

Appendix Q Sediment Logs

	GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300	CLIENT: <u>National Grid</u> PROJECT: <u>Greenpoint Energy Center</u> CITY/STATE: <u>Brooklyn, New York</u> GEI PROJECT NUMBER: <u>125180-1-1102</u>	BORING LOG PAGE 1 of 3 GPEC-GT12								
	GROUND SURFACE ELEVATION (FT): <u>-14.9</u> LOCATION: <u>Newtown Creek - 17 ft Offshore between Mooring Bitts 7 & 8</u> NORTHING (FT): <u>687783</u> EASTING (FT): <u>651325</u> TOTAL DEPTH (FT): <u>66.0</u> DRILLED BY: <u>Warren George / Bob Verpan</u> DATUM VERT. / HORZ.: <u>NAVD 88 / NAD83 NY East Zone</u> LOGGED BY: <u>R. Polmanteer, K. Kucher</u> DATE START / END: <u>9/1/2009 - 9/2/2009</u> DRILLING DETAILS: <u>Mud Rotary / Hammer: 140 lbs / Drop: 30 in.</u> WATER LEVEL DEPTHS (FT): _____ GENERAL NOTE: <u>Ground surface (mudline) elevation calculated using surveyed top of bulkhead, minus height of bulkhead to barge deck, plus top of tub to barge deck, minus top of tub to mudline.</u>										
ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA						
	0	S1	24/14	WOH/24"	PID= 55.8			PLO	Env. Sample ID= GPEC-GT-12 (0-4) S1 (0'- 2') SILT (ML); ~95% fines, ~5% gravel, coarse, angular; moderate petroleum-like odor, wet, black, trace timber. Stained. Sheen. Tar.		
		S2	24/16	WOH/24"	PID= 31.9					PLO	S2 (2'- 4') ORGANIC SILT (OL/ML); ~95% fines, ~5% gravel, coarse, angular; strong petroleum-like odor, wet, tar.
		S3	24/10	WOH/24"	PID= 13.7					PLO	S3 (4'- 6') ORGANIC SILT (OL/ML); ~85% fines, ~15% sand, fine to medium; strong petroleum-like odor, wet, black and gray.
		S4	24/10	WOH/24"	PID= 6.9					PLO	S4 (6'- 8') ORGANIC SILT (OL/ML); ~85% fines, ~15% sand, fine to medium; strong petroleum-like odor, wet, black and gray, trace timber.
		S5	24/18	WOH/24"	PID= 89.1					PLO	Env. Sample ID= GPEC-GT-12 (8-10) S5 (8'- 10') ORGANIC SILT (OL/ML); ~85% fines, ~15% sand, fine to medium; strong petroleum-like odor, wet, black and gray, some timber. Tar.
	-20	5	S6	24/20	WOH/24"	PID= 181			PLO	S6 (10'- 12') SILT WITH SAND (ML); ~85% fines, ~15% sand, fine to medium; strong petroleum-like odor, wet, trace timber. Stained. Tar blebs and globs associated with timber.	
	-25	10	S7	24/12	WOH/24"	PID= 180			PLO	S7 (15'- 17') SILT WITH SAND (ML); ~85% fines, ~15% sand, fine to medium; strong petroleum-like odor, wet, trace timber. Stained. Tar blebs and globs associated with timber.	
	-30	15									
	-35	20									
	-40	25									
	-45	30									
	-50	35									
	-55	40									
	-60	45									
	-65	50									
	-70	55									
	-75	60									
	-80	65									
	-85	70									
	-90	75									
	-95	80									
	-100	85									
	-105	90									
	-110	95									

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03-14 2015 (LCM) - DEPTH/ELEV. NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

GEI Consultants GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300		CLIENT: National Grid		BORING LOG GPEC-GT12	
		PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-1-1102			
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ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA					
	20	S8	24/18	WOH/24"	PID= 213			PLO	Env. Sample ID= GPEC-GT-12 (20-22)	S8 (20'- 22') SANDY SILT (ML); ~65% fines, ~30% sand, fine to coarse, ~5% gravel, coarse, subangular; max. size 1", strong petroleum-like odor, wet, black, tar coated grains.
-40	25	S9	14/14	17-30-34/2"	PID= 12.3				Env. Sample ID= GPEC-GT-12 (25-26.2) (25'- 26.2') Casing was driven with rods. Sample stopped short due to associated difficulties	S9 (25'- 26.2') NARROWLY GRADED SAND (SP); 99% sand, fine to medium, 1% fines, wet, brown.
-45	30	S10	24/16	6-7-6-8	PID= 1.4			SLO		S10 (30'- 32') NARROWLY GRADED SAND (SP); 97% sand, fine to medium, 3% fines, slight sulfur-like odor, wet, gray brown.
-50	35	S11	24/6	6-8-10-10	PID= 13.5					S11 (35'- 37') NARROWLY GRADED SAND (SP); 96% sand, fine to medium, 4% fines, wet, gray - brown, mica present.
-55	40	S12	24/12	6-6-6-10	PID= 2.7					S12 (40'- 42') NARROWLY GRADED SAND (SP); ~90% sand, fine to coarse, angular, ~5% gravel, fine, ~5% fines; wet, gray - brown.

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL	IN. = INCHES	NLO = NAPHTHALENE LIKE ODOR
REC = RECOVERY LENGTH OF SAMPLE	FT. = FEET	CLO = CREOSOTE LIKE ODOR
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	TSF = TONS PER SQUARE FOOT	OLO = ORGANIC LIKE ODOR
		SLO = SULFUR LIKE ODOR
		MLO = MUSTY LIKE ODOR
		SeLO= SEWAGE LIKE ODOR
NA = NOT APPLICABLE	Qp = POCKET PENETROMETER IN TSF	
NM = NOT MEASURED	Sv = TORVANE PEAK IN TSF	

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI OTHERS 03.14.2015 (LCM) - DEPTH/ELEV. NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

GEI Consultants GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300		CLIENT: National Grid		BORING LOG GPEC-GT12						
		PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-1-1102								
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ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-60	45	S13	24/10	6-7-9-11	PID= 2.8					S13 (45'- 47') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, ~10% fines, ~5% gravel, fine, subrounded; max. size 0.25", wet, brown.
-65	50	S14	24/12	4-7-9-9	PID= 59.8				Env. Sample ID= GPEC-GT-12 (50-52) PLO	S14 (50'- 52') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, ~10% fines; moderate petroleum-like odor, wet, brown - black, stained. Some sheen. Staining and tar coated grains 6" from top of sample.
-70	55	S15	24/8	20-12-13-17	PID= 2.2					S15 (55'- 57') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines. (58') Moderate chatter associated with gravel/cobble lenses.
-75	60	S16	24/0	8-14-16-20	PID= NA					S16 (60'- 62') NO RECOVERY; coarse gravel wash. Env. Sample ID= GPEC-GT-12 (62-66) (62') Moderate chatter.
-80	65	S17	24/10	13-15-55-36	PID= 3.2					S17 (62'- 64') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, coarse, subangular, ~10% fines; max. size 2", wet, gray - brown. S18 (64'- 66') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to coarse, ~20% gravel, fine to coarse, subangular, ~15% fines; max. size 2", wet, brown. (64') Moderate chatter.
End of Boring at 66 feet. Grout to mudline.										
NOTES: PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC = RECOVERY LENGTH OF SAMPLE PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION NA = NOT APPLICABLE NM = NOT MEASURED Q_p = POCKET PENETROMETER IN TSF S_v = TORVANE PEAK IN TSF IN. = INCHES FT. = FEET TSF = TONS PER SQUARE FOOT 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 SeLO= SEWAGE LIKE ODOR										

	GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300	CLIENT: National Grid PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-1-1102	BORING LOG PAGE 1 of 3 GPEC-GT14
	GROUND SURFACE ELEVATION (FT): -16.1 LOCATION: Newtown Creek - Offshore near Mooring Bitt 12 NORTHING (FT): 688036 EASTING (FT): 651237 TOTAL DEPTH (FT): 52.0 DRILLED BY: Warren George / Bob Verpan DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone LOGGED BY: R. Polmanteer DATE START / END: 8/31/2009 - 8/31/2009 DRILLING DETAILS: Mud Rotary / Hammer: 140 lbs / Drop: 30 in. WATER LEVEL DEPTHS (FT): _____ GENERAL NOTE: Ground surface (mudline) elevation calculated using surveyed top of bulkhead, minus height of bulkhead to barge deck, plus top of tub to barge deck, minus top of tub to mudline.		

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA						
	0	S1	24/16	WOH/24"	PID= 23.1	(Patterned)	(Patterned)	PLO	Env. Sample ID= GPEC-GT-14 (0-6)	S1 (0'- 2') SILT (ML); ~100% fines; strong petroleum-like odor, wet, black, stained.	
		S2	24/0	WOH/24"	PID= NA					S2 (2'- 4') NO RECOVERY.	
	-20	S3	24/10	WOH/24"	PID= 23.1					S3 (4'- 6') ORGANIC SILT (OL/ML); ~100% fines; strong petroleum-like odor, wet, black, stained.	
	5	S4	24/20	WOH/24"	PID= 18.6					Env. Sample ID= GPEC-GT-14 (6-8)	S4 (6'- 8') ORGANIC SILT (OL/ML); ~100% fines; strong petroleum-like odor, wet, black, stained.
	-25	S5	24/8	WOH/24"	PID= 21.7						S5 (8'- 10') ORGANIC SILT (OL/ML); ~100% fines; strong petroleum-like odor, wet, black, stained.
	10	S6	24/16	WOH/24"	PID= 24.9						S6 (10'- 12') ORGANIC SILT (OL/ML); ~100% fines; strong petroleum-like odor, wet, black, stained.
	-30					(Patterned)	PLO	Env. Sample ID= GPEC-GT-14 (15-17)	S7 (15'- 17') SILT (ML); ~90% fines, ~5% gravel, fine, subrounded, ~5% sand, fine to coarse; strong petroleum-like odor, wet, black, trace timber. Grease-like texture. Stained. Shiny. Tar seams.		
	15	S7	24/16	WOH/24"	PID= 283						
	-35					(Patterned)	PLO				
	20										

NOTES:

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 REC = RECOVERY LENGTH OF SAMPLE
 PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION
 NA = NOT APPLICABLE
 NM = NOT MEASURED

Q_p = POCKET PENETROMETER IN TSF
 S_v = TORVANE PEAK IN TSF

IN. = INCHES
 FT. = FEET
 TSF = TONS PER SQUARE FOOT
 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
 SeLO= SEWAGE LIKE ODOR

GPEC-ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03_14_2015 (LCM) -DEPTH/ELEV.NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

Q_p = POCKET PENETROMETER IN TSF
S_v = TORVANE PEAK IN TSF

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03.14.2015 (LCM) - DEPTH/ELEV. NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

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		PAGE 3 of 3								
ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	45	S13	24/12	7-6-6-8	PID= 9.1					S13 (45'- 47') NARROWLY GRADED SAND (SP); 91% sand, fine to medium, 5% gravel, coarse, subrounded, 4% fines, max. size 1.5", wet, gray - brown, mica noted.
	-65									
	50	S14	24/18	2-4-15-19	PID= 5.2				Env. Sample ID= GPEC-GT-14 (50-52)	S14 (50'- 52') NARROWLY GRADED SAND (SP); 89% sand, fine to medium, 8% gravel, fine to coarse, subrounded, 3% fines, max. size 1", wet, gray - brown.
End of Boring at 52 feet. Grout to mudline.										
NOTES: PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC = RECOVERY LENGTH OF SAMPLE PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION NA = NOT APPLICABLE NM = NOT MEASURED Q_p = POCKET PENETROMETER IN TSF S_v = TORVANE PEAK IN TSF IN. = INCHES FT. = FEET TSF = TONS PER SQUARE FOOT 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 SeLO= SEWAGE LIKE ODOR										



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PROJECT: **Greenpoint Energy Center**
CITY/STATE: **Brooklyn, New York**
GEI PROJECT NUMBER: **125180-1-1102**

BORING LOG

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GPEC-GT16**GROUND SURFACE ELEVATION (FT):** **-16.0****LOCATION:** **Newtown Creek - Offshore near Mooring Bitt 16****NORTHING (FT):** **688324** **EASTING (FT):** **651138****TOTAL DEPTH (FT):** **102.0****DRILLED BY:** **Warren George / Bob Verpan****DATUM VERT. / HORZ.:** **NAVD 88 / NAD83 NY East Zone****LOGGED BY:** **R. Polmanteer****DATE START / END:** **8/25/2009 - 8/28/2009****DRILLING DETAILS:** **Mud Rotary / Hammer: 140 lbs / Drop: 30 in.****WATER LEVEL DEPTHS (FT):****GENERAL NOTE:** **The elevation calculated using field measurements (-13 ft) is inconsistent with adjacent borings and bathymetric readings.****The approximate elevation obtained from the Anchor QEA bathymetric survey (-16 ft) used here should be considered approximate.**

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA					
	0	S1	24/0	WOH/24"	PID= NA					S1 (0'- 2') NO RECOVERY.
		S2	24/5	WOH/24"	PID= NM					S2 (2'- 4') ORGANIC SILT (OL/ML); ~100% fines; moderate tar-like odor, black, hydrocarbon sludge. Not much sediment. No trace of benthic organisms.
	-20	S3	24/10	WOH/24"	PID= NM					S3 (4'- 6') ORGANIC SILT (OL/ML); ~100% fines; moderate tar-like odor, black, hydrocarbon sludge. Not much sediment. No trace of benthic organisms.
	5	S4	24/8	WOH/24"	PID= 46.7				Env. Sample ID= GPEC-GT-16 (6-10)	S4 (6'- 8') ORGANIC SILT (OL/ML); ~100% fines; moderate tar-like odor, black, hydrocarbon sludge. Little to no actual sediment. No trace of benthic organisms.
		S5	24/12	WOH/24"	PID= 46.7					S5 (8'- 10') ORGANIC SILT (OL/ML); ~100% fines; moderate tar-like odor, black, hydrocarbon sludge. Little to no particulates. No trace of benthic organisms.
	-25	S6	24/12	WOH/24"	PID= NM					S6 (10'- 12') ORGANIC SILT (OL/ML); ~95% fines, ~5% sand, fine; moderate tar-like odor, black, plastic waste at 12'. Hydrocarbon sludge. No particulates. No benthic organisms.
	10									
	-30									
	15	S7	24/18	WOH/24"	PID= 171					S7 (15'- 17') COAL FRAGMENTS; strong tar-like odor, black, bituminous coal fragments in hydrocarbon sludge. Little to no particulates.
	-35									
	20									

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IN PARTS PER MILLION

IN. = INCHES
FT. = FEET
TSF = TONS PER
SQUARE FOOT

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
SeLO= SEWAGE LIKE ODOR

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Qp = POCKET PENETROMETER IN TSF
Sv = TORVANE PEAK IN TSF

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03_14 2015 (LCM) -DEPTH/ELEV.NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

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		PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-1-1102				PAGE 2 of 5				
ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	20	S8	24/6	WOH/24"	PID= 241	[Pattern]	[Pattern]	TLO		S8 (20'- 22') ORGANIC SILT (OL/ML); ~75% fines, ~15% sand, coarse, ~10% gravel, fine to coarse, angular; strong tar-like odor, black, hydrocarbon sludge. Some particulates.
	25	S9	24/12	2-4-5-7	PID= 54.9 $Q_p = 0.768, 1.024, 0.768$ $S_v = 0.205, 0.179, 0.205$ PID= 4.6	[Pattern]		Env. Sample ID= GPEC-GT-16 (25-27)		S9 (25'- 27') FAT CLAY (CH); ~95% fines, medium plasticity, medium toughness, ~5% sand, fine; wet, gray brown, native material. Trace sand seams.
	30	S10	24/16	4-5-10-11	PID= 15.9 $Q_p = 0.512, 1.280, 0.768$ $S_v = 0.102, 0.154, 0.102$	[Pattern]				S10 (30'- 32') LEAN CLAY WITH SAND (CL); ~85% fines, low plasticity, low toughness, ~15% sand, fine; wet, gray.
	35	S11	24/16	8-11-12-13	PID= 5.0 $Q_p = 0.717$ $S_v = 0.154$	[Pattern]				S11 (35'- 37') SILTY SAND (SM); ~60% sand, fine, ~40% fines; wet, gray.
	40	S12	24/22	3-3-5-8	PID= 1.4 $Q_p = 0.819$ $S_v = 0.205$	[Pattern]				S12 (40'- 42') SILTY SAND (SM); ~65% sand, fine, ~35% fines; wet, gray.
	60					[Pattern]				

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		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE	Q _p = POCKET PENETROMETER IN TSF
NM = NOT MEASURED	S _v = TORVANE PEAK IN TSF

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		PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-1-1102			
PAGE 3 of 5					

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA						
-45		S13	24/10	6-10-13-15	PID= 8.6				Env. Sample ID= GPEC-GT-16 (45-47)	S13 (45'- 47') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to coarse, ~10% fines; moderate petroleum-like odor, wet, olive brown, some black staining near spoon tip.	
-50		S14	24/24	11-13-27-29	PID= 27.7 PID= 4.6			PLO		S14A (50'- 51.7') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, ~5% gravel, fine; slight petroleum-like odor, wet, gray to black, stained. S14B (51.7'- 52') SILTY SAND (SM); ~85% sand, fine, ~15% fines; slight petroleum-like odor, wet, olive brown.	
								PLO			
-55		S15	24/16	8-12-13-20	PID= 17.2					S15 (55'- 57') NARROWLY GRADED SAND (SP); 95% sand, fine to medium, trace coarse, 5% fines, slight petroleum-like odor, wet, olive brown to black.	
-60		S16	24/10	5-11-6-10	PID= 7.5					S16 (60'- 62') WIDELY GRADED SAND WITH GRAVEL (SW); 80% sand, fine to coarse, 17% gravel, fine to coarse, 3% fines, max. size 1.5", slight petroleum-like odor, wet, olive gray to black.	
-65		S17	24/10	5-12-9-15	PID= 18.8				(65') Moderate chatter with drive and wash.	S17 (65'- 67') SILTY SAND (SM); ~85% sand, fine to medium, ~15% fines; slight petroleum-like odor, wet, gray brown, gravel wash in top of sample.	

