Appendix M Boring Logs

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 4
GPEC-SB-201/MW-201

GROUND SURFACE ELEVATION (FT): 16.19
LOCATION: Maspeth Regulator Station
NORTHING (FT): 649960 **EASTING (FT):** 687571
TOTAL DEPTH (FT): 75.0
DRILLED BY: Aquifer Drilling and Testing, Inc.
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet
DATE START / END: 11/13/2011 - 11/13/2011
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 5.00 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0							(0'- 10') Drill through to 10' bgs.	
15									
	5								
10									
	10	S1	120/18	PID= 0.0			Very soft material, sample drops immediately to 20' bgs.	S1 (10'- 20') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, ~10% fines; brick, concrete, tile fragments, etc., wet, dark gray brown, FILL.	
5									
	15								
0									
	20								

NOTES:

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TSF = TONS PER SQUARE FOOT

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PLO = PETROLEUM LIKE ODOR
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MLO = MUSTY LIKE ODOR
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NA = NOT APPLICABLE
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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

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-5	20	S2	60/60	PID= 265 PID= 917 PID= 397 PID= 1004 PID= 172 PID= 258 PID= 561 PID= 6.4 PID= 98.1		OLO	Env. Sample ID= GPEC-SB201 (22-23)	S2 (20'- 23.3') ORGANIC SOIL (OH); ~50% organic material/peat, ~50% clayey fines, high plasticity, strong organic-like odor, moist, gray brown, stiff. S2 (23.3'- 25') ORGANIC SOIL (OH); ~85% clayey fines, high plasticity, ~15% organic material/peat, moist, gray.	
-10	25	S3	60/50	PID= 115 PID= 896 PID= 47.3 PID= 1.8 PID= 2.1 PID= 23.1 PID= 2.5 PID= 534		OLO		S3 (25'- 28') SILTY SAND (SM); ~65% sand, fine, ~35% fines, low plasticity; moderate organic-like odor, wet to moist, gray. S3 (28'- 30') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; moist, gray, soft, loose.	
-15	30	S4	60/40	PID= 14.3 PID= 175 PID= 80.3 PID= 26.4 PID= 34.6 PID= 75.5		OLO		S4 (30'- 35') SILTY SAND (SM); ~80% sand, fine, ~20% fines, non plastic; moderate organic-like odor, moderate sulfur-like odor, moist, gray.	
-20	35	S5	60/50	PID= 23.6 PID= 12.7 PID= 5.7 PID= 0.9 PID= 0.6 PID= 0.5 PID= 1.1				S5 (35'- 37.5') SILTY SAND (SM); ~80% sand, fine, ~20% fines, non plastic; moist, gray. S5 (37.5'- 40') CLAYEY SAND (SC); ~60% sand, fine, ~40% fines, low to medium; moist, gray brown, moderately stiff.	
-25	40	S6	60/48	PID= 0.0 PID= 4.7 PID= 1.5 PID= 0.8 PID= 0.3 PID= 0.3				S6 (40'- 45') LEAN CLAY WITH SAND (CL); ~75% fines, low plasticity, ~25% sand, fine; very moist, gray brown, moderately stiff.	

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S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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BORING LOG
PAGE 3 of 4
GPEC-SB-201/MW-201

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	45			PID= 0.9					
		S7	60/60	PID= 0.0				S7 (45'- 50') LEAN CLAY WITH SAND (CL); ~75% fines, low to medium, ~25% sand, fine; varved, very moist, gray brown, stiff.	
-30				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
	50			PID= 0.0					
		S8	60/48	PID= 0.0				S8 (50'- 52.9') LEAN CLAY WITH SAND (CL); ~75% fines, medium plasticity, ~25% sand, fine; moist, gray brown, moderately stiff.	
-35				PID= 0.0					
				PID= 0.0					
				PID= 0.0				S8 (52.9'- 55') SANDY LEAN CLAY WITH GRAVEL (CL); ~50% fines, ~25% gravel, fine to coarse, ~25% sand, fine to coarse; gray, stiff.	
				PID= 0.0					
				PID= 0.0					
	55	S9	120/60	PID= 0.0			Driller overdrives sample for compression in core barrel to keep sample from falling out.	S9 (55'- 65') CLAYEY SAND WITH GRAVEL (SC); ~40% sand, fine to coarse, ~40% fines, ~20% gravel, fine to coarse; layered, moist to wet, gray brown.	
-40				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
	60								
-45									
	65	S10	120/120	PID= NM			Driller drills sample 10' to capture loose interval and keep sample from falling out.	S10 (65'- 73.3') LEAN CLAY (CL); ~90% fines, high plasticity, ~10% sand; very moist, gray brown, moderately stiff.	
-50									

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BORING LOG

GPEC-SB-201/MW-201

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-55	70								
	75						Env. Sample ID= GPEC-SB201 (74-75)	S10 (73.3'- 75') CLAYEY SAND WITH GRAVEL (SC); low plasticity; brown.	
								End of Boring at 75 feet.	

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GPEC_ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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BORING LOG

PAGE 1 of 4

GPEC-SB-202/MW-202

GROUND SURFACE ELEVATION (FT): 13.47 **LOCATION:** East of Transportation Building
NORTHING (FT): 687656 **EASTING (FT):** 651061 **TOTAL DEPTH (FT):** 83.0
DRILLED BY: Aquifer Drilling and Testing, Inc. **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 11/12/2011 - 11/13/2011
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 10.00 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0		60/NM	PID= 0.0				(0'- 5') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, ~10% fines; cobbles, brick, concrete, dry, gray brown, FILL.	
5	5	S1	60/37	PID= 0.0				S1 (5'- 10') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); moist, brown, FILL.	
				PID= 0.0					
0 ▽	10	S2	60/18	PID= 0.0			Driller notes that air knife penetrates easily at 8' bgs, may indicate groundwater table is at 8' bgs.	S2 (10'- 13.3') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine, ~30% fines, ~20% gravel, coarse; wet, gray brown, FILL.	
				PID= 0.0				S2 (13.3'- 15') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~50% gravel, fine to coarse, ~40% sand, ~10% fines; wet, black, FILL.	
-5	15	S3	60/44	PID= 0.0				S3 (15'- 17.7') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); tile, gravel, very moist, gray brown, FILL.	
				PID= 0.0					
				PID= 7.3					
				PID= 27.9		SLO		S3 (17.7'- 20') PEAT (PT); ~80% organic material, ~20% fines, low plasticity, moderate sulfur-like odor, soft.	
				PID= 18.5					
	20								

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BORING LOG

GPEC-SB-202/MW-202

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	20	S4	60/48	PID= 239 PID= 920 PID= 131 PID= 516 PID= 914 PID= 329 PID= 120		OLO	Env. Sample ID= GPEC-SB202 (22-23)	S4 (20'- 24.2') PEAT (PT); ~60% organic material, ~40% fines, medium plasticity, strong organic-like odor, moist.	
-10				PID= 230		OLO		S4 (24.2'- 25') SILTY SAND (SM); ~50% sand, fine, ~45% fines, medium plasticity, ~5% gravel, fine; strong organic-like odor, moist, light gray.	
	25	S5	60/60	PID= 307 PID= 19.8 PID= 61.1 PID= 136 PID= 136 PID= 61.1 PID= 39.8 PID= 30.7 PID= 56.2 PID= 18.2 PID= 43.3 PID= 27.5 PID= 8.1 PID= 6.0		OLO OLO		S5 (25'- 25.5') SANDY CLAY (CL); ~60% fines, high plasticity, ~40% sand, fine to coarse; moderate organic-like odor, light gray. S5 (25.5'- 30') LEAN CLAY (CL); ~100% fines, high plasticity; slight organic-like odor, moist, light gray.	
-15									
	30	S6	60/40	PID= 7.2 PID= 1.5 PID= 2.0 PID= 2.2 PID= 1.6 PID= 0.0				S6 (30'- 35') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines, non plastic; dry to moist, gray.	
-20									
	35	S7	60/44	PID= 0.0 PID= 0.5 PID= 0.3 PID= 0.0 PID= 0.1 PID= 0.0 PID= 0.0				S7 (35'- 40') SILTY SAND (SM); ~70% sand, fine, ~30% fines, low plasticity; moist, gray.	
-25									
	40	S8	60/0	PID= NM				S8 (40'- 45') NO RECOVERY.	
-30									

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BORING LOG
PAGE 3 of 4
GPEC-SB-202/MW-202

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	45	S9	60/36	PID= 0.0 PID= 0.5 PID= 0.8 PID= 0.0				S9 (45'- 50') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines, non plastic; moist, light gray.	
-35	50	S10	60/18	PID= 0.7 PID= 2.0 PID= 1.4 PID= 1.0				S10 (50'- 54.7') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines; wet, gray.	
-40	55	S11	60/0	PID= NM			Drilling in loose material; material most likely falling out of 3" diameter casing or core barrel. Drillers begin using a basket in the core barrel.	S10 (54.7'- 55') WIDELY GRADED SAND WITH SILT (SW-SM); wet, red brown, loose. S11 (55'- 60') NO RECOVERY; loose material.	
-45	60	S12	60/0	PID= NM			Attempt sample recovery again with no basket; still no recovery.	S12 (60'- 65') NO RECOVERY.	
-50	65	S13	60/22	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S13 (65'- 70') NARROWLY GRADED SAND (SP); ~95% sand, medium, ~5% fines; wet, gray, loose.	
-55									

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	70	S14	60/0	PID= NM				S14 (70'- 75') NO RECOVERY; loose material.	
-60	75	S15	96/48	PID= 0.0			Driller overdrives sample for compression in core barrel to keep sample from falling out.	S15 (75'- 80.8') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, ~10% fines; max. size 2.5", moist, gray, loose.	
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
-65				PID= 0.0					
				PID= 0.0					
	80			PID= 0.0			Env. Sample ID= GPEC-SB202 (80-81)		
				PID= 0.0				S15 (80.8'- 83') SANDY LEAN CLAY WITH GRAVEL (CL); ~65% sand, fine to coarse, ~20% fines, medium plasticity, ~15% gravel, fine to coarse; max. size 1.5", moist, stiff, hard; possibly Gardiners Clay formation.	
				PID= 0.0					
				PID= 0.0					
								End of Boring at 83 feet. Grout to surface.	

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BORING LOG
PAGE 1 of 4
GPEC-SB-203

GROUND SURFACE ELEVATION (FT): 12.07 **LOCATION:** Bulkhead
NORTHING (FT): 687690 **EASTING (FT):** 651266 **TOTAL DEPTH (FT):** 87.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/11/2012 - 7/11/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 7.50 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
10	0		84/NM					(0'- 1') ASPHALT AND CONCRETE; FILL.
								(1'- 7') WIDELY GRADED SAND WITH GRAVEL (SW-SM); brown, FILL.
	5			PID= 2.9			Env. Sample ID= GPEC-SB-203 (6-7)	
5 ▽		SC1	240/128	PID= 2.8				SC1 (7'- 27') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~25% gravel, fine to coarse, ~20% fines, non plastic; brick, concrete, rubble, max. size 3", wet, dark brown, soft. FILL.
	10			PID= 2.1				
0				PID= 1.6				
	15			PID= 1.5				
-5				PID= 2.2				
	20							

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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 2 of 4
GPEC-SB-203

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	20			PID= 0.1				
-10				PID= 0.2				
	25							
-15		SC2	120/120	PID= 14.5				SC2 (27'- 28.7') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine, ~20% gravel, fine to coarse, ~20% fines; dark brown.
				PID= 37.5		PLO	Env. Sample ID= GPEC-SB-203 (29-30)	SC2 (28.7'- 29.5') ORGANIC SOIL (OH); ~90% fines, ~10% sand, fine; sediment, moderate petroleum-like odor, moderate organic-like odor, moist, black, soft.
	30			PID= 13.2				SC2 (29.5'- 30.3') SILTY SAND (SM); ~70% sand, fine, ~30% fines; black.
				PID= 5.5				SC2 (30.3'- 32.7') PEAT (PT).
-20				PID= 12.9				
				PID= 7.0				SC2 (32.7'- 35.8') SANDY SILT (ML); ~70% fines, ~30% sand, fine; organics, black.
	35			PID= 6.2				
				PID= 2.8				SC2 (35.8'- 37') NARROWLY GRADED SAND (SP); sand, fine, gray.
-25		SC3	120/82	PID= 0.0				SC3 (37'- 47') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine to medium, ~15% gravel, fine, ~10% fines; wet, gray, loose to medium dense.
				PID= 0.0				
	40			PID= 0.0				
-30				PID= 0.0				
				PID= 0.0				

NOTES:

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FT. = FEET
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PLO = PETROLEUM LIKE ODOR
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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
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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BORING LOG
PAGE 3 of 4
GPEC-SB-203

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	45			PID= 0.0				
-35		SC4	120/94	PID= 0.2				SC4 (47'- 57') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine to medium, ~15% gravel, fine, ~10% fines; wet, gray, loose to medium dense.
				PID= 0.7				
	50			PID= 0.3				
-40				PID= 1.0				
				PID= 0.2				
	55			PID= 0.0				
-45		SC5	120/98	PID= 0.0				SC5 (57'- 67') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; wet, gray, medium dense to loose.
				PID= 0.0				
	60			PID= 0.0				
-50				PID= 0.0				
				PID= 0.0				
	65			PID= 0.0				
-55		SC6	120/95	PID= 0.0				SC6 (67'- 77') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; wet, gray, medium dense to loose.
				PID= 0.2				

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BORING LOG
PAGE 4 of 4
GPEC-SB-203

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	70			PID= 0.1				
-60				PID= 0.3				
				PID= 0.3				
	75			PID= 0.3				
-65		SC7	120/120	PID= 0.3				SC7 (77'- 82.7') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines; wet, gray, loose.
				PID= 0.1				
	80			PID= 0.2				
-70				PID= 0.2				
				PID= 0.3				SC7 (82.7'- 87') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines, non plastic; wet, dark gray, medium dense.
	85			PID= 0.2			Env. Sample ID= GPEC-SB-203 (86-87)	
								End of Boring at 87 feet. Grout to ground surface

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BORING LOG
PAGE 1 of 4
GPEC-SB-204

GROUND SURFACE ELEVATION (FT): 12.47 **LOCATION:** Bulkhead
NORTHING (FT): 687740 **EASTING (FT):** 651179 **TOTAL DEPTH (FT):** 87.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/11/2012 - 7/11/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 5.20 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
10	0		96/NM	PID= 12.3				Env. Sample ID= GPEC-SB-204 (1-2)	(0'- 1') ASPHALT; FILL. (1'- 2') WIDELY GRADED SAND WITH GRAVEL (SW); black, FILL. (2'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); coarse; brown, FILL. (3'- 5') FILL.
▽	5			PID= 0.0					
5		SC1	120/70	PID= 0.0					SC1 (7'- 17') SILTY GRAVEL WITH SAND (GM); ~50% gravel, fine to coarse, ~35% sand, fine to coarse, ~15% fines; steel wire, brick, and other fill materials, wet, black, loose; staining. FILL.
	10			PID= 0.0					
0				PID= 0.2					
				PID= 0.3					
	15			PID= 0.2					
				PID= 0.0					
-5		SC2	120/120	PID= 0.0					SC2 (17'- 24.1') PEAT (PT); ~90% fines, low plasticity; ~10% organic material/roots, moderate sulfur-like odor, moderate organic-like odor, moist, dark brown, soft.
				PID= 0.4			SLO		
	20			PID= 198				Env. Sample ID= GPEC-SB-204 (19-20)	

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BORING LOG

GPEC-SB-204

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	20			PID= 426					
				PID= 36.9			SLO		
-10				PID= 69.1					
				PID= 262					
	25			PID= 73.2			OLO		SC2 (24.1'- 27') CLAYEY SAND (SC); ~70% sand, fine, ~30% fines, low plasticity; moderate organic-like odor, wet, gray, soft.
				PID= 75.6					
-15		SC3	120/108	PID= 0.0					SC3 (27'- 37') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; trace gravel, coarse, wet, gray, loose.
				PID= 0.0					
	30			PID= 0.0					
-20				PID= 0.0					
				PID= 0.0					
	35			PID= 0.0					
-25		SC4	120/87	PID= 0.0					SC4 (37'- 47') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, ~10% fines; wet, gray, medium dense.
				PID= 0.0					
	40			PID= 0.0					
				PID= 0.0					
-30				PID= 0.0					
				PID= 0.0					

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GPEC_ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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BORING LOG
PAGE 3 of 4
GPEC-SB-204

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	45			PID= 0.0 PID= 0.0					
-35		SC5	120/100	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0					SC5 (47'- 57') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, medium, ~15% gravel, fine to coarse, ~10% fines; layered, wet, dark gray, loose to medium dense.
	50								
-40									
	55								
-45		SC6	120/40	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0					SC6 (57'- 67') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, ~5% fines; wet, dark gray, loose.
	60								
-50									
	65								
-55		SC7	120/119	PID= 0.0 PID= 0.0					SC7 (67'- 77') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, rounded, ~10% fines; wet, dark gray, loose.

