

March 30, 2011

Henry Willems
Environmental Engineer
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-7014

**RE: Proposed Boring Nevins Street Right-of-Way
Revised Final Remedial Investigation Work Plan Addendum No. 2
Fulton Municipal Works Former Manufactured Gas Plant (MGP) Site
Brooklyn, New York, Site No. 224051/ Index No. A2-0552-0606**

Dear Mr. Willems:

National Grid is submitting the following letter to propose the installation of an additional boring (FW-SB-52) within the Nevins Street right-of-way (ROW). FW-SB-52 is proposed to delineate the dense non-aqueous phase liquid (DNAPL) tar impacts that were encountered to the south in boring FW-SB-41 within the Butler Street ROW and in FW-SB-30 in the handball court area of Thomas Greene Playground/ Pool. Figure 1 shows the location of the proposed boring and nearby, previously completed borings.

A lens of DNAPL tar impacted soil was encountered in FW-SB-41 between approximately 35 feet and 37 feet below ground surface (bgs), approximately -17.2 and -19.6 feet North American Vertical Datum (NAVD). DNAPL impacted soils were also encountered in FW-SB-30 as deep as 65 feet [-50 feet NAVD]. The U.S. Environmental Protection Agency installed a boring (GCMW-33) and monitoring well pair (GCMW-33 S, I) within the Nevins Street ROW during the remedial investigation of the Gowanus Canal Superfund Site. However, the GCMW-33 boring was installed to 39 feet bgs (-31.8 NAVD) and did not extend deep enough to delineate potential DNAPL tar impacts to the north of Thomas Green Playground/ Pool area. The boring and monitoring well logs are attached to this letter.

We propose to install FW-SB-52 to a minimum depth of 80 feet bgs and 10 feet into visually un-impacted soils. Two subsurface soil samples will be collected from the boring. One soil sample will be collected from soils that exhibit the greatest apparent impact. If no DNAPL tar impacts are encountered, then a sample will be collected between -17.2 feet NAVD and -50 feet NAVD, the depth of similar impacts observed in borings FW-SB-41 and FW-SB-30. The second sample will be collected below observed impacts, if any, or at the completion of the boring. Each soil sample will be analyzed for:

- Volatile organic compounds (VOCs) via EPA Method 8260B
- Semi-volatile organic compounds (SVOCs) via EPA Method 8270C
- Target analyte list (TAL) metals (including mercury) via EPA Method 6010 and EPA Method 7471A
- Free cyanide via EPA Method 9016 or extraction by EPA Method 9013A and analysis by Microdiffusion ASTM International (ASTM) Method D4282-02

Each sample will be submitted for laboratory analysis to TestAmerica located in Shelton, Connecticut, a New York State Department of Health-approved laboratory.

The boring will be installed in accordance with *Revised Final Remedial Investigation Work Plan Addendum No. 2, Fulton Municipal Works former Manufactured Gas Plant (MGP) Site* dated February 2, 2011 and the *Final Remedial Investigation Work Plan, Fulton Municipal Works former Manufactured Gas Plant Site* dated March 2008 [Final RI Work Plan].

In addition, soil boring (FW-MW-11) will be installed at 242 Nevins Street. FW-MW-11 was unable to be installed during the RI mobilization because of concrete foundations from former coal pockets that were located at the property. The FW-MW-11 boring will be installed to a minimum depth of 120 feet bgs and 10 feet into visually un-impacted soils. The boring will be sampled in accordance with the *Final RI Work Plan*. As we discussed, installation of shallow monitoring well FW-MW-11 is not be required to complete the RI scope of work.

National Grid's consultant and its subcontractors are commencing the remaining Revised Final RI Addendum No. 2 utility mark-out activities (located at 226 Nevins Street) on March 31. Anticipating your approval of the above proposal, utility mark-out activities for FW-SB-52 and the new FW-MW-11 location will also begin on March 31. The drilling subcontractor will mobilize and begin hand clearing activities on April 4. Drilling activities are anticipated to commence on April 5 and, pending your approval, will include soil borings FW-SB-52 and FW-MW-11.

If you have any questions or require additional information, please feel free to contact me at (718) 963-5453 or by e-mail at donald.campbell@us.ngrid.com.

Sincerely,



Donald Campbell
Project Manager

Attachments

- c: C. Doroski – NYSDOH
- T. Bell – National Grid
- A. Hecht – National Grid
- B. Barnett – Drinker – Biddle
- D. Terry – GEI
- L. Willey – GEI



LEGEND

PROPOSED REMEDIAL INVESTIGATION (RI) AND RI ADDENDUM (RIA) No. 2 LOCATIONS

	FW-MW-22 (S,I)	PROPOSED RIA MONITORING WELL
	FW-SB-46	PROPOSED RIA SOIL BORING
	FW-MW-11	PROPOSED RI SOIL BORING

RI / ADDENDUM LOCATIONS

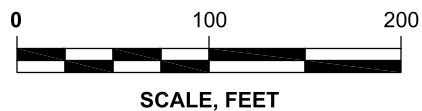
	FW-MW-01	RI MONITORING WELL
	FW-SB-01	RI SOIL BORING
	FW-SB-41/ FW-MW-19	RIA SOIL BORING/ MONITORING WELL
	FW-SB-40	RIA SOIL BORING
	GCMW-33S,I	EPA GOWANUS CANAL BORING/MONITORING WELL
		NO VISUAL DNAPL TAR IMPACTS OBSERVED
		DNAPL TAR IMPACTS OBSERVED

NOTE:

* BORING GCMW-33 DID NOT EXTEND DEEP ENOUGH TO DELINEATE VERTICAL IMPACTS.