NOTES:

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REC = RECOVERY LENGTH OF SAMPLE	FT. = FEET	PLO = PETROLEUM LIKE ODOR
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	TSF = TONS PER SQUARE FOOT	TLO = TAR LIKE ODOR
		CLO = CHEMICAL LIKE ODOR
		ALO = ASPHALT LIKE ODOR
NA = NOT APPLICABLE	Qp = POCKET PENETROMETER IN TSF	CrLO= CREOSOTE LIKE ODOR
NM = NOT MEASURED	Sv = TORVANE PEAK IN TSF	OLO = ORGANIC LIKE ODOR
		SLO = SULFUR LIKE ODOR
		MLO = MUSTY LIKE ODOR
		SeLO= SEWAGE LIKE ODOR

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI/OTHERS 03.14.2015 (LCM) - DEPTH/ELEV. NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

GEI Consultants GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300		CLIENT: National Grid		BORING LOG GPEC-GT16						
		PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-1-1102								
PAGE 4 of 5										
ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA					
	70	S18	24/10	8-13-21-13	PID= 4.8					S18 (70'- 72') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); 86% sand, fine to medium, 7% fines, 7% gravel, brown, coarse sand and gravel in wash.
	75	S19	24/8	12-15-13-12	PID= NM				Env. Sample ID= GPEC-GT-16 (75-77) S19 (75'- 77') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, subangular, ~25% gravel, fine to coarse, subangular, ~20% fines; wet, gray brown. S20 and S21 were collected on collapsed material.	
	80	S22	24/10	19-16-20-23	PID= 0.6				S22 (80'- 82') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); 77% sand, fine to coarse, 12% gravel, fine to coarse, subangular, 11% fines, max. size 1.5", wet, brown, coarse gravel in wash above sample.	
	85	S23	24/14	29-39-40-39	PID= 1.0				S23 (85'- 87') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~20% fines; max. size 1.75", wet, brown.	
	90	S24	24/8	18-18-22-33	PID= 1.1				S24 (90'- 92') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, subangular to subrounded, ~15% fines; max. size 1.5", wet, brown.	
									(93') Strong	
NOTES: PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC = RECOVERY LENGTH OF SAMPLE PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION NA = NOT APPLICABLE NM = NOT MEASURED Q_p = POCKET PENETROMETER IN TSF S_v = TORVANE PEAK IN TSF IN. = INCHES FT. = FEET TSF = TONS PER SQUARE FOOT 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 SeLO= SEWAGE LIKE ODOR										

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03-14 2015 (LCM) - DEPTH/ELEV. NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

GEI Consultants GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300		CLIENT: National Grid		BORING LOG GPEC-GT16						
		PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-1-1102								
PAGE 5 of 5										
ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-110-	95	S25	24/8	21-32-35-39	PID= NM				chatter.	S25 (95'- 97') SANDY LEAN CLAY (CL); 60% fines, medium plasticity, high toughness, 31% sand, fine to medium, 9% gravel, coarse, max. size 1.5", wet, brown to gray, likely glacial till.
-115-	100	S26	24/12	34-44-57-76	PID= NM				Env. Sample ID= GPEC-GT-16 (100-102)	
End of Boring at 102 feet. Grout to mudline.										
NOTES: PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC = RECOVERY LENGTH OF SAMPLE PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION NA = NOT APPLICABLE NM = NOT MEASURED IN. = INCHES FT. = FEET TSF = TONS PER SQUARE FOOT Q_p = POCKET PENETROMETER IN TSF S_v = TORVANE PEAK IN TSF 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 SeLO= SEWAGE LIKE ODOR										



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

CLIENT: **National Grid**
PROJECT: **Greenpoint Energy Center**
CITY/STATE: **Brooklyn, New York**
GEI PROJECT NUMBER: **125180-1-1102**

BORING LOG

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1 of 3

GPEC-GT18

GROUND SURFACE ELEVATION (FT): **-15.1** LOCATION: **Newtown Creek - 17.3 ft Offshore between Mooring Bitts 22 and 23**
NORTHING (FT): **688694** EASTING (FT): **651011** TOTAL DEPTH (FT): **57.0**
DRILLED BY: **Warren George / Bob Verpan** DATUM VERT. / HORZ.: **NAVD 88 / NAD83 NY East Zone**
LOGGED BY: **R. Polmanteer, K. Kucher** DATE START / END: **9/3/2009 - 9/4/2009**
DRILLING DETAILS: **Mud Rotary / Hammer: 140 lbs / Drop: 30 in.**
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: **Ground surface (mudline) elevation calculated using surveyed top of bulkhead, minus height of bulkhead to barge deck, plus top of tub to barge deck, minus top of tub to mudline.**

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA					
	0	S1	24/10	WOH/24"	PID= 8.1				Env. Sample ID= GPEC-GT-18 (0-4)	S1 (0'- 2') SILT (ML); ~100% fines; moderate petroleum-like odor, moderate sulfur-like odor, wet, black, stained, some sheen. SEDIMENT.
		S2	24/16	WOH/24"	PID= 8.1			PLO		S2 (2'- 4') ORGANIC SILT (OL/ML); ~100% fines; moderate petroleum-like odor, moderate sulfur-like odor, wet, black, stained, some sheen. SEDIMENT.
		S3	24/14	WOH/24"	PID= 22.2			PLO	Env. Sample ID= GPEC-GT-18 (6-8)	S3 (4'- 6') ORGANIC SILT (OL/ML); ~100% fines; moderate petroleum-like odor, wet, black, trace timber. Stained. Some sheen. SEDIMENT.
		S4	24/16	WOH/24"	PID= 19.9			PLO		S4 (6'- 8') ORGANIC SILT (OL/ML); ~100% fines; moderate petroleum-like odor, wet, black, trace timber. Stained. Some sheen. SEDIMENT.
		S5	24/8	WOH/24"	PID= 56.8			PLO		S5 (8'- 10') ORGANIC SILT (OL/ML); ~100% fines; slight petroleum-like odor, wet, trace timber. Black stained. Some sheen. SEDIMENT.
	-20								Env. Sample ID= GPEC-GT-18 (15-17)	
		S6	24/21	WOH/24"	PID= 85.6			PLO		S6 (10'- 12') ORGANIC SILT (OL/ML); ~95% fines, ~5% sand; moderate petroleum-like odor, wet, black, stained. Some sheen. SEDIMENT.
	-25									
	-30									
		S7	24/8	WOH/24"	PID= 219				Env. Sample ID= GPEC-GT-18 (15-17)	S7 (15'- 17') ORGANIC SILT (OL/ML); ~85% fines, ~15% sand; moderate petroleum-like odor, gray to black, stains. Tar blebs and globs. SEDIMENT.
		S8	24/12	7-9-7-6	PID= 29.9			PLO		S8 (17'- 19') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, ~5% gravel, coarse, subrounded; max. size 1.25", wet, brown - gray.
	-20									

NOTES:

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REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
IN PARTS PER MILLION

NA = NOT APPLICABLE Q_p = POCKET PENETROMETER IN TSF
NM = NOT MEASURED S_v = TORVANE PEAK IN TSF

IN. = INCHES
FT. = FEET
TSF = TONS PER SQUARE FOOT

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
SeLO = SEWAGE LIKE ODOR

GPEC-ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI/OTHERS 03.14.2015 (LCM) - DEPTH/ELEV. NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03-14 2015 (LCM) - DEPTH/ELEV. NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE GDT 4/3/15

GEI Consultants GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300		CLIENT: National Grid		BORING LOG						
		PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-1-1102		PAGE 2 of 3 GPEC-GT18						
ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA							
	20	S9	24/14	7-6-8-11	PID= 0.4				Env. Sample ID= GPEC-GT-18 (20-22)	S9 (20'- 22') SANDY SILT (ML); ~60% fines, low plasticity, rapid dilatancy, low toughness, ~40% sand, fine; wet, gray brown to olive brown.
	-40	25	S10	24/10	2-2-3-4	PID= 0.3				S10 (25'- 27') SILT (ML); ~95% fines, low plasticity, slow dilatancy, low toughness, ~5% sand, fine; wet, olive brown.
	-45	30	S11	24/8	2-2-2-4	PID= 0.2 Q _p = 0.512, 0.512 S _v = 0.077, 0.102				S11 (30'- 32') SILTY CLAY (CL); ~100% fines, medium plasticity, slow dilatancy, low toughness; wet, light brown.
			S12/ U1	24/24	P-U-S-H	PID= NA				S12/U1 (32'- 34') LEAN CLAY (CL); 97% fines, 3% sand, fine to medium.
	-50	35	S13	24/20	5-4-5-8	PID= 1.0				S13 (35'- 37') LEAN CLAY (CL); lensed, 91% fines, low plasticity, rapid dilatancy, 9% sand, fine, wet, brown, low toughness, mostly silty fines, some clayey fines.
	-55	40	S14	24/14	4-6-7-9	PID= 0.2				S14 (40'- 42') WIDELY GRADED SAND (SW); ~95% sand, fine to medium, ~5% fines; homogeneous, wet, brown, iron oxidation/orange discoloration 4" from top of sample.

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 PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION
 NA = NOT APPLICABLE
 NM = NOT MEASURED
 Q_p = POCKET PENETROMETER IN TSF
 S_v = TORVANE PEAK IN TSF
 IN. = INCHES
 FT. = FEET
 TSF = TONS PER SQUARE FOOT
 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
 SeLO= SEWAGE LIKE ODOR

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI OTHERS 03.14 2015 (LCM) - DEPTH/ELEV. NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

GEI Consultants GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300		CLIENT: National Grid		BORING LOG GPEC-GT18			
		PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-1-1102					
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ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA						
-60	45	S15	24/12	5-5-7-11	PID= 1.1	TLO	TLO	Env. Sample ID= GPEC-GT-18 (45-47)	S15 (45'- 47') NARROWLY GRADED SAND (SP); ~95% sand, ~5% fines; slight tar-like odor, wet, gray to black, stained.		
		S16	24/12	4-5-5-6	PID= 0.3					TLO	S16 (47'- 49') NARROWLY GRADED SAND (SP); 91% sand, fine to medium, 7% gravel, fine to coarse, subrounded, 2% fines, max. size 1.25", slight tar-like odor, wet, gray to black, stained.
-65	50	S17	24/10	4-4-7-6	PID= 1.0					TLO	S17 (50'- 52') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine to coarse, subrounded, ~5% fines; max. size 1", slight tar-like odor, wet, gray to black, intermittent gravel seams. Stained.
-70	55	S18	24/12	6-8-13-12	PID= 0.2 PID= 0.2	TLO	TLO	Env. Sample ID= GPEC-GT-18 (55-57)	S18A (55'- 55.7') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines; slight tar-like odor, wet, gray to black, stained. S18B (55.7'- 57') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine to coarse, subangular to subrounded, ~5% fines; max. size 1.5", wet, orange brown. End of Boring at 57 feet. Grout to mudline.		

NOTES:

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

NA = NOT APPLICABLE	Qp = POCKET PENETROMETER IN TSF
NM = NOT MEASURED	Sv = TORVANE PEAK IN TSF



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455 Winding Brook Road
Glastonbury, CT 06033
(860) 368-5300

CLIENT: **National Grid**
PROJECT: **Greenpoint Energy Center**
CITY/STATE: **Brooklyn, New York**
GEI PROJECT NUMBER: **125180-1-1102**

BORING LOG

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1 of 3

GPEC-GT20

GROUND SURFACE ELEVATION (FT): **-19.4**

LOCATION: **Newtown Creek - 16.9 ft Offshore near Mooring Bitt 30**

NORTHING (FT): **689065** EASTING (FT): **650883**

TOTAL DEPTH (FT): **66.8**

DRILLED BY: **Warren George / Gregory Williams**

DATUM VERT. / HORZ.: **NAVD 88 / NAD83 NY East Zone**

LOGGED BY: **R. Polmanteer**

DATE START / END: **9/9/2009 - 9/14/2009**

DRILLING DETAILS: **Mud Rotary / Hammer: 140 lbs / Drop: 30 in.**

WATER LEVEL DEPTHS (FT):

GENERAL NOTE: **Ground surface (mudline) elevation calculated using surveyed top of bulkhead, minus height of bulkhead to barge deck, plus top of tub to barge deck, minus top of tub to mudline.**

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA					
-20	0	S1	24/10	WOH/24"	PID= 21.9				Env. Sample ID= GPEC-GT-20 (0-4)	S1 (0'- 2') SILT (ML); ~100% fines; moderate sulfur-like odor, wet, black, sheen.
		S2	24/12	WOH/24"	PID= 21.7			SLO		S2 (2'- 4') ORGANIC SILT (OL/ML); ~95% fines; ~5% organics, moderate sulfur-like odor, wet, black, sheen. Stained.
		S3	24/5	WOH/24"	PID= 34.9			SLO		S3 (4'- 6') ORGANIC SILT (OL/ML); ~95% fines; ~5% organics, moderate sulfur-like odor, wet, black, sheen. Stained.
-25	5	S4	24/10	WOH/24"	PID= 195			SLO		S4 (6'- 8') ORGANIC SILT (OL/ML); ~95% fines; ~5% organics, moderate sulfur-like odor, wet, black, sheen. Stained.
		S5	24/12	WOH/12" 17-4	PID= 121			SLO	Env. Sample ID= GPEC-GT-20 (8-12)	S5 (8'- 10') ORGANIC SILT (OL/ML); ~95% fines; ~5% organics, moderate sulfur-like odor, wet, black, timber. Sheen. Stained.
-30	10	S6	24/12	WOH/24"	PID= 182			PLO		S6 (10'- 12') ORGANIC SILT (OL/ML); ~95% fines; ~5% organics, moderate petroleum-like odor, wet, black stained, timber, slag. Greasy texture. Sheen.
		S7	24/20	WOH/24"	PID= NM PID= 79.9			PLO	Env. Sample ID= GPEC-GT-20 (12-14)	S7A (12'- 12.4') ORGANIC SILT (OL/ML); ~95% fines; ~5% organics, moderate petroleum-like odor, wet, black stained, timber, slag. Greasy texture. Sheen.
		S8	24/20	WOH/24"	PID= 44 PID= 33 PID= 36					S7B (12.4'- 14') SANDY ORGANIC SOIL (OL/OH); ~70% organics, ~30% sand, olive gray, tar coated grains.
-35	15	S9	24/20	7-12-15- 23	PID= 2.2 Q _p = 2.560, 2.304, 2.560 S _v = 0.410, 0.410 PID= 4.8					S8A (14'- 14.6') SANDY ORGANIC SOIL (OL/OH); ~70% organics, ~30% sand, olive gray, tar coated grains in seams.
										S8B (14.6'- 15') SANDY SILT (ML); ~70% fines, ~30% sand, fine to medium; dark gray, sheen.
										S8C (15'- 16') SILTY SAND (SM); ~60% sand, fine to medium, ~35% fines; ~5% organics, trace sheen.
										S9A (16'- 17.4') SANDY SILT (ML); ~70% fines, ~30% sand; wet, light brown.
										S9B (17.4'- 18') NARROWLY GRADED SAND (SP); 85% sand, fine to medium, 13% gravel, fine to coarse, subrounded, 2% fines, max. size 1", wet,
20	20									

NOTES:

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GPEC-ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI/OTHERS 03-14 2015 (LCM) -DEPTH/ELEV.NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03-14 2015 (LCM) - DEPTH/ELEV. NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

GEI Consultants GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300		CLIENT: National Grid		BORING LOG GPEC-GT20							
		PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-1-1102				PAGE 2 of 3					
ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	
	20	S10	24/18	5-6-10-13	PID= NM Q _p = 1.280, 1.536, 1.280 S _v = 0.256, 0.307, 0.410					gray. S10 (20'- 22') LEAN CLAY (CL); fine, subangular, ~100% fines, moderate, no dilatancy, medium toughness; max. size 0.25", wet, olive brown.	
	25	S11	24/10	4-7-10-10	PID= 0.0 Q _p = 0.512 S _v = 0.410					S11 (25'- 27') LEAN CLAY (CL); ~95% fines, moderate, medium toughness, ~5% sand; varved, wet, reddish gray.	
		S12/ U1	24/24	P-U-S-H	PID= NA					S12/U1 (27'- 29') FAT CLAY (CH); medium plasticity, clayey fines.	
	30	S13	24/20	3-4-5-6	PID= NM Q _p = 1.024 S _v = 0.328, 0.256					S13 (30'- 32') FAT CLAY (CH); ~95% fines, moderate, medium toughness, ~5% sand; varved, wet, reddish gray.	
	35	S14	24/24	3-3-4-6	PID= NM Q _p = 0.512, 0.512, 0.768 S _v = 0.358, 0.307					S14 (35'- 37') FAT CLAY (CH); ~90% fines, ~10% sand, fine to medium; layered, wet, olive gray to reddish brown, interbedded clay and sand seams.	
	40	S15	24/20	7-7-10-10	PID= 0.0				Env. Sample ID= GPEC-GT-20 (40-42)	S15 (40'- 42') FAT CLAY (CH); layered, 92% fines, 8% sand, fine, moist to wet, gray to dark gray, layered clayey fines and silty fines.	
NOTES: PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC = RECOVERY LENGTH OF SAMPLE PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION NA = NOT APPLICABLE NM = NOT MEASURED Q_p = POCKET PENETROMETER IN TSF S_v = TORVANE PEAK IN TSF IN. = INCHES FT. = FEET TSF = TONS PER SQUARE FOOT 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 SeLO= SEWAGE LIKE ODOR											

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI/OTHERS 03.14.2015 (LCM) - DEPTH/ELEV. NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE GDT 4/3/15

GEI Consultants GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300		CLIENT: National Grid		BORING LOG GPEC-GT20			
		PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-1-1102					
PAGE 3 of 3							

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA					
-65	45	S16	24/24	5-7-8-8	PID= 0.0 Q _p = 0.512, 0.512, 0.768					S16 (45'- 47') FAT CLAY (CH); layered, 100% fines, moderate plasticity, no dilatancy, gray, layered clayey fines and silty fines.
-70	50	S17	24/14	7-6-5-8	PID= 0.0					S17 (50'- 52') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines; lensed, wet, brown.
-75	55	S18	24/8	8-8-13-13	PID= 0.1					S18 (55'- 57') WIDELY GRADED SAND WITH GRAVEL (SW); ~50% sand, fine to coarse, ~45% gravel, fine to coarse, subrounded, ~5% fines; max. size 2", wet, brown, borderline widely graded gravel with sand.
-80	60	S19	24/10	23-31-23-32	PID= 0.0			(58') Moderate chatter.		S19 (60'- 62') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, coarse, ~10% fines; wet, brown.
-85	65	S20	22/10	38-38-36-100/4"	PID= 0.0			(63') Moderate to strong chatter.	Env. Sample ID= GPEC-GT-20 (65-66.8)	S20 (65'- 66.8') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, ~10% fines; wet, brown.
End of Boring at 66.8 feet. Grout to mudline.										