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BORING LOG

PAGE 4 of 4

GPEC-SB-204

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	70			PID= 0.0					
				PID= 0.0					
-60				PID= 0.0					
				PID= 0.0					
	75			PID= 0.0					
				PID= 0.0					
-65		SC8	120/120	PID= 0.0					SC8 (77'- 79.6') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse; wet, brown, loose.
				PID= 0.0					
	80			PID= 0.0					SC8 (79.6'- 82') CLAYEY SAND WITH GRAVEL (SC); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, ~20% fines, low plasticity; wet, gray brown, dense/stiff.
				PID= 0.0					
-70				PID= 0.0					SC8 (82'- 85.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse; wet, brown, loose.
				PID= 0.0					
	85			PID= 0.0					
				PID= 0.0				Env. Sample ID= GPEC-SB-204 (86-87)	SC8 (85.3'- 87') GRAVELLY LEAN CLAY WITH SAND (CL); ~70% fines, plastic, ~15% gravel, fine to coarse, ~15% sand, fine to coarse; wet, gray, hard.
									End of Boring at 87 feet. Grout to ground surface

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BORING LOG

PAGE 1 of 5

GPEC-SB-205/MW-205

GROUND SURFACE ELEVATION (FT): 12.13 **LOCATION:** Bulkhead
NORTHING (FT): 687861 **EASTING (FT):** 651230 **TOTAL DEPTH (FT):** 97.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/2/2012 - 7/2/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 7.00 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0		84/NM						(0'- 0.5') FILL; sand/stone. FILL. (0.5'- 2') WIDELY GRADED SAND (SW); brown, with rubble. FILL.	
	5								(2'- 7') WIDELY GRADED SAND (SW); moist, brown, FILL.	
5 ▽	10	SC1	120/60	PID= 0.2				Env. Sample ID= GPEC-SB-205 (6-7)	SC1 (7'- 16') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, ~20% fines; wet, brown, loose. FILL.	
0	15			PID= 0.2						
-5	20	SC2	120/78	PID= 0.1					SC1 (16'- 17') CONCRETE AND COBBLES; FILL. SC2 (17'- 19.3') WIDELY GRADED SAND WITH GRAVEL (SW); fine to coarse; brown, FILL.	
				PID= 0.2			TLO		SC2 (19.3'- 27') SILTY GRAVEL WITH SAND (GM);	

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BORING LOG
PAGE 2 of 5
GPEC-SB-205/MW-205

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-10	20			PID= 0.3			TLO		~70% gravel, fine to coarse, ~15% sand, fine to coarse, ~15% fines; cobbles, slight tar-like odor, dark gray, RIP RAP.	
	25			PID= 0.4						
-15		SC3	120/100	PID= 5.1			PLO		SC3 (27'- 32.8') SILTY GRAVEL WITH SAND (GM); ~60% gravel, fine to coarse, ~20% sand, fine to coarse, ~20% fines; moderate petroleum-like odor, moderate organic-like odor, wet, dark brown black, staining.	
				PID= 4.9						
	30			PID= 30.1						
-20				PID= 106						
				PID= 62.2						
				PID= 17.2					SC3 (32.8'- 36') ORGANIC CLAY (OH); ~100% fines, moderate; moist, black, soft.	
	35			PID= 10.8				Env. Sample ID= GPEC-SB-205 (34-35)		
				PID= 5.8			OLO		SC3 (36'- 37') CLAYEY SAND WITH GRAVEL (SC); ~40% sand, fine to coarse, ~30% gravel, fine to coarse, ~30% fines, plastic; moderate organic-like odor, black, soft.	
-25		SC4	120/104	PID= 0.2					SC4 (37'- 47') NARROWLY GRADED SAND WITH GRAVEL (SP); wet, dark gray, loose.	
				PID= 0.4						
	40			PID= 0.5						
-30				PID= 0.4						
				PID= 0.5						

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BORING LOG

GPEC-SB-205/MW-205

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	45			PID= 0.5						
-35		SC5	120/86	PID= 0.3					SC5 (47'- 49.8') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium to coarse, ~15% gravel, fine; gray.	
				PID= 0.3						
	50			PID= 0.3					SC5 (49.8'- 57') SILTY SAND (SM); fine, ~75% gravel, ~25% fines, low plasticity; wet, gray, medium dense.	
-40				PID= 0.3						
				PID= 0.3						
	55			PID= 0.3						
-45		SC6	120/84	PID= 15.9					SC6 (57'- 65.6') SILTY SAND (SM); ~75% sand, fine, ~25% fines; moderate tar-like odor, wet, gray, loose; sheen, tar saturated lenses at base.	
				PID= 21.4						
	60			PID= 25.7						
-50				PID= 30.7			TLO			
				PID= 41.3						
	65			PID= 72.6						
							TLO		SC6 (65.6'- 67') NARROWLY GRADED SAND (SP); ~95% sand, medium, ~5% fines; moderate tar-like odor, wet, gray, tar saturated lenses.	
-55		SC7	120/100	PID= 263					SC7 (67'- 73') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~5% gravel, fine, ~5% fines; moderate tar-like odor, wet, brown, loose; tar saturated 68-69'.	
				PID= 365			TLO			

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NA = NOT APPLICABLE
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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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 4 of 5

GPEC-SB-205/MW-205

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	70			PID= 139			TLO	Env. Sample ID= GPEC-SB-205 (71-72)		
-60				PID= 493						
				PID= 168			TLO		SC7 (73'- 77') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, medium, ~10% fines; slight tar-like odor, wet, gray, loose.	
	75			PID= 97.8						
-65		SC8	120/120	PID= 12.7					SC8 (77'- 81.6') NARROWLY GRADED SAND (SP); ~90% sand, medium to coarse, ~10% gravel, fine; wet, dark brown, loose.	
				PID= 7.5						
	80			PID= 5.7						
				PID= 9.5						
-70				PID= 6.6					SC8 (81.6'- 87') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine, ~30% gravel, fine to coarse, ~20% fines, non plastic; wet, dark gray, medium dense.	
				PID= 10.1						
	85			PID= 8.1						
				PID= 7.0						
-75		SC9	120/91	PID= 4.5					SC9 (87'- 96') SILTY SAND WITH GRAVEL (SM); ~40% gravel, fine to coarse, ~40% sand, fine, ~20% fines; max. size 3", wet, dark gray, dense.	
				PID= 3.4						
	90			PID= 4.2						
-80				PID= 5.3						

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BORING LOG

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GPEC-SB-205/MW-205

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	95			PID= 7.0				Env. Sample ID= GPEC-SB-205 (95-96)	SC9 (96'- 97') FAT CLAY WITH SAND (CH); ~85% fines, high dry strength, ~15% sand, fine; dark gray, stiff to hard. End of Boring at 97 feet. Grout to ground surface	

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BORING LOG
PAGE 1 of 4
GPEC-SB-206

GROUND SURFACE ELEVATION (FT): 10.52 **LOCATION:** Bulkhead
NORTHING (FT): 688139 **EASTING (FT):** 651125 **TOTAL DEPTH (FT):** 87.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 6/27/2012 - 6/27/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 6.80 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
10	0		82/NM	PID= 22.5				At 3' bgs, 2" gray PC pipe. Move boring 5' east of original location.	(0'- 6') WIDELY GRADED SAND WITH GRAVEL (SW-SM); brown, FILL.
5	5								
▽		SC1	120/84	PID= 0.0				Env. Sample ID= GPEC-SB-206 (7-8)	SC1 (7'- 17') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~25% gravel, fine to coarse, ~20% fines; timber, concrete, and asphalt, max. size 4", moderate sulfur-like odor, moist to wet, brown to dark brown, timber, concrete, asphalt, fill. FILL.
				PID= 0.0					
0	10			PID= 0.0					
				PID= 0.0					
				PID= 2.4			SLO		
				PID= 1.3					
-5	15			PID= 0.0					
				PID= 0.0					
		SC2	120/58	PID= 0.0					SC2 (17'- 23.6') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines; dark brown.
	20			PID= 0.0					

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

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BORING LOG
PAGE 2 of 4
GPEC-SB-206

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-10	20			PID= 0.0					
				PID= 0.8					SC2 (23.6'- 27') WIDELY GRADED GRAVEL WITH SAND (GW); ~50% gravel, fine to coarse, ~45% sand, fine to coarse, ~5% fines; max. size 4", moist to wet, dark gray.
-15	25			PID= 0.0					
		SC3	120/120	PID= 72.5					SC3 (27'- 28.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse; moist, dark gray.
				PID= 116					SC3 (28.5'- 34.5') ORGANIC SILT WITH SAND (OH); ~80% fines, low to medium, ~20% sand, fine; layered sand and silt lenses, moderate tar-like odor, moderate organic-like odor, moist, black, tar coated grains.
				PID= 111					
-20	30			PID= 51.2			TLO	Env. Sample ID= GPEC-SB-206 (30-32)	
				PID= 32.7					
				PID= 21.3					
				PID= 33.6					SC3 (34.5'- 37') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines; moist to wet, black - dark brown, loose.
-25	35			PID= 24.8					
		SC4	120/84	PID= 2.4					SC4 (37'- 47') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine, ~10% fines, ~5% gravel, fine; moist, black gray, loose.
				PID= 6.0					
-30	40			PID= 4.6					

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BORING LOG

GPEC-SB-206

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-35	45			PID= 3.2					
		SC5	120/108	PID= 1.1					SC5 (47'- 55.3') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; dark gray black.
				PID= 1.5					
	50								
-40				PID= 1.8					
				PID= 0.8					
				PID= 2.0					
	55								
-45				PID= 0.4					SC5 (55.3'- 57') SILTY SAND (SM); ~85% sand, fine, ~15% fines; dark gray.
		SC6	120/120	PID= 0.4					SC6 (57'- 65.5') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines; wet, dark gray, loose.
				PID= 0.3					
				PID= 0.5					
	60			PID= 0.4					
-50				PID= 3.7					
				PID= 2.7					
				PID= 1.3					
				PID= 1.4					
	65			PID= 0.8					
-55				PID= 0.7					SC6 (65.5'- 67') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, ~5% fines; moist to wet, dark gray black, loose.
		SC7	120/108	PID= 53					SC7 (67'- 68.9') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~35% gravel, fine to coarse; max. size 2", slight tar-like odor, dark gray black, tar-like material, blebs and globs.
				PID= 100			TLO		

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_5/29/13

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BORING LOG
PAGE 4 of 4
GPEC-SB-206

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-60	70			PID= 287			TLO	Env. Sample ID= GPEC-SB-206 (69-70)	SC7 (68.9'- 71.8') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; moderate tar-like odor, wet, gray to dark gray, loose, tar-like material, blebs and globs.
				PID= 29.5			TLO		
				PID= 5.9					
				PID= 2.9					SC7 (71.8'- 72.7') SILT (ML); ~100% fines; wet, gray, soft.
				PID= 1.4					SC7 (72.7'- 77') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, ~10% fines; tan.
-65	75			PID= 0.9					
				PID= 1.0					
				PID= 1.1					
		SC8	120/110	PID= 0.4					SC8 (77'- 87') NARROWLY GRADED SAND (SP); ~95% sand, medium, ~5% fines; slight tar-like odor, moist to wet, tan gray, loose.
-70	80			PID= 0.6					
				PID= 0.5			TLO		
				PID= 0.4					
-75	85			PID= 0.2				Env. Sample ID= GPEC-SB-206 (86-87)	

End of Boring at 87 feet.
Grout to ground surface

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BORING LOG
PAGE 1 of 4
GPEC-SB-207

GROUND SURFACE ELEVATION (FT): 10.32 **LOCATION:** Bulkhead
NORTHING (FT): 688206 **EASTING (FT):** 651100 **TOTAL DEPTH (FT):** 87.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 6/26/2012 - 6/26/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 6.80 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
10	0		82/NM	PID= 0.0					(0'- 2') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); FILL.
									(2'- 3') COAL ASH; FILL.
									(3'- 6.8') SILTY SAND WITH GRAVEL (SM); FILL.
5	5								
▽								Env. Sample ID= GPEC-SB-207 (6-7)	
		SC1	96/70	PID= 0.0					SC1 (9'- 13') SILTY SAND WITH GRAVEL (SM); brick fragments, slight tar-like odor, moist to wet, black brown, loose. FILL.
0	10			PID= 0.0			TLO		
				PID= 0.0					
				PID= 0.0					SC1 (13'- 17') SANDY ELASTIC SILT WITH GRAVEL (MH); ~70% fines, low plasticity, slow dilatancy, ~15% gravel, fine to coarse, ~15% sand, fine to coarse; coal fragments, brown, FILL.
-5	15			PID= 0.0					
				PID= 0.0					
		SC2	120/74	PID= 0.0					SC2 (17'- 22.5') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine, ~15% gravel, fine, ~15% fines; wet, brown gray, soft.
	20			PID= 0.0					