SOURCES:

1. PHOTOGRAPH OBTAINED FROM BLUE SKY INTERNATIONAL LTD. ALL RIGHTS RESERVED. COPYRIGHT 2006.
2. SANBORN FIRE INSURANCE MAPS (1886 THROUGH 1996).
3. SITE CHARACTERIZATION REPORT, FULTON FORMER MANUFACTURED GAS PLANT, BROOKLYN (LI), KING'S COUNTY, NEW YORK, SITE No. 2-24-051, SEPTEMBER 2007, PREPARED BY NYSDEC REMEDIAL BUREAU C., DIVISION OF ENVIRONMENTAL REMEDIATION.
4. NEW YORK CITY OPEN ACCESSIBLE SPACE INFORMATION SYSTEM <http://www.oasisnyc.net>, ACCESSED JANUARY 2008.
5. SURVEY OF SAMPLE LOCATIONS CONDUCTED BY GEI CONSULTANTS, INC. ON 3/31/10 and 5/5/10. SURVEY BY NEW YORK STATE LICENSED LAND SURVEYOR NUMBER 050146. HORIZONTAL DATUM: NEW YORK STATE PLANE COORDINATE SYSTEM (LONG ISLAND ZONE, NORTH AMERICAN DATUM (NAD)83). VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM (NAVD) 88.



REMEDIAL INVESTIGATION WORK PLAN
ADDENDUM NO. 2
FULTON MUNICIPAL WORKS FORMER MGP
BOROUGH OF BROOKLYN, NEW YORK



PROPOSED SAMPLE
LOCATIONS

Project 093020-1-1108

March 2011

Figure 1



GEI Consultants, Inc.
455 Winding Brook Road
Glastonbury, CT 06033
(860) 368-5300

CLIENT: **National Grid**
PROJECT: **Fulton Municipal Works MGP**
CITY/STATE: **Brooklyn, New York**
GEI PROJECT NUMBER: **093020**

BORING LOG
PAGE 1 of 4
FW-SB-41

GROUND SURFACE ELEVATION (FT): 17.56 LOCATION: Butler Street ROW-Sidewalk
NORTHING: 673577.57 EASTING: 634841.95 TOTAL DEPTH (FT): 70.00
DRILLED BY: ADT / Jiri Kamenicek DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: Chad Conti DATE START / END: 7/30/2009 - 7/30/2009
DRILLING DETAILS: Direct Push / Geoprobe 6620DT
WATER LEVEL DEPTHS (FT): ▽ 8.00

DEPTH FT.	SAMPLE INFO				STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN FT.	REC FT.	PID (ppm)					
0		5.0							(0'- 5') WIDELY GRADED SAND (SW); ~90% sand, ~5% gravel, ~5% fines, non plastic; max. size 0.5 in., brown, occasional cobbles, HAND CLEARED.
5	S-1	5.0	11	0.0					(5'- 5.9') ASPHALT; black. (5.9'- 7.6') CONCRETE; gray.
8									(7.6'- 10') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, ~10% gravel, ~10% fines, non plastic; max. size 1 in., brown to light brown.
10	S-2	5.0	28	0.0					(10'- 14.3') SILTY SAND (SM); ~80% sand, ~15% fines, non plastic, ~5% gravel; max. size 0.5 in., brown to light brown.
15	S-3	5.0	30	0.1					(14.3'- 15') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, ~20% gravel, ~10% fines, non plastic; max. size 1 in., brown. (15'- 16') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, ~20% gravel, ~10% fines, non plastic; max. size 1 in., brown. (16'- 18.3') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, ~15% fines, non plastic, ~5% gravel; max. size 0.5 in., gray to black, pieces of coal, shells. (18.3'- 20') moderate sulfur-like odor, brown to gray, PEAT.
20									

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL ppm = PARTS PER MILLION NLO = NAPHTHALENE LIKE ODOR CrLO= CREOSOTE LIKE ODOR
 REC = RECOVERY LENGTH OF SAMPLE IN. = INCHES PLO = PETROLEUM LIKE ODOR OLO = ORGANIC LIKE ODOR
 PID = PHOTOIONIZATION DETECTOR READING (JAR FT. = FEET TLO = TAR LIKE ODOR SLO = SULFUR LIKE ODOR
 HEADSPACE) ALO = ASPHALT LIKE ODOR CLO = CHEMICAL LIKE ODOR MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG FULTON RI BORING LOGS.DATABASE: 6-7-10.GPJ.GEI CONSULTANTS.GDT 6/7/10



GEI Consultants, Inc.
455 Winding Brook Road
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(860) 368-5300

CLIENT: National Grid
PROJECT: Fulton Municipal Works MGP
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093020

BORING LOG

PAGE 2 of 4

FW-SB-41

ENVIRONMENTAL BORING LOG FULTON RI BORING LOGS DATABASE: 6-7-10.GPJ_GEI CONSULTANTS.GDT 6/7/10

DEPTH FT.	SAMPLE INFO				STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN FT.	REC FT.	PID (ppm)					
20	S-4	5.0	21	0.6	[Symbol]		SLO	FW-SB-41	(20'- 22.3') moderate sulfur-like odor, brown to gray, PEAT.
									(22.3'- 25') ELASTIC SILT (MH); ~95% fines, low plasticity, ~5% sand; gray.
25	S-5	5.0	27	0.0	[Symbol]			FW-SB-41	(25'- 30') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines, non plastic; gray.
30	S-6	5.0	55	790	[Symbol]			FW-SB-41	(30'- 31.8') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines, non plastic; gray.
35	S-7	5.0	50	17.1	[Symbol]	NLO	NLO	FW-SB-41	(34.8'- 35') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines, non plastic; moderate naphthalene-like odor, reddish brown, some coated grains in tip of sample. (35'- 40') WIDELY GRADED SAND (SW); ~95% sand, fine to medium, ~5% fines, non plastic; moderate naphthalene-like odor, reddish brown, staining and viscous NAPL coated grains @ 37 feet, sheen @ 35-37',.
40	S-8	5.0	59	0.0	[Symbol]			FW-SB-41	(40'- 41') WIDELY GRADED SAND (SW); ~95% sand, fine to medium, ~5% fines, non plastic; reddish brown. (41'- 45') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines, non plastic; reddish brown.