NOTES:

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

NA = NOT APPLICABLE	Q _p = POCKET PENETROMETER IN TSF
NM = NOT MEASURED	S _v = TORVANE PEAK IN TSF

GEI Consultants	GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300	CLIENT: National Grid		BORING LOG								
		PROJECT: Greenpoint Energy Center	PAGE 1 of 3	GPEC-GT22								
		CITY/STATE: Brooklyn, New York										
		GEI PROJECT NUMBER: 125180-1-1102										
GROUND SURFACE ELEVATION (FT): -16.5 LOCATION: Newtown Creek - Offshore												
NORTHING (FT): 689449 EASTING (FT): 650749 TOTAL DEPTH (FT): 52.0												
DRILLED BY: Warren George / Greg Williams DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone												
LOGGED BY: R. Polmanteer DATE START / END: 9/15/2009 - 9/16/2009												
DRILLING DETAILS: Mud Rotary - Drive and Wash / Hammer: 140 lbs / Drop: 30 in.												
WATER LEVEL DEPTHS (FT):												
GENERAL NOTE: Ground surface (mudline) elevation calculated using surveyed top of bulkhead, minus height of bulkhead to barge deck, plus top of tub to barge deck, minus top of tub to mudline.												
ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION		
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA							
	0	S1	24/8	WOR/24"	PID= 15.7			PLO	Env. Sample ID= GPEC-GT-22 (0-4)	S1 (0'- 2') SILT (ML); ~100% fines; moderate petroleum-like odor, wet, black, stained. Sheen.		
		S2	24/10	WOR/24"	PID= 16.7					PLO	S2 (2'- 4') ORGANIC SILT (OL/ML); ~100% fines; moderate petroleum-like odor, wet, black, trace timber. Stained. Sheen.	
-20		S3	24/22	WOR/24"	PID= 50.4					PLO	Env. Sample ID= GPEC-GT-22 (4-8)	S3 (4'- 6') ORGANIC SILT (OL/ML); ~100% fines; moderate petroleum-like odor, wet, black, trace timber. Stained. Sheen.
5		S4	24/24	WOR/24"	PID= 45.1					PLO	S4 (6'- 8') ORGANIC SILT (OL/ML); ~95% fines, ~5% sand, medium; moderate petroleum-like odor, wet, black, trace timber. Stained. Sheen.	
		S5	24/8	WOR/24"	PID= 99.1			PLO	Env. Sample ID= GPEC-GT-22 (10-12)	S5 (8'- 10') ORGANIC SILT (OL/ML); ~100% fines; moderate petroleum-like odor, wet, black, greasy texture. Stained. Sheen.		
-25		S6	24/24	WOR/24"	PID= 96.2					TLO	S6A (10'- 11.5') SILT (ML); ~90% fines, ~5% gravel, fine, ~5% sand, medium to coarse; moderate tar-like odor, wet, black, trace timber and fibers. Greasy. Stained.	
10		S7	24/0	WOR/24"	PID= NA					TLO	S6B (11.5'- 12') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, medium to coarse, ~30% gravel, fine to coarse, subangular; max. size 1", moderate tar-like odor, wet, gray, thin seam of tar associated with boundary between silt and sand.	
		S8	24/10	2-3-4-6	PID= 2.0 Q _p = 1.024, 1.024, 1.024					S7 (12'- 14') NO RECOVERY; wash and some tar. S8 (14'- 16') LEAN CLAY (CL); 93% fines, medium plasticity, low toughness, 7% sand, fine, moist to wet, light brown.		
-30												
15												
-35												
20												
NOTES:												
PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL IN. = INCHES NLO = NAPHTHALENE LIKE ODOR CrLo= CREOSOTE LIKE ODOR												
REC = RECOVERY LENGTH OF SAMPLE FT. = FEET PLO = PETROLEUM LIKE ODOR OLO = ORGANIC LIKE ODOR												
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) TSF = TONS PER SQUARE FOOT TLO = TAR LIKE ODOR SLO = SULFUR LIKE ODOR												
IN PARTS PER MILLION CLO = CHEMICAL LIKE ODOR MLO = MUSTY LIKE ODOR												
ALO = ASPHALT LIKE ODOR SeLo= SEWAGE LIKE ODOR												
NA = NOT APPLICABLE Q _p = POCKET PENETROMETER IN TSF												
NM = NOT MEASURED S _v = TORVANE PEAK IN TSF												

NA = NOT APPLICABLE Q_p = POCKET PENETROMETER IN TSF
NM = NOT MEASURED S_v = TORVANE PEAK IN TSF

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03_14 2015 (LCM) - DEPTH/ELEV.NOTES CHANGES ONLY.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

GEI Consultants GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300		CLIENT: National Grid PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-1-1102				BORING LOG GPEC-GT22				
		PAGE 3 of 3								
ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA							
S14	24/8	8-9-10-11	PID= 0.2							S14 (45'- 47') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, coarse, angular, ~10% fines; max. size 1.5", wet, brown - gray.
S15	24/16	10-11-12-13	PID= 0.2						Env. Sample ID= GPEC-GT-22 (50-52)	S15 (50'- 52') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~60% gravel, fine to coarse, rounded, ~30% sand, fine to medium, ~10% fines; max. size 2", wet, gray - brown.
End of Boring at 52 feet. Grout to mudline.										
NOTES: PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC = RECOVERY LENGTH OF SAMPLE PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION NA = NOT APPLICABLE NM = NOT MEASURED Q_p = POCKET PENETROMETER IN TSF S_v = TORVANE PEAK IN TSF IN. = INCHES FT. = FEET TSF = TONS PER SQUARE FOOT 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 SeLO= SEWAGE LIKE ODOR										



GEI Consultants, Inc.
455 Winding Brook Road
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CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-1-1102

BORING LOG

PAGE
1 of 4

GPEC-SB110

GROUND SURFACE ELEVATION (FT): -16.0 LOCATION: Newtown Creek - Offshore East of Mooring Bitt 8
NORTHING (FT): 687834 EASTING (FT): 651332 TOTAL DEPTH (FT): 75.0
DRILLED BY: Boart Longyear / Dell Cunningham DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K.Kucher, S. DiBartolo, A. England DATE START / END: 6/28/2010 - 6/30/2010
DRILLING DETAILS: Roto-Sonic Drilling / Mini Sonic Bredel 40 SPX / Hammer: 140 lbs / Drop: 30 in. / Casing: 5.5/3.5 in. OD / Core Size: 4.25 in. / Core Type: Sonic
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: *PID readings are screened readings made at discreet locations over the soil sample.
**SPT sampled first, then SC over sampled through SPT zone and then virgin soil. All depths on the log reference mudline as depth 0'.

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA					
0	0	SC1	60/0	<1 min	PID= NA					SC1 (0'- 5') NO RECOVERY.
-20	5	SC2	60/0	<1 min	PID= NA					SC2 (5'- 10') NO RECOVERY.
-25	10	SC3	60/42	<1 min	PID= 15.3* PID= 9.6* PID= 4.5*			PLO		SC3 (10'- 15') ORGANIC SILT (OL/ML); organic silt and sediment, strong petroleum-like odor, strong organic-like odor, wet, black, very soft.
-30	15	SC4	60/43	<1 min	PID= 97.0*			TLO		SC4 (15'- 20') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine, ~10% fines, ~5% gravel; slight tar-like odor, moist, gray brown, layered silt and sand, tar coated grains at base of sample.
-35	20								Env. Sample ID= GPEC-SB110 (44-45)	

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION

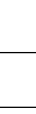
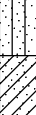
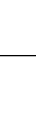
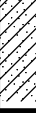
NA = NOT APPLICABLE Q_p = POCKET PENETROMETER IN TSF
NM = NOT MEASURED S_v = TORVANE PEAK IN TSF

IN. = INCHES
FT. = FEET
TSF = TONS PER SQUARE FOOT

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
SeLO= SEWAGE LIKE ODOR

GPEC-ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03.14.2015 (LCM) -DEPTH/ELEV.NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

		GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300		CLIENT: <u>National Grid</u>		PAGE 3 of 4		BORING LOG GPEC-SB110		
				PROJECT: <u>Greenpoint Energy Center</u>						
		CITY/STATE: <u>Brooklyn, New York</u>		GEI PROJECT NUMBER: <u>125180-1-1102</u>						
ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA					
	45	S6	24/16	2-7-6-7	PID= 0.4* PID= 0.5*					S6 (45'- 47') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines.
		SC10**	36/42	<1 min	PID= 0.2* PID= 0.0* PID= 0.2*					
	50	S7	24/12	7-5-7-6	PID= 0.0*					
		SC11**	36/36	<1 min	PID= 0.0* PID= 0.0* PID= 0.0*					
	55	S8	24/6	9-12-9-12	PID= 0.0*					
		SC12**	36/26	<1 min	PID= 0.0* PID= 0.0*					
	60	S9	24/12	37-36-17-13	PID= 0.0*					
		SC13**	36/51	<1 min	PID= 0.0* PID= 0.0* PID= 0.0*					
	65	S10	13/4	27-50-100/1"	PID= 0.0*					
		SC14**	47/50	<1 min	PID= NM S _v = 0.33					
NOTES:										
PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL IN. = INCHES NLO = NAPHTHALENE LIKE ODOR CrLO= CREOSOTE LIKE ODOR										
REC = RECOVERY LENGTH OF SAMPLE FT. = FEET PLO = PETROLEUM LIKE ODOR OLO = ORGANIC LIKE ODOR										
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION TSF = TONS PER SQUARE FOOT TLO = TAR LIKE ODOR SLO = SULFUR LIKE ODOR										
NA = NOT APPLICABLE Q _p = POCKET PENETROMETER IN TSF CLO = CHEMICAL LIKE ODOR MLO = MUSTY LIKE ODOR										
NM = NOT MEASURED S _v = TORVANE PEAK IN TSF ALO = ASPHALT LIKE ODOR SeLO= SEWAGE LIKE ODOR										

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03.14.2015 (LCM) - DEPTH/ELEV. NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

GEI Consultants GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300		CLIENT: National Grid		BORING LOG GPEC-SB110			
		PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-1-1102					
PAGE 4 of 4							

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA					
	70	S11	24/14	6-13-18-19	PID= 0.0*	[Pattern]				S11 (70'- 72') SANDY LEAN CLAY (CL); ~55% fines, low plasticity, ~40% sand, fine to medium, ~5% gravel; max. size 1.5", possible wash material (widely graded sand) in top 4" of sample. SC15 (72'- 75') FAT CLAY WITH GRAVEL (CH); ~75% fines, ~15% gravel, ~10% sand.
					PID= 0.0*					
		SC15**	36/60	NM	PID= NM S _v = 0.45, 0.425	[Pattern]				
	75	Env. Sample ID= GPEC-SB110 (99-100) End of Boring at 75 feet. Grout to mudline.								

NOTES:
 PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL IN. = INCHES
 REC = RECOVERY LENGTH OF SAMPLE FT. = FEET
 PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION TSF = TONS PER SQUARE FOOT
 NA = NOT APPLICABLE Q_p = POCKET PENETROMETER IN TSF
 NM = NOT MEASURED S_v = TORVANE PEAK IN TSF
 NLO = NAPHTHALENE LIKE ODOR CrLO= CREOSOTE LIKE ODOR
 PLO = PETROLEUM LIKE ODOR OLO = ORGANIC LIKE ODOR
 TLO = TAR LIKE ODOR SLO = SULFUR LIKE ODOR
 CLO = CHEMICAL LIKE ODOR MLO = MUSTY LIKE ODOR
 ALO = ASPHALT LIKE ODOR SeLO= SEWAGE LIKE ODOR



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CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-1-1102

BORING LOG

PAGE
1 of 5

GPEC-SB111

GROUND SURFACE ELEVATION (FT): -17.9 LOCATION: Newtown Creek - Offshore East of Mooring Bitt 10
NORTHING (FT): 688008 EASTING (FT): 651267 TOTAL DEPTH (FT): 81.0
DRILLED BY: Boart Longyear / Dell Cunningham DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K.Kucher, R.Marshall, A. England DATE START / END: 6/30/2010 - 7/2/2010
DRILLING DETAILS: Roto-Sonic Drilling / Mini Sonic Bredel 40 SPX / Hammer: 140 lbs / Drop: 30 in. / Casing: 5.5/3.5 in. OD / Core Size: 4.25 in. / Core Type: Sonic
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: *PID readings are screened readings made at discreet locations over the soil sample.
**SPT sampled first, then SC over sampled through SPT zone and then virgin soil. All depths on the log reference mudline as depth 0'.

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA					
	0								0-4': No Sample.	
	5	SC1	60/34	<1 min	PID= 23.8*					SC1 (4'- 9') ORGANIC SILT (OL/ML); organic silt and sediment, strong petroleum-like odor, strong organic-like odor, wet, black, very soft.
	25				PID= 96.3*			PLO		
	10	SC2	60/24	<1 min	PID= 209*					SC2 (9'- 14') ORGANIC SILT (OL/ML); organic silt and sediment, moderate tar-like odor, moderate organic-like odor, black, coal fragments, tar saturated.
	30				PID= 102*					
					PID= 238*			TLO		
	15	SC3	60/12	<1 min	PID= 208*					SC3 (14'- 19') SILTY SAND (SM); ~60% sand, fine to coarse, ~30% fines, ~10% gravel; strong tar-like odor, coal fragments, tar saturated.

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
IN PARTS PER MILLION

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_p = POCKET PENETROMETER IN TSF
S_v = TORVANE PEAK IN TSF

IN. = INCHES
FT. = FEET
TSF = TONS PER
SQUARE FOOT

NLO = NAPHTHALENE LIKE ODOR
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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
SeLO= SEWAGE LIKE ODOR

GPEC-ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI/OTHERS 03-14-2015 (LCM) - DEPTH/ELEV. NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI OTHERS 03-14-2015 (LCM) - DEPTH/ELEV. NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

GEI Consultants GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300		CLIENT: National Grid		BORING LOG GPEC-SB111			
		PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-1-1102					
PAGE 4 of 5							

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA					
					PID= 0.2*					2.5", wet, dark gray, silty/clayey area at 5-10".
					PID= 1.2*					
	55	S7	24/0	5-5-14-22	PID= NA					S7 (54'- 56') NO RECOVERY; wash (same as above).
		SC11**	36/40	<1 min	PID= 0.3*					SC11 (56'- 59') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to coarse, ~20% gravel, ~15% fines; max. size 3", wet, gray.
	-75				PID= 0.2*					
		S8	24/5	8-10-6-4	PID= 0.3*					S8 (59'- 61') SILTY SAND (SM); ~70% sand, fine to medium; ~30% silty fines, wet, gray.
	60									
		SC12**	36/46	<1 min	PID= 0.3*					SC12 (61'- 64') SILTY SAND (SM); ~60% sand, fine to coarse; ~35% silty and clayey fines, ~5% gravel, wet, gray, loose, pockets of clay.
	-80				PID= 0.2*					
		S9	24/8	6-4-4-4	PID= 0.1*					S9 (64'- 66') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, ~10% fines, ~5% gravel; brown, 2" clay pocket.
	65									
		SC13**	36/31	<1 min	PID= 0.1*				SC13 (66'- 69') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to coarse, ~20% gravel; ~15% silty fines, max. size 2", pockets of silt.	
	-85				PID= 0.1*					
		S10	24/12	11-58-52-42	PID= 0.0*				S10 (69'- 71') SILTY SAND WITH GRAVEL (SM); ~45% sand, fine, ~40% gravel, ~15% fines; rock fragments.	
	70									

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC = RECOVERY LENGTH OF SAMPLE PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	IN. = INCHES FT. = FEET TSF = TONS PER SQUARE FOOT	NLO = NAPHTHALENE LIKE ODOR PLO = PETROLEUM LIKE ODOR TLO = TAR LIKE ODOR CLO = CHEMICAL LIKE ODOR ALO = ASPHALT LIKE ODOR
NA = NOT APPLICABLE NM = NOT MEASURED	Qp = POCKET PENETROMETER IN TSF Sv = TORVANE PEAK IN TSF	CrLO= CREOSOTE LIKE ODOR OLO = ORGANIC LIKE ODOR SLO = SULFUR LIKE ODOR MLO = MUSTY LIKE ODOR SeLO= SEWAGE LIKE ODOR

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03.14 2015 (LCM) - DEPTH/ELEV. NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

GEI Consultants GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300		CLIENT: National Grid		BORING LOG GPEC-SB111							
		PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-1-1102				PAGE 5 of 5					
ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA						
-90		SC14**	36/48	NM	PID= 0.0* PID= 0.0* PID= 0.0*						SC14 (71'- 74') SILTY SAND WITH GRAVEL (SM); ~45% sand, fine, ~40% gravel, ~15% fines; max. size 4", rock fragments, 12" layer of lean clay.
	75	S11	24/0	4-6-5-5	PID= NA						S11 (74'- 76') NO RECOVERY; wash.
	-95	SC15**	36/42	<1 min	PID= 6.9* PID= 3.9* S _v = 7 PID= 0.5*						SC15A (76'- 79') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~25% gravel; ~25% silty fines, max. size 4", silt lenses.
	80	S12	24/24	1-0-1-2	PID= 0.0* PID= 0.0*						SC15B (77.8'- 79') GRAVELLY LEAN CLAY WITH SAND (CL); ~55% clayey fines, ~30% gravel, ~15% sand. S12 (79'- 81') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines.
End of Boring at 81 feet. Grout to mudline.											
NOTES: PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC = RECOVERY LENGTH OF SAMPLE PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION NA = NOT APPLICABLE NM = NOT MEASURED Q_p = POCKET PENETROMETER IN TSF S_v = TORVANE PEAK IN TSF IN. = INCHES FT. = FEET TSF = TONS PER SQUARE FOOT 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 SeLO= SEWAGE LIKE ODOR											



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(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-1-1102

BORING LOG

PAGE
1 of 5

GPEC-SB112

GROUND SURFACE ELEVATION (FT): -18.9 LOCATION: Newtown Creek - Offshore Between Mooring Bitts 12 & 13
NORTHING (FT): 688080 EASTING (FT): 651243 TOTAL DEPTH (FT): 96.0
DRILLED BY: Boart Longyear / Dell Cunningham DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K.Kucher, A. England DATE START / END: 7/2/2010 - 7/12/2010
DRILLING DETAILS: Roto-Sonic Drilling / Mini Sonic Bredel 40 SPX / Hammer: 140 lbs / Drop: 30 in. / Casing: 5.5/3.5 in. OD / Core Size: 4.25 in. / Core Type: Sonic
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: *PID readings are screened readings made at discreet locations over the soil sample.
**SPT sampled first, then SC over sampled through SPT zone and then virgin soil. All depths on the log reference mudline as depth 0'.