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BORING LOG

PAGE 2 of 4

GPEC-SB-207

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-10	20			PID= 0.0					
				PID= 0.0					SC2 (22.5'- 27') SILTY GRAVEL WITH SAND (GM); ~60% gravel, fine to coarse, ~25% sand, fine to coarse, ~15% fines; rip rap fragments, mica flakes, max. size 4", brown gray, Manhattan Schist.
				PID= 0.0					
-15	25			PID= 0.0					
		SC3	120/48	PID= 0.0					SC3 (27'- 29.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; max. size 4", wet, dark brown, loose, rip rap.
				PID= 5.9					
-20	30			PID= 6.4					SC3 (29.5'- 37') GRAVELLY SILT (ML); ~50% fines, low plasticity, ~45% gravel, fine to coarse, ~5% sand; rip rap, organic silt, max. size 4", slight tar-like odor, slight petroleum-like odor, moderate organic-like odor, black, black staining.
				PID= 16.3			TLO		
				PID= 37.3					
-25	35			PID= 54.9				Env. Sample ID= GPEC-SB-207 (36-37)	
		SC4	120/110	PID= 0.1					SC4 (37'- 39.2') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, ~5% gravel, fine to coarse; moderate tar-like odor, black, black staining.
				PID= 3.2			TLO		
				PID= 0.7			TLO		SC4 (39.2'- 40.3') SILTY SAND (SM); ~80% sand, fine to coarse, ~20% fines; moderate tar-like odor, black, black staining.
-30	40			PID= 0.3					SC4 (40.3'- 46.1') NARROWLY GRADED SAND (SP-SM); ~95% sand, medium, ~5% fines; brown to black, medium dense.
				PID= 0.2					
				PID= 0.0					

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BORING LOG

PAGE 3 of 4

GPEC-SB-207

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-35	45			PID= 0.0 PID= 0.0					SC4 (46.1'- 47') SILT (ML); ~100% fines, non plastic; dry to moist, brown gray.
		SC5	120/120	PID= 30.5 PID= 23.4			TLO		SC5 (47'- 52') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, subangular, ~5% fines; slight tar-like odor, to moderate tar-like odor, moist, gray to dark gray, loose.
-40	50			PID= 0.0 PID= 0.0					
				PID= 0.0 PID= 0.0					SC5 (52'- 57') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; moist, dark gray, loose.
-45	55			PID= 0.0					
		SC6	120/96	PID= 0.0					SC6 (57'- 62') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines; black gray.
-50	60			PID= 0.0					
				PID= 0.0					SC6 (62'- 67') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines; moist, gray brown, loose.
-55	65			PID= 0.0					
		SC7	120/120	PID= 0.0 PID= 0.0					SC7 (67'- 75.5') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; moist, tan brown, loose.

NOTES:

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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
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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 4 of 4

GPEC-SB-207

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-60	70			PID= 0.0					
				PID= 0.4					
				PID= 9.1					
				PID= 42.6					
-65	75			PID= 21.7					
				PID= 246				Env. Sample ID= GPEC-SB-207 (75.5-77)	SC7 (75.5'- 77') SILTY SAND (SM); ~85% sand, fine, ~15% fines; moist, dark brown, tar coated grains to tar saturated at base.
		SC8	120/120	PID= 0.7					SC8 (77'- 87') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; moist, brown, loose.
				PID= 63.4					
-70	80			PID= 1.7					
				PID= 1.2					
				PID= 0.0					
				PID= 0.9					
				PID= 0.7					
-75	85			PID= 0.7				Env. Sample ID= GPEC-SB-207 (86-87)	

End of Boring at 87 feet.
Grout to ground surface

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BORING LOG
PAGE 1 of 4
GPEC-SB-208

GROUND SURFACE ELEVATION (FT): 8.54 **LOCATION:** Bulkhead
NORTHING (FT): 688352 **EASTING (FT):** 651042 **TOTAL DEPTH (FT):** 87.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/10/2012 - 7/10/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 7.00 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		96/NM				Env. Sample ID= GPEC-SB-208 (6-7)	(0'- 1') WIDELY GRADED SAND WITH GRAVEL (SW); black, stone. FILL. (1'- 7') WIDELY GRADED SAND WITH GRAVEL (SW); brown, FILL.
5	5							
▽		SC1	120/112	PID= 0.0				SC1 (7'- 14.5') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to coarse, ~20% fines, non plastic, ~15% gravel, fine to coarse; wet, orange brown, medium dense.
0	10			PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				
-5	15			PID= 0.0				SC1 (14.5'- 17') SILTY SAND WITH GRAVEL (SM); gravel, fine to coarse, timber, max. size 4", wet, dark brown.
		SC2	120/98	PID= 0.0				SC2 (17'- 22.5') SILTY SAND WITH GRAVEL (SM); slight naphthalene-like odor, wet, dark brown gray, medium dense.
-10	20			PID= 0.0		NLO		

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BORING LOG

GPEC-SB-208

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	20			PID= 0.0				
				PID= 0.0		NLO		
				PID= 5.9				SC2 (22.5'- 23.5') CLAYEY GRAVEL (GC); ~60% gravel, fine to coarse, ~40% fines; moist, dark brown.
-15				PID= 0.9				SC2 (23.5'- 27') CLAYEY GRAVEL WITH SAND (GC); ~55% gravel, fine to coarse, ~25% sand, fine to coarse, ~20% fines; moist, dark brown gray, loose.
	25			PID= 3.9				
		SC3	120/120	PID= 81.9				SC3 (27'- 29.9') SILTY GRAVEL (GM); ~65% gravel, fine to coarse, ~35% fines; organic soil, moderate petroleum-like odor, wet, black, soft. RIP RAP.
-20				PID= 74		PLO	Env. Sample ID= GPEC-SB-208 (29-30)	
	30			PID= 57.6				SC3 (29.9'- 32.4') GRAVELLY ORGANIC SOIL (OH); ~60% fines, ~40% gravel, fine to coarse; sediment, moderate petroleum-like odor, wet, black, soft.
				PID= 78.4		PLO		
				PID= 38.5				SC3 (32.4'- 34.5') ORGANIC CLAY (OL); ~90% fines, ~10% sand, fine to coarse; moist, black, medium stiff.
-25				PID= 59.1				
	35							SC3 (34.5'- 37') FAT CLAY (CH); ~100% fines; gray.
				PID= 0.9				
		SC4	120/120	PID= 0.0				SC4 (37'- 47') FAT CLAY WITH SAND (CH); ~85% fines, plastic, ~15% sand, fine; layered, wet, gray tan, stiff.
-30								
	40							
-35								

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BORING LOG

GPEC-SB-208

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	45							
		SC5	120/100	PID= 0.0				SC5 (47'- 57') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines; wet, light brown, loose.
-40				PID= 0.0				
	50			PID= 0.0				
				PID= 0.0				
-45				PID= 0.0				
	55			PID= 0.0				
		SC6	156/120	PID= 0.0				SC6 (57'- 70') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, ~10% fines, ~5% gravel, fine to coarse; wet, brown, loose.
-50				PID= 0.0				
	60			PID= 0.0				
-55				PID= 0.0				
	65			PID= 0.0				
-60				PID= 0.0				

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BORING LOG

PAGE 4 of 4

GPEC-SB-208

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	70	SC7	204/120	PID= 0.3				SC7 (70'- 87') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, brown, loose.
				PID= 0.5				
-65								
				PID= 1.0				
	75							
				PID= 0.7				
-70				PID= 0.1				
	80							
				PID= 0.0				
				PID= 0.3				
-75								
	85			PID= 1.3			Env. Sample ID= GPEC-SB-208 (86-87)	

End of Boring at 87 feet.
Grout to ground surface

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BORING LOG
PAGE 1 of 4
GPEC-SB-209

GROUND SURFACE ELEVATION (FT): 9.54 **LOCATION:** Bulkhead
NORTHING (FT): 688446 **EASTING (FT):** 651017 **TOTAL DEPTH (FT):** 87.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/9/2012 - 7/9/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 7.00 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		84/NM						(0'- 1') WIDELY GRADED SAND (SW); dark brown, FILL.
									(1'- 7') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); moist, light brown, FILL.
5	5								
								Env. Sample ID= GPEC-SB-209 (6-7)	
		SC1	120/99	PID= 0.0					SC1 (7'- 12.3') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, rounded, ~20% fines, non plastic; max. size 4", wet, orange brown, soft.
0	10			PID= 0.0					
				PID= 0.0					
				PID= 0.0					SC1 (12.3'- 17') SILTY GRAVEL WITH SAND (GM); ~50% gravel, fine to coarse, ~30% sand, fine to coarse, ~20% fines; rip rap, max. size 4", wet, dark brown purple, medium dense.
-5	15			PID= 0.0					
				PID= 0.0					
		SC2	120/27	PID= NM					SC2 (17'- 27') NARROWLY GRADED GRAVEL (GP); ~100% gravel, fine to coarse; Manhattan Schist, garnet, pyrite, mica, rip rap, boulder 15-21', dark gray to light gray, dense, hard.
-10	20								

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT_5/29/13

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BORING LOG

GPEC-SB-209

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	20								
-15	25								
		SC3	120/100	PID= 9.2			TLO	Env. Sample ID= GPEC-SB-209 (28-29)	SC3 (27'- 29.6') GRAVELLY FAT CLAY WITH SAND (CH); ~60% fines, plastic, ~20% gravel, fine to coarse, ~20% sand, fine to coarse; organic-rich clay, max. size 5", slight tar-like odor, moderate organic-like odor, wet, black, medium stiff.
-20	30			PID= 1.4					SC3 (29.6'- 37') FAT CLAY (CH); ~100% fines, high plasticity; moist to wet, gray tan, stiff to hard.
				PID= 1.5					
				PID= 0.8					
-25	35			PID= 0.5					
		SC4	120/110	PID= 0.0					SC4 (37'- 42.2') FAT CLAY (CH); ~100% fines, high plasticity; gray tan, stiff to hard.
-30	40			PID= 0.0					
				PID= 0.0					
				PID= 0.0					SC4 (42.2'- 46.1') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; wet, tan, loose.

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BORING LOG

GPEC-SB-209

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	45			PID= 0.0					SC4 (46.1'- 47') LEAN CLAY (CL); ~100% fines; brown.
		SC5	120/94	PID= 0.0					SC5 (47'- 48.3') SILTY SAND (SM); ~70% sand, fine, ~30% fines; moist, brown.
-40	50			PID= 0.0					SC5 (48.3'- 57') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, fine, ~10% fines; wet, brown, loose.
				PID= 0.0					
				PID= 0.0					
-45	55			PID= 0.0					
				PID= 0.0					
		SC6	120/104	PID= 0.0					SC6 (57'- 67') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine, ~15% gravel, fine, ~10% fines; moist to wet, brown, loose.
-50	60			PID= 0.0					
				PID= 0.0					
				PID= 0.0					
-55	65			PID= 0.0					
				PID= 0.0					
		SC7	120/100	PID= 0.0					SC7 (67'- 77') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; moist to wet, brown, loose.

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BORING LOG

GPEC-SB-209

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-60	70			PID= 0.0					
				PID= 0.0					
-65	75			PID= 0.0					
		SC8	120/120	PID= 0.2					SC8 (77'- 87') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; wet, light brown, loose.
				PID= 0.3					
-70	80			PID= 0.4					
				PID= 0.8					
				PID= 0.3					
-75	85			PID= 1.1				Env. Sample ID= GPEC-SB-209 (86-87)	

End of Boring at 87 feet.
Grout to ground surface

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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 4
GPEC-SB-210

GROUND SURFACE ELEVATION (FT): 10.38 **LOCATION:** Bulkhead
NORTHING (FT): 688622 **EASTING (FT):** 650977 **TOTAL DEPTH (FT):** 87.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/9/2012 - 7/9/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 5.00 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
10	0		69/NM				NLO	Env. Sample ID= GPEC-SB-210 (1-2)	(0'- 1') FILL; moderate naphthalene-like odor, old tar deposit. FILL.
									(1'- 5') WIDELY GRADED SAND WITH GRAVEL (SW); bricks, brown, FILL.
5 ▽	5								(5'- 5.75') WIDELY GRADED GRAVEL (GW); FILL.
									(5.75'- 7') FILL.
		SC1	120/120	PID= NA					SC1 (7'- 17') TIMBER; entire core recovery was a timber pile, possibly drilling through a pile. FILL.
0	10								
-5	15	SC2	156/62	PID= 15.7					SC2 (17'- 21.2') WOOD CHIPS; wet, FILL.
	20								

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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BORING LOG

GPEC-SB-210

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-10	20			PID= 0.0					SC2 (21.2'- 30') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW); ~70% gravel, fine to coarse, ~20% sand, fine to coarse, ~10% fines; cobbles, max. size 6", wet, dark gray, loose. FILL.
-15	25			PID= 0.9					
-20	30	SC3	84/30	PID= 1.9				Env. Sample ID= GPEC-SB-210 (29-30) While drilling 30-37', timber from pile packed in between 6" casing and 4" core barrel, binding up. While releasing the tooling, heat was generate and burnt through 4" casing threads.	SC3 (30'- 37') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, angular, ~10% fines; wet, dark gray, loose; sheen. FILL.
-25	35			PID= 8.0					
		SC4	120/94	PID= 2.6			PLO	Env. Sample ID= GPEC-SB-210 (37-38)	SC4 (37'- 39.6') CLAYEY SAND WITH GRAVEL (SC); ~65% sand, fine, ~20% fines, low plasticity, ~15% gravel, fine to coarse; slight petroleum-like odor, wet, black, soft.
-30	40			PID= 3.0					SC4 (39.6'- 42.1') SILTY SAND (SM); ~75% sand, fine, ~15% fines, ~10% gravel, fine to coarse; wet, gray black, loose.
				PID= 2.4					
				PID= 4.4					SC4 (42.1'- 47') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, medium, ~10% fines; moist to wet, gray tan, loose.
				PID= 0.6					

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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BORING LOG
PAGE 3 of 4
GPEC-SB-210

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-35	45			PID= 0.5					
		SC5	120/114	PID= 0.0					SC5 (47'- 57') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, medium, ~15% gravel, fine, ~10% fines; moist to wet, gray tan, loose; sample gets coarser towards the bottom.
				PID= 0.0					
-40	50			PID= 0.0					
				PID= 0.0					
-45	55			PID= 0.0					
		SC6	120/120	PID= 0.0					SC6 (57'- 67') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines; moist to wet, gray tan, loose.
				PID= 0.0					
-50	60			PID= 0.0					
				PID= 0.0					
-55	65			PID= 0.0					
		SC7	120/95	PID= 0.0					SC7 (67'- 77') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; moist, gray tan, loose.