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ppm = PARTS PER MILLION
IN. = INCHES
FT. = FEET

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR

CrLO = CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR



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BORING LOG

PAGE
3 of 4

FW-SB-41

ENVIRONMENTAL BORING LOG FULTON RI BORING LOGS_DATABASE_6-7-10.GPJ_GEI CONSULTANTS.GDT 6/7/10

DEPTH FT.	SAMPLE INFO				STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN FT.	REC FT.	PID (ppm)					
45	S-9	5.0	58	0.0				(45'- 50') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines, non plastic; reddish brown.	
50	S-10	5.0	48	2.6				(50'- 55') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines, non plastic; reddish brown.	
55	S-11	5.0	50	0.0				(55'- 60') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines, non plastic; reddish brown.	
60	S-12	5.0	21	0.0				(60'- 65') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines, non plastic; reddish brown.	
65	S-13	5.0	40	0.0			FW-SB-41 (65-70)	(65'- 70') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines, non plastic; reddish brown.	

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IN. = INCHES
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BORING LOG

PAGE
4 of 4

FW-SB-41

DEPTH FT.	SAMPLE INFO				STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN FT.	REC FT.	PID (ppm)					
70									Bottom of borehole at 70.0 feet.

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 HEADSPACE)

ppm = PARTS PER MILLION
 IN. = INCHES
 FT. = FEET

NLO = NAPHTHALENE LIKE ODOR
 PLO = PETROLEUM LIKE ODOR
 TLO = TAR LIKE ODOR
 CLO = CHEMICAL LIKE ODOR
 ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
 OLO = ORGANIC LIKE ODOR
 SLO = SULFUR LIKE ODOR
 MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG FULTON RI BORING LOGS_DATABASE_6-7-10.GPJ_GEI CONSULTANTS.GDT 6/7/10



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CLIENT: National Grid
PROJECT: Fulton Municipal Works MGP
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093020

BORING LOG

PAGE 1 of 1

FW-MW-19-Well

GROUND SURFACE ELEVATION (FT): 18 **LOCATION:** Butler Street ROW-Sidewalk
NORTHING: 673577.57 **EASTING:** 634841.95 **TOTAL DEPTH (FT):** 15.00
DRILLED BY: ADT / Chris Capobianco **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Kari Weber **DATE START / END:** 8/5/2009 - 8/5/2009
DRILLING DETAILS: Hollow Stem Auger
WATER LEVEL DEPTHS (FT): ∇ 7.30 8/5/2009

DEPTH FT.	SAMPLE INFORMATION					STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL CONSTRUCTION DETAILS
	TYPE and NO.	PEN FT.	REC FT.	Blows (/6 in.)	PID (ppm)					
0									(0'- 5') See FW-SB-41 for soil description; HAND CLEARED.	
5	S1	2.0	9	6-6-9-9	23.9				(5'- 7') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to medium, ~15% gravel, fine, subangular, ~15% fines, non plastic; max. size 0.5 in., wet, brown, wet at 6', concrete, brick and coal fragments up to 1.25".	
7	S2	2.0	15	15-6-7-9	0.4				(7'- 9') POORLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine to medium, ~10% gravel, fine, ~10% fines, non plastic; max. size 0.5 in., wet, brown, coal and concrete fragments to 1", layer of tan coarse sand at 8.1'. Augered to 13 feet bgs.	
15	S3	2.0	10	3-5-4-3	1.3			PLO	(13'- 15') WELL GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, subangular, ~5% fines, non plastic; max. size 0.75 in., slight petroleum-like odor, wet, black.	

Bottom of borehole at 15.0 feet.

- NOTES:**
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 - ppm = PARTS PER MILLION
 - IN. = INCHES
 - FT. = FEET
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 - CLO = CHEMICAL LIKE ODOR
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 - CrLO = CREOSOTE LIKE ODOR
 - OLO = ORGANIC LIKE ODOR
 - SLO = SULFUR LIKE ODOR
 - MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG FULTON RI BORING LOGS. DATABASE: 6-7-10.GPJ - GEI CONSULTANTS.GDT 6/8/10



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(860) 368-5300

CLIENT: National Grid
PROJECT: Fulton Municipal Works MGP
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093020

BORING LOG

PAGE 1 of 4

FW-SB-42

GROUND SURFACE ELEVATION (FT): 14.79 LOCATION: Butler Street ROW-Sidewalk
 NORTHING: 673715.61 EASTING: 634560.67 TOTAL DEPTH (FT): 79.00
 DRILLED BY: ADT / Jiri Kamenicek DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
 LOGGED BY: Chad Conti and Kristen Ponak DATE START / END: 8/4/2009 - 8/6/2009
 DRILLING DETAILS: Direct Push / Geoprobe 6620DT
 WATER LEVEL DEPTHS (FT):

ENVIRONMENTAL BORING LOG FULTON RI BORING LOGS.DATABASE:6-7-10.GPJ.GEI CONSULTANTS.GDT 6/7/10

DEPTH FT.	SAMPLE INFO				STRATA	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN FT.	REC FT.	PID (ppm)				
0		5.0					(0'- 5') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; some cobbles.	
5	S-1	5.0	29	0.0			(5'- 10') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, ~20% gravel, ~10% fines, non plastic; max. size 1 in., brown to black, FILL, coal ash, brick;	
10	S-2	5.0	18	44.1			(10'- 15') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, ~20% gravel, ~10% fines, non plastic; max. size 1 in., light brown to black, FILL, coal ash, brick;	
15	S-3	5.0	11	8.5			(15'- 20') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, ~20% gravel, ~10% fines, non plastic; max. size 1 in., black, FILL, coal ash, brick;.	
20								

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BORING LOG
PAGE 2 of 4
FW-SB-42

DEPTH FT.	SAMPLE INFO				STRATA	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN FT.	REC FT.	PID (ppm)				
20	S-4	5.0	28	0.1	 SLO		(20'- 22') moderate sulfur-like odor, dark brown, PEAT;.	
								(22'- 23.5') ELASTIC SILT (MH); ~95% fines, low plasticity, ~5% sand, fine; gray.
25	S-5	5.0	44	1.5			(23.5'- 25') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines, non plastic; gray.	
								(25'- 30') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines, non plastic; gray to reddish gray.
30	S-6	5.0	44	2.0			(30'- 32.2') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines, non plastic; gray to reddish gray.	
								(32.2'- 35') WIDELY GRADED SAND (SW); ~85% sand, ~10% gravel, ~5% fines, non plastic; max. size 0.5 in., brown to reddish brown.
35	S-7	5.0	30	0.1			(35'- 37.3') WIDELY GRADED SAND (SW); ~90% sand, ~5% gravel, ~5% fines, non plastic; max. size 0.25 in., brown.	
								(37.3'- 37.8') SILTY SAND (SM); ~85% sand, ~15% fines, low plasticity; gray to brown. (37.8'- 40') WIDELY GRADED SAND (SW); ~90% sand, ~5% gravel, ~5% fines, non plastic; max. size 0.25 in., brown.
40	S-8	5.0	29	0.6			(40'- 45') WIDELY GRADED SAND (SW); ~90% sand, ~5% gravel, ~5% fines, non plastic; max. size 0.25 in., brown.	