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA					
0	0								0-6': No Sample.	
-20										
	5									
-25		SC1	60/NM	NM	PID= NM					SC1 (6'- 11') ORGANIC SILT (OL/ML); organic silt and sediment, strong organic-like odor, black.
								OLO		
10										
-30		SC2	60/31	NM	PID= NM					SC2 (11'- 16') WIDELY GRADED SAND (SW); strong tar-like odor, black, dense, solid tar.
								TLO		
15										
-35		SC3	60/36	NM	PID= 30.7* PID= 32.8* PID= 34.0*					SC3 (16'- 21') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, ~5% fines; strong tar-like odor, gray, loose, tar stained and saturated.
								TLO	Env. Sample ID= GPEC-SB112 (42-43)	
20										

NOTES:

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NA = NOT APPLICABLE
NM = NOT MEASURED
Q_p = POCKET PENETROMETER IN TSF
S_v = TORVANE PEAK IN TSF

IN. = INCHES
FT. = FEET
TSF = TONS PER SQUARE FOOT

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
SeLO= SEWAGE LIKE ODOR

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03_14_2015 (LCM) - DEPTH/ELEV. NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

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

GPEC-ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI/OTHERS 03-14 2015 (LCM) - DEPTH/ELEV. NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

 GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300		CLIENT: National Grid PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-1-1102			PAGE 3 of 5		BORING LOG GPEC-SB112				
ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA						
	45				PID= 3.0*				TLO		
-65		S5	24/10	4-7-3-2	PID= NM						S5 (46'- 48') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, ~5% fines; wet, gray, loose.
		SC9**	36/26	NM	PID= 0.1* PID= 1.0* PID= 0.5*						SC9 (48'- 51') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, ~5% fines; max. size 4", wet, gray, loose.
50											
-70		S6	24/5	8-16-10-8	PID= 38.2*						S6 (51'- 53') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~10% gravel, ~5% fines; wet, gray, tar coated lens.
		SC10**	36/21	NM	PID= 296* PID= 259*					Env. Sample ID= GPEC-SB112 (78-79)	SC10 (53'- 56') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, ~5% fines; wet, brown, loose, tar saturated.
55											
-75		S7	24/0	22-12-11-10	PID= NA						S7 (56'- 58') NO RECOVERY; wash, sand and gravel, tar coated grains and blebs, and staining on the outside of the spoon.
		SC11**	36/39	NM	PID= 60.4* PID= 27.3* PID= 147*				TLO		SC11 (58'- 61') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, ~20% gravel; strong tar-like odor, wet, gray, tar coated.
60											
-80		S8	24/12.5	6-11-6-13	PID= 83.2*				NLO		S8 (61'- 63') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to medium; max. size 1.5", moderate naphthalene-like odor, wet, gray, sheen and small blebs.
		SC12**	36/33	<1 min	PID= 23.6* PID= 17.7* PID= 13.3* PID= 0.0*				NLO		SC12 (63'- 66') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to medium; max. size 1.5", strong naphthalene-like odor, wet, gray, sheen, blebs and globs, 2" lens of tar coated grains ~1.5' from the top of the sample.
65											
-85		S9	12/3	27-100/6"	PID= 0.1*						S9 (66'- 67') SILTY SAND (SM); ~80% sand, fine to coarse; ~20% silty fines, brown - gray, top 2" of sample is broken pieces of rock, possibly sandstone.
		SC13**	48/53	NM	PID= 101* PID= 117*				NLO		SC13 (67'- 71') SILTY SAND (SM); ~50% sand, fine to medium; ~40% silty fines, ~10% gravel, subangular, max. size 3.5", strong naphthalene-like

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NM = NOT MEASURED
Sv = TORVANE PEAK IN TSF
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CLIENT: National Grid
PROJECT: Greenpoint Energy Center
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GEI PROJECT NUMBER: 125180-1-1102

BORING LOG	
PAGE 4 of 5	GPEC-SB112

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA					
	70				PID= 51.6"			NLO		odor, gray, very dense lenses and in bottom 6", sheen and staining, 6" lens of tar coated grains ~9" from top of sample.
-90		S10	24/16	16-25-17-22	PID= 5.5" PID= 12.0"			NLO		S10 (71'- 73') SILTY SAND (SM); ~70% sand, fine to coarse; ~25% silty fines, ~5% gravel, fine, max. size 0.5", slight naphthalene-like odor, brown - gray.
		SC14**	36/49	NM	PID= 158" PID= 239" PID= 61.1"			NLO		SC14 (73'- 76') SILTY SAND (SM); ~70% sand, fine to coarse; ~25% silty fines, ~5% gravel, max. size 2", slight naphthalene-like odor, lenses of staining, sheen, and tar coated grains.
-75										
-95		S11	24/6.5	11-8-7-17	PID= 2.9"			NLO		S11 (76'- 78') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel; ~10% silty fines, max. size 1.5", slight naphthalene-like odor, gray, sheen.
		SC15**	36/15	NM	PID= 0.1" PID= 1.8"			NLO		SC15 (78'- 81') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse; ~30% silty fines, ~20% gravel, fine to coarse, rounded, max. size 3", moderate naphthalene-like odor, brown - gray, sheen, (sheen and odor possibly wash from drilling, very loose).
-80										
-100		S12	24/9.5	8-12-11-28	PID= 5.3"					S12 (81'- 83') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% gravel, fine to medium, rounded; ~20% silty fines, non plastic, max. size 1.5", wet, grayish brown, very loose.
		SC16**	36/40	2 min	PID= 0.0" PID= 0.5" PID= 1.5" PID= 0.2"					SC16 (83'- 86') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to medium, ~30% fines, ~20% gravel; max. size 1.5", wet, brown, dense, potential wash 0-8".
-85										
-105		S13	16/1	6-89-100/3"	PID= NM					Blown in observed by driller to 85' at 11:35, ~ El. 100.8' into casing. S13 (86'- 87.3') NO RECOVERY; wash, rock fragments, rock in spoon shoe.
		SC17**	44/47	NM	PID= 0.0" PID= 0.0" PID= 1.7" PID= 0.0"					SC17A (87.3'- 88.9') CLAYEY SAND WITH GRAVEL (SC); ~45% sand, fine to coarse, ~30% gravel, fine to coarse, ~25% fines, low plasticity; max. size 2.5", gray. SC17B (88.9'- 89.9') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel; ~15% silty fines, low plasticity, dry, reddish brown. SC17C (89.9'- 91') CLAYEY SAND WITH GRAVEL (SC); ~45% sand, fine to coarse, ~30% gravel, fine to coarse, ~25% fines, low plasticity; max. size 2.5", gray.
-90										
-110		S14	24/22	50-48-32-35	PID= 0.0"					Driller observes ~6" of material inside casing after S14 was driven. Blow counts might be slightly elevated, S14 (91'- 93') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to medium, rounded; ~5% silty fines, non plastic, max. size 1", grayish brown, more fine sand at bottom of
		SC18**	36/61	NM	PID= 0.0"					

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15 SPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03 14 2015 (LCM) - DEPTH-ELEV NOTES CHANGES ONLY.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03_14_2015 (LCM) - DEPTH/ELEV.NOTES CHANGES ONLY.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

GEI Consultants GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300		CLIENT: National Grid PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-1-1102				BORING LOG GPEC-SB112				
		PAGE 5 of 5								
ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA							
	95			PID= 0.0* PID= 0.0* PID= 0.0*					spoon started at 91'. Hydraulic leak on drill rig, drilling stopped.	sample. SC18 (93'- 96') CLAYEY SAND (SC); ~70% sand, fine, ~25% fines, ~5% gravel, fine; gray, loose, pockets of clay.
										End of Boring at 96 feet. Grout to mudline.
NOTES: PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC = RECOVERY LENGTH OF SAMPLE PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION NA = NOT APPLICABLE NM = NOT MEASURED IN. = INCHES FT. = FEET TSF = TONS PER SQUARE FOOT Q_p = POCKET PENETROMETER IN TSF S_v = TORVANE PEAK IN TSF 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 SeLO= SEWAGE LIKE ODOR										



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CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-1-1102

BORING LOG

PAGE
1 of 5

GPEC-SB113

GROUND SURFACE ELEVATION (FT): -22.6 LOCATION: Newtown Creek - Offshore Between Mooring Bitts 26 & 27
NORTHING (FT): 688953 EASTING (FT): 650960 TOTAL DEPTH (FT): 104.0
DRILLED BY: Boart Longyear / Dell Cunningham DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: K.Kucher, S. DiBartolo, A. Engard, R. Marshall DATE START / END: 7/13/2010 - 7/19/2010
DRILLING DETAILS: Roto-Sonic Drilling / Mini Sonic Bredel 40 SPX / Hammer: 140 lbs / Drop: 30 in. / Casing: 5.5/3.5 in. OD / Core Size: 4.25 in. / Core Type: Sonic
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: *PID readings are screened readings made at discreet locations over the soil sample.
**SPT sampled first, then SC over sampled through SPT zone and then virgin soil. All depths on the log reference mudline as depth 0'.

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA					
0	0								0-4': No Sample.	
-25	5	SC1	60/27	NM	PID= 2.3* PID= 10.4* PID= 22.5*			OLO		SC1 (4'- 9') ORGANIC SILT (OL/ML); organic silt and sediment, strong organic-like odor, black.
-30	10	VST1 SC2	18/NM 60/35	NM	PID= NA PID= 75.5*			OLO		VST1 (9'- 10.5') Vane Shear Test; no classification. SC2A (9'- 12.9') ORGANIC SILT (OL/ML); organic silt and sediment, moderate organic-like odor, black.
-35					PID= 96.9* PID= 86.8*					SC2B (12.9'- 14') LEAN CLAY (CL); ~90% fines, high plasticity; ~10% fine sand lenses, wet.
-40	15	VST2 SC3	18/NM 60/38	NM	PID= NA PID= 0.0* Q _p = 0.5					VST2 (14'- 15.5') Vane Shear Test; no classification. SC3 (14'- 19') LEAN CLAY (CL); ~95% fines, ~5% sand, fine; wet, gray.
-40					PID= 0.0* PID= 0.0*					
-40	20	VST3 SC4	18/NM 60/46	NM	PID= NA PID= 0.0*					VST3 (19'- 20.5') Vane Shear Test; no classification. SC4A (19'- 20.5') LEAN CLAY (CL); ~95% fines, low

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SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR
SeLO= SEWAGE LIKE ODOR

GPEC-ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI/OTHERS 03-14-2015 (LCM) - DEPTH/ELEV. NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

SPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03 14 2015 (LCM) - DEPTH-ELEV NOTES CHANGES ONLY.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03-14 2015 (LCM) - DEPTH/ELEV. NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

GEI Consultants GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300		CLIENT: National Grid		BORING LOG							
		PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-1-1102		PAGE 5 of 5 GPEC-SB113							
ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	
TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA								
	95	SC19	60/42	5 min	PID= 0.0*					fine to medium, ~30% fines, low to medium plasticity, ~10% gravel, fine to coarse, rounded; max. size 2.5", moist, brown, very dense, large gravel, ~4", in bottom of sample. SC19 (94'- 99') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to medium, subrounded, ~5% fines, non plastic; max. size 1.5", moist, brown.	
	120				PID= 0.0*						
	100	SC20	60/48	2 min	PID= 0.0*					Env. Sample ID= GPEC-SB113 (130-132) (99') 44" of sand in casing above sample, driller says washed in/heave in sand; widely graded sand, similar to SC19.	SC20A (99'- 101.3') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to medium, subrounded, ~5% fines, non plastic; max. size 1.5", moist, brown.
	125				Q _p = > 4.5 S _v = 0.3 PID= 0.0*						SC20B (101.3'- 104') FAT CLAY (CH); ~100% fines, high plasticity, slow dilatancy, high toughness; gray, fine lenses of fine sand.
End of Boring at 104 feet. Grout to mudline.											
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CLIENT: **National Grid**
PROJECT: **Greenpoint Energy Center**
CITY/STATE: **Brooklyn, New York**
GEI PROJECT NUMBER: **125180-1-1102**

BORING LOG

PAGE
1 of 4

GPEC-SB114

GROUND SURFACE ELEVATION (FT): **-24.0** LOCATION: **Newtown Creek - Offshore Between Mooring Bitts 33 & 34**
NORTHING (FT): **689217** EASTING (FT): **650867** TOTAL DEPTH (FT): **85.0**
DRILLED BY: **Boart Longyear / Dell Cunningham** DATUM VERT. / HORZ.: **NAVD 88 / NAD83 NY East Zone**
LOGGED BY: **K.Kucher, S. DiBartolo, A. England, R. Marshall** DATE START / END: **7/20/2010 - 7/22/2010**
DRILLING DETAILS: **Roto-Sonic Drilling / Mini Sonic Bredel 40 SPX / Hammer: 140 lbs / Drop: 30 in. / Casing: 5.5/3.5 in. OD / Core Size: 4.25 in. / Core Type: Sonic**
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: ***PID readings are screened readings made at discreet locations over the soil sample.**
****SPT sampled first, then SC over sampled through SPT zone and then virgin soil. All depths on the log reference mudline as depth 0'.**

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA					
0	0	SC1	60/45	NM	PID= 230					SC1 (0'- 5') ORGANIC SILT (OL/ML); organic silt and sediment, strong organic-like odor, wet, black, very soft.
-25					PID= 169			OLO		
					PID= 57.4					
5	5	SC2	60/41	NM	PID= NM					SC2 (5'- 10') ORGANIC SILT (OL/ML); organic silt and sediment, strong organic-like odor, wet, black, very soft.
-30								OLO		
10	10	SC3	60/44	NM	PID= NM					SC3A (10'- 10.8') ORGANIC SILT (OL/ML); organic silt and sediment, sand, fine, gravel, wet, black, very soft, tar coated gravel, blebs.
-35					Q _p = 0.5 S _v = 4					SC3B (10.8'- 15') LEAN CLAY (CL); ~100% fines, medium plasticity; shell fragments, gray, some staining on outside at 7-24".
15	15	VST1	18/NM	NM	PID= 196					VST1 (15'- 16.5') Vane Shear Test; no classification.
-40		SC4	60/42		Q _p = 0.5 S _v = 0.15 PID= 8.6					SC4A (15'- 16.1') ORGANIC SILT (OL/ML); ~80% organic silt and sediment, ~15% sand, fine to medium, ~5% gravel, fine.
					PID= 8.2					SC4B (16.1'- 20') LEAN CLAY (CL); ~90% fines, ~10% sand, fine.
20	20									

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
IN PARTS PER MILLION

NA = NOT APPLICABLE
NM = NOT MEASURED

Q_p = POCKET PENETROMETER IN TSF
S_v = TORVANE PEAK IN TSF

IN. = INCHES
FT. = FEET
TSF = TONS PER
SQUARE FOOT

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
SeLO= SEWAGE LIKE ODOR

GPEC-ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03-14 2015 (LCM) -DEPTH/ELEV.NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI/OTHERS 03.14.2015 (LCM) - DEPTH/ELEV. NOTES CHANGES ONLY-GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

GEI Consultants GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300		CLIENT: National Grid		BORING LOG						
		PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-1-1102		PAGE 3 of 4 GPEC-SB114						
ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA					
-45		S3	24/13	2-3-6-7	PID= 0	[Pattern]				S3 (45'- 47') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, ~15% gravel, fine to medium, ~10% fines; max. size 1", gray.
-70		SC10	36/48	NM	PID= 0					SC10 (47'- 50') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~10% gravel; max. size 1", gray.
					PID= 0					
					PID= 0					
50		S4	24/6	3-1-2-6	PID= 0	[Pattern]				S4 (50'- 52') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines.
-75		SC11	36/47	NM	PID= 0					SC11 (52'- 55') SILTY SAND (SM); ~60% sand, fine to medium, ~30% fines, ~10% gravel; pockets of clayey sand throughout.
					PID= 0					
					PID= 0					
55		S5	20/7	8-8-22-100/2"	PID= NM	[Pattern]				S5 (55'- 56.7') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to medium, ~15% gravel; ~15% silty fines.
-80		SC12	40/49	NM	PID= 0					SC12 (56.7'- 60') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; moist, light brown, loose.
					PID= 0					
					PID= 0					
60		S6	24/11	23-22-28-40	PID= NM	[Pattern]				S6 (60'- 62') NARROWLY GRADED SAND (SP); ~100% sand, fine to medium.
-85		SC13	36/21	NM	PID= 0					SC13 (62'- 65') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, ~5% fines; max. size 2", wet, brown, loose.
					PID= 0					
					PID= 0					
65		S7	16/6	8-15-100/4"	PID= 0	[Pattern]				S7 (65'- 66.333') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; wet, brown.
-90		SC14	44/50	NM	PID= 0					SC14 (66.333'- 70') NARROWLY GRADED SAND (SP); ~85% sand, fine to medium, ~10% gravel, ~5% fines; max. size 3".
					PID= 0					
					PID= 0					
					PID= 0					

NOTES:
 PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL IN. = INCHES
 REC = RECOVERY LENGTH OF SAMPLE FT. = FEET
 PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION TSF = TONS PER SQUARE FOOT
 NA = NOT APPLICABLE Q_p = POCKET PENETROMETER IN TSF
 NM = NOT MEASURED S_v = TORVANE PEAK IN TSF
 NLO = NAPHTHALENE LIKE ODOR CrLo= CREOSOTE LIKE ODOR
 PLO = PETROLEUM LIKE ODOR OLO = ORGANIC LIKE ODOR
 TLO = TAR LIKE ODOR SLO = SULFUR LIKE ODOR
 CLO = CHEMICAL LIKE ODOR MLO = MUSTY LIKE ODOR
 ALO = ASPHALT LIKE ODOR SeLo= SEWAGE LIKE ODOR

GPEC-ENVIRONMENTAL BORING LOG- GREENPOINT BORINGS- GEI-OTHERS 03-14-2015 (LCM)-DEPTH/ELEV.NOTES CHANGES ONLY-GPJ- ATLANTIC GEI DATA TEMPLATE.GDT 4/3/15

GEI Consultants GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300		CLIENT: National Grid		BORING LOG GPEC-SB114	
		PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-1-1102			
PAGE 4 of 4					

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION				STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA					
	70				PID= 0					
	-95	S8	24/17	73-43-28-27	PID= 1.1 PID= 2					S8 (70'- 72') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines.
		SC15	36/51	NM	PID= 0 PID= 5.9 PID= 6.1 PID= 7.1					SC15 (72'- 75') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; moist to wet, brown, pocket of silty sand 28-33".
	75	S9	24/24		PID= 5.9 PID= 8.4 PID= 15			(75') Hammer broke after ~3".		S9 (75'- 77') WIDELY GRADED SAND (SW).
	-100	SC16	36/49	NM	PID= 40.4 PID= 32.9 PID= 10.8 PID= 1.4					SC16A (77'- 79.2') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, ~10% fines, ~5% gravel; max. size 2".
	80	SC17	60/41	NM	PID= NM Q _p = >4.5 S _v = 0.375			Env. Sample ID= GPEC-SB-114 (110-111)		SC16B (79.2'- 80') SANDY LEAN CLAY (CL); ~60% clayey fines, ~40% sand, fine. SC17 (80'- 85') SANDY LEAN CLAY (CL); ~70% fines, ~30% sand, fine.
	-105									
	85									End of Boring at 85 feet. Grout to mudline.