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BORING LOG

GPEC-SB-210

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-60	70			PID= 0.0					
				PID= 0.0					
				PID= 0.0					
-65	75			PID= 0.0					
		SC8	120/120	PID= 0.0					SC8 (77'- 85.8') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines; moist, gray tan, loose.
				PID= 0.4					
-70	80			PID= 1.6					
				PID= 4.2					
				PID= 1.3					
-75	85			PID= 1.8				Env. Sample ID= GPEC-SB-210 (86-87)	SC8 (85.8'- 87') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine to medium, ~15% gravel, rounded, ~10% fines; max. size 1", moist, tan, loose.
									End of Boring at 87 feet.
									Grout to ground surface

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BORING LOG
PAGE 1 of 4
GPEC-SB-211

GROUND SURFACE ELEVATION (FT): 10.16 **LOCATION:** Bulkhead
NORTHING (FT): 688747 **EASTING (FT):** 650932 **TOTAL DEPTH (FT):** 80.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/18/2012 - 7/18/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
10	0		60/NM						(0'- 1') WIDELY GRADED SAND (SW); with cobbles, dark brown, FILL. (1'- 4') WIDELY GRADED SAND WITH GRAVEL (SW); moist, light brown, FILL.
5	5							Env. Sample ID= GPEC-SB-211 (4-5) 5-15' bgs not sampled due to wood/fill materials, drill through fill and start sampling at 15' bgs.	(4'- 15') TIMBER; wood decking/piling, FILL.
0	10								
-5	15	SC1	60/60	PID= NM					SC1 (15'- 20') TIMBER; wet, RIP RAP.
	20								

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BORING LOG
PAGE 2 of 4
GPEC-SB-211

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-10	20	SC2	60/24	PID= NM					SC2 (20'- 25') TIMBER; FILL.
-15	25	SC3	120/36	PID= 15.8					SC3 (25'- 35') SILTY SAND (SM); ~75% sand, fine to coarse, ~15% fines, ~10% gravel; timber and wood, moderate creosote-like odor, wet, loose; sheen. FILL.
-20	30			PID= 7.2			CrLO	Env. Sample ID= GPEC-SB-211 (33-34)	
-25	35	SC4	120/94	PID= 35.2			PLO		SC4 (35'- 36.9') ORGANIC SOIL (OH); ~60% fines, ~20% sand, fine; ~20% timber/organics, moderate petroleum-like odor, wet, black, soft.
				PID= 10.9				Env. Sample ID= GPEC-SB-211 (37-38)	SC4 (36.9'- 45') SILTY SAND (SM); ~75% sand, fine, ~25% fines; wet, gray, loose to medium dense.
-30	40			PID= 0.0					
				PID= 0.0					
				PID= 0.0					

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GPEC_ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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BORING LOG

PAGE 3 of 4

GPEC-SB-211

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-35	45	SC5	120/120	PID= 0.0					SC5 (45'- 51.7') SILTY SAND (SM); ~80% sand, fine, ~20% fines, non plastic; wet, gray, loose.
				PID= 0.0					
				PID= 0.0					
-40	50			PID= 0.0					
				PID= 0.0					SC5 (51.7'- 55') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine, ~10% fines; max. size 1", moist to wet, gray brown, loose.
				PID= 0.0					
-45	55	SC6	120/67	PID= 0.0					SC6 (55'- 65') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine, ~10% fines; max. size 1", wet, dark brown, loose.
				PID= 0.0					
				PID= 0.0					
-50	60			PID= 0.0					
				PID= 0.0					
-55	65	SC7	180/120	PID= 0.6					SC7 (65'- 80') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, ~10% fines; max. size 4", wet, gray brown, loose.
				PID= 0.4					
				PID= 0.5					

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BORING LOG

GPEC-SB-211

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-60	70			PID= 0.3					
				PID= 0.1					
				PID= 0.0					
-65	75			PID= 0.0					
				PID= 0.0					
	80							Env. Sample ID= GPEC-SB-211 (79-80)	End of Boring at 80 feet. Grout to ground surface

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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BORING LOG
PAGE 1 of 4
GPEC-SB-212

GROUND SURFACE ELEVATION (FT): 9.76 **LOCATION:** Bulkhead
NORTHING (FT): 688868 **EASTING (FT):** 650892 **TOTAL DEPTH (FT):** 87.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/10/2012 - 7/10/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		84/NM				Env. Sample ID= GPEC-SB-212 (1-2)	(0'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); brown, FILL.
5	5							(3'- 7') WIDELY GRADED GRAVEL (GW); FILL.
		SC1	120/24	PID= NM				SC1 (7'- 17') TIMBER; and wood chips, FILL.
0	10							
-5	15							
		SC2	120/40	PID= 0.5				SC2 (17'- 27') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~75% gravel, fine to coarse, ~15% sand, fine to coarse, ~10% fines; max. size 6", wet, gray, loose. RIP RAP.
-10	20							

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BORING LOG
PAGE 2 of 4
GPEC-SB-212

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	20			PID= 1.0				
				PID= 0.5				
-15	25							
		SC3	120/120	PID= 21.8			Env. Sample ID= GPEC-SB-212 (28-29)	SC3 (27'- 28') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, ~10% fines; max. size 4", wet, dark brown, loose. RIP RAP.
				PID= 31.6		PLO		SC3 (28'- 29.7') ORGANIC SOIL (OH); ~100% fines; moderate petroleum-like odor, moderate organic-like odor, wet, black, soft.
-20	30			PID= 31.9		PLO		SC3 (29.7'- 33') PEAT (PT); ~85% fines, low plasticity, ~15% sand, fine; roots, organic soil, moderate petroleum-like odor, moderate organic-like odor, black brown, soft.
				PID= 5.0				
				PID= 4.9				SC3 (33'- 37') FAT CLAY (CH); ~100% fines, high plasticity; wet, gray tan, stiff.
-25	35			PID= 3.9				
		SC4	120/110	PID= 0.3				SC4 (37'- 44.1') FAT CLAY (CH); ~90% fines, high plasticity, ~10% sand, fine; wet, gray, stiff.
				PID= 1.0				
-30	40			PID= 1.4				
				PID= 1.2				
				PID= 3.4				
				PID= 4.1				SC4 (44.1'- 47') SANDY LEAN CLAY (CL); ~50% sand, fine, ~50%

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SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

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
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ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-35	45			PID= 5.2				fines, low plasticity; wet, gray, soft.
		SC5	120/112	PID= 10.2				SC5 (47'- 53.8') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; moist to wet, gray brown, loose.
-40	50			PID= 9.4				
				PID= 10.1				
								SC5 (53.8'- 57') TIMBER.
-45	55			PID= 4.6				
		SC6	120/102	PID= 0.5				SC6 (57'- 67') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; wet, gray brown, loose.
				PID= 5.2				
-50	60			PID= 1.5				
				PID= 4.5				
				PID= 0.2				
				PID= 0.0				
-55	65			PID= 0.0				
		SC7	120/96	PID= 0.0				SC7 (67'- 77') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines; wet, gray brown, medium dense.
				PID= 0.0				

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BORING LOG

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GPEC-SB-212

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-60	70			PID= 0.0				
				PID= 0.0				
				PID= 0.0				
-65	75			PID= 0.0				
		SC8	120/115	PID= 6.4				SC8 (77'- 85.7') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, ~10% fines; max. size 2", wet, gray brown, medium dense.
				PID= 0.0				
-70	80			PID= 0.1				
				PID= 0.0				
				PID= 0.0				
-75	85			PID= 0.0			Env. Sample ID= GPEC-SB-212 (86-87)	SC8 (85.7'- 87') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine, ~25% fines, ~15% gravel, fine to coarse; moist, dark gray, dense.
								End of Boring at 87 feet.
								Grout to ground surface

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BORING LOG
PAGE 1 of 4
GPEC-SB-213

GROUND SURFACE ELEVATION (FT): 8.69 **LOCATION:** Bulkhead
NORTHING (FT): 689037 **EASTING (FT):** 650683 **TOTAL DEPTH (FT):** 87.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/2/2012 - 7/2/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 5.17 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		84/NM						(0'- 1') WIDELY GRADED SAND WITH SILT (SW-SM); concrete, brown, FILL.
								Env. Sample ID= GPEC-SB-213 (1-2)	(1'- 7') WIDELY GRADED SAND (SW); rubble, black / brown, FILL.
5									
	5							Env. Sample ID= GPEC-SB-214 (5-6)	
		SC1	120/72	PID= 1.3					SC1 (7'- 17') WIDELY GRADED GRAVEL (GW); ~90% gravel, fine to coarse, ~5% sand, fine to coarse; ~5% timber, rip rap, brick and concrete, moderate tar-like odor, wet, black, loose. FILL.
0									
	10			PID= 10.5					
							TLO		
-5				PID= 2.6					
								Env. Sample ID= GPEC-SB-214 (14-15)	
	15								
		SC2	120/100	PID= 0.1					SC2 (17'- 21.8') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~50% gravel, fine to coarse, ~40% sand, fine, ~10% fines; rip rap, moderate tar-like odor, wet, black, loose.
-10							TLO		
				PID= 2.7					
	20								

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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455 Winding Brook Road
Glastonbury, CT 06033
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BORING LOG

GPEC-SB-213

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	20			PID= 0.2			TLO		
				PID= 0.2					SC2 (21.8'- 27') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% sand, fine to coarse, ~40% gravel, fine to coarse, rounded, ~10% fines; max. size 3", slight tar-like odor, wet, dark brown, loose; black staining.
-15									
	25			PID= 0.2			TLO		
		SC3	120/102	PID= 4.6					SC3 (27'- 29.9') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to coarse, ~25% gravel, fine to coarse, rounded, ~25% fines, plastic; layered, timber, max. size 4", moderate tar-like odor, black, soft; black staining.
-20				PID= 11.2			TLO		
	30			PID= 14.1					SC3 (29.9'- 32.4') SILTY SAND (SM); ~75% sand, fine, ~20% fines, ~5% gravel, fine to coarse; moderate tar-like odor, moist to wet, black, black staining.
				PID= 5.1			TLO		
				PID= 2.6					SC3 (32.4'- 37') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium, ~15% gravel, fine to coarse, rounded, ~5% fines; moist, black to light brown, loose.
-25				PID= 2.6					
	35			PID= 2.1					
		SC4	120/114	PID= 0.2					SC4 (37'- 47') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; max. size 2", moist to wet, brown.
-30									
	40			PID= 0.1					
-35				PID= 0.1					

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455 Winding Brook Road
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BORING LOG

GPEC-SB-213

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	45								
		SC5	120/86	PID= 0.1					SC5 (47'- 52.9') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse; brown.
-40				PID= 0.0					
	50			PID= 0.0					
				PID= 0.0					SC5 (52.9'- 54.8') WIDELY GRADED GRAVEL WITH SAND (GW); ~50% gravel, fine to coarse, ~50% sand, fine to coarse; wet, loose.
-45				PID= 0.0					SC5 (54.8'- 57') NARROWLY GRADED SAND WITH GRAVEL (SP); moist to wet, brown, loose.
	55	SC6	120/120	PID= 0.0					SC6 (57'- 67') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded; max. size 3", wet, brown, loose.
-50				PID= 0.0					
	60			PID= 0.0					
-55				PID= 0.0					
	65			PID= 0.0					
		SC7	120/80	PID= 0.0					SC7 (67'- 77') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded; max. size 3", moist to wet, brown, loose.
-60									

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BORING LOG
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GPEC-SB-213

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	70			PID= 0.0					
				PID= 0.0					
				PID= 0.0					
-65	75			PID= 0.0					
		SC8	120/113	PID= 1.1					SC8 (77'- 81.9') NARROWLY GRADED SAND WITH GRAVEL (SP); ~15% gravel, fine to coarse; max. size 1", brown.
				PID= 3.1					
-70	80			PID= 0.4					
				PID= 0.0					SC8 (81.9'- 86.3') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded, ~10% fines; max. size 2", wet, brown, loose.
-75				PID= 0.0					
	85			PID= 0.2				Env. Sample ID= GPEC-SB-214 (85-86)	SC8 (86.3'- 87') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% gravel, fine to coarse, ~20% fines; cobbles, max. size 5", wet, brown, medium dense.
									End of Boring at 87 feet.
									Grout to ground surface

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BORING LOG
PAGE 1 of 4
GPEC-SB-214

GROUND SURFACE ELEVATION (FT): 9.57 LOCATION: Bulkhead
NORTHING (FT): 689180 EASTING (FT): 650746 TOTAL DEPTH (FT): 87.0
DRILLED BY: Boart Longyear DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet DATE START / END: 7/14/2012 - 7/15/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 7.00 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		96/NM						(0'- 1') WIDELY GRADED GRAVEL (GW); FILL.
									(1'- 2') WIDELY GRADED SAND WITH SILT (SW-SM); light brown, FILL.
									(2'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); black / gray, FILL.
									(3'- 6') WIDELY GRADED SAND WITH GRAVEL (SW); moderate naphthalene-like odor, black / gray, FILL.
5	5						NLO		
									(6'- 7') WIDELY GRADED SAND WITH GRAVEL (SW); black / gray, FILL.
▽		SC1	120/62	PID= 0.1				Env. Sample ID= GPEC-SB-214 (7-8)	SC1 (7'- 17') CLAYEY SAND WITH GRAVEL (SC); ~65% sand, fine to coarse, ~20% fines, low plasticity, ~15% gravel, fine to coarse; max. size 5", wet, dark gray, soft.
0	10			PID= 0.8					
				PID= 0.6					
-5	15			PID= 04					
		SC2	120/48	PID= 0.0					SC2 (17'- 22') BOULDER; rip rap.
-10	20			PID= 0.0					

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BORING LOG
PAGE 2 of 4
GPEC-SB-214

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	20			PID= 0.0					
				PID= 0.0					SC2 (22'- 27') NARROWLY GRADED GRAVEL (GP); ~100% gravel; rip rap, max. size >6", wet, Fordham gneiss, garnet, biotite, muscovite, chlorite foliations.
-15	25			PID= 0.0					
		SC3	120/60	PID= 1.3					SC3 (27'- 37') SILTY GRAVEL WITH SAND (GM); ~50% gravel, fine to coarse, ~35% fines, ~15% sand, fine to coarse; sediment-like material, max. size 6", slight petroleum-like odor, black, soft, loose; black staining. RIP RAP.
				PID= 980					
-20	30							Env. Sample ID= GPEC-SB-214 (30-31)	
				PID= 6403			PLO		
				PID= ER					
-25	35			PID= 0.3					
		SC4	120/33	PID= 0.0					SC4 (37'- 43') BOULDER; rip rap, possibly Fordham gneiss.
				PID= 0.0					
-30	40			PID= 0.0					
				PID= 0.0					SC4 (43'- 47') ROCK; likely the same boulder as above, possibly Fordham gneiss.