ENVIRONMENTAL BORING LOG - FULTON RI BORING LOGS - DATABASE: 6-7-10.GPJ - GEI CONSULTANTS.GDT 6/7/10

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BORING LOG
PAGE 3 of 4
FW-SB-42

ENVIRONMENTAL BORING LOG FULTON RI BORING LOGS_DATABASE: 6-7-10.GPJ_GEI CONSULTANTS.GDT 6/7/10

DEPTH FT.	SAMPLE INFO				STRATA	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN FT.	REC FT.	PID (ppm)				
45	S-9	5.0	36	1.6			FW-SB-42 (55-60)	(45'- 48.6') WIDELY GRADED SAND (SW); ~90% sand, ~5% gravel, ~5% fines, non plastic; max. size 0.25 in., brown.
								(48.6'- 50') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines, non plastic; brown.
50	S-10	5.0	60				FW-SB-42 (55-60)	(50'- 54.2') WIDELY GRADED SAND (SW); ~90% sand, ~5% gravel, ~5% fines, non plastic; max. size 0.25 in., brown.
								(54.2'- 55') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, ~10% fines, non plastic, ~5% gravel; max. size 0.5 in., brown.
55	S-11	5.0	45	3.6			FW-SB-42 (55-60)	(55'- 58.3') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, ~10% fines, non plastic, ~5% gravel; max. size 0.5 in., brown.
								(58.3'- 58.9') WIDELY GRADED SAND (SW); ~90% sand, ~5% gravel, ~5% fines, non plastic; max. size 0.25 in., brown.
60	S-12	3.0	26	1.1			FW-SB-42 (55-60)	(58.9'- 60') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, ~10% fines, non plastic, ~5% gravel; max. size 0.5 in., brown.
								(60'- 65') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine to medium, ~10% gravel, ~10% fines, non plastic; max. size 1 in., brown, Refusal at 63', redrove casing for 2nd attempt..
65	S-13	5.0	33	1.4			FW-SB-42 (55-60)	(65'- 70') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, ~15% gravel, ~5% fines, non plastic; max. size 1.5 in., brown, gravel at bottom.

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IN. = INCHES
FT. = FEET

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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093020

BORING LOG
PAGE 4 of 4
FW-SB-42

ENVIRONMENTAL BORING LOG FULTON RI BORING LOGS_DATABASE_6-7-10.GPJ_GEI CONSULTANTS.GDT 6/7/10

DEPTH FT.	SAMPLE INFO				STRATA	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN FT.	REC FT.	PID (ppm)				
70	S-14	5.0	35	1.3	[Diagram of soil strata showing layers of sand with silt, gravel, and fines]		(70'- 75') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, ~10% gravel, ~10% fines, non plastic; max. size 1.5 in., brown.	
75	S-15	4.0	48	0.5		FW-SB-42 (75-79)	(75'- 77.3') WIDELY GRADED SAND (SW); ~90% sand, ~5% gravel, ~5% fines, non plastic; brown.	
							(77.3'- 77.4') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine, ~15% gravel, ~15% fines, non plastic; max. size 1.5 in., brown. (77.5'- 79') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, ~15% gravel, ~5% fines, non plastic; max. size 1 in., brown.	

Refusal at 79.0 feet.
Bottom of borehole at 79.0 feet.

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BORING LOG
PAGE 1 of 1
FW-MW-20-Well

GROUND SURFACE ELEVATION (FT): **14.79** LOCATION: **Butler Street ROW-Sidewalk**
NORTHING: **673715.61** EASTING: **634560.67** TOTAL DEPTH (FT): **17.00**
DRILLED BY: **ADT / Chris Capobianco** DATUM VERT. / HORZ.: **NAVD 88 / NAD83 NY East Zone**
LOGGED BY: **Kari Weber** DATE START / END: **8/5/2009 - 8/5/2009**
DRILLING DETAILS: **Hollow Stem Auger**
WATER LEVEL DEPTHS (FT): **∇ 9.00 8/5/2009**

ENVIRONMENTAL BORING LOG FULTON RI BORING LOGS DATABASE 6-7-10.GPJ GEI CONSULTANTS.GDT 6/8/10

DEPTH FT.	SAMPLE INFORMATION					STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL CONSTRUCTION DETAILS
	TYPE and NO.	PEN FT.	REC FT.	Blows (/6 in.)	PID (ppm)					
0									(0'- 5') See FW-SB-42 for soil description; HAND CLEARED.	
5	S1	2.0	9	10-11-10-9	72.6				(5'- 7') POORLY GRADED SAND WITH SILT (SP-SM); ~80% sand, ~10% gravel, fine to coarse, ~10% fines, non plastic; max. size 1 in., moist, brown, FILL, asphalt fragments.	
	S2	2.0	13	4-6-7-4	0.2				(7'- 7.6') FILL, ~ 90% ash and cinders, ~ 10% fine to coarse sand. (7.6'- 8.2') SILTY SAND (SM); ~75% sand, fine, ~20% fines, non plastic, ~5% gravel; moist, brown, FILL.	
10	S3	2.0	14	9-9-10-11	2.1			PLO	(8.2'- 9') FILL, ~ 90% ash and cinders, ~ 10% fine to coarse sand. (9'- 11') SILTY SAND (SM); ~80% sand, fine to medium, ~15% fines, non plastic, ~5% gravel, fine, subangular; max. size 0.5 in., slight petroleum-like odor, wet, black, wet at 9'. stained.	
15	S4	2.0	0	7-3-3-3					(15'- 17') No recovery.	