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC = RECOVERY LENGTH OF SAMPLE PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION NA = NOT APPLICABLE NM = NOT MEASURED	Q _p = POCKET PENETROMETER IN TSF S _v = TORVANE PEAK IN TSF	IN. = INCHES FT. = FEET TSF = TONS PER SQUARE FOOT	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 SeLO= SEWAGE LIKE ODOR
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GEI Consultants, Inc.
455 Winding Brook Road
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-1-1102

BORING LOG	
PAGE 1 of 1	GPEC-SED01

GROUND SURFACE ELEVATION (FT):	-14.4	LOCATION:	Newtown Creek
NORTHING (FT):	687819	EASTING (FT):	651536
DRILLED BY:	Aqua Survey, Inc. / Jeff Clemens	TOTAL DEPTH (FT):	20.0
LOGGED BY:	K. Bradley, J. Morin	DATUM VERT. / HORZ.:	NAVD 88 / NAD83 NY East Zone
		DATE START / END:	6/23/2010 - 6/23/2010

DRILLING DETAILS: Vibracore / VT 6 Vibracore, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID

WATER LEVEL DEPTHS (FT):

GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
	0	P1	4/NM						
-15		VC1	236/150	PID= 8.0"		OLO	Env. Sample ID= GPEC-SED1 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~95% fines, ~5% gravel; strong organic-like odor, black, sticks and leaves present, slight sheen. Ponar sample.	
				PID= 37.5"		OLO	Env. Sample ID= GPEC-SED1 (0.33-0.66)	VC1 (0.33'- 0.66') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong organic-like odor, very wet, black, mostly liquid, sheen, petroleum blebs.	
				PID= 15.1"		OLO	Env. Sample ID= GPEC-SED1 (0.66-1.97)	VC1 (0.66'- 1.97') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong organic-like odor, wet, black, lower water content than VC1 (0.33'- 0.66'), sheen.	
				PID= 19.6"			Env. Sample ID= GPEC-SED1 (1.97-3.28)	VC1 (1.97'- 6.56') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, slight petroleum-like odor, wet, black, sheen.	
5				PID= 13.7"					
-20				PID= 23.9"			Env. Sample ID= GPEC-SED1 (3.28-6.56)		
				PID= 25.4"		PLO			
10				PID= 33.5"					
-25				PID= 96.8"			Env. Sample ID= GPEC-SED1 (6.56-8.5)	VC1 (6.56'- 8.5') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, slight naphthalene-like odor, wet, black, sheen.	
				PID= 48.2"		NLO			
15				PID= 9.4" back-ground= 5.3 ppm			Env. Sample ID= GPEC-SED1 (8.5-12.5)	VC1 (8.5'- 12.5') SILTY SAND (SM); ~60% sand, fine, ~40% fines; slight naphthalene-like odor, brown - gray.	
-30						NLO			
20									

End of Boring at 20 feet.

NOTES:

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PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
IN PARTS PER MILLION

IN. = INCHES
FT. = FEET
TSF = TONS PER
SQUARE FOOT

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
SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE Q_p = POCKET PENETROMETER IN TSF
NM = NOT MEASURED S_v = TORVANE PEAK IN TSF

USPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GELOTHERS 03 14 2015 (LCM).GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15

GEI Consultants	GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300	CLIENT: National Grid		BORING LOG					
		PROJECT: Greenpoint Energy Center		PAGE 1 of 1	GPEC-SED02				
CITY/STATE: Brooklyn, New York		GEI PROJECT NUMBER: 125180-1-1102							
GROUND SURFACE ELEVATION (FT): -13.8		LOCATION: Newtown Creek							
NORTHING (FT): 687787		EASTING (FT): 651441		TOTAL DEPTH (FT): 20.0					
DRILLED BY: Aqua Survey, Inc. / Jeff Clemens		DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone							
LOGGED BY: K. Bradley, J. Morin		DATE START / END: 6/23/2010 - 6/23/2010							
DRILLING DETAILS: Vibracore / VT 6 Vibracore, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID									
WATER LEVEL DEPTHS (FT):									
GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.									
ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
	0	P1	4/NM						
	-15	VC1	236/193.2	PID= 24.1* PID= 8.6* PID= 15.4* PID= 22.3* PID= 16.9* PID= 28.0* PID= 81.3* PID= 147* PID= 89.4* PID= 156* PID= 229* PID= 196* PID= 73.3* PID= 43.0*					P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~95% fines, ~5% gravel; strong organic-like odor, black, pieces of wood and leaves, slight sheen. Ponar sample. VC1 (0.33'- 3.28') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate organic-like odor, very wet, black, high water content, sheen. VC1 (3.28'- 6.56') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate organic-like odor, wet, black, lower water content than VC1 (0.33'- 3.28'), sheen. VC1 (6.56'- 9.48') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, slight naphthalene-like odor, wet, black, tar coated lenses, blebs and globs. VC1 (9.48'- 10.75') ORGANIC SILT (OL/ML); ~80% organic silt and sediment, ~20% silty fines, strong naphthalene-like odor, black, blebs and globs; bottom 6" saturated in tar (flowable). VC1 (10.75'- 11.75') SILT (ML); ~80% non plastic fines, ~20% fibrous organics and peat lenses, strong naphthalene-like odor, black to gray brown, tar coated lenses. VC1 (11.75'- 16.1') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine; ~10% silty fines, brown.
	20	End of Boring at 20 feet.							
NOTES: PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC = RECOVERY LENGTH OF SAMPLE PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION NA = NOT APPLICABLE NM = NOT MEASURED Qp = POCKET PENETROMETER IN TSF Sv = TORVANE PEAK IN TSF IN. = INCHES FT. = FEET TSF = TONS PER SQUARE FOOT 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 SeLO= SEWAGE LIKE ODOR									

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15

GEI Consultants	GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300	CLIENT: National Grid PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-1-1102	BORING LOG PAGE 1 of 1 GPEC-SED03						
	GROUND SURFACE ELEVATION (FT): -11.7 LOCATION: Newtown Creek NORTHING (FT): 687755 EASTING (FT): 651346 TOTAL DEPTH (FT): 20.0 DRILLED BY: Aqua Survey, Inc. / Jeff Clemens DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone LOGGED BY: M. Sweet, K. Barber DATE START / END: 6/21/2010 - 6/21/2010 DRILLING DETAILS: Vibracore / VT 6 Vibracore, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID WATER LEVEL DEPTHS (FT): GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.								
ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
	0	P1	4/NM	PID= 5.6*				Env. Sample ID= GPEC-SED3 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~80% organics, ~15% fines, ~5% sand, fine, moderate organic-like odor, moderate petroleum-like odor, black, detritus leaves, sheen. Ponar sample.
		VC1	236/NM	PID= 17.1*				Env. Sample ID= GPEC-SED3 (0.33-0.66)	
				PID= 13.6*				Env. Sample ID= GPEC-SED3 (0.66-1.97)	
	-15			PID= 12.7*				Env. Sample ID= GPEC-SED3 (1.97-3.28)	
	5			PID= 19.6*				Env. Sample ID= GPEC-SED3 (3.28-6.56)	
				PID= 60.7*					
	-20			PID= 30.2*					
	10			PID= 72.1*					
				PID= 103*					
	-25			PID= 264*				Env. Sample ID= GPEC-SED3 (6.56-9.84)	
	15			PID= 262*					
				PID= 380*					
	-30			PID= 360*					
	20							Env. Sample ID= GPEC-SED3 (9.84-10.5)	VC1 (9.84'- 10.5') SANDY SILT (ML); black, native soil.
End of Boring at 20 feet.									
NOTES: PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC = RECOVERY LENGTH OF SAMPLE PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION NA = NOT APPLICABLE NM = NOT MEASURED Qp = POCKET PENETROMETER IN TSF Sv = TORVANE PEAK IN TSF IN. = INCHES FT. = FEET TSF = TONS PER SQUARE FOOT 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 SeLO= SEWAGE LIKE ODOR									

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_GEI-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15



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

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-1-1102

BORING LOG

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GPEC-SED04

GROUND SURFACE ELEVATION (FT): -17.8 LOCATION: Newtown Creek
NORTHING (FT): 687938 EASTING (FT): 651497 TOTAL DEPTH (FT): 20.0
DRILLED BY: Aqua Survey, Inc. / Jeff Clemens DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: K. Bradley, J. Morin DATE START / END: 6/23/2010 - 6/23/2010

DRILLING DETAILS: Vibracore / VT 6 Vibracore, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID

WATER LEVEL DEPTHS (FT): _____

GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0	0	P1	4/NM	PID= 2.1*				Env. Sample ID= GPEC-SED4 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~95% fines, ~5% gravel; strong organic-like odor, very wet, black, fluid, slight sheen. Ponar sample.
		VC1	236/182.4	PID= 0.4*			OLO	Env. Sample ID= GPEC-SED4 (0.33-0.66)	VC1 (0.33'- 0.66') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate organic-like odor, very wet, black, mostly liquid.
				PID= 4.3*			OLO	Env. Sample ID= GPEC-SED4 (0.66-1.97)	VC1 (0.66'- 1.97') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate organic-like odor, wet, black, lower water content than VC1 (0.33'- 0.66').
				PID= 30.9*			OLO	Env. Sample ID= GPEC-SED4 (1.97-3.28)	VC1 (1.97'- 3.28') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate organic-like odor, wet, black.
				PID= 59.5*			OLO		VC1 (3.28'- 6.56') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong petroleum-like odor, wet, black.
	5			PID= 40.3*				Env. Sample ID= GPEC-SED4 (3.28-6.56)	
				PID= 53.5*			PLO		
				PID= 33.9*					
	10			PID= 28.5*				Env. Sample ID= GPEC-SED4 (6.56-8.25)	VC1 (6.56'- 8.25') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong petroleum-like odor, wet, black, small bone, possibly from a bird.
				PID= 30.7*			PLO		
				PID= 0.5*				Env. Sample ID= GPEC-SED4 (8.25-15.2)	VC1 (8.25'- 15.2') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine; ~10% silty fines, brown - gray, sheen in top 6".
	15			PID= 0.0*					
				PID= 3.7*					
	20								End of Boring at 20 feet.

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
IN PARTS PER MILLION

IN. = INCHES
FT. = FEET
TSF = TONS PER SQUARE FOOT

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
SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE Q_p = POCKET PENETROMETER IN TSF
NM = NOT MEASURED S_v = TORVANE PEAK IN TSF

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15



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

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-1-1102

BORING LOG

PAGE
1 of 1

GPEC-SED05

GROUND SURFACE ELEVATION (FT): -15.9 LOCATION: Newtown Creek
NORTHING (FT): 687906 EASTING (FT): 651401 TOTAL DEPTH (FT): 20.0
DRILLED BY: Aqua Survey, Inc. / Jeff Clemens DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: K. Bradley, J. Morin DATE START / END: 6/23/2010 - 6/23/2010

DRILLING DETAILS: Vibracore / VT 6 Vibracore, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID

WATER LEVEL DEPTHS (FT): _____

GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0	0	P1	4/NM	PID= 72.3*			OLO	Env. Sample ID= GPEC-SED5 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~95% fines, ~5% gravel; moderate organic-like odor, slight petroleum-like odor, very wet, black, fluid, sheen. Ponar sample. VC1 (0.33'- 0.66') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong organic-like odor, very wet, black, mostly liquid, sheen. VC1 (0.66'- 1.97') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, slight petroleum-like odor, wet, black, lower water content than VC1 (0.33'- 0.66'), sheen. VC1 (1.97'- 6.56') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, slight petroleum-like odor, wet, black, sheen.
		VC1	236/158.4	PID= 46.7*				Env. Sample ID= GPEC-SED5 (0.33-0.66)	
				PID= 28.2*				Env. Sample ID= GPEC-SED5 (0.66-1.97)	
				PID= 55.6*				Env. Sample ID= GPEC-SED5 (1.97-3.28)	
-20	5			PID= 28.1*			PLO	Env. Sample ID= GPEC-SED5 (3.28-6.56)	
				PID= 48.6*					
				PID= 39.7*					
-30	15			PID= 27.2*			NLO	Env. Sample ID= GPEC-SED5 (6.8-13.2)	VC1 (6.8'- 7.8') SILT (ML); ~60% silty fines, ~20% sand, fine, ~20% organics, gray to black, fibrous intervals, large 4" gravel piece. Lenses of tar coated grains. VC1 (7.8'- 13.2') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium; ~10% silty fines, strong naphthalene-like odor, brown gray, lenses of silt. Sheen, lenses of tar coated grains, 3" saturated lens ~1.5' from bottom of sample.
-35				PID= 311*					
20	20								End of Boring at 20 feet.

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
IN PARTS PER MILLION

IN. = INCHES
FT. = FEET
TSF = TONS PER SQUARE FOOT

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
SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE Q_p = POCKET PENETROMETER IN TSF
NM = NOT MEASURED S_v = TORVANE PEAK IN TSF

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_GPEC-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15

GEI Consultants	GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300	CLIENT: National Grid		BORING LOG					
		PROJECT: Greenpoint Energy Center		PAGE 1 of 1	GPEC-SED06				
CITY/STATE: Brooklyn, New York		GEI PROJECT NUMBER: 125180-1-1102							
GROUND SURFACE ELEVATION (FT): -18.3		LOCATION: Newtown Creek							
NORTHING (FT): 687873		EASTING (FT): 651306		TOTAL DEPTH (FT): 20.0					
DRILLED BY: Aqua Survey, Inc. / Jeff Clemens		DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone							
LOGGED BY: K. Bradley, J. Morin		DATE START / END: 6/21/2010 - 6/21/2010							
DRILLING DETAILS: Vibracore / VT 6 Vibracore, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID									
WATER LEVEL DEPTHS (FT):									
GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.									
ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
	0	P1	4/NM	PID= 1.5*				Env. Sample ID= GPEC-SED6 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~85% fines; ~10% organics (leaves), ~5% gravel, angular, strong petroleum-like odor, moderate organic-like odor, black, sheen. Ponar sample.
		VC1	236/178.8					Env. Sample ID= GPEC-SED6 (0.33-0.66)	VC1 (0.33'- 0.66') ORGANIC SILT (OL/ML); moderate organic-like odor, black, mostly liquid.
				PID= 14.0*				Env. Sample ID= GPEC-SED6 (0.66-1.97)	VC1 (0.66'- 1.97') ORGANIC SILT (OL/ML); ~60% silty fines, ~40% organics, moderate organic-like odor, black, mostly liquid.
								Env. Sample ID= GPEC-SED6 (1.97-3.28)	VC1 (1.97'- 3.28') ORGANIC SILT (OL/ML); ~60% silty fines, ~40% organics, moderate organic-like odor, black.
	5			PID= 141*				Env. Sample ID= GPEC-SED6 (3.28-6.56)	VC1 (3.28'- 6.56') ORGANIC SILT (OL/ML); ~70% silty fines, ~30% organics, very wet, black.
				PID= 201*					
				PID= 154*					
				PID= 230*				Env. Sample ID= GPEC-SED6 (6.56-9.84)	VC1 (6.56'- 9.84') ORGANIC SILT (OL/ML); ~70% silty fines, ~30% organics, very wet, black.
				PID= 302*					
				PID= 584*					
				PID= 328*				Env. Sample ID= GPEC-SED6 (9.84-12.0)	VC1 (9.84'- 12.0') ORGANIC SILT (OL/ML); ~70% silty fines, ~30% organics, strong naphthalene-like odor, very wet, black, tar staining, sheen, coating.
	15			PID= 703*					
				PID= 693*					
				PID= 1097*				Env. Sample ID= GPEC-SED6 (12.0-14.9)	VC1 (12.0'- 14.9') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to medium; ~5% silty fines, max. size 0.5", brown to gray black, staining, sheen, layers of tar coated grains.
				PID= 348*					
				PID= 46*					
	20								End of Boring at 20 feet.
NOTES: PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC = RECOVERY LENGTH OF SAMPLE PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION IN. = INCHES FT. = FEET TSF = TONS PER SQUARE FOOT 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 SeLO= SEWAGE LIKE ODOR NA = NOT APPLICABLE NM = NOT MEASURED Qp = POCKET PENETROMETER IN TSF Sv = TORVANE PEAK IN TSF									

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15



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

CLIENT: **National Grid**
 PROJECT: **Greenpoint Energy Center**
 CITY/STATE: **Brooklyn, New York**
 GEI PROJECT NUMBER: **125180-1-1102**

BORING LOG
 PAGE 1 of 1
GPEC-SED07

GROUND SURFACE ELEVATION (FT): **-18.5** LOCATION: **Newtown Creek**
 NORTHING (FT): **688057** EASTING (FT): **651455** TOTAL DEPTH (FT): **20.0**
 DRILLED BY: **Aqua Survey, Inc. / Jeff Clemens** DATUM VERT. / HORZ.: **NAVD 88 / NAD83 NY East Zone**
 LOGGED BY: **K. Bradley, J. Morin** DATE START / END: **6/23/2010 - 6/23/2010**
 DRILLING DETAILS: **Vibracore / VT 6 Vibracore, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID**
 WATER LEVEL DEPTHS (FT): _____
 GENERAL NOTE: **Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.**

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0	0	P1	4/NM	PID= 1.9*			Env. Sample ID= GPEC-SED07 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~100% fines; trace gravel, moderate organic-like odor, very wet, black, liquid, slight sheen. Ponar sample.	
		VC1	236/168	PID= 5.7*			Env. Sample ID= GPEC-SED07 (0.33-0.66)	VC1 (0.33'- 0.66') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate organic-like odor, very wet, black, mostly liquid, sheen.	
				PID= 0.2*			Env. Sample ID= GPEC-SED07 (0.66-1.97)	VC1 (0.66'- 1.97') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate organic-like odor, very wet, black, some liquid.	
				PID= 4.2*			Env. Sample ID= GPEC-SED07 (1.97-3.28)	VC1 (1.97'- 3.28') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, slight petroleum-like odor, very wet, black, some liquid.	
				PID= 2.6*				VC1 (3.28'- 6.56') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong naphthalene-like odor, wet, lower water content than VC1 (1.97'- 3.28'). Tar coated grains, sheen.	
				PID= 54.1*			Env. Sample ID= GPEC-SED07 (3.28-6.56)		
				PID= 69.4*					
				PID= 11.1*					
				PID= 34.7*			Env. Sample ID= GPEC-SED07 (6.56-9.1)	VC1 (6.56'- 9.1') ORGANIC SILT (OL/ML); ~90% organic silt and sediment, ~10% silty fines, strong naphthalene-like odor, wet, black, loose.	
				PID= 37.3*			Env. Sample ID= GPEC-SED07 (9.1-14.0)	VC1 (9.1'- 14.0') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium; ~10% silty fines, gray brown to black.	
				PID= 2.8*					
	20							End of Boring at 20 feet.	