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	45			PID= 0.0					
		SC5	120/95	PID= 0.8					SC5 (47'- 53.3') LEAN CLAY WITH SAND (CL); ~85% fines, medium plasticity, ~15% sand, fine to medium; greenish gray, soft.
-40	50			PID= 0.0					
				PID= 0.0					
				PID= 0.0					SC5 (53.3'- 57') CLAYEY SAND WITH GRAVEL (SC); ~70% sand, fine to medium, ~15% gravel, fine to coarse, ~15% fines; gray.
-45	55			PID= 0.0					
		SC6	120/113	PID= 3.1					SC6 (57'- 63.5') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, fine to medium, ~15% gravel, fine to coarse; wet, brown, loose.
-50	60			PID= 9.4					
				PID= 1.5					
				PID= 0.5					SC6 (63.5'- 64') LEAN CLAY (CL); ~90% fines, plastic, ~10% sand, fine; gray.
-55	65			PID= 0.3					SC6 (64'- 67') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% gravel; wet, brown, loose.
		SC7	120/98	PID= 0.0					SC7 (67'- 73.8') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines, non plastic; wet, brown, loose.

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GPEC-SB-214

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-60	70			PID= 0.0					
				PID= 0.0					
				PID= 0.0					
-65	75			PID= 0.0					SC7 (73.8'- 77') SANDY LEAN CLAY WITH GRAVEL (CL); ~50% fines, medium plasticity, ~30% sand, fine to medium, ~20% gravel, fine to coarse; wet, brownish gray, soft.
		SC8	120/120	PID= 0.0					SC8 (77'- 87') SANDY LEAN CLAY WITH GRAVEL (CL); ~50% fines, medium plasticity, ~35% sand, fine to medium, ~15% gravel, fine to coarse; wet, brownish gray, loose.
-70	80			PID= 0.0					
				PID= 0.0					
				PID= 0.0					
-75	85			PID= 0.0				Env. Sample ID= GPEC-SB-214 (86-87)	

End of Boring at 87 feet.
Grout to ground surface

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 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_5/29/13

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 4
GPEC-SB-215

GROUND SURFACE ELEVATION (FT): 10.87 **LOCATION:** Bulkhead
NORTHING (FT): 689349 **EASTING (FT):** 650689 **TOTAL DEPTH (FT):** 87.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/16/2012 - 7/16/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 4.00 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
10	0		54/NM				Env. Sample ID= GPEC-SB-215 (3-4) Env. Sample ID= GPEC-SB-215 (4-5)	(0'- 1') NARROWLY GRADED GRAVEL (GP); max. size 0.75", geo-fabric. FILL. (1'- 4.5') WIDELY GRADED SAND WITH GRAVEL (SW); moist, black.
5	5							
0	10	SC1	120/94	PID= 2.0 PID= 0.5 PID= 0.3 PID= 0.1 PID= 0.1 PID= 0.1		TLO		SC1 (7'- 9.6') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~50% gravel, fine to coarse, ~40% sand, fine to coarse, ~10% fines; rip rap, dark gray. SC1 (9.6'- 17') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, low plasticity, ~20% gravel, fine to coarse; max. size 5", slight tar-like odor, wet, gray brown, soft.
-5	15	SC2	120/73	PID= 0.0 PID= 0.0				SC2 (17'- 27') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~60% gravel, fine to coarse, ~30% sand, fine to coarse, ~10% fines; rip rap, wet, brown gray, soft, loose, possibly disturbed sample.
	20							

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S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_5/29/13

GEI Consultants

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Glastonbury, CT 06033
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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 2 of 4
GPEC-SB-215

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-10	20			PID= 0.0				
				PID= 0.0				
-15	25			PID= 0.0				
		SC3	120/57	PID= 9.3				SC3 (27'- 37') SILTY GRAVEL WITH SAND (GM); ~50% gravel, fine to coarse, ~30% fines, ~20% sand, fine to coarse; cobbles, max. size 5", slight petroleum-like odor, wet, black, soft, loose. RIP RAP.
				PID= 8.6				
-20	30			PID= 9.8				
				PID= 6.8		PLO		
				PID= 4.2				
				PID= 4.3				
-25	35			PID= 3.2			Env. Sample ID= GPEC-SB-215 (36-37)	
		SC4	120/110	PID= 6.8		PLO	Env. Sample ID= GPEC-SB-215 (37-38)	SC4 (37'- 38.1') SILTY GRAVEL WITH SAND (GM); ~50% gravel, fine to coarse, ~30% fines, ~20% sand, fine to coarse; cobbles, max. size 5", slight petroleum-like odor, wet, black, soft, loose. RIP RAP.
				PID= 4.2				SC4 (38.1'- 43.5') CLAYEY SAND (SC); ~50% sand, fine, ~40% fines, ~10% gravel, fine to coarse; interbedded, slight petroleum-like odor, gray, soft.
-30	40					PLO		
				PID= 4.3				
								SC4 (43.5'- 47') NARROWLY GRADED SAND (SP); ~95% sand, medium, ~5% fines; trace gravel, fine, moist to wet, brown, loose.

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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455 Winding Brook Road
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CLIENT: National Grid
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GEI PROJECT NUMBER: 125180-1-1102

BORING LOG
PAGE 3 of 4
GPEC-SB-215

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	45			PID= 3.2				
-35								
		SC5	120/98	PID= 0.1				SC5 (47'- 57') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~5% gravel, fine, ~5% fines; wet, brown, loose.
	50			PID= 0.1				
-40				PID= 0.2				
				PID= 0.2				
	55			PID= 0.1				
-45		SC6	120/120	PID= 0.1				SC6 (57'- 67') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wet, brown, loose.
	60			PID= 0.4				
				PID= 0.6				
-50				PID= 0.4				
				PID= 0.1				
	65			PID= 0.1				
-55		SC7	120/108	PID= 1.0				SC7 (67'- 69.2') CLAYEY SAND WITH GRAVEL (SC); ~55% sand, fine to coarse, ~25% gravel, fine to coarse, ~20% fines, low plasticity; wet, dark gray, stiff.
				PID= 1.0				

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BORING LOG
PAGE 4 of 4
GPEC-SB-215

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	70			PID= 0.0				SC7 (69.2'- 73.7') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine, ~20% fines, ~15% gravel, fine to coarse; wet, gray, medium dense.
-60				PID= 0.0				
				PID= 1.0				
				PID= 1.0				SC7 (73.7'- 75.3') CLAYEY SAND WITH GRAVEL (SC); ~55% sand, fine to coarse, ~25% gravel, fine to coarse, ~20% fines, low plasticity; wet, dark gray, stiff.
	75							
-65				PID= 0.1				SC7 (75.3'- 77') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine, ~20% fines, ~15% gravel, fine to coarse; wet, dark brown, medium dense.
		SC8	120/94	PID= 0.0				SC8 (77'- 79.6') SANDY FAT CLAY WITH GRAVEL (CH); ~50% fines, ~25% gravel, fine to coarse, ~25% sand, fine to coarse; interbedded, wet, dark gray brown, stiff.
				PID= 0.0				
	80							SC8 (79.6'- 82.1') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to coarse, ~25% gravel, fine to coarse, ~25% fines; wet, dark brown, medium dense.
-70				PID= 0.0				
				PID= 0.0				SC8 (82.1'- 84.7') SANDY FAT CLAY WITH GRAVEL (CH); ~50% fines, ~25% gravel, fine to coarse, ~25% sand, fine to coarse; interbedded, wet, dark gray brown, stiff.
				PID= 0.0				
	85							SC8 (84.7'- 87') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse; wet, brown, loose.
-75				PID= 0.3			Env. Sample ID= GPEC-SB-215 (86-87)	
								End of Boring at 87 feet. Grout to ground surface

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_5/29/13

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 4
GPEC-SB-216

GROUND SURFACE ELEVATION (FT): 10.41 **LOCATION:** Bulkhead
NORTHING (FT): 689443 **EASTING (FT):** 650656 **TOTAL DEPTH (FT):** 87.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/15/2012 - 7/15/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 5.00 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
10	0		60/NM						(0'- 1') NARROWLY GRADED GRAVEL (GP); max. size 0.75", FILL.
									(1'- 5') WIDELY GRADED SAND WITH GRAVEL (SW-SM); dark brown.
▽								Env. Sample ID= GPEC-SB-216 (4-5)	
5	5								
		SC1	120/88	PID= 25.7					SC1 (7'- 17') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~35% fines, low plasticity, ~15% gravel, fine to coarse; slight tar-like odor, wet, brown, loose; sheen, tar coated grains.
				PID= 18.7				Env. Sample ID= GPEC-SB-216 (7-8)	
0	10			PID= 5.5					
				PID= 2.4			TLO		
				PID= 0.7					
-5	15			PID= 0.9					
		SC2	120/110	PID= 29.8					SC2 (17'- 25') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~35% fines, low plasticity, ~15% gravel, fine to coarse; slight tar-like odor, wet, brown, loose; sheen, tar coated grains.
				PID= 28.2			TLO		
	20								

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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-SB-216

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-10	20			PID= 5.6					
				PID= 2.9			TLO		
				PID= 1.8					
				PID= 3.5					
-15	25			PID= 2.1			TLO		SC2 (25'- 26') WIDELY GRADED GRAVEL WITH SAND (GW); ~70% gravel, fine to coarse, ~25% sand, fine to medium, ~5% fines, non plastic; slight tar-like odor, brown, slight sheen.
		SC3	120/6	PID= 1.6				Driller indicated the majority of the sample slid out of the core barrel upon retrieval.	SC2 (26'- 27') NARROWLY GRADED GRAVEL (GP); ~90% gravel, coarse, ~5% sand, ~5% fines; wet, dark gray, loose; slight sheen. RIP RAP. SC3 (27'- 37') LARGE COBBLE; moderate tar-like odor, small amount of sand and gravel; petroleum sheen.
-20	30						TLO		
-25	35								
		SC4	120/120	PID= 0.0					SC4 (37'- 47') LEAN CLAY WITH SAND (CL); ~85% fines, medium plasticity, ~15% sand, fine; minor sand lenses, moist, olive gray, soft.
				PID= 0.0					
-30	40			PID= 0.0					
				PID= 0.0					

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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BORING LOG

GPEC-SB-216

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-35	45			PID= 0.0					
		SC5	120/110	PID= 0.0					SC5 (47'- 53.5') LEAN CLAY WITH SAND (CL); ~85% fines, medium plasticity, ~15% sand, fine; minor sand lenses, moist, olive gray, soft.
				PID= 0.0					
-40	50			PID= 0.0					
				PID= 0.0					
				PID= 0.0					SC5 (53.5'- 57') CLAYEY SAND (SC); ~70% sand, fine, ~30% fines, medium plasticity; moist, gray, loose.
-45	55			PID= 0.0					
		SC6	120/112	PID= 0.0					SC6 (57'- 65') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines; wet, brown, loose.
				PID= 0.0					
-50	60			PID= 0.0					
				PID= 0.0					
				PID= 0.0					SC6 (65'- 67') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, ~10% fines; wet, brown, loose.
-55	65			PID= 0.0					
		SC7	120/98	PID= 0.0					SC7 (67'- 73.5') SILTY SAND WITH GRAVEL (SW); ~50% sand, fine to coarse, ~30% fines, non plastic, ~20% gravel, fine to coarse; wet, brown, loose.

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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455 Winding Brook Road
Glastonbury, CT 06033
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BORING LOG
PAGE 4 of 4
GPEC-SB-216

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-60	70			PID= 0.0					
				PID= 0.0					
				PID= 0.0					SC7 (73.5'- 76') SANDY LEAN CLAY (CL); ~70% fines, plastic, ~30% sand, fine; moist, gray, stiff.
-65	75			PID= 0.0					SC7 (76'- 77') SILTY SAND WITH GRAVEL (SW); ~50% sand, fine to coarse, ~30% fines, non plastic, ~20% gravel, fine to coarse; wet, brown, loose.
		SC8	120/110	PID= 0.0					SC8 (77'- 87') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to medium, ~30% fines, plastic, ~20% gravel, fine to coarse; wet, grayish brown, loose, stiff clay interval 78.7-82.7'.
-70	80			PID= 0.0					
				PID= 0.0					
				PID= 0.0					
-75	85			PID= 0.0				Env. Sample ID= GPEC-SB-216 (86-87)	

End of Boring at 87 feet.
Grout to ground surface

NOTES:

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BORING LOG
PAGE 1 of 4
GPEC-SB-217/MW-217S/I/D

GROUND SURFACE ELEVATION (FT): 25.52
LOCATION: Northeast Part LNG Process Area
NORTHING (FT): 688824 **EASTING (FT):** 6500049
TOTAL DEPTH (FT): 87.0
DRILLED BY: Boart Longyear
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet
DATE START / END: 7/1/2012 - 7/1/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 47.00 ;
GENERAL NOTE: The elevation noted is measured at the plate

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
25	0		90/NM						(0'- 7') WIDELY GRADED SAND WITH GRAVEL (SW-SM); bricks and cobbles, light brown, FILL.	
20	5							Env. Sample ID= GPEC-SB-217 (6-7)		
		SC1	120/100	PID= 0.1					SC1 (7'- 11') CLAYEY SAND (SC); ~50% sand, fine, ~40% fines, low plasticity, ~10% gravel, fine to coarse; moderate tar-like odor, wet, brown, sheen.	
				PID= 0.0			TLO			
				PID= 5.0						
15	10			PID= 142				Env. Sample ID= GPEC-SB-217 (10-11)		
				PID= 49.5					SC1 (11'- 12') SILTY SAND (SM); ~80% sand, fine, ~20% fines; moist to wet, dark brown, tar coated grains, viscous.	
				PID= 12.9					SC1 (12'- 17') FAT CLAY (CH); ~100% fines, high plasticity; very moist, orange brown, hard.	
				PID= 34.1						
10	15			PID= 15.3						
				PID= 13.4						
		SC2	120/70	PID= 3.5					SC2 (17'- 25.6') SILTY SAND WITH GRAVEL (SM); ~40% sand, fine, ~30% gravel, fine to coarse, angular, ~30% fines; brown.	
				PID= 3.1						
	20									

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

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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-SB-217/MW-217S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
5	20			PID= 4.9						
				PID= 5.2						
0	25			PID= 7.2					SC2 (25.6'- 37') WIDELY GRADED GRAVEL WITH SAND (GW); ~50% gravel, fine to coarse, ~50% sand, fine to coarse; max. size 4", wet, brown, loose.	
		SC3	120/81	PID= 27.3					SC3 (27'- 37') WIDELY GRADED GRAVEL WITH SAND (GW); ~50% gravel, fine to coarse, ~50% sand, fine to coarse; max. size 6", slight tar-like odor, moist to wet, brown.	
-5	30			PID= 4.1						
				PID= 6.4			TLO			
				PID= 2.7						
-10	35			PID= 1.8						
		SC4	120/120	PID= 0.4					SC4 (37'- 47') NARROWLY GRADED SAND WITH GRAVEL (SP); ~70% sand, medium, ~30% gravel, fine to coarse; moist to wet, brown, loose.	
				PID= 0.4						
	40			PID= 0.5						
-15				PID= 0.7						
				PID= 0.4						
				PID= 0.6						

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BORING LOG
PAGE 3 of 4
GPEC-SB-217/MW-217S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-20	45			PID= 0.5 PID= 0.4						
		SC5	120/90	PID= 0.4 PID= 0.3 PID= 0.3 PID= 0.4 PID= 0.3 PID= 0.3 PID= 0.3 PID= 0.4					SC5 (47'- 57') NARROWLY GRADED SAND WITH GRAVEL (SP); ~70% sand, fine to medium, ~30% gravel, fine to coarse; max. size 4", moist to wet, brown, loose.	
-25	50									
-30	55									
		SC6	120/90	PID= 0.9 PID= 0.6 PID= 0.2 PID= 0.3 PID= 0.4					SC6 (57'- 65') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, ~10% fines; layered silt lenses, moist to wet, brown.	
-35	60									
-40	65			PID= 0.6					SC6 (65'- 67') SILTY SAND (SM); ~80% sand, fine, ~20% fines, non plastic; wet, brown, loose.	
		SC7	120/102	PID= 0.2 PID= 0.2					SC7 (67'- 71.9') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine, ~10% fines; layered silt, max. size 1", wet, brown, loose.	