Bottom of borehole at 17.0 feet.

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BORING LOG
PAGE 1 of 4
FW-SB-30

GROUND SURFACE ELEVATION (FT): **14.87** LOCATION: **Thomas Greene Playground**
NORTHING: **673331.19** EASTING: **634646.4** TOTAL DEPTH (FT): **80.00**
DRILLED BY: **ADT / Jiri Kamenicek** DATUM VERT. / HORZ.: **NAVD 88 / NAD83 NY East Zone**
LOGGED BY: **Steve Hawkins** DATE START / END: **5/21/2008 - 5/30/2008**
DRILLING DETAILS: **Geoprobe**
WATER LEVEL DEPTHS (FT): **▽ 5.00**

DEPTH FT.	SAMPLE INFO				STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN FT.	REC FT.	PID (ppm)					
0				1.0				FW-SB-30 (1.3-5)	(0'- 0.5') FILL, CONCRETE. (0.5'- 1') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse; orangeish brown, FILL, HAND CLEARED. (1'- 1.3') black, FILL, ash and coal, HAND CLEARED. (1.3'- 5') SILTY SAND (SM); ~65% sand, fine to coarse, ~25% fines, ~10% gravel, fine to coarse; brown, FILL, cobbles, brick, FILL.
5	S-1	5.0	30	1217					(5'- 9.5') SILTY SAND (SM); ~85% sand, fine to coarse, ~15% fines; wet, FILL, brick, ash, coal.
10	S-2	5.0	24	327			PLO		(9.5'- 11.3') SILTY SAND (SM); ~85% sand, fine to coarse, ~15% fines; moderate petroleum-like odor, wet, FILL, brick, ash, coal, black petroleum staining. (11.3'- 15') moderate petroleum-like odor, FILL, decomposed wood.
15	S-3	5.0	30	283			NLO NLO OLO		(15'- 16') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, fine, ~10% fines; slight naphthalene-like odor, FILL, black stained. (16'- 16.5') WIDELY GRADED SAND (SW); moderate naphthalene-like odor, gray, FILL, sand, fine to coarse, gravel, fine, lenses of tar coating, gray ash. (16.5'- 20') LEAN CLAY (CL); ~100% fines; ~50% organics, strong organic-like odor, peat, strong sulfur-like odor.
20									

ENVIRONMENTAL BORING LOG FULTON RI BORING LOGS.DATABASE:6-7-10.GPJ.GEI CONSULTANTS.GDT 6/7/10

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BORING LOG	
PAGE 2 of 4	FW-SB-30

ENVIRONMENTAL BORING LOG - FULTON RI BORING LOGS_DATABASE: 6-7-10.GPJ - GEI CONSULTANTS.GDT 6/7/10

DEPTH FT.	SAMPLE INFO				STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN FT.	REC FT.	PID (ppm)					
20	S-4	5.0	32	832					(20'- 23.8') LEAN CLAY (CL); ~100% fines; ~50% organics, strong organic-like odor, peat.
									OLO
25	S-5	5.0	36	3995				(23.8'- 25') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to medium, ~15% fines; ~5% organics, slight organic-like odor, gray.	
								OLO	
30	S-6	5.0	18	4955				(25'- 27') SILTY SAND (SM); ~80% sand, fine to medium, ~20% fines; slight organic-like odor, moist.	
								OLO	
35	S-7	5.0	18	347				(27'- 28') WIDELY GRADED SAND (SW); ~95% sand, fine to medium, ~5% fines; strong naphthalene-like odor, tar sheen.	
								NLO	
40	S-8	5.0	21					(28'- 30') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to medium, ~10% fines; moderate naphthalene-like odor, layers of tar sheen.	
								NLO	
								(30'- 32.8') SILTY SAND (SM); ~80% sand, fine to coarse, ~20% fines; moderate naphthalene-like odor, moist, brownish gray.	
								(32.8'- 35') SILTY SAND (SM); ~80% sand, fine to coarse, ~20% fines; moderate naphthalene-like odor, moist, brownish gray, lightly tar coated lenses, tar sheen.	
								(35'- 40') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; slight naphthalene-like odor, wet, grayish brown.	
								(40'- 45') SILTY SAND (SM); ~70% sand, fine to medium, ~25% fines; slight naphthalene-like odor, moist, brown, ~5% coarse sand.	

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BORING LOG
PAGE 3 of 4
FW-SB-30

ENVIRONMENTAL BORING LOG - FULTON RI BORING LOGS - DATABASE: 6-7-10.GPJ - GEI CONSULTANTS.GDT 6/7/10

DEPTH FT.	SAMPLE INFO				STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN FT.	REC FT.	PID (ppm)					
45				235			NLO	FW-SB-30 (60-61)	(45'- 45.4') WIDELY GRADED SAND (SW); ~95% sand, fine to medium, ~5% fines; moist, grayish brown, 0.5 in. lens of heavy tar coating ~2 in. from top; 2 in. piece of gravel directly below coating. (45.4'- 50') WIDELY GRADED SAND (SW); ~95% sand, fine to medium, ~5% fines; moist, grayish brown.
	S-9	5.0	24	1048					
50								FW-SB-30 (60-61)	(50'- 54') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; wet, brownish gray.
	S-10	5.0	30						
55				192			NLO	FW-SB-30 (60-61)	(54'- 54.5') SILTY SAND (SM); ~75% sand, fine, ~25% fines; moderate naphthalene-like odor, wet, brown. (54.5'- 55') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; wet, brownish gray. (55'- 59.3') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; moist, brownish gray.
	S-11	5.0	28						
60				2745			TLO	FW-SB-30 (60-61)	(59.3'- 60') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; strong tar-like odor, moist, brownish gray, heavy tar coating. (60'- 62') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse; black, heavy tar coating to tar saturation. (62'- 64.9') SILTY SAND (SM); ~70% sand, fine, ~30% fines; gray.
	S-12	5.0	28	4997					
65								FW-SB-30 (60-61)	(64.9'- 65') SILTY SAND (SM); ~70% sand, fine, ~30% fines; gray, 0.5 in. lightly tar coated lens. (65'- 70') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; moist, grayish brown.
	S-13	5.0	31						

