-24-14

DATE 02-24-14


TIME 1130

TIME 1135

Blow Counts (140-lb)	Ft. Driven/ Recvrd	Boring Diagram	PID (ppm)	Depth in	USCS Log	Surface Conditions:
				Feet		grass/topsoil
						Weather: Snowing, very windy
						Temperature: 20F
			0	0		0' - 1' [NATIVE] Dark brown sandy SILT, some subangular gravel, trace glass
			0	1		1' - 3' [NATIVE] Brown silty CLAY, cohesive, moist, with reddish brown mottling
			0	2		
				3		
				4		
				5		
				6		
				7		
				8		
				9		
				10		
				11		EOB @ 4'
				12		Samples SB-57 (0-1)
						1135 (1-2)
				13		(2-3)
				14		

Logged by: Charles Yarrington  
Drilling Contractor: Geologic

Date: 2/24/14  
Driller: Geologic

 <div> <b>EA Engineering, P.C.</b>  <b>EA Science and Technology</b> </div> <div> <b>LOG OF SOIL BORING</b>  Coordinates:      Northing <u>1027515.26</u>      Easting: <u>1086629.182</u>  Surface Elevation:      <u>597.03</u>  Casing Below Surface:      _____  Reference Elevation:      _____  Reference Description:      <u>Surface Elevation</u> </div>					<b>Job. No.</b> 1490710	<b>Client:</b> NYSDEC <b>Project:</b> Lackawanna Incinerator Site			<b>Location:</b> Lackawanna, NY	
					<b>Drilling Method:</b> Geoprobe			<b>Soil Boring Number:</b> SB-58		
					<b>Sampling Method:</b> MacroCore			<b>Sheet 1 of 1</b>		
								<b>Drilling</b>		
					<b>Water Level:</b> _____			<b>Start</b> <b>Finish</b>		
<b>Time:</b> _____			DATE 02-24-14      DATE 02-24-14							
<b>Date:</b> _____			TIME 1140      TIME 1150							
<b>Blow Counts</b> (140-lb)	<b>Ft. Driven/ Ft. Recvrd</b>	<b>Boring Diagram</b>	<b>PID</b> (ppm)	<b>Depth</b> in	<b>USCS</b> Log	<b>Surface Conditions:</b> grass/topsoil				
				<b>Feet</b>		<b>Weather:</b> Snowing, very windy				
						<b>Temperature:</b> 20F				
	4/3		0	0		0' - 1'      [NATIVE] Brown sandy SILT, trace subangular gravel, loose, moist				
			0	1		1' - 3'      [NATIVE] Brown sandy CLAY, cohesive, moist				
			0	2						
				3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11		EOB @ 4'				
				12		Samples SB-58      (0-1) 1150      (1-2)				
				13		(2-3) (1-2) MS				
		14		(1-2) MSD Duplicate01022414 from 2-3						
Logged by: <u>Charles Yarrington</u> Date: <u>2/24/14</u>										
Drilling Contractor: <u>Geologic</u> Driller: <u>Geologic</u>										





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**LOG OF SOIL BORING**

**Coordinates:** Northing 1027514.785 Easting: 1086771.977  
**Surface Elevation:** 598.47  
**Casing Below Surface:** \_\_\_\_\_  
**Reference Elevation:** \_\_\_\_\_  
**Reference Description:** \_\_\_\_\_ Surface Elevation

**Job. No.** 1490710 **Client:** NYSDEC  
**Project:** Lackawanna Incinerator Site

**Location:**  
Lackawanna, NY

**Drilling Method:** Geoprobe

**Soil Boring Number:**  
SB-59

**Sampling Method:** MacroCore

**Sheet 1 of 1**

**Water Level:**

**Time:**

**Date:**

**Drilling**

**Start**

**Finish**

DATE 02-24-14

DATE 02-24-14

TIME 1155

TIME 1205

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth	USCS Log	Surface Conditions:
				in Feet		grass/topsoil
						<b>Weather:</b> Snowing, very windy
						<b>Temperature:</b> 20F
			0	0		0' - 1' [NATIVE] Brown silty SAND, trace angular gravel, moist
			0	1		1' - 2' [NATIVE] Brown silty SAND, tight, moist, orange mottling
				2		
				3		
				4		
				5		
				6		
				7		
				8		
				9		
				10		
				11		EOB @ 4'
				12		Samples SB-59 (0-1) 1205 (1-2)
				13		Duplicate02022414 collected from 1-2
				14		

Logged by: Charles Yarrington  
Drilling Contractor: Geologic

Date: 2/24/14  
Driller: Geologic



**EA Engineering, P.C.**  
**EA Science and Technology**

**LOG OF SOIL BORING**

**Coordinates:** Northing 1027570.398 Easting: 1086972.942  
**Surface Elevation:** 597.58  
**Casing Below Surface:** \_\_\_\_\_  
**Reference Elevation:** \_\_\_\_\_  
**Reference Description:** \_\_\_\_\_ Surface Elevation

**Job. No.** 1490710 **Client:** NYSDEC  
**Project:** Lackawanna Incinerator Site

**Location:**  
Lackawanna, NY

**Drilling Method:** Geoprobe

**Soil Boring Number:**  
SB-60

**Sampling Method:** MacroCore

**Sheet 1 of 1**

**Water Level:**

**Time:**

**Date:**

**Drilling**

**Start**

**Finish**

DATE 02-24-14

DATE 02-24-14

TIME 1210

TIME 1215

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth	USCS Log	Surface Conditions:
				in Feet		grass/topsoil
						<b>Weather:</b> Snowing, very windy
						<b>Temperature:</b> 20F
			0	0		0' - 2' [NATIVE] Brown silty CLAY, cohesive, moist, trace organics
			0	1		
				2		
				3		
				4		
				5		
				6		
				7		
				8		
				9		
				10		
				11		EOB @ 2'
				12		Samples SB-60 (0-1) 1215 (1-2)
				13		
				14		

Logged by: Charles Yarrington

Date: 2/24/14

Drilling Contractor: Geologic

Driller: Geologic