NOTES:
 PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL IN. = INCHES
 REC = RECOVERY LENGTH OF SAMPLE FT. = FEET
 PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION TSF = TONS PER SQUARE FOOT
 NA = NOT APPLICABLE Q_p = POCKET PENETROMETER IN TSF
 NM = NOT MEASURED S_v = TORVANE PEAK IN TSF
 NLO = NAPHTHALENE LIKE ODOR CrLo= CREOSOTE LIKE ODOR
 PLO = PETROLEUM LIKE ODOR OLO = ORGANIC LIKE ODOR
 TLO = TAR LIKE ODOR SLO = SULFUR LIKE ODOR
 CLO = CHEMICAL LIKE ODOR MLO = MUSTY LIKE ODOR
 ALO = ASPHALT LIKE ODOR SeLo= SEWAGE LIKE ODOR

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_GPEC-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15



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

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-1-1102

BORING LOG

PAGE
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GPEC-SED08

GROUND SURFACE ELEVATION (FT): -18.3 LOCATION: Newtown Creek
NORTHING (FT): 688024 EASTING (FT): 651360 TOTAL DEPTH (FT): 20.0
DRILLED BY: Aqua Survey, Inc. / Jeff Clemens DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: K. Bradley, J. Morin DATE START / END: 6/23/2010 - 6/23/2010
DRILLING DETAILS: Vibracore / VT 6 Vibracore, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID
WATER LEVEL DEPTHS (FT): _____

GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0	0	P1	4/NM	PID= 1.8*			OLO	Env. Sample ID= GPEC-SED8 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~100% fines; trace gravel, moderate organic-like odor, very wet, black, liquid. Ponar sample.
		VC1	236/154.8	PID= 74.3*				Env. Sample ID= GPEC-SED8 (0.33-0.66)	
				PID= 2.1*				Env. Sample ID= GPEC-SED8 (0.66-1.97)	
				PID= 25.4*				Env. Sample ID= GPEC-SED8 (1.97-3.28)	
				PID= 71.8*					
	5			PID= 65.4*			PLO	Env. Sample ID= GPEC-SED8 (3.28-6.56)	VC1 (3.28'- 6.56') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate petroleum-like odor, wet, black, lower water content than VC1 (0.66'- 3.28').
				PID= 92.6*					
	10			PID= 4.2*				Env. Sample ID= GPEC-SED8 (6.56-9.25)	
				PID= 4.3*					
	15			PID= 11.7*					
	20			PID= 17.4*			NLO	Env. Sample ID= GPEC-SED8 (9.25-12.9)	VC1 (9.25'- 12.9') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel; max. size 2", moderate naphthalene-like odor, brown to black, sheen, trace tar blebs.
				PID= 12.4*					
				PID= 4.2*					

End of Boring at 20 feet.

NOTES:

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IN. = INCHES
FT. = FEET
TSF = TONS PER
SQUARE FOOT

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
SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE Q_p = POCKET PENETROMETER IN TSF
NM = NOT MEASURED S_v = TORVANE PEAK IN TSF

GPEC-ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_GEI-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15



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

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-1-1102

BORING LOG

PAGE
1 of 1

GPEC-SED09

GROUND SURFACE ELEVATION (FT): -18.2 LOCATION: Newtown Creek
NORTHING (FT): 687991 EASTING (FT): 651266 TOTAL DEPTH (FT): 20.0
DRILLED BY: Aqua Survey, Inc. / Jeff Clemens DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: K. Bradley, J. Morin DATE START / END: 6/21/2010 - 6/21/2010

DRILLING DETAILS: Vibracore / VT 6 Vibracore, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID

WATER LEVEL DEPTHS (FT): _____

GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0	0	P1	4/NM	PID= 0.6*				Env. Sample ID= GPEC-SED09 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~95% fines, ~5% gravel; strong organic-like odor, slight petroleum-like odor, black, Ponar sample.
		VC1	236/171.6	PID= 0.7*			OLO	Env. Sample ID= GPEC-SED09 (0.33-0.66)	VC1 (0.33'- 1.97') ORGANIC SILT (OL/ML); silt and organic sediment, slight petroleum-like odor, slight organic-like odor, very wet, black, mostly liquid.
				PID= 1.5*			PLO	Env. Sample ID= GPEC-SED09 (0.66-1.97)	VC1 (1.97'- 3.28') ORGANIC SILT (OL/ML); silt and organic sediment, slight petroleum-like odor, slight organic-like odor, very wet, black, mostly liquid, very soft.
				PID= 8.4*			PLO	Env. Sample ID= GPEC-SED09 (1.97-3.28)	
				PID= 25.3*			PLO		
	5			PID= 198*				Env. Sample ID= GPEC-SED09 (3.28-6.56)	VC1 (3.28'- 6.56') ORGANIC SILT (OL/ML); silt and organic sediment, slight petroleum-like odor, slight organic-like odor, very wet, black, mostly liquid.
				PID= 264*			PLO		
				PID= 44.2*				Env. Sample ID= GPEC-SED09 (6.56-9.84)	VC1 (6.56'- 9.84') ORGANIC SILT (OL/ML); silt and organic sediment, wet, black, very soft.
				PID= 444*					
	10			PID= 368*				Env. Sample ID= GPEC-SED09 (9.84-11.5)	VC1 (9.84'- 11.5') ORGANIC SILT (OL/ML); organic sandy soil, black.
				PID= 420*					
				PID= 420*				Env. Sample ID= GPEC-SED09 (11.5-14.3)	VC1 (11.5'- 14.3') WIDELY GRADED SAND WITH GRAVEL (SW); brown to gray, tar saturated lenses.
				PID= 64.1*					
	20								End of Boring at 20 feet.

NOTES:

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REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
IN PARTS PER MILLION

IN. = INCHES
FT. = FEET
TSF = TONS PER SQUARE FOOT

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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
SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE Q_p = POCKET PENETROMETER IN TSF
NM = NOT MEASURED S_v = TORVANE PEAK IN TSF

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15

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

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-1-1102

BORING LOG	
PAGE 1 of 1	GPEC-SED10

GROUND SURFACE ELEVATION (FT):	-22.4	LOCATION:	Newtown Creek
NORTHING (FT):	688180	EASTING (FT):	651445
DRILLED BY:	Aqua Survey, Inc. / Jeff Clemens	TOTAL DEPTH (FT):	20.0
LOGGED BY:	K. Bradlev, J. Morin	DATUM VERT. / HORZ.:	NAVD 88 / NAD83 NY East Zone
		DATE START / END:	6/24/2010 - 6/24/2010

DRILLING DETAILS: Vibracore / VT 6 Vibracore, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID

WATER LEVEL DEPTHS (FT):

GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
	0	P1	4/NM	PID= 45.8"				Env. Sample ID= GPEC-SED10 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~100% fines; trace gravel, moderate organic-like odor, very wet, black, fluid, sheen. Ponar sample.
		VC1	236/147.6	PID= 53.7"			OLO	Env. Sample ID= GPEC-SED10 (0.33-0.66)	VC1 (0.33'- 0.66') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate organic-like odor, very wet, black, mostly liquid.
	-25			PID= 29.7"			OLO	Env. Sample ID= GPEC-SED10 (0.66-1.97)	VC1 (0.66'- 1.97') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate organic-like odor, wet, black, lower water content than VC1 (0.33'- 0.66').
				PID= 39.3"				Env. Sample ID= GPEC-SED10 (1.97-3.28)	VC1 (1.97'- 3.28') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate naphthalene-like odor, wet, black, lens of tar coated grains and saturation.
	5			PID= 25.5"			NLO		VC1 (3.28'- 6.56') ORGANIC SILT (OL/ML); ~80% organic silt and sediment, ~20% silty fines, moderate organic-like odor, slight petroleum-like odor, wet, black, loose.
				PID= 22.9"				Env. Sample ID= GPEC-SED10 (3.28-6.50)	
	-30			PID= 41.5"			OLO		
	10								
				PID= 15.3"				Env. Sample ID= GPEC-SED10 (6.50-10.1)	VC1 (6.56'- 10.1') ORGANIC SILT (OL/ML); ~80% organic silt and sediment, ~20% sand, fine, moderate organic-like odor, slight naphthalene-like odor, wet, fine hairs, stiffer than previous samples; possible native unit.
	-35								
	15			PID= 16.1"			OLO		
	-40			PID= 8.6"				Env. Sample ID= GPEC-SED10 (10.1-12.3)	VC1 (10.1'- 12.3') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse; ~5% silty fines, slight organic-like odor, gray brown.
				PID= 9.5"			OLO		
	20								

End of Boring at 20 feet.

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
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IN PARTS PER MILLION

NA = NOT APPLICABLE
NM = NOT MEASURED

Q_p = POCKET PENETROMETER IN TSF
S_v = TORVANE PEAK IN TSF

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CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR
Sel O= SEWAGE LIKE ODOR

USPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GELOTHERS 03 14 2015 (LCM).GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15



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

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-1-1102

BORING LOG

PAGE
1 of 1

GPEC-SED12

GROUND SURFACE ELEVATION (FT): -16.9 LOCATION: Newtown Creek
NORTHING (FT): 688111 EASTING (FT): 651225 TOTAL DEPTH (FT): 20.0
DRILLED BY: Aqua Survey, Inc. / Jeff Clemens DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: K. Bradley, J. Morin DATE START / END: 6/22/2010 - 6/22/2010
DRILLING DETAILS: Vibracore / VT 6 Vibracore, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID
WATER LEVEL DEPTHS (FT): _____

GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
	0	P1	4/NM	PID= 2.1* PID= 9.6* PID= 14.4*				Env. Sample ID= GPEC-SED12 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~95% fines, ~5% gravel; strong organic-like odor, black, some sheen. Ponar sample.
		VC1	236/141	PID= 9.9* PID= 10.4* PID= 9.6* PID= 9.7* PID= 8.7* PID= 36.2* PID= 49.0* PID= 655* PID= 311* PID= 81.2*			OLO	Env. Sample ID= GPEC-SED12 (0.33-0.66) Env. Sample ID= GPEC-SED12 (0.66-1.97) Env. Sample ID= GPEC-SED12 (1.97-3.28) Env. Sample ID= GPEC-SED12 (3.28-6.56) Env. Sample ID= GPEC-SED12 (6.56-8.66) Env. Sample ID= GPEC-SED12 (8.66-11.75)	VC1 (0.33'- 1.97') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate organic-like odor, very wet, black, loose, mostly liquid. VC1 (1.97'- 6.56') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, wet, black, loose, some liquid. VC1 (6.56'- 8.66') ORGANIC SILT (OL/ML); ~95% organic silt and sediment, ~5% sand, fine, strong naphthalene-like odor, wet, black, sheen, tar coated grains. VC1 (8.66'- 11.75') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse; ~10% silty fines, ~10% gravel, fine to coarse, max. size 3", strong naphthalene-like odor, wet, brown to gray black, lenses of clay and silt, tar coated grains.
	20								End of Boring at 20 feet.

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
IN PARTS PER MILLION

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_p = POCKET PENETROMETER IN TSF
S_v = TORVANE PEAK IN TSF

IN. = INCHES
FT. = FEET
TSF = TONS PER SQUARE FOOT

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
SeLO= SEWAGE LIKE ODOR

GPEC-ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15



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

CLIENT: **National Grid**
PROJECT: **Greenpoint Energy Center**
CITY/STATE: **Brooklyn, New York**
GEI PROJECT NUMBER: **125180-1-1102**

BORING LOG

PAGE
1 of 1

GPEC-SED14

GROUND SURFACE ELEVATION (FT): **-19.8** LOCATION: **Newtown Creek**
NORTHING (FT): **688262** EASTING (FT): **651279** TOTAL DEPTH (FT): **20.0**
DRILLED BY: **Aqua Survey, Inc. / Jeff Clemens** DATUM VERT. / HORZ.: **NAVD 88 / NAD83 NY East Zone**
LOGGED BY: **K. Bradley, J. Morin** DATE START / END: **6/22/2010 - 6/22/2010**

DRILLING DETAILS: **Vibracore / VT 6 Vibracore, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID**

WATER LEVEL DEPTHS (FT):

GENERAL NOTE: **Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.**

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
-20	0	P1 VC1	4/NM 236/152.4	PID= 2.0* PID= 5.6*			OLO	Env. Sample ID= GPEC-SED14 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~95% fines, ~5% gravel; moderate organic-like odor, slight petroleum-like odor, sheen. Ponar sample.
							OLO	Env. Sample ID= GPEC-SED14 (0.33-0.66)	VC1 (0.33'- 0.66') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate organic-like odor, very wet, black, sheen, blebs of petroleum.
							PLO	Env. Sample ID= GPEC-SED14 (0.66-1.97)	VC1 (0.66'- 1.97') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, slight petroleum-like odor, wet, black, lower water content than VC1 (0.33'- 0.66'), sheen.
				PID= 1.3*					
				PID= 2.9*			PLO	Env. Sample ID= GPEC-SED14 (1.97-3.28)	VC1 (1.97'- 3.28') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, slight petroleum-like odor, wet, black.
				PID= 1.4*					
				PID= 4.2*					
				PID= 3.5*			PLO	Env. Sample ID= GPEC-SED14 (3.28-6.56)	VC1 (3.28'- 6.56') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, slight petroleum-like odor, wet, black, lower water content than VC1 (1.97'- 3.28').
				PID= 4.5*					
				PID= 12.7*					
				PID= 36.3*			PLO	Env. Sample ID= GPEC-SED14 (6.56-8.25)	VC1 (6.56'- 8.25') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong petroleum-like odor, wet, black, sheen, tar coating.
				PID= 29.3*					
				PID= 58.8*					
				PID= 184*				Env. Sample ID= GPEC-SED14 (8.25-12.7)	VC1 (8.25'- 12.7') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium; ~10% lenses of silty fines, sheen, lenses of tar-coated grains in top 2' of sample.
				PID= 27.5*					
				PID= 15.3*					
-20	20								End of Boring at 20 feet.

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ALO = ASPHALT LIKE ODOR

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MLO = MUSTY LIKE ODOR
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NM = NOT MEASURED S_v = TORVANE PEAK IN TSF

GPEC-ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15



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

CLIENT: **National Grid**
PROJECT: **Greenpoint Energy Center**
CITY/STATE: **Brooklyn, New York**
GEI PROJECT NUMBER: **125180-1-1102**

BORING LOG

PAGE
1 of 1

GPEC-SED15

GROUND SURFACE ELEVATION (FT): **-18.4** LOCATION: **Newtown Creek**
NORTHING (FT): **688230** EASTING (FT): **651185** TOTAL DEPTH (FT): **20.0**
DRILLED BY: **Aqua Survey, Inc. / Jeff Clemens** DATUM VERT. / HORZ.: **NAVD 88 / NAD83 NY East Zone**
LOGGED BY: **K. Bradley, J. Morin** DATE START / END: **6/22/2010 - 6/22/2010**
DRILLING DETAILS: **Vibracore / VT 6 Vibracore, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID**
WATER LEVEL DEPTHS (FT): _____

GENERAL NOTE: **Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.**

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0	0	P1	4/NM	PID= 3.6*			OLO	Env. Sample ID= GPEC-SED15 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~95% fines, ~5% gravel; strong organic-like odor, black, slight petroleum-like odor during sampling, sheen. Ponar sample. VC1 (0.33'- 1.97') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate organic-like odor, slight petroleum-like odor, very wet, black, mostly liquid, sheen.
		VC1	236/114.96	PID= 9.2*				Env. Sample ID= GPEC-SED15 (0.33-0.66)	
				PID= 15.9*				Env. Sample ID= GPEC-SED15 (0.66-1.97)	
				PID= 24.4*					
-20							OLO	Env. Sample ID= GPEC-SED15 (1.97-3.28)	VC1 (1.97'- 3.28') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate organic-like odor, slight petroleum-like odor, wet, black, lower water content than VC1 (0.33'- 1.97'), sheen.
				PID= 14.8*					
				PID= 22.9*					
				PID= 167*				Env. Sample ID= GPEC-SED15 (3.28-4.6)	
-25							NLO		VC1 (3.28'- 4.6') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong naphthalene-like odor, wet, black, sheen and blebs.
				PID= 195*					
				PID= 63.9*				Env. Sample ID= GPEC-SED15 (4.6-9.58)	
				PID= 109*					
-30							NLO		VC1 (4.6'- 9.58') SILTY SAND (SM); ~70% sand, fine to medium; ~30% silty fines, strong naphthalene-like odor, wet, gray brown to black, staining, sheen, tar coated grains.
				PID= 59.3*					
-35									
20	20								End of Boring at 20 feet.