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BORING LOG
PAGE 4 of 4
FW-SB-30

DEPTH FT.	SAMPLE INFO				STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN FT.	REC FT.	PID (ppm)					
70	S-14	5.0	25	182	[Dotted pattern]				(70'- 72.5') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; moist, grayish brown.
75	S-15	5.0	29	9.1				FW-SB-30 (75-80)	(72.5'- 75') WIDELY GRADED SAND (SW); ~85% sand, fine to medium, ~5% fines; wet, brown, ~10% coarse sand.
80									(75'- 80') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; moist, 79 ft.-79.5 ft. lens of brown silt with slight organic-like odor.
									Bottom of borehole at 80.0 feet.

ENVIRONMENTAL BORING LOG FULTON RI BORING LOGS_DATABASE_6-7-10.GPJ_GEI CONSULTANTS.GDT 6/7/10

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BORING LOG
PAGE 1 of 4
FW-SB-28

GROUND SURFACE ELEVATION (FT): 11.84 LOCATION: Douglass Street Sidewalk
NORTHING: 673336.65 EASTING: 634748.55 TOTAL DEPTH (FT): 75.00
DRILLED BY: ADT / Jiri Kamenicek DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: Melissa Felter and Kari Weber DATE START / END: 5/1/2008 - 5/6/2008
DRILLING DETAILS: Geoprobe
WATER LEVEL DEPTHS (FT): ▽ 5.00

ENVIRONMENTAL BORING LOG FULTON RI BORING LOGS.DATABASE: 6-7-10.GPJ-GEI CONSULTANTS.GDT 6/7/10

DEPTH FT.	SAMPLE INFO				STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN FT.	REC FT.	PID (ppm)					
0								(0'- 1.2') ASPHALT AND BASE COURSE, HAND CLEARED.	
				217			FW-SB-28 (3.5-4.5)	(1.2'- 3.5') WIDELY GRADED SAND (SW); ~85% sand, fine to medium, ~10% gravel, fine to coarse, ~5% fines; moist, brown, loose, HAND CLEARED.	
5	S-1	5.0	19	76		PLO		(3.5'- 4.5') WIDELY GRADED SAND (SW); ~85% sand, fine to medium, ~10% gravel, fine to coarse, ~5% fines; moderate petroleum-like odor, moist, brown, gray petroleum staining, wood and brick pieces, HAND CLEARED. (4.5'- 5') SILTY SAND (SM); ~70% sand, fine, ~30% fines; moist, brown, non-cohesive, HAND CLEARED. (5'- 6') WIDELY GRADED SAND (SW); ~85% sand, fine to medium, ~10% gravel, fine, ~5% fines; strong petroleum-like odor, wet, dark gray, black petroleum stained, loose, lens of ash. (6'- 10') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to medium, ~10% fines, ~5% gravel, fine; moist, brown, moderately dense, wood piece at 9.5 ft. bgs.	
10	S-2	5.0	1	359		NLO	FW-SB-28 (10-15) (FREE CN)	(10'- 12') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to medium, ~15% gravel, fine, ~5% fines; moderate naphthalene-like odor, wet, brown, loose, trace blebs of tar. (12'- 13') ORGANIC SOIL (OL/OH); ~100% fines; moist, dark brown, dense. (13'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to medium, ~15% gravel, fine to coarse, ~5% fines; wet, brown, loose.	
15	S-3	5.0	29	12.5				(15'- 23') LEAN CLAY (CL); ~100% fines; <~5% shells and wood, moist, gray, dense.	
20									

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BORING LOG

PAGE 2 of 4

FW-SB-28

ENVIRONMENTAL BORING LOG - FULTON RI BORING LOGS - DATABASE: 6-7-10.GPJ - GEI CONSULTANTS.GDT 6/7/10

DEPTH FT.	SAMPLE INFO				STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN FT.	REC FT.	PID (ppm)					
20	S-4	5.0	36						
				2.2					(23'- 24.8') LEAN CLAY (CL); ~90% fines, ~10% sand, fine; <~5% peat, moist, gray, dense.
25	S-5	5.0	52						(24.8'- 25.5') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; wet, loose.
				499				OLO	(25.5'- 30') SILT WITH SAND (ML); ~75% fines, ~25% sand, fine to medium; layered, slight organic-like odor, wet, brown, dense.
30	S-6	5.0	36						(30'- 31.5') SILT (ML); ~90% fines, ~10% sand, fine; slight naphthalene-like odor, wet, brown, dense.
				4468				NLO	(31.5'- 33') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to medium, ~10% fines; layered, wet, brown, layers of sand are tar saturated.
35	S-7	0.0	45						(33'- 37') SILT (ML); ~90% fines, ~10% sand, fine; slight naphthalene-like odor, wet, brown, dense, trace blebs of tar.
				4186				NLO	(37'- 40') SILTY SAND (SM); ~75% sand, fine to medium, ~25% fines; layered, strong tar-like odor, wet, brown, tar saturated lenses 2 in.-6 in. thick.
40	S-8	5.0	34	1822					(40'- 40.2') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to medium, ~10% fines; moderate naphthalene-like odor, wet, brown, lightly coated with tar.
									(40.2'- 43') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to medium, ~10% fines; slight naphthalene-like odor, wet, brown.