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BORING LOG
PAGE 4 of 4
GPEC-SB-217/MW-217S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-45	70			PID= 0.1						
				PID= 0.0					SC7 (71.9'- 74.3') SILTY SAND (SM); ~70% sand, fine, ~30% fines, non plastic; moist, brown, loose.	
				PID= 0.0				Env. Sample ID= GPEC-SB-217 (74-75)		
-50	75			PID= 0.0					SC7 (74.3'- 77') FAT CLAY WITH GRAVEL (CH); ~85% fines, ~15% gravel, fine to coarse; mottled, gravel lenses, max. size 2", moist, dark gray, hard.	
		SC8	120/100	PID= 0.2					SC8 (77'- 87') FAT CLAY (CH); ~100% fines, high plasticity, high dry strength; moist, gray to black, hard, organic rich layer with fissile texture.	
				PID= 0.0						
	80			PID= 0.0						
-55				PID= 0.0						
				PID= 0.2						
				PID= 0.2						
				PID= 0.1						
	85								End of Boring at 87 feet.	
-60				PID= 0.1				Env. Sample ID= GPEC-SB-217 (86-87)	Grout to ground surface	

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455 Winding Brook Road
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BORING LOG

PAGE 1 of 5

GPEC-SB-218/MW-218I/D

GROUND SURFACE ELEVATION (FT): 54.77 **LOCATION:** Next to Lombardy Avenue
NORTHING (FT): 688790 **EASTING (FT):** 649214 **TOTAL DEPTH (FT):** 117.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 6/30/2012 - 6/30/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: The elevation noted is measured at the riser

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0		96/NM				(0'- 7') WIDELY GRADED SAND WITH SILT (SW-SM); light brown.	
50	5					Env. Sample ID= GPEC-SB-218 (6-7)		
		SC1	120/115	PID= NM			SC1 (7'- 11.2') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; dry, brown, loose.	
45	10						SC1 (11.2'- 17') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, ~10% fines; moist, brown, loose.	
40	15	SC2	120/60	PID= 1.8			SC2 (17'- 27') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, rounded, ~5% fines; dry, brown, loose.	
35	20			PID= 0.0				

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_5/29/13

GEI Consultants

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

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BORING LOG

GPEC-SB-218/MW-218I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	20			PID= 0.0				
				PID= 0.0				
30	25			PID= 0.0				
		SC3	120/75	PID= 0.0			SC3 (27'- 37') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, rounded, ~10% fines; dry to moist, brown.	
25	30			PID= 0.0				
				PID= 0.0				
				PID= 0.0				
20	35			PID= 0.0				
		SC4	120/80	PID= NM		Difficult drilling.	SC4 (37'- 47') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to coarse, ~20% fines, ~15% gravel, fine to coarse; silty pulverized rock, dry to moist, brown, loose.	
15	40							

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455 Winding Brook Road
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BORING LOG

GPEC-SB-218/MW-218I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	45							
		SC5	120/80	PID= 0.0			SC5 (47'- 57') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, ~10% fines; wet, brown, loose.	
				PID= 0.0				
5	50			PID= 0.0		Env. Sample ID= GPEC-SB-218 (50-51)		
				PID= 0.0				
0	55			PID= 0.0				
		SC6	120/108	PID= 0.0			SC6 (57'- 67') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, rounded, ~10% fines; wet, brown, loose.	
				PID= 0.1				
-5	60			PID= 0.2				
				PID= 0.0				
				PID= 0.3				
-10	65			PID= 0.0				
		SC7	120/88	PID= 0.0			SC7 (67'- 77') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~5% gravel, fine, rounded, ~5% fines; wet, brown, loose.	

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

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GPEC-SB-218/MW-218I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-15	70			PID= 0.7				
				PID= 0.3				
				PID= 0.1				
-20	75			PID= 0.2				
		SC8	120/120	PID= 0.3			SC8 (77'- 87') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~5% gravel, fine, ~5% fines; wet, brown, loose.	
				PID= 0.3				
-25	80			PID= 0.3				
				PID= 0.5				
-30	85			PID= 0.3				
		SC9	120/120	PID= 1.4			SC9 (87'- 96.5') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, medium, ~15% gravel, fine to coarse, ~10% fines; wet, brown orange, loose.	
-35	90			PID= 0.4				
				PID= 0.4				
				PID= 0.4				

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BORING LOG

PAGE 5 of 5

GPEC-SB-218/MW-218I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-40	95			PID= 0.4 PID= 0.4			SC9 (96.5'- 97') WIDELY GRADED SAND WITH GRAVEL (SW); fine to coarse, fine to coarse; cobbles, max. size 4", dark brown, loose. SC10 (97'- 104.5') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine, ~30% gravel, fine to coarse, ~15% fines; wet, orange brown, medium dense.	
		SC10	120/24	PID= 1.4				
-45	100			PID= 0.5				
				PID= 0.6				
-50	105						SC10 (104.5'- 107') LEAN CLAY (CL); ~100% fines, moderate; moist to wet, gray, stiff to hard.	
		SC11	120/120	PID= 0.0			SC11 (107'- 117') FAT CLAY (CH); ~100% fines, high plasticity; mottled, layered, saprolite, mica, moist, dark gray to black, hard.	
-55	110			PID= 0.0				
				PID= 0.0				
-60	115					Env. Sample ID= GPEC-SB-218 (116-117)		

End of Boring at 117 feet.
Grout to ground surface

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_5/29/13

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BORING LOG

PAGE 1 of 6

GPEC-SB-219/MW-219S/I/D

GROUND SURFACE ELEVATION (FT): 43.19 **LOCATION:** Tank Farm
NORTHING (FT): 688284 **EASTING (FT):** 648863 **TOTAL DEPTH (FT):** 133.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 6/28/2012 - 6/28/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: The elevation noted is measured at the riser

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0		84/NM					(0'- 7') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); brown, FILL.	
40				PID= 0.0					
	5								
		SC1	120/120	PID= 0.3				SC1 (7'- 10.6') SANDY SILT WITH GRAVEL (ML); ~50% fines, ~25% gravel, fine to coarse, ~25% sand, fine to coarse; cobbles, max. size 6", moist to wet, reddish brown, FILL.	
35				PID= 5.1					
	10			PID= 9.8				SC1 (10.6'- 17') SILTY GRAVEL WITH SAND (GM); ~50% gravel, fine to coarse, ~30% fines, ~20% sand, fine to coarse; cobbles, max. size >6", light.	
30				PID= 0.0					
				PID= 0.0					
	15			PID= 0.0					
		SC2	120/84	PID= NM				SC2 (17'- 26.2') SILTY GRAVEL WITH SAND (GM); ~60% gravel, fine to coarse, ~20% sand, fine to coarse, ~20% fines; cobbles, max. size >6", moist, tan.	
25									
	20								

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TSF = TONS PER SQUARE FOOT

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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 2 of 6

GPEC-SB-219/MW-219S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
20	20								
	25							SC2 (26.2'- 27') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse; moist, red brown, loose. SC3 (27'- 37') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine to coarse, ~5% fines; moist, orange brown, loose.	
15		SC3	120/52	PID= NM					
	30								
10									
	35								
5		SC4	120/95	PID= 0.7				SC4 (37'- 42.9') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; moist to wet, brown.	
	40			PID= 0.4					
				PID= 0.2					
0								SC4 (42.9'- 47') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, fine to medium, ~15% gravel, fine, ~5% fines; moist to wet, brown.	

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BORING LOG

GPEC-SB-219/MW-219S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	45			PID= 0.5					
		SC5	120/90	PID= 2.4				SC5 (47'- 51.7') NARROWLY GRADED SAND (SP); ~100% sand, medium; moist to wet, brown, loose.	
-5				PID= 1.5					
	50			PID= 1.4			Env. Sample ID= GPEC-SB-219 (50-51)		
								SC5 (51.7'- 57') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse; moist to wet, brown, wet at 80" (~55.9').	
-10				PID= 1.1					
	55			PID= 0.6					
		SC6	120/108	PID= 1.0				SC6 (57'- 67') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse; wet, brown, loose.	
-15				PID= 1.4					
	60			PID= 1.1					
				PID= 0.6					
				PID= 0.6					
-20				PID= 0.6					
	65			PID= 0.5					
				PID= 0.4					
		SC7	120/93	PID= NM				SC7 (67'- 77') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium to coarse, ~15% gravel, fine to coarse; wet, brown.	
-25									

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BORING LOG

GPEC-SB-219/MW-219S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	70								
-30									
	75								
		SC8	120/120	PID= 0.0				SC8 (77'- 87') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, fine, ~15% gravel, fine; wet, brown, loose.	
-35				PID= 0.0					
	80			PID= 0.0					
-40				PID= 0.0					
	85			PID= 0.0					
		SC9	120/93	PID= 0.0				SC9 (87'- 93') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine, ~10% gravel, fine, ~10% fines; brown.	
-45				PID= 0.0					
	90			PID= 0.0					
-50				PID= 0.0		MLO		SC9 (93'- 97') WIDELY GRADED SAND WITH GRAVEL	

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Glastonbury, CT 06033
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BORING LOG

PAGE 5 of 6

GPEC-SB-219/MW-219S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	95			PID= 0.0		MLO		(SW); ~100% sand, fine to coarse; mottled, moderate musty-like odor, wet, orange brown, oxidation.	
-55		SC10	120/120	PID= 4.8				SC10 (97'- 97.5') SANDY SILT (ML); ~50% sand, fine, ~50% fines; dark gray tan. SC10 (97.5'- 107') FAT CLAY (CH); ~100% fines, plastic; dark gray, very stiff to hard.	
	100			PID= 0.0					
				PID= 0.0					
-60				PID= 0.0					
	105			PID= 0.0					
		SC11	120/120	PID= 0.5				SC11 (107'- 116') FAT CLAY (CH); ~100% fines, plastic; dark gray, very stiff to hard.	
-65				PID= 0.7					
	110			PID= 0.5					
				PID= 0.3					
-70				PID= 0.4					
				PID= 0.3					
	115			PID= 0.4				SC11 (116'- 117') SANDY CLAY (CL); ~50% sand, fine, ~50% fines, non plastic; wet, dark gray.	
		SC12	120/120	PID= 0.8				SC12 (117'- 127') FAT CLAY (CH); ~100% fines, plastic; mottled, gray to gray red tan, hard, oxidation.	

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BORING LOG

GPEC-SB-219/MW-219S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	120			PID= 1.9					
				PID= 2.6					
				PID= 0.5					
-80				PID= 1.4					
				PID= 0.5					
	125			PID= 0.6					
		SC13	72/72	PID= 0.5				SC13 (127'- 133') FAT CLAY (CH); ~100% fines, plastic; mottled, red orange gray, hard.	
-85				PID= 0.4					
				PID= 0.3			Env. Sample ID= GPEC-SB-219 (129-130)		
	130			PID= 0.8					
				PID= 0.7					
								End of Boring at 133 feet. Grout to ground surface	

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BORING LOG
PAGE 1 of 5
GPEC-SB-220/MW-220S/I/D

GROUND SURFACE ELEVATION (FT): 25.56 **LOCATION:** Meter Building Parking Lot
NORTHING (FT): 687493 **EASTING (FT):** 648659 **TOTAL DEPTH (FT):** 97.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/13/2012 - 7/13/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 17.00 ;
GENERAL NOTE: The elevation noted is measured at the plate

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
25	0		96/NM				(0'- 0.5') ASPHALT; FILL. (0.5'- 2') NARROWLY GRADED SAND (SP); sand, medium, brick fragments, moist, brown, FILL.	
							(2'- 3') NARROWLY GRADED SAND (SP); sand, medium, with pebbles, some silt, dark brown - gray, FILL. (3'- 7') SILTY SAND (SM); ~5% pebbles, dark brown, FILL.	
20	5					Env. Sample ID= GPEC-SB-220 (5-5.5) Env. Sample ID= GPEC-SB-220 (6-7)		
		SC1	60/54	PID= 0.8			SC1 (7'- 12') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine, ~15% gravel, fine to coarse, ~10% fines; max. size 4", dry, orange brown, FILL.	
				PID= 1.9				
15	10			PID= 3.3				
		SC2	60/60	PID= 4.9			SC2 (12'- 17') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine, ~20% gravel, fine to coarse, ~20% fines; moist, orange brown, loose.	
				PID= 0.0				
	15			PID= 2.5				
10				PID= 0.7				
▽		SC3	120/100	PID= 14.4		Env. Sample ID= GPEC-SB-220 (17-18)	SC3 (17'- 18.2') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine, ~25% gravel, fine to coarse, ~20% fines; wet, orange brown, loose.	
				PID= 5.3			SC3 (18.2'- 23.4') SANDY LEAN CLAY WITH GRAVEL (CL); ~50% fines, plastic, ~30% sand, fine, ~20% gravel, fine to coarse; moist, brown, stiff to hard.	
	20							

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BORING LOG

PAGE 2 of 5

GPEC-SB-220/MW-220S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
5	20			PID= 0.5				
				PID= 0.5			SC3 (23.4'- 27') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~50% gravel, fine to coarse, ~40% sand, fine to coarse, ~10% fines; moist to wet, brown, loose.	
0	25			PID= 0.2				
		SC4	120/70	PID= 0.0			SC4 (27'- 37') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, ~10% fines; max. size 5", wet, orange brown, loose.	
				PID= 0.0				
-5	30			PID= 0.0				
				PID= 0.0				
				PID= 0.0				
				PID= 0.0				
-10	35			PID= 0.0				
		SC5	120/120	PID= 0.0			SC5 (37'- 47') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, ~10% fines; max. size 5", wet, brown, loose.	
				PID= 0.0				
-15	40			PID= 0.0				
				PID= 0.0				
				PID= 0.0				