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ALO = ASPHALT LIKE ODOR

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MLO = MUSTY LIKE ODOR
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GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15



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

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-1-1102

BORING LOG

PAGE
1 of 1

GPEC-SED16

GROUND SURFACE ELEVATION (FT): -22.0 LOCATION: Newtown Creek
NORTHING (FT): 688413 EASTING (FT): 651333 TOTAL DEPTH (FT): 20.0
DRILLED BY: Aqua Survey, Inc. / Jeff Clemens DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: K. Bradley, J. Morin DATE START / END: 6/22/2010 - 6/22/2010

DRILLING DETAILS: Vibracore / VT 6 Vibracore, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID

WATER LEVEL DEPTHS (FT): _____

GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA				
0	0	P1	4/NM	PID= 255*	OLO	OLO	Env. Sample ID= GPEC-SED16 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~95% fines, ~5% gravel, subangular; moderate organic-like odor, black, Ponar sample.
		VC1	236/154.8	PID= 160*			Env. Sample ID= GPEC-SED16 (0.33-0.66)	VC1 (0.33'- 1.97') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate organic-like odor, slight petroleum-like odor, very wet, black.
				PID= 154*			Env. Sample ID= GPEC-SED16 (0.66-1.97)	
				PID= 188*	OLO	OLO		
				PID= 327*			Env. Sample ID= GPEC-SED16 (1.97-3.28)	VC1 (1.97'- 3.28') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate naphthalene-like odor, very wet, black.
				PID= 279*				
				PID= 203*	NLO	NLO	Env. Sample ID= GPEC-SED16 (3.28-6.56)	VC1 (3.28'- 6.56') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong naphthalene-like odor, very wet, black.
				PID= 124*				
				PID= 82*				
				PID= 45.8*	NLO	NLO	Env. Sample ID= GPEC-SED16 (6.56-12.9)	VC1 (6.56'- 7.56') SILTY SAND (SM); ~70% sand; ~30% silty fines, brown gray to black.
				PID= 47.9*				VC1 (7.56'- 12.9') NARROWLY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine; ~10% silty fines, brown gray.
				PID= 8.1*				
				PID= 6.0*				
	20							End of Boring at 20 feet.

NOTES:

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TLO = TAR LIKE ODOR
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ALO = ASPHALT LIKE ODOR

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NA = NOT APPLICABLE Q_p = POCKET PENETROMETER IN TSF
NM = NOT MEASURED S_v = TORVANE PEAK IN TSF

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15

GEI Consultants	GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300	CLIENT: National Grid		BORING LOG					
		PROJECT: Greenpoint Energy Center		PAGE 1 of 1	GPEC-SED17				
CITY/STATE: Brooklyn, New York		GEI PROJECT NUMBER: 125180-1-1102							
GROUND SURFACE ELEVATION (FT): -22.1		LOCATION: Newtown Creek							
NORTHING (FT): 688349		EASTING (FT): 651239		TOTAL DEPTH (FT): 20.0					
DRILLED BY: Aqua Survey, Inc. / Jeff Clemens		DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone							
LOGGED BY: K. Bradley, J. Morin		DATE START / END: 6/22/2010 - 6/22/2010							
DRILLING DETAILS: Vibracore / VT Vibracore, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID									
WATER LEVEL DEPTHS (FT):									
GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.									
ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
	0	P1	4/NM	PID= 23.6* PID= 11.8* PID= 0.6*				Env. Sample ID= GPEC-SED17 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~95% fines, ~5% gravel; moderate organic-like odor, black, slight sheen. Ponar sample.
		VC1	236/167	PID= 0.8*				Env. Sample ID= GPEC-SED17 (0.33-0.66)	VC1 (0.33'- 1.97') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate organic-like odor, very wet, black, mostly liquid, sheen, tar blebs.
	-25			PID= 0.4*				Env. Sample ID= GPEC-SED17 (0.66-1.97)	VC1 (1.97'- 3.28') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate organic-like odor, wet, black, lower water content than VC1 (0.33'- 1.97').
	5			PID= 0.6*				Env. Sample ID= GPEC-SED17 (1.97-3.28)	
				PID= 20.4*				Env. Sample ID= GPEC-SED17 (3.28-6.56)	VC1 (3.28'- 6.56') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate organic-like odor, wet, black.
	-30			PID= 0.5*					
	10			PID= 459*				Env. Sample ID= GPEC-SED17 (6.56-9.48)	VC1 (6.56'- 9.48') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong naphthalene-like odor, wet, black, tar coated grains.
	-35			PID= 216*					
	15			PID= 222*				Env. Sample ID= GPEC-SED17 (9.48-10.8)	VC1 (9.48'- 10.8') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong naphthalene-like odor, wet, black, tar saturated.
				PID= 445*					
	-40			PID= 145*				Env. Sample ID= GPEC-SED17 (10.8-13.9)	VC1 (10.8'- 13.9') LEAN CLAY (CL); ~95% fines, medium to low, slow to no dilatancy, medium to low toughness, ~5% sand, fine; brown gray, lenses of fine sand and non plastic fines; saturated flowable tar in top 6" of interval, tar lenses in top 2' of interval.
				PID= 28*					
	20	End of Boring at 20 feet.							
NOTES:									
PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC = RECOVERY LENGTH OF SAMPLE PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION IN. = INCHES FT. = FEET TSF = TONS PER SQUARE FOOT 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 SeLO= SEWAGE LIKE ODOR NA = NOT APPLICABLE NM = NOT MEASURED Qp = POCKET PENETROMETER IN TSF Sv = TORVANE PEAK IN TSF									

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15



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

CLIENT: **National Grid**
PROJECT: **Greenpoint Energy Center**
CITY/STATE: **Brooklyn, New York**
GEI PROJECT NUMBER: **125180-1-1102**

BORING LOG

PAGE
1 of 1

GPEC-SED18

GROUND SURFACE ELEVATION (FT): **-16.8** LOCATION: **Newtown Creek**
NORTHING (FT): **688348** EASTING (FT): **651144** TOTAL DEPTH (FT): **20.0**
DRILLED BY: **Aqua Survey, Inc. / Jeff Clemens** DATUM VERT. / HORZ.: **NAVD 88 / NAD83 NY East Zone**
LOGGED BY: **K. Bradley, J. Morin** DATE START / END: **6/22/2010 - 6/22/2010**
DRILLING DETAILS: **Vibrocure / VT Vibrocure, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID**
WATER LEVEL DEPTHS (FT): _____

GENERAL NOTE: **Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.**

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0	0	P1	4/NM	PID= 0.5*				Env. Sample ID= GPEC-SED18 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~95% fines, ~5% gravel; moderate organic-like odor, slight petroleum-like odor, black, Ponar sample.
		VC1	236/186	PID= 51.6*			OLO	Env. Sample ID= GPEC-SED18 (0.33-0.67)	VC1 (0.33'- 1.97') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong organic-like odor, very wet, black, mostly liquid, slight sheen.
				PID= 30.2*			OLO	Env. Sample ID= GPEC-SED18 (0.67-1.97)	VC1 (1.97'- 3.28') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, slight organic-like odor, wet, black, lower water content than VC1 (0.33'- 1.97').
				PID= 72.8*					
				PID= 97.3*					
				PID= 31.9*			OLO	Env. Sample ID= GPEC-SED18 (1.97-3.28)	VC1 (3.28'- 6.56') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate organic-like odor, wet, black, lower water content than VC1 (1.97'- 3.28'), sheen.
				PID= 19.0*					
				PID= 48.8*				Env. Sample ID= GPEC-SED18 (3.28-6.56)	
				PID= 127*			OLO		
				PID= 174*				Env. Sample ID= GPEC-SED18 (6.56-9.48)	VC1 (6.56'- 9.48') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate naphthalene-like odor, wet, black, loose, sheen.
				PID= 216*			NLO		
				PID= 370*				Env. Sample ID= GPEC-SED18 (9.48-10.75)	VC1 (9.48'- 10.75') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong naphthalene-like odor, wet, black, tar coated grains.
				PID= 401*			NLO		
				PID= 118*				Env. Sample ID= GPEC-SED18 (10.75-15.5)	VC1 (10.75'- 15.5') LEAN CLAY (CL); ~100% fines, medium plasticity, slow dilatancy, low toughness, wet; strong naphthalene-like odor and tar coated grains in top 2' of interval.
				PID= 59.7*			NLO		
				PID= 11.6*					
	20								End of Boring at 20 feet.

NOTES:

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SeLO= SEWAGE LIKE ODOR

GEI Consultants	GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300	CLIENT: National Grid PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-1-1102	BORING LOG PAGE 1 of 1 GPEC-SED19						
	GROUND SURFACE ELEVATION (FT): -23.0 NORTHING (FT): 688918 EASTING (FT): 651105 DRILLED BY: Aqua Survey, Inc. / Jeff Clemens LOGGED BY: K. Bradley, J. Morin LOCATION: Newtown Creek TOTAL DEPTH (FT): 20.0 DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone DATE START / END: 6/24/2010 - 6/24/2010 DRILLING DETAILS: Vibracore / VT Vibracore, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID WATER LEVEL DEPTHS (FT): GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.								
GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15	ELEV. FT.	DEPTH FT.	SAMPLE INFO		STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
			TYPE and NO.	PEN/REC IN./IN.					
		0	P1	4/NM	PID= 84.4*		OLO	Env. Sample ID= GPEC-SED19 (0-0.33) Env. Sample ID= GPEC-SED19 (0.33-0.66) Env. Sample ID= GPEC-SED19 (0.66-1.97)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~95% fines, ~5% gravel; moderate organic-like odor, moderate petroleum-like odor, very wet, black, fluid, sheen. Ponar sample. VC1 (0.33'- 1.97') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate organic-like odor, slight petroleum-like odor, very wet, black, slight sheen.
			VC1	236/155	PID= 60.6*				
		-25			PID= 62.3*				
					PID= 222*				
		5			PID= 113*		PLO	Env. Sample ID= GPEC-SED19 (1.97-3.28)	VC1 (1.97'- 3.28') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate petroleum-like odor, moderate organic-like odor, very wet, black, slight sheen.
					PID= 232* PID= 95.7*				
		-30					PLO	Env. Sample ID= GPEC-SED19 (3.28-6.56) Env. Sample ID= GPEC-SED19 (6.56-7.3)	VC1 (3.28'- 6.56') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate petroleum-like odor, moderate organic-like odor, wet, black, lower water content than VC1 (1.97'- 3.28'), slight sheen.
		10							
	-35					NLO	Env. Sample ID= GPEC-SED19 (7.3-12.9)	VC1 (6.56'- 7.3') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong naphthalene-like odor, wet, black, sheen and staining. VC1 (7.3'- 9.5') PEAT (PT); green - brown, loose, very fibrous.	
	15			PID= 30.2*					
	-40							VC1 (9.5'- 12.9') LEAN CLAY (CL); ~95% fines, medium plasticity, slow dilatancy, medium toughness, ~5% sand, fine; gray - brown.	
				PID= 17.5*					
	20							End of Boring at 20 feet.	
NOTES: PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC = RECOVERY LENGTH OF SAMPLE PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION IN. = INCHES FT. = FEET TSF = TONS PER SQUARE FOOT 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 SeLO= SEWAGE LIKE ODOR NA = NOT APPLICABLE NM = NOT MEASURED Qp = POCKET PENETROMETER IN TSF Sv = TORVANE PEAK IN TSF									



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CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-1-1102

BORING LOG

PAGE
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GPEC-SED20

GROUND SURFACE ELEVATION (FT): -19.7 LOCATION: Newtown Creek
NORTHING (FT): 688859 EASTING (FT): 650948 TOTAL DEPTH (FT): 20.0
DRILLED BY: Aqua Survey, Inc. / Jeff Clemens DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: K. Bradley, J. Morin DATE START / END: 6/24/2010 - 6/24/2010

DRILLING DETAILS: Vibrocure / VT Vibrocure, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID

WATER LEVEL DEPTHS (FT): _____

GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
-20	0	P1 VC1	4/NM 236/144	PID= 2.0* PID= 1.9* PID= 3.1* PID= 18.0* PID= 26.8* PID= 9.7* PID= 5.0* PID= 5.3* PID= 25.0* PID= 73.5* PID= 17.3*			OLO OLO OLO OLO OLO OLO OLO OLO OLO OLO OLO	Env. Sample ID= GPEC-SED20 (0-0.33) Env. Sample ID= GPEC-SED20 (0.33-0.66) Env. Sample ID= GPEC-SED20 (0.66-1.97) Env. Sample ID= GPEC-SED20 (1.97-3.28) Env. Sample ID= GPEC-SED20 (3.28-6.56) Env. Sample ID= GPEC-SED20 (6.56-8.33) Env. Sample ID= GPEC-SED20 (8.33-12.0)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~100% fines; trace gravel, moderate organic-like odor, very wet, black, very fluid, some sheen. Ponar sample. VC1 (0.33'- 1.97') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate organic-like odor, very wet, black, mostly liquid, slight sheen. VC1 (1.97'- 6.56') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate petroleum-like odor, moderate organic-like odor, very wet, black, mostly liquid, slight sheen. VC1 (6.56'- 8.33') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, slight naphthalene-like odor, wet, black, lower water content than VC1 (1.97'- 6.56'), sheen, blebs and globs. VC1 (8.33'- 12') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine; ~10% silty fines, moderate naphthalene-like odor, wet, brown to black, lenses of tar saturation in top 1' of interval.
-20	20							End of Boring at 20 feet.	

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
IN PARTS PER MILLION

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_p = POCKET PENETROMETER IN TSF
S_v = TORVANE PEAK IN TSF

IN. = INCHES
FT. = FEET
TSF = TONS PER
SQUARE FOOT

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
SeLO= SEWAGE LIKE ODOR

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_GPEC-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15



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PROJECT: Greenpoint Energy Center
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GEI PROJECT NUMBER: 125180-1-1102

BORING LOG

PAGE
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GPEC-SED21

GROUND SURFACE ELEVATION (FT): -18.6 LOCATION: Newtown Creek
NORTHING (FT): 689604 EASTING (FT): 651027 TOTAL DEPTH (FT): 20.0
DRILLED BY: Aqua Survey, Inc. / Jeff Clemens DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: K. Bradley, J. Morin DATE START / END: 6/25/2010 - 6/25/2010

DRILLING DETAILS: Vibrocure / VT Vibrocure, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID

WATER LEVEL DEPTHS (FT): _____

GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0	0	P1	4/NM	PID= 52.3*				Env. Sample ID= GPEC-SED21 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); angular, ~100% fines; trace gravel, moderate organic-like odor, very wet, black, fluid, plastic bag, slight sheen. Ponar sample.
-20		VC1	236/115	PID= 40.1*			OLO	Env. Sample ID= GPEC-SED21 (0.33-0.66)	VC1 (0.33'- 0.66') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong organic-like odor, black.
				PID= 94.0*				Env. Sample ID= GPEC-SED21 (0.66-1.97)	VC1 (0.66'- 3.28') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate petroleum-like odor, moderate organic-like odor, black.
5				PID= 72.5*			PLO	Env. Sample ID= GPEC-SED21 (1.97-3.28)	
-25				PID= 77.2*					
10				PID= 44.6*				Env. Sample ID= GPEC-SED21 (3.28-4.5)	VC1 (3.28'- 4.5') ORGANIC SILT (OL/ML); ~90% organic silt and sediment, ~10% sand, fine to medium, strong naphthalene-like odor.
-30				PID= 71.7*			NLO		
15				PID= 107*			NLO	Env. Sample ID= GPEC-SED21 (4.5-9.6)	VC1 (4.5'- 5') NARROWLY GRADED SAND (SP); ~95% sand, medium to coarse; ~5% organic silt, strong naphthalene-like odor.
-35				PID= 84*					VC1 (5'- 9.6') ELASTIC SILT (MH); low plasticity, high toughness; ~100% silty fines, very dense.
				PID= 80*					
20	20								End of Boring at 20 feet.

NOTES:

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PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
IN PARTS PER MILLION

NA = NOT APPLICABLE Q_p = POCKET PENETROMETER IN TSF
NM = NOT MEASURED S_v = TORVANE PEAK IN TSF

IN. = INCHES
FT. = FEET
TSF = TONS PER
SQUARE FOOT

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
SeLO= SEWAGE LIKE ODOR

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_GPEC-OTHERS 03_14_2015 (LQM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15



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CLIENT: National Grid
PROJECT: Greenpoint Energy Center
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GEI PROJECT NUMBER: 125180-1-1102

BORING LOG

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GPEC-SED22

GROUND SURFACE ELEVATION (FT): -13.8 LOCATION: Newtown Creek
NORTHING (FT): 689504 EASTING (FT): 650736 TOTAL DEPTH (FT): 20.0
DRILLED BY: Aqua Survey, Inc. / Jeff Clemens DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: K. Bradley, J. Morin DATE START / END: 6/24/2010 - 6/24/2010

DRILLING DETAILS: Vibrocure / VT Vibrocure, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID

WATER LEVEL DEPTHS (FT): _____

GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0	0	P1	4/NM	PID= 5.3*				Env. Sample ID= GPEC-SED22 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~95% fines, ~5% gravel; moderate organic-like odor, very wet, fluid, slight sheen.
-15		VC1	236/158	PID= 4.2*			OLO	Env. Sample ID= GPEC-SED22 (0.33-0.66)	VC1 (0.33'- 1.97') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate petroleum-like odor, very wet, black, mostly liquid, slight sheen.
				PID= 2.7*			PLO	Env. Sample ID= GPEC-SED22 (0.66-1.97)	
				PID= 7.6*				Env. Sample ID= GPEC-SED22 (1.97-3.28)	VC1 (1.97'- 3.28') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, slight petroleum-like odor, very wet, black, mostly liquid, slight sheen.
5				PID= 6.8*			PLO		
-20				PID= 4.7*				Env. Sample ID= GPEC-SED22 (3.28-6.56)	VC1 (3.28'- 6.56') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate petroleum-like odor, very wet, black, mostly liquid, some gravel, coal clinker and coal pieces, slight sheen.
				PID= 31.7*			PLO		
-25				PID= 22.9*				Env. Sample ID= GPEC-SED22 (6.56-7.3)	VC1 (6.56'- 7.3') ORGANIC SILT (OL/ML); ~80% organic silt and sediment, ~20% sand, fine to coarse, strong organic-like odor, black, fibrous organics, organic sheen.
				PID= 9.3*			OLO		
15				PID= 1.1*				Env. Sample ID= GPEC-SED22 (7.3-13.2)	VC1 (7.3'- 11.5') SILTY SAND (SM); ~60% sand, fine to medium; ~40% silty fines, slight organic-like odor, brown - gray, lenses of coarse sand.
-30				PID= 1.0*			OLO		
				PID= 1.1*					VC1 (11.5'- 13.2') SILT (ML); ~100% fines, low plasticity; gray - brown, dense, tough.
20	20								End of Boring at 20 feet.