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BORING LOG

PAGE 3 of 4

FW-SB-28

ENVIRONMENTAL BORING LOG - FULTON RI BORING LOGS_DATABASE_6-7-10.GPJ_GEI CONSULTANTS.GDT 6/7/10

DEPTH FT.	SAMPLE INFO				STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN FT.	REC FT.	PID (ppm)					
45	S-9	5.0		257					(43'- 45') SILTY SAND (SM); ~75% sand, fine, ~25% fines; wet, brown, dense. (45'- 50') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to medium, ~10% fines; slight naphthalene-like odor, wet, brown, small area of tar staining.
50	S-10	5.0	34						(50'- 51') WIDELY GRADED SAND (SW); ~95% sand, fine to medium, ~5% fines; slight naphthalene-like odor, wet, brown, loose. (51'- 54') WIDELY GRADED SAND (SW); ~95% sand, fine to medium, ~5% fines; strong tar-like odor, wet, brown, loose, heavily tar coated lenses.
55	S-11	5.0	29						(54'- 55') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to medium, ~10% fines; slight naphthalene-like odor, wet, brown, dense, slight tar sheen. (55'- 59') WIDELY GRADED SAND (SW); ~95% sand, fine to medium, ~5% fines; wet, brown, loose.
60	S-12	5.0	35						(59'- 59.9') WIDELY GRADED SAND (SW); ~95% sand, fine to medium, ~5% fines; slight naphthalene-like odor, wet, brown, loose. (59.9'- 60') WIDELY GRADED SAND (SW); ~95% sand, fine to medium, ~5% fines; strong tar-like odor, wet, brown, loose, heavily tar coated. (60'- 61.5') WIDELY GRADED SAND (SW); ~95% sand, fine to medium, ~5% fines; strong tar-like odor, wet, brown, loose, tar saturated. (61.5'- 63.5') SILTY SAND (SM); ~85% sand, fine, ~15% fines; moderate naphthalene-like odor, wet, brown, dense, tar sheen.
65	S-13	5.0	26						(63.5'- 64.9') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to medium, ~10% fines; slight naphthalene-like odor, wet, brown, loose. (64.9'- 65') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to medium, ~10% fines; slight naphthalene-like odor, wet, brown, loose, tar saturated. (65'- 70') SILTY SAND (SM); ~85% sand, fine to medium,

NOTES:

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- REC = RECOVERY LENGTH OF SAMPLE IN. = INCHES PLO = PETROLEUM LIKE ODOR OLO = ORGANIC LIKE ODOR
- PID = PHOTOIONIZATION DETECTOR READING (JAR FT. = FEET TLO = TAR LIKE ODOR SLO = SULFUR LIKE ODOR
- HEADSPACE) ALO = ASPHALT LIKE ODOR



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BORING LOG

PAGE
4 of 4

FW-SB-28

DEPTH FT.	SAMPLE INFO				STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN FT.	REC FT.	PID (ppm)					
70	S-14	5.0	39	54.8	[Strata pattern: dots and dashes]			FW-SB-28 (70-75)	~15% fines; wet, brown, dense. (70'- 75') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to medium, ~10% fines; wet, brown, dense.
75									

Bottom of borehole at 75.0 feet.

ENVIRONMENTAL BORING LOG FULTON RI BORING LOGS_DATABASE_6-7-10.GPJ_GEI CONSULTANTS.GDT 6/7/10

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PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)

ppm = PARTS PER MILLION
IN. = INCHES
FT. = FEET

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PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR



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BORING LOG	
PAGE 1 of 4	FW-MW-09

GROUND SURFACE ELEVATION (FT): 11.22 LOCATION: Douglass Street ROW
 NORTHING: 673387.2 EASTING: 634723.73 TOTAL DEPTH (FT): 75.00
 DRILLED BY: ADT / Jiri Kamenicek DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
 LOGGED BY: Melissa Felter and Kari Weber DATE START / END: 5/12/2008 - 5/13/2008
 DRILLING DETAILS: Geoprobe
 WATER LEVEL DEPTHS (FT): ▽ 5.00

DEPTH FT.	SAMPLE INFO				STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN FT.	REC FT.	PID (ppm)					
0				0.9				FW-MW-09 (0.5-5)	(0'- 0.5') Concrete. (0.5'- 7') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; dry, brown, loose, wet at 5 ft. bgs.
5	S-1	5.0	22	0.6					(7'- 12') SILTY SAND WITH GRAVEL (SM); ~40% sand, fine to coarse, ~40% fines, ~20% gravel, fine; <~5% brick, slight petroleum-like odor, wet, dark gray and black, soft, black petroleum stained.
10	S-2	5.0	27				PLO		(12'- 12.5') CLAYEY SAND (SC); ~80% sand, fine, ~20% fines; wet, light brown, dense. (12.5'- 13') wet, gray, ash and brick. (13'- 14.5') SILT (ML); ~95% fines, ~5% sand, fine; wet, dark grayish brown, soft.
15	S-3	5.0	35	111			TLO		(14.5'- 15') SILT (ML); ~90% fines, ~10% sand, fine; moderate tar-like odor, wet, dark grayish brown, soft, thin sand lenses coated with tar. (15'- 16') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to medium, ~10% fines; moderate tar-like odor, wet, dark grayish brown, loose, thin lenses coated with tar.
20				6.1					(16'- 20') LEAN CLAY (CL); ~100% fines; ~5% organics, moist, gray, dense, peat lens at 19.6 ft.-19.7 ft. bgs.

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ENVIRONMENTAL BORING LOG FULTON RI BORING LOGS_DATABASE:6-7-10.GPJ_GEI CONSULTANTS.GDT 6/7/10



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BORING LOG
PAGE 2 of 4
FW-MW-09