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PAGE 3 of 5

GPEC-SB-220/MW-220S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-20	45			PID= 0.0				
		SC6	120/48	PID= 0.0			SC6 (47'- 52') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium, ~15% gravel, fine to coarse, ~5% fines; max. size 1", wet, brown, loose.	
				PID= 5.8				
	50							
-25				PID= 4.1				
				PID= 5.6			SC6 (52'- 57') NO RECOVERY; bottom 5' fell out of core barrel.	
				PID= 5.6				
	55							
-30				PID= 3.7				
		SC7	120/115	PID= 0.0			SC7 (57'- 67') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse; max. size 1", wet, brown, loose.	
				PID= 0.1				
	60			PID= 0.2				
-35								
				PID= 0.4				
				PID= 0.1				
				PID= 0.2				
	65							
-40				PID= 0.1				
		SC8	120/82	PID= 0.2			SC7 (67'- 73.7') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse; max. size 1", wet, brown, loose.	
				PID= 0.0				

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-45	70			PID= 0.0				
				PID= 0.0				
				PID= 0.0			SC7 (73.7'- 77') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, medium, ~10% fines, ~5% gravel, fine to coarse; wet, orange brown, loose, oxidation.	
-50	75			PID= 0.0				
		SC9	120/120	PID= 0.0			SC8 (77'- 79') NARROWLY GRADED SAND (SP); wet, orange brown, loose.	
				PID= 0.0			SC8 (79'- 87') FAT CLAY (CH); ~95% fines, high plasticity, high dry strength; ~5% organics (shell fragments), moist, gray, hard.	
-55	80			PID= 0.0				
				PID= 0.0				
				PID= 0.0				
-60	85			PID= 0.0				
		SC10	120/98	PID= 0.0			SC9 (87'- 95.2') FAT CLAY (CH); ~100% fines, high plasticity, high dry strength; moist, gray, hard.	
				PID= 0.0				
-65	90			PID= 0.0				
				PID= 0.0				

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ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-70	95			PID= 0.0 PID= 0.0		Env. Sample ID= GPEC-SB-220 (96-97)	SC10 (95.2'- 97') LEAN CLAY WITH SAND (CL); ~75% fines, ~25% sand, fine to coarse; layered, wet, gray, soft, medium stiff.	

End of Boring at 97 feet.
Grout to Ground Surface

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TSF = TONS PER SQUARE FOOT

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PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
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CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
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MLO = MUSTY LIKE ODOR
SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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 5
GPEC-SB-221/MW-221S/I/D

GROUND SURFACE ELEVATION (FT): 18.35 **LOCATION:** Storage Building
NORTHING (FT): 687635 **EASTING (FT):** 649585 **TOTAL DEPTH (FT):** 95.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/12/2012 - 7/12/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 5.75 ;
GENERAL NOTE: The elevation noted is measured at the plate

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
15	0		96/NM				Env. Sample ID= GPEC-SB-221 (2-2.5)	(0'- 0.5') ASPHALT; FILL. (0.5'- 2.5') WIDELY GRADED SAND (SW); slag pieces, brown, FILL.
								(2.5'- 7') FILL; whiteish gray, soft, mendable bentonite-like material. Note: Ken Nelsen thinks it was applied to prevent from sink hole formation frequently occuring in this area.
5	10	SC1	120/72	PID= 0.4				SC1 (7'- 8.9') ASPHALT; and gravel. FILL.
				PID= 1.9				SC1 (8.9'- 13.9') LEAN CLAY (CL); ~90% fines, ~10% gravel, fine to coarse; mottled, moderate sulfur-like odor, wet, gray white tan, soft. FILL.
				PID= 0.7		SLO		
				PID= 5.7				
				PID= 5.3				SC1 (13.9'- 17') WIDELY GRADED GRAVEL WITH SAND (GW); ~80% gravel, fine to coarse, angular, ~20% sand, fine to coarse; moderate sulfur-like odor, wet, loose.
0	15			PID= 35.7		SLO	Env. Sample ID= GPEC-SB-221 (16-17)	
		SC2	120/120	PID= 332				SC2 (17'- 25.6') PEAT (PT); ~80% fines, plastic; ~20% organic material, strong sulfur-like odor, moist, dark gray brown.
				PID= 450		SLO		
				PID= 879				
	20			PID= 1075				

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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Glastonbury, CT 06033
(860) 368-5300

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BORING LOG

GPEC-SB-221/MW-221S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	20			PID= 846				
				PID= 668				
				PID= 491		SLO	Env. Sample ID= GPEC-SB-221 (23-24)	
-5				PID= 269				
				PID= 1052				
	25			PID= 371				
				PID= 309		SLO		SC2 (25.6'- 27') ORGANIC SOIL (OL); low plasticity; strong sulfur-like odor, moist, dark brown, soft, crumbles.
		SC3	120/120	PID= 563				SC3 (27'- 32.7') SILTY SAND (SM); ~60% sand, fine, ~40% fines, low plasticity; moderate sulfur-like odor, wet, gray, soft.
-10				PID= 592				
	30			PID= 54.1		SLO		
				PID= 4.9				
-15				PID= 2.3				SC3 (32.7'- 37') FAT CLAY (CH); ~90% fines, high plasticity, ~10% sand, fine; gray orange, stiff to hard.
	35			PID= 1.4				
		SC4	120/110	PID= 0.9				SC4 (37'- 47') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; wet, brown, loose.
-20				PID= 1.2				
	40			PID= 2.6				
				PID= 1.5				
-25				PID= 1.1				

WELL DETAILS

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BORING LOG

GPEC-SB-221/MW-221S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	45			PID= 1.0					
		SC5	120/94	PID= 3.2				SC5 (47'- 55.2') SILTY SAND (SM); ~80% sand, fine, ~20% fines; moist, light brown, loose.	
-30				PID= 1.1					
	50			PID= 0.9					
				PID= 1.0					
-35				PID= 1.0					
	55			PID= 1.4				SC5 (55.2'- 57') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse; wet, brown, loose.	
		SC6	120/102	PID= 0.6				SC6 (57'- 60.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse; brown.	
-40				PID= 0.8					
	60							SC6 (60.3'- 67') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine, ~15% gravel, fine to coarse, ~15% fines, non plastic; wet, light brown, soft.	
				PID= 0.7					
-45				PID= 0.5					
	65			PID= 0.6					
		SC7	120/92	PID= 0.7				SC7 (67'- 77') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine, ~20% gravel, fine to coarse, subangular, ~20% fines, non plastic; wet, light brown, soft.	
-50									

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BORING LOG
PAGE 4 of 5
GPEC-SB-221/MW-221S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	70			PID= 0.6					
				PID= 0.4					
-55				PID= 0.1					
	75			PID= 0.2					
		SC8	120/120	PID= 0.1				SC8 (77'- 84.5') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine, ~20% gravel, fine to coarse, ~20% fines; wet, light brown, soft.	
-60				PID= 0.2					
	80			PID= 0.2					
-65									
	85			PID= 0.1				SC8 (84.5'- 87') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to coarse, ~35% fines, ~15% gravel, fine to coarse; mottled, wet, orange brown, stiff, oxidation.	
		SC9	96/90	PID= 0.4				SC9 (87'- 91.3') WIDELY GRADED SAND WITH GRAVEL (SW); wet, brown, loose.	
-70							Env. Sample ID= GPEC-SB-221 (89-90)		
	90			PID= 0.3					
				PID= 0.4				SC9 (91.3'- 95') FAT CLAY (CH); ~100% fines; trace gravel, gray, hard, micaceous, saprolite.	
-75									

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BORING LOG

GPEC-SB-221/MW-221S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	95							End of Boring at 95 feet. Grout to ground surface	

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BORING LOG

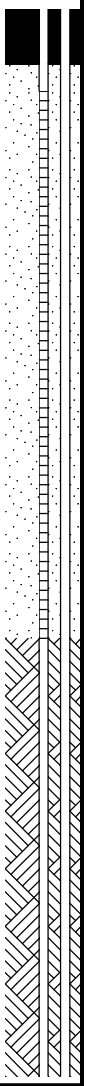
PAGE 1 of 5

GPEC-SB-222/MW-222S/D

GROUND SURFACE ELEVATION (FT): 17.46 **LOCATION:** South Maspeth Holder
NORTHING (FT): 686986 **EASTING (FT):** 649226 **TOTAL DEPTH (FT):** 100.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 6/29/2012 - 6/29/2012
DRILLING DETAILS: Sonic Coring / Prosonc M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 5.50 ;
GENERAL NOTE: The elevation noted is measured at the plate

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
15	0		96/NM	PID= 1.6			PLO		(0'- 1') CONCRETE (SW); slab and rubble. FILL. (1'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); wet, black / gray, FILL. (3'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); slight petroleum-like odor, wet, black / gray, FILL.
10	5	SC1	120/48	PID= 5.8			TLO		SC1 (7'- 17') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, low plasticity, ~20% gravel, fine to coarse; moderate tar-like odor, wet, black green, staining, sheen. FILL.
5	10			PID= 35.0					
0	15			PID= 24.3					
				PID= 5.6					
				PID= 5.4					
		SC2	120/120	PID= 0.0			TLO	Env. Sample ID= GPEC-SB-222 (18-19)	SC2 (17'- 18.5') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to coarse, ~30% fines, plastic, ~20% gravel, fine to coarse; moderate tar-like odor, wet, black, soft; sheen.
				PID= 7.6					
	20			PID= 0.0					SC2 (18.5'- 21') PEAT (PT); ~100% fines, plastic; organic rich, dark gray brown, soft.

WELL DETAILS



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GEI Consultants

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455 Winding Brook Road
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BORING LOG

GPEC-SB-222/MW-222S/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	20			PID= 0.0						
				PID= 0.0					SC2 (21'- 27') LEAN CLAY (CL); ~100% fines, medium plasticity; shell fragments, moderate organic-like odor, moist to very moist, dark gray, soft.	
-5				PID= 0.0						
				PID= 6.4			OLO			
	25			PID= 79.3						
				PID= 161						
-10		SC3	120/120	PID= 375			OLO		SC3 (27'- 29') FAT CLAY (CH); ~90% fines, high plasticity; ~10% organics, moderate organic-like odor, dark gray, soft to medium stiff.	
				PID= 164						
								Env. Sample ID= GPEC-SB-222 (29-30)	SC3 (29'- 30') PEAT (PT); organic soil, dark brown.	
	30			PID= 183					SC3 (30'- 37') CLAYEY SAND (SC); ~50% sand, fine, ~45% fines, low plasticity; ~5% organics, moderate organic-like odor, moderate sulfur-like odor, moist to wet, dark gray, soft.	
				PID= 9.0						
-15				PID= 0.0			OLO			
				PID= 0.0						
	35			PID= 0.0						
-20		SC4	120/120	PID= 0.0					SC4 (37'- 47') FAT CLAY (CH); ~100% fines, high plasticity; very moist, light gray, stiff to hard.	
				PID= 0.0						
	40			PID= 0.0						
				PID= 0.0						
-25				PID= 0.0						

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_5/29/13

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455 Winding Brook Road
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BORING LOG

GPEC-SB-222/MW-222S/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	45			PID= 0.0						
-30		SC5	120/120	PID= 0.0					SC5 (47'- 57') FAT CLAY (CH); ~100% fines, high plasticity; some silt layering, very moist, light gray, stiff to hard.	
	50			PID= 0.0						
				PID= 0.0						
-35				PID= 0.0						
	55			PID= 0.0						
-40		SC6	144/102	PID= 0.0					SC6 (57'- 62.1') FAT CLAY (CH); ~100% fines, high plasticity; moist to wet, light gray, stiff.	
				PID= 0.0						
	60			PID= 0.0						
-45				PID= 0.0					SC6 (62.1'- 69') SANDY LEAN CLAY (CL); ~60% fines, low plasticity, ~40% sand, fine to coarse; interbedded clays and sands, wet, light gray brown, soft to loose.	
	65			PID= 0.0						
-50				PID= 0.0						

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GEI Consultants, Inc.
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Glastonbury, CT 06033
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BORING LOG

PAGE 4 of 5

GPEC-SB-222/MW-222S/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	70	SC7	120/120	PID= 0.0					SC7 (70'- 76.7') CLAYEY SAND (SC); ~50% sand, fine, ~40% fines, low plasticity, ~10% gravel; wet, light gray brown, medium stiffness, dense.	
-55				PID= 0.0						
				PID= 0.0						
	75			PID= 0.0						
-60									SC7 (76.7'- 77.7') NARROWLY GRADED SAND (SP); orange brown, loose.	
				PID= 0.0					SC7 (77.7'- 80') LEAN CLAY (CL); organic soil, moist to wet, dark brown, hard, brittle.	
	80	SC8	120/120	PID= 0.0					SC8 (80'- 81.2') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium, ~15% gravel, fine to coarse; max. size 2", wet, orange brown, loose.	
-65				PID= 0.0			OLO		SC8 (81.2'- 83.2') LEAN CLAY (CL); ~100% fines, low plasticity; organic rich, moderate organic-like odor, moderate sulfur-like odor, black.	
				PID= 0.0					SC8 (83.2'- 90') LEAN CLAY (CL); ~100% fines, low plasticity; mica rich, weathered schist, gray, stiff, possibly saprolite.	
	85			PID= 0.0						
-70				PID= 0.0						
	90	SC9	120/120	PID= 0.0					SC9 (90'- 100') FAT CLAY (CH); ~100% fines, high plasticity; mica flakes, weathered schist, gray, hard, possibly saprolite.	
-75				PID= 0.0						

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

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_5/29/13

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-SB-222/MW-222S/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-80	95			PID= 0.0 PID= 0.0				Env. Sample ID= GPEC-SB-222 (98-99)	End of Boring at 100 feet. Grout to ground surface	
	100									

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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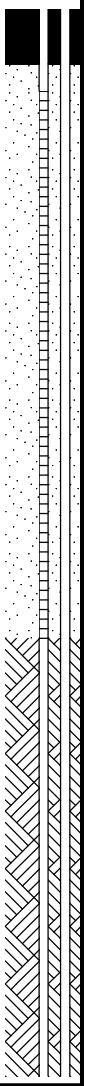
GEI PROJECT NUMBER: 125180-1-1102

BORING LOG
PAGE 1 of 5
GPEC-SB-222S/D

GROUND SURFACE ELEVATION (FT): 17.46 **LOCATION:** South Maspeth Holder
NORTHING (FT): 686986 **EASTING (FT):** 649226 **TOTAL DEPTH (FT):** 100.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 6/29/2012 - 6/29/2012
DRILLING DETAILS: Sonic Coring / Prosonc M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 5.50 ;
GENERAL NOTE: The elevation noted is measured at the plate

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
15	0		96/NM	PID= 1.6					(0'- 1') CONCRETE (SW); slab and rubble. FILL. (1'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); wet, black / gray, FILL.
	5						PLO		(3'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); slight petroleum-like odor, wet, black / gray, FILL.
10		SC1	120/48	PID= 5.8					SC1 (7'- 17') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, low plasticity, ~20% gravel, fine to coarse; moderate tar-like odor, wet, black green, staining, sheen. FILL.
5	10			PID= 35.0					
				PID= 24.3			TLO		
	15			PID= 5.6					
0				PID= 5.4					
		SC2	120/120	PID= 0.0					SC2 (17'- 18.5') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to coarse, ~30% fines, plastic, ~20% gravel, fine to coarse; moderate tar-like odor, wet, black, soft; sheen.
				PID= 7.6			TLO	Env. Sample ID= GPEC-SB-222 (18-19)	
	20			PID= 0.0					SC2 (18.5'- 21') PEAT (PT); ~100% fines, plastic; organic rich, dark gray brown, soft.