NOTES:

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IN PARTS PER MILLION

IN. = INCHES
FT. = FEET
TSF = TONS PER SQUARE FOOT

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
SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE Q_p = POCKET PENETROMETER IN TSF
NM = NOT MEASURED S_v = TORVANE PEAK IN TSF

GPEC-ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_GPEC-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15



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CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-1-1102

BORING LOG

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GPEC-SED23

GROUND SURFACE ELEVATION (FT): -25.8 LOCATION: Newtown Creek
NORTHING (FT): 689362 EASTING (FT): 651128 TOTAL DEPTH (FT): 20.0
DRILLED BY: Aqua Survey, Inc. / Jeff Clemens DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: K. Bradley, J. Morin DATE START / END: 6/25/2010 - 6/25/2010
DRILLING DETAILS: Vibracore / VT Vibracore, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID
WATER LEVEL DEPTHS (FT): _____

GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
	0	P1 VC1	4/NM 236/144	PID= 9.2*			OLO	Env. Sample ID= GPEC-SED23 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~95% fines, ~5% gravel, angular; max. size 0.5", moderate organic-like odor, very wet, black, fluid, slight sheen. Ponar sample.
							PLO	Env. Sample ID= GPEC-SED23 (1-3)	VC1 (0.33'- 1.5') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong petroleum-like odor, very wet, black, ~50% liquid, petroleum blebs.
	-30			PID= 40.0*					
	5								VC1 (1.5'- 3.2') ORGANIC SILT (OL/ML); ~80% organic silt and sediment, ~20% sand, medium, moderate organic-like odor, very wet, black, very liquid, sheen.
				PID= 14.0*			OLO		
	-35								
	10			PID= 4.0*			OLO	Env. Sample ID= GPEC-SED23 (3.2-4.2)	VC1 (3.2'- 3.5') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse; ~5% organic silt and sediment, moderate organic-like odor, gray brown.
									VC1 (3.5'- 12') LEAN CLAY (CL); ~100% clayey fines, medium plasticity, slow dilatancy, medium toughness.
	-40			PID= 0.6*					
	15								
				PID= 1.5*					
	-45								
	20								End of Boring at 20 feet.

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
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IN PARTS PER MILLION

NA = NOT APPLICABLE Q_p = POCKET PENETROMETER IN TSF
NM = NOT MEASURED S_v = TORVANE PEAK IN TSF

IN. = INCHES
FT. = FEET
TSF = TONS PER
SQUARE FOOT

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
SeLO= SEWAGE LIKE ODOR

GPEC-ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15

GEI  Consultants	GEI Consultants, Inc. 455 Winding Brook Road Glastonbury, CT 06033 (860) 368-5300	CLIENT: National Grid PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-1-1102	BORING LOG PAGE 1 of 1 GPEC-SED24						
	GROUND SURFACE ELEVATION (FT): -17.0 LOCATION: Newtown Creek NORTHING (FT): 688745 EASTING (FT): 651314 TOTAL DEPTH (FT): 20.0 DRILLED BY: Aqua Survey, Inc. / Jeff Clemens DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone LOGGED BY: K. Bradley, J. Morin DATE START / END: 6/25/2010 - 6/25/2010 DRILLING DETAILS: Vibracore / VT Vibracore, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID WATER LEVEL DEPTHS (FT): GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.								
ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
	0	P1	4/NM	PID= 5.1*				Env. Sample ID= GPEC-SED24 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~100% fines; trace gravel, moderate organic-like odor, black, sticks, plastic bag. Ponar sample.
		VC1	236/126						VC1 (0.33'- 7') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong organic-like odor, very wet, black, high water content, petroleum-like odor and sheen in top 2' of sample interval.
	-20			PID= 54*					
	5								
	-25			PID= 45.2*				Env. Sample ID= GPEC-SED24 (5-7)	
	10								
	-30			PID= 87.9*					
	15								
	-35			PID= 28.2*					VC1 (7'-10.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to medium; max. size 2", moderate to strong naphthalene-like odor in top 1' of sample interval, brown.
				PID= 21.0*				Env. Sample ID= GPEC-SED24 (8.5-10.5)	
				PID= 31.1*					
	20								End of Boring at 20 feet.
NOTES: PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC = RECOVERY LENGTH OF SAMPLE PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION NA = NOT APPLICABLE NM = NOT MEASURED Qp = POCKET PENETROMETER IN TSF Sv = TORVANE PEAK IN TSF IN. = INCHES FT. = FEET TSF = TONS PER SQUARE FOOT 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 SeLO= SEWAGE LIKE ODOR									

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15



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CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-1-1102

BORING LOG

PAGE
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GPEC-SED25

GROUND SURFACE ELEVATION (FT): -19.9 LOCATION: Newtown Creek
NORTHING (FT): 688335 EASTING (FT): 651397 TOTAL DEPTH (FT): 20.0
DRILLED BY: Aqua Survey, Inc. / Jeff Clemens DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: K. Bradley, J. Morin DATE START / END: 6/25/2010 - 6/25/2010
DRILLING DETAILS: Vibrocure / VT Vibrocure, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID
WATER LEVEL DEPTHS (FT): _____

GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
	0	P1	4/NM	PID= 31.3*			OLO	Env. Sample ID= GPEC-SED25 (0-0.33) Env. Sample ID= GPEC-SED25 (0.33-2.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~100% fines and sediment, trace gravel, moderate organic-like odor, black, sticks, slight sheen. Ponar sample. VC1 (0.33'- 8.33') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong organic-like odor, black, loose, water content decreases with depth, strong petroleum-like odor and sheen in top 3.5' of sample interval (recovered length = 2').
		VC1	236/168						
				PID= 10.8*					
				PID= 18.3*					
	-25						OLO		
				PID= 13.3*					
	-30								
				PID= 7.0*					
	-35						OLO	Env. Sample ID= GPEC-SED25 (8.33-10.33)	VC1 (8.33'- 14') NARROWLY GRADED SAND (SP); ~95% sand, fine; ~5% silty fines, slight organic-like odor, wet, brown.
				PID= 9.1*					
				PID= 5.1*					
				PID= 3.9*					
	20								End of Boring at 20 feet.

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
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IN PARTS PER MILLION

IN. = INCHES
FT. = FEET
TSF = TONS PER
SQUARE FOOT

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
SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE
NM = NOT MEASURED
Qp = POCKET PENETROMETER IN TSF
Sv = TORVANE PEAK IN TSF

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_GPEC-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15



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455 Winding Brook Road
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CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-1-1102

BORING LOG

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GPEC-SED26

GROUND SURFACE ELEVATION (FT): -15.3 LOCATION: Newtown Creek
NORTHING (FT): 688083 EASTING (FT): 651581 TOTAL DEPTH (FT): 20.0
DRILLED BY: Aqua Survey, Inc. / Jeff Clemens DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: K. Bradley, J. Morin DATE START / END: 6/25/2010 - 6/25/2010
DRILLING DETAILS: Vibracore / VT Vibracore, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID
WATER LEVEL DEPTHS (FT): _____

GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0	0	P1 VC1	4/NM 236/148	PID= 3.4*			OLO	Env. Sample ID= GPEC-SED26 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~100% fines; trace gravel, moderate organic-like odor, black, sticks, sheen. Ponar sample.
-20	5			PID= 40.2*				Env. Sample ID= GPEC-SED26 (3-5)	VC1 (0.33'- 10') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate petroleum-like odor, black, soft, majority is liquid, some wood fragments, moderate to strong organic-like odor, sheen and blebs in top 3.5' of sample interval (recovered length = 2').
-25	10			PID= 60.4*			PLO		
-30	15			PID= 7.0*				Env. Sample ID= GPEC-SED26 (10-12.33)	VC1 (10'- 12.33') SILTY SAND (SM); ~60% sand, fine; ~40% silty fines, non plastic, moist, black to brown.
-35	20			PID= 3.7*					
End of Boring at 20 feet.									

NOTES:

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Q_p = POCKET PENETROMETER IN TSF
S_v = TORVANE PEAK IN TSF

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OLO = ORGANIC LIKE ODOR
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SeLO= SEWAGE LIKE ODOR

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_GEI-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15



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CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-1-1102

BORING LOG

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GPEC-SED27

GROUND SURFACE ELEVATION (FT): -18.1 LOCATION: Newtown Creek
NORTHING (FT): 688346 EASTING (FT): 651425 TOTAL DEPTH (FT): 20.0
DRILLED BY: Aqua Survey, Inc. / Jeff Clemens DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: K. Bradley, J. Morin DATE START / END: 6/25/2010 - 6/25/2010
DRILLING DETAILS: Vibrocure / VT Vibrocure, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID
WATER LEVEL DEPTHS (FT): _____

GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0	0	P1	4/NM	PID= 21.3*				Env. Sample ID= GPEC-SED27 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~95% fines, ~5% gravel, angular; moderate organic-like odor, very wet, black, fluid, sheen. Ponar sample.
-20		VC1	236/154						VC1 (0.33'- 7.5') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong organic-like odor, black, lenses of tar coated grains and strong naphthalene-like odor in bottom 2' of sample interval (recovered length = 1').
	5			PID= 45.8*				Env. Sample ID= GPEC-SED27 (2-4)	
-25				PID= 21.1*			OLO		
	10			PID= 35.8*					
-30								Env. Sample ID= GPEC-SED27 (6.5-7.5)	
	15			PID= 1.2*					VC1 (7.5'- 12.8') NARROWLY GRADED SAND (SP); ~95% sand, fine; ~5% silty fines, non plastic, slight organic-like odor, gray to brown.
-35				PID= 0.0*				Env. Sample ID= GPEC-SED27 (9-11)	
				PID= 0.0*			OLO		
20	20								End of Boring at 20 feet.

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Q_p = POCKET PENETROMETER IN TSF
S_v = TORVANE PEAK IN TSF

IN. = INCHES
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TSF = TONS PER
SQUARE FOOT

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OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
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SeLO= SEWAGE LIKE ODOR

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_GPEC-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15



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CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-1-1102

BORING LOG

PAGE
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GPEC-SED28

GROUND SURFACE ELEVATION (FT): -11.7 LOCATION: Newtown Creek
NORTHING (FT): 689098 EASTING (FT): 651424 TOTAL DEPTH (FT): 20.0
DRILLED BY: Aqua Survey, Inc. / Jeff Clemens DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: K. Bradley, J. Morin DATE START / END: 6/25/2010 - 6/25/2010

DRILLING DETAILS: Vibracore / VT Vibracore, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID

WATER LEVEL DEPTHS (FT): _____

GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
	0	P1	4/NM	PID= 0.0*				Env. Sample ID= GPEC-SED28 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~95% fines, ~5% gravel; strong organic-like odor, sheen. Ponar sample.
		VC1	236/177	PID= 2.9*					VC1 (0.33'- 14.75') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong organic-like odor, wet, black, loose.
				PID= 8.6*					
				PID= 25.2*					
				PID= 30.0*					
				PID= 69.9*					
				PID= 135.0*					
				PID= 60.2*			OLO		
				PID= 135.0*					
				PID= 116.0*					
				PID= 109.0*				Env. Sample ID= GPEC-SED28 (11-13)	
				PID= 122.0*					
				PID= 148.0*					
				PID= 67.5*					
	20								End of Boring at 20 feet. Native soils not reached in this boring.

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SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR
SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE Q_p = POCKET PENETROMETER IN TSF
NM = NOT MEASURED S_v = TORVANE PEAK IN TSF

GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_GPEC-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15



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CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-1-1102

BORING LOG

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1 of 1

GPEC-SED29

GROUND SURFACE ELEVATION (FT): -19.9 LOCATION: Newtown Creek
NORTHING (FT): 688539 EASTING (FT): 651209 TOTAL DEPTH (FT): 20.0
DRILLED BY: Aqua Survey, Inc. / Jeff Clemens DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: K. Bradley, J. Morin DATE START / END: 6/25/2010 - 6/25/2010
DRILLING DETAILS: Vibracore / VT Vibracore, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID
WATER LEVEL DEPTHS (FT): _____

GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
	0	P1	4/NM	PID= 17.0*			OLO	Env. Sample ID= GPEC-SED29 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~100% fines; trace gravel, moderate organic-like odor, very wet, black, slight sheen. Ponar sample.
		VC1	236/187	PID= 26.0*			PLO		VC1 (0.33'- 2.33') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate petroleum-like odor, moderate organic-like odor, black, high liquid content, sheen.
				PID= 17.3*					VC1 (2.33'- 6.33') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong organic-like odor, black, high liquid content.
				PID= 46.8*					
				PID= 48.4*			OLO		
				PID= 107.0*				Env. Sample ID= GPEC-SED29 (5.5-7.5)	
				PID= 82.2*			NLO		VC1 (6.33'- 7.33') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong naphthalene-like odor, strong organic-like odor, black, high liquid content, tar coated grains.
				PID= 47.3*					VC1 (7.33'- 9.25') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong organic-like odor, black, high liquid content.
				PID= 16.7*			OLO		
				PID= 28.0*					VC1 (9.25'- 12.5') PEAT (PT); slight naphthalene-like odor, brown, fibrous, lenses of fine sand and silt.
				PID= 15.9*			NLO		
				PID= 66.1*					
				PID= 12.7*				Env. Sample ID= GPEC-SED29 (12.5-14.5)	VC1 (12.5'- 15.6') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium; ~5% silty fines, brown - gray, loose.
				PID= 10.6*					
				PID= 10.3*					
	20								End of Boring at 20 feet.

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NA = NOT APPLICABLE Q_p = POCKET PENETROMETER IN TSF
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GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_GPEC-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15



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455 Winding Brook Road
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-1-1102

BORING LOG

PAGE
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GPEC-SED30

GROUND SURFACE ELEVATION (FT): -21.5 LOCATION: Newtown Creek
NORTHING (FT): 688703 EASTING (FT): 651210 TOTAL DEPTH (FT): 20.0
DRILLED BY: Aqua Survey, Inc. / Jeff Clemens DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: K. Bradley, J. Morin DATE START / END: 6/25/2010 - 6/25/2010
DRILLING DETAILS: Vibracore / VT Vibracore, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID
WATER LEVEL DEPTHS (FT): _____

GENERAL NOTE: Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0	0	P1	4/NM	PID= 31.6*				Env. Sample ID= GPEC-SED-30 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~100% fines; trace gravel, slight petroleum-like odor, very wet, black, fluid, sheen. Ponar sample.
		VC1	236/157	PID= 3.0*			PLO		VC1 (0.33'- 1.83') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, moderate petroleum-like odor, black, water content initially high; petroleum-like sheen.
				PID= 28.4*					VC1 (1.83'- 7.75') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, black, water content decreases with depth.
				PID= 30.4*				Env. Sample ID= GPEC-SED-30 (4-6)	
				PID= 43.9*					
				PID= 14.6*					
				PID= 5.7*				Env. Sample ID= GPEC-SED-30 (8-10)	VC1 (7.75'- 8.75') WIDELY GRADED SAND WITH SILT (SW-SM); ~70% sand, fine to coarse; ~20% peat fragments, fibrous, ~10% silty fines, moderate organic-like odor, brown gray to black.
				PID= 5.0*			OLO		VC1 (8.75'- 11') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine; ~10% silty fines, gray, dense.
				PID= 2.0*					
				PID= 6.9*					VC1 (11'- 13.1') NARROWLY GRADED SAND (SP); ~100% sand, fine to medium; brown, loose.
				PID= 3.2*					
	20								End of Boring at 20 feet.

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GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15



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455 Winding Brook Road
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CLIENT: **National Grid**
PROJECT: **Greenpoint Energy Center**
CITY/STATE: **Brooklyn, New York**
GEI PROJECT NUMBER: **125180-1-1102**

BORING LOG

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1 of 1

GPEC-SED31

GROUND SURFACE ELEVATION (FT): **-26.9** LOCATION: **Newtown Creek**
NORTHING (FT): **689268** EASTING (FT): **650976** TOTAL DEPTH (FT): **20.0**
DRILLED BY: **Aqua Survey, Inc. / Jeff Clemens** DATUM VERT. / HORZ.: **NAVD 88 / NAD83 NY East Zone**
LOGGED BY: **K. Bradley, J. Morin** DATE START / END: **6/28/2010 - 6/25/2010**
DRILLING DETAILS: **Vibrocure / VT Vibrocure, 240 Volt / Ponar grab sample used to classify the top 4 in. of sample / Casing: 4 in. ID**
WATER LEVEL DEPTHS (FT): _____

GENERAL NOTE: **Ground surface elevation is mudline elevation. Environmental sample intervals based on recovery length. Recovery classification stretched to fit 20' penetration by holding Ponar sample and native unit thickness constant. *PID readings are screened readings made at discreet locations over the soil sample.**

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0	0	P1	4/NM	PID= 49.0*			OLO	Env. Sample ID= GPEC-SED-31 (0-0.33)	P1 (0'- 0.33') ORGANIC SILT (OL/ML); ~95% fines, ~5% gravel, subangular; moderate organic-like odor, black, sheen. Ponar sample.
		VC1	236/199	PID= 70.9*			PLO		VC1 (0.33'- 2.33') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong organic-like odor, black, silty/clay lens at 2.3'. Moderate petroleum-like odor and sheen in top 2' of sample interval.
				PID= 21.1*				Env. Sample ID= GPEC-SED-31 (1.75-3.75)	
	5			PID= 84.9*			OLO		VC1 (2.33'- 3.75') ORGANIC SILT (OL/ML); ~100% organic silt and sediment, strong organic-like odor, black, silt/clay lens at 2.3'.
				PID= 4.1*				Env. Sample ID= GPEC-SED-31 (5-7)	VC1 (3.75'- 8.1') LEAN CLAY (CL); ~10% sand, fine to medium; ~90% clayey fines, high plasticity, low toughness, gray, soft, loose, sand lenses, shell fragments.
				PID= 0.8*					
				PID= 1.0*					
				PID= 0.3*					
				PID= 1.1*					
				PID= 0.0*					
	15			PID= 0.0*					
				PID= 0.0*					
				PID= 0.0*					
	20								End of Boring at 20 feet.

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CrLO = CREOSOTE LIKE ODOR
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GPEC ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_GPEC-OTHERS 03_14_2015 (LCM) GPJ ATLANTIC GEI DATA TEMPLATE.GDT 4/2/15