ENVIRONMENTAL BORING LOG FULTON RI BORING LOGS DATABASE: 6-7-10.GPJ_GEI CONSULTANTS.GDT 6/7/10

DEPTH FT.	SAMPLE INFO				STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN FT.	REC FT.	PID (ppm)					
20	S-4	5.0	42	4.7	Diagonal Hatching				(20'- 21') LEAN CLAY (CL); ~90% fines, ~10% sand, fine; moist, brown, dense. (21'- 25') LEAN CLAY (CL); ~95% fines, ~5% sand, fine; ~5% organics, moist, gray, dense.
25	S-5	5.0	45	299	Dotted				(25'- 27') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; <~5% organics, moist, gray and brown, dense. (27'- 28') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to medium, ~10% fines; moist, gray. (28'- 30') WIDELY GRADED SAND (SW); ~95% sand, fine to medium, ~5% fines; wet, brown, loose.
30	S-6	5.0	40	1158	Dotted	Yellow	TLO		(30'- 32') SILTY SAND (SM); ~60% sand, fine, ~40% fines; layered, strong tar-like odor, moist, brown, dense, spotty sheen, 2-1 in. lenses of tar saturation. (32'- 35') SILTY SAND (SM); ~85% sand, fine, ~15% fines; slight naphthalene-like odor, wet, brown, loose.
35	S-7	5.0	30	2082	Dotted	Yellow	TLO		(35'- 38') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to medium, ~10% fines; layered, strong tar-like odor, wet, brown, tar coated lenses. (38'- 40') SILTY SAND (SM); ~60% sand, fine, ~40% fines; slight naphthalene-like odor, moist, brown, dense.
40	S-8	5.0	33	1574	Dotted	Yellow	NLO		(40'- 40.5') WIDELY GRADED SAND (SW); ~95% sand, fine to medium, ~5% fines; moderate naphthalene-like odor, wet, brown, loose, tar coated lens, sheen. (40.5'- 45') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to medium, ~10% fines; layered, slight naphthalene-like odor, wet, brown, dense.

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BORING LOG

PAGE
3 of 4

FW-MW-09

ENVIRONMENTAL BORING LOG - FULTON RI BORING LOGS - DATABASE: 6-7-10.GPJ - GEI CONSULTANTS.GDT 6/7/10

DEPTH FT.	SAMPLE INFO				STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN FT.	REC FT.	PID (ppm)					
45	S-9	5.0	26	164	[Pattern]		NLO		(45'- 49.7') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; slight naphthalene-like odor, wet, brown, loose.
							NLO		
50	S-10	5.0	30	302	[Pattern]		NLO		(49.7'- 50') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; slight naphthalene-like odor, wet, brown, loose, slight sheen. (50'- 57') WIDELY GRADED SAND (SW); ~95% sand, fine to medium, ~5% fines; slight naphthalene-like odor, wet, brown, loose.
							NLO		
55	S-11	5.0	38	3299	[Pattern]		TLO	FW-MW-09 (58-60)	(57'- 60.1') WIDELY GRADED SAND (SW); ~95% sand, fine to medium, ~5% fines; strong tar-like odor, wet, brown, loose, heavily coated with tar.
60	S-12	5.0	36	77.6	[Pattern]		NLO		(60.1'- 65') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to medium, ~10% fines; slight naphthalene-like odor, wet, brown, dense.
65	S-13	5.0	33		[Pattern]				(65'- 66') SILTY SAND (SM); ~70% sand, fine, ~30% fines; moist, brown, dense. (66'- 68') WIDELY GRADED SAND WITH SILT (SW-SM);

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BORING LOG

PAGE
4 of 4

FW-MW-09

DEPTH FT.	SAMPLE INFO				STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN FT.	REC FT.	PID (ppm)					
70				18.2		NLO	FW-MW-09 (73-75)	~90% sand, fine to medium, ~10% fines; wet, brown, dense. (68'- 70') WIDELY GRADED SAND (SW); ~95% sand, fine to medium, ~5% fines; slight naphthalene-like odor, wet, brown, loose.	
	S-14	5.0	34					(70'- 71') WIDELY GRADED SAND (SW); ~95% sand, fine to medium, ~5% fines; moist, brown, loose. (71'- 73.5') SILTY SAND (SM); ~85% sand, fine to medium, ~15% fines; moist, brown, dense.	
75				31.4				(73.5'- 75') SILT WITH SAND (ML); ~80% fines, non plastic, ~20% sand, fine; moist, brown, dense, 1 in. lens of fine to medium sand.	
Bottom of borehole at 75.0 feet.									

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ENVIRONMENTAL BORING LOG - FULTON RI BORING LOGS - DATABASE - 6-7-10.GPJ - GEI CONSULTANTS.GDT 6/7/10



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BORING LOG
 PAGE 1 of 1
 FW-MW-09-Well

GROUND SURFACE ELEVATION (FT): 11.3 LOCATION: Douglass Street ROW
 NORTHING: 673388.38 EASTING: 634728.58 TOTAL DEPTH (FT): 19.00
 DRILLED BY: ADT / Greg Rivera DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
 LOGGED BY: Kari Weber DATE START / END: 5/20/2008
 DRILLING DETAILS: Hollow Stem Auger
 WATER LEVEL DEPTHS (FT): 7.00

DEPTH FT.	SAMPLE INFO				STRATA	ODOR	SOIL / BEDROCK DESCRIPTION	WELL CONSTRUCTION DETAILS
	TYPE and NO.	PEN FT.	REC FT.	Blows (/6 in.)				
0							(0'- 0.5') Concrete. (0.5'- 1.5') Ash, coal, cinders. (1.5'- 5') SILTY SAND (SM); ~60% sand, fine to coarse, ~30% fines, ~10% gravel, fine to coarse; max. size 10 in., wet, brown, cobbles.	
5	S-1	2.0	7	3-1-1-2			(5'- 7') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, ~5% gravel, fine; max. size 0.75 in., moist, brown, loose, brick fragments, rods wet at 7 ft. bgs.	
10	S-2	2.0	6	3-5-4-6			(10'- 12') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, fine, ~10% fines; max. size 0.75 in., moist, brown, loose, brick fragments.	
15	S-3	2.0	22	1-2-1-3			(15'- 16') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, ~5% gravel, fine; max. size 0.75 in., wet, brown, loose. (16'- 17') LEAN CLAY (CL); ~100% fines, high plasticity; ~15% organics, slight organic-like odor, gray. (17'- 19') LEAN CLAY (CL); ~100% fines, high plasticity; ~10% organics, slight organic-like odor, gray.	
	T-1	2.0	24			OLO OLO		

Bottom of borehole at 19.0 feet.

ENVIRONMENTAL BORING LOG FULTON RI BORING LOGS.DATABASE:6-7-10.GPJ.GEI CONSULTANTS.GDT 6/8/10

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