WELL DETAILS



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BORING LOG
PAGE 2 of 5
GPEC-SB-222S/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	20			PID= 0.0						
				PID= 0.0					SC2 (21'- 27') LEAN CLAY (CL); ~100% fines, medium plasticity; shell fragments, moderate organic-like odor, moist to very moist, dark gray, soft.	
-5				PID= 0.0						
				PID= 6.4			OLO			
	25			PID= 79.3						
				PID= 161						
-10		SC3	120/120	PID= 375			OLO		SC3 (27'- 29') FAT CLAY (CH); ~90% fines, high plasticity; ~10% organics, moderate organic-like odor, dark gray, soft to medium stiff.	
				PID= 164						
								Env. Sample ID= GPEC-SB-222 (29-30)	SC3 (29'- 30') PEAT (PT); organic soil, dark brown.	
	30			PID= 183					SC3 (30'- 37') CLAYEY SAND (SC); ~50% sand, fine, ~45% fines, low plasticity; ~5% organics, moderate organic-like odor, moderate sulfur-like odor, moist to wet, dark gray, soft.	
				PID= 9.0						
-15				PID= 0.0			OLO			
				PID= 0.0						
	35			PID= 0.0						
-20		SC4	120/120	PID= 0.0					SC4 (37'- 47') FAT CLAY (CH); ~100% fines, high plasticity; very moist, light gray, stiff to hard.	
				PID= 0.0						
	40			PID= 0.0						
				PID= 0.0						
-25				PID= 0.0						

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

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BORING LOG

GPEC-SB-222S/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	45			PID= 0.0						
-30		SC5	120/120	PID= 0.0					SC5 (47'- 57') FAT CLAY (CH); ~100% fines, high plasticity; some silt layering, very moist, light gray, stiff to hard.	
	50			PID= 0.0						
				PID= 0.0						
-35				PID= 0.0						
	55			PID= 0.0						
-40		SC6	144/102	PID= 0.0					SC6 (57'- 62.1') FAT CLAY (CH); ~100% fines, high plasticity; moist to wet, light gray, stiff.	
				PID= 0.0						
	60			PID= 0.0						
-45				PID= 0.0					SC6 (62.1'- 69') SANDY LEAN CLAY (CL); ~60% fines, low plasticity, ~40% sand, fine to coarse; interbedded clays and sands, wet, light gray brown, soft to loose.	
				PID= 0.0						
	65			PID= 0.0						
-50				PID= 0.0						

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BORING LOG
PAGE 4 of 5
GPEC-SB-222S/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	70	SC7	120/120	PID= 0.0					SC7 (70'- 76.7') CLAYEY SAND (SC); ~50% sand, fine, ~40% fines, low plasticity, ~10% gravel; wet, light gray brown, medium stiffness, dense.	
-55				PID= 0.0						
				PID= 0.0						
	75									
				PID= 0.0						
-60									SC7 (76.7'- 77.7') NARROWLY GRADED SAND (SP); orange brown, loose.	
				PID= 0.0					SC7 (77.7'- 80') LEAN CLAY (CL); organic soil, moist to wet, dark brown, hard, brittle.	
	80	SC8	120/120	PID= 0.0					SC8 (80'- 81.2') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium, ~15% gravel, fine to coarse; max. size 2", wet, orange brown, loose.	
-65				PID= 0.0			OLO		SC8 (81.2'- 83.2') LEAN CLAY (CL); ~100% fines, low plasticity; organic rich, moderate organic-like odor, moderate sulfur-like odor, black.	
				PID= 0.0					SC8 (83.2'- 90') LEAN CLAY (CL); ~100% fines, low plasticity; mica rich, weathered schist, gray, stiff, possibly saprolite.	
	85									
				PID= 0.0						
-70										
				PID= 0.0						
	90	SC9	120/120	PID= 0.0					SC9 (90'- 100') FAT CLAY (CH); ~100% fines, high plasticity; mica flakes, weathered schist, gray, hard, possibly saprolite.	
-75				PID= 0.0						

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_5/29/13

GEI Consultants

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

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BORING LOG

GPEC-SB-222S/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-80	95			PID= 0.0 PID= 0.0				Env. Sample ID= GPEC-SB-222 (98-99)	End of Boring at 100 feet. Grout to ground surface	
	100									

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

GEI Consultants

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
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BORING LOG
PAGE 1 of 3
GPEC-SB302

GROUND SURFACE ELEVATION (FT): 11.82 **LOCATION:** Area 4
NORTHING (FT): 687470 **EASTING (FT):** 650905 **TOTAL DEPTH (FT):** 75.0
DRILLED BY: Cascade Drilling / Olden Gonzalez **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Devin Byrne **DATE START / END:** 7/23/2015 - 7/23/2015
DRILLING DETAILS: Mini Sonic BL 100C
WATER LEVEL DEPTHS (FT): ▽ 5.00 7/23/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0								(0'- 8') Vacuum/Hand Cleared.
▽ 5	5								
5		S1	2/0						(8'- 10') Hard obtrusion at 5.5'. Verified utility clearance and pushed to 10'. Likely concrete rubble. No recovery.
0	10	S2	5/31	0.1 0.0 0.3 0.0 0.0			OLO		(10'- 14.2') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse, subangular; max. size 2", moderate organic-like odor, wet, brown black, loose.
	15			0.3			OLO		(14.2'- 15') SILTY SAND (SM); ~70% sand, fine to medium, ~30% fines; moderate organic-like odor, greenish blue, loamy, slight to moderate septic odor.
-5		S3	5/49	0.0 0.0			OLO		(15'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~95% sand, fine to coarse, ~5% gravel, fine to coarse, subrounded; max. size 3", slight organic-like odor, wet, black, loose.
	20	S4	5/51	39.2 81.0 16.0 29.2 7.0 70.1 64.2 76.7			OLO OLO	GPEC-SB-302 (20-21)	(20'- 20.8') WIDELY GRADED SAND WITH GRAVEL (SW); ~90% sand, ~5% gravel, subrounded, ~5% fines; max. size 1.5", moderate organic-like odor, wet, black, loose, slight-moderate organic/septic odor.
-10									(20.8'- 25') PEAT (PT); moderate organic-like odor, brown, meadow mat, slight-moderate organic/septic odor, firm.
	25								

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants

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455 Winding Brook Drive
Suite 201
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BORING LOG
PAGE 2 of 3
GPEC-SB302

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25	S5	5/60	18.9 4.7 3.9 1.6 1.9 1.2 0.8 0.6 0.6 1.1 0.9					(25'- 27.4') NARROWLY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to medium, ~20% fines, non plastic; moist, gray, firm. (27.4'- 29') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; moist, gray, loose. (29'- 30') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; moist, gray.
-15									
	30	S6	5/49						(30'- 33.5') NARROWLY GRADED SAND WITH CLAY (SP-SC); ~70% sand, fine to medium, ~30% fines, non plastic; moist, gray, firm.
-20				0.0					
	35	S7	5/48	0.0					(33.5'- 35') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines, non plastic; moist, gray, loose. (35'- 40') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines, non plastic; moist, gray brown, loose.
-25				0.0					
	40	S8	5/49						(40'- 45') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines, non plastic; moist, light brown, loose.
-30				0.0					
	45	S9	5/41						(45'- 50') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines, non plastic; wet, light brown, loose.
-35				0.0					
	50	S10	5/49						(50'- 55') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines, non plastic; wet, light brown, loose.
-40				0.0					
	55	S11	5/8						(55'- 60') NARROWLY GRADED SAND WITH SILT

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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

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BORING LOG

GPEC-SB302

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-45				0.0					(SP-SM); ~90% sand, fine to medium, ~10% fines, non plastic; wet, light brown, loose.
				0.0					
	60	S12	5/48						(60'- 63.8') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines, non plastic; wet, light brown, loose, trace mica.
-50				0.0					
				0.0					(63.8'- 65') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine to coarse; max. size 0.5", brown, loose.
	65	S13	5/41						(65'- 70') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine to coarse; max. size 0.5", brown, loose.
-55				0.0					
				0.0					
	70	S14	5/55						(70'- 75') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine to coarse; max. size 0.5", brown, loose.
-60				0.0					
				0.0				GPEC-SB-302 (74-75)	
	75								End of Boring at 75 feet. Grout to surface. Piezometer (7-17') installed at adjacent location.

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Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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

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

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

ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants, Inc. P.C. 455 Winding Brook Drive Suite 201 Glastonbury, CT 06033 (860) 368-5300	CLIENT: National Grid PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-2-1202	BORING LOG PAGE 1 of 2 GPEC-SB304

GROUND SURFACE ELEVATION (FT): 14.36 LOCATION: Area 5
NORTHING (FT): 687200 EASTING (FT): 649221 TOTAL DEPTH (FT): 30.0
DRILLED BY: Zebra Environmental / Luke Reiss DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi, Chris Anastasiou DATE START / END: 3/31/2015 - 3/31/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 3.00 3/31/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0								(0'- 8') Vacuum/Hand Cleared.
5	5								
	10	S1	2/24	961			TLO		(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to medium, subangular to angular, ~15% gravel, fine to coarse, angular to subrounded, ~5% fines; moderate tar-like odor, wet, black, liner smeared with NAPL, viscous, tar-like saturation, sheen.
0		S2	5/42	700 409 732 552 826 953 85.3			TLO		(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, ~15% gravel, ~5% fines; moderate tar-like odor, wet, black, liner smeared with NAPL, viscous, tar-like saturation, sheen.
	15	S3	5/42	1601 810 212 104 67.7 18.4 8.3			TLO	GPEC-SB/PZ-304 (15-16)	(15'- 16.4') WIDELY GRADED SAND WITH GRAVEL (SW); moderate tar-like odor, wet, black, liner smeared with NAPL, viscous, tar-like saturation, sheen. (16.4'- 20') WIDELY GRADED SAND WITH GRAVEL (SW).
-5	20	S4	5/20						(20'- 25') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to medium, subangular to angular, ~15% gravel, fine to coarse, subangular to angular, ~5% fines; moist, gray to brown.
-10	25								

NOTES:

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S_V = TORVANE PEAK

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

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

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

ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG

GPEC-SB304

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25	S5	5/12						(25'- 30') ORGANIC SOIL WITH SAND (OL); some root, trace peat.
-15	30			23.6				GPEC-SB/PZ-304 (29-30)	

End of Boring at 30 feet.
Grout to surface.

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GEI Consultants, Inc. P.C. 455 Winding Brook Drive Suite 201 Glastonbury, CT 06033 (860) 368-5300	CLIENT: National Grid PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-2-1202	BORING LOG PAGE 1 of 2 GPEC-SB304A

GROUND SURFACE ELEVATION (FT): 14.87 LOCATION: Area 5 North of Holder 1
NORTHING (FT): 687206 EASTING (FT): 649210 TOTAL DEPTH (FT): 25.0
DRILLED BY: Zebra Environmental / Luke Caballero DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi DATE START / END: 5/7/2015 - 5/7/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 3.00 5/7/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
10	0							(0'- 8') Vacuum/Hand Cleared.
5	5	S1	2/24	151			TLO	(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, ~5% fines; max. size 1.5", moderate tar-like odor, wet, black, soil staining, red bricks, wood chips. FILL.
0	10	S2	5/20	1771 477 396 409			TLO	(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, ~5% fines; max. size 1.5", moderate tar-like odor, wet, black, soil staining, tar-like material observed saturated (low viscosity), red bricks, wood chips, liner smeared with NAPL. FILL.
-5	15	S3	5/24	153 65 54 21			TLO	(15'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, ~5% fines; max. size 1.5", moderate tar-like odor, wet, black, soil staining, less tar-like material saturation (low viscosity), red bricks, wood chips, liner smeared with NAPL. FILL.
	20	S4	5/58	475 396 56 21.6 18.1			TLO OLO	(20'- 21.6') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, ~5% fines; max. size 1.5", moderate tar-like odor, wet, black, soil staining, less tar-like material saturation (low viscosity), red bricks, wood chips, liner smeared with NAPL. FILL. (21.6'- 25') PEAT (PT); moderate organic-like odor, moist, gray, root fibers.
	25							

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S_V = TORVANE PEAK

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IN. = INCHES
FT. = FEET

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG

GPEC-SB304A

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
								End of Boring at 25 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
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GEI PROJECT NUMBER: 125180-2-1202

BORING LOG
PAGE 1 of 2
GPEC-SB304B

GROUND SURFACE ELEVATION (FT): 14.20 **LOCATION:** Area 5 North of Holder 1
NORTHING (FT): 687211 **EASTING (FT):** 649238 **TOTAL DEPTH (FT):** 25.0
DRILLED BY: Zebra Environmental / Luke Caballero **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 5/7/2015 - 5/7/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 3.00 5/8/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
10	0							(0'- 8') Vacuum/Hand Cleared.
5	5	S1	2/12	475			TLO	(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to angular, ~5% fines; max. size 1.5", moderate tar-like odor, wet, brown to black, wood chips, red bricks. FILL.
0	10	S2	5/42	75 103 111 378 65 49.5 13.1			TLO	(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to angular, ~5% fines; max. size 1.5", moderate tar-like odor, wet, brown to black, tar like material saturation, black sleeve smeared with tar-like material, sheen NAPL on water, wood chips, red bricks. FILL.
-5	15	S3	5/46	25.1 49 62 174 18 0.9 0.6			TLO	(15'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to angular, ~5% fines; max. size 1.5", moderate tar-like odor, wet, black, tar like material saturation, black sleeve smeared with tar-like material, sheen NAPL on water, wood chips, red bricks. FILL.
-10	20	S4	5/60	58 79 30 25 12 30 8.5 0.9			TLO OLO	(20'- 21') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to angular, ~5% fines; max. size 1.5", moderate tar-like odor, wet, black, tar like material saturation, black sleeve smeared with tar-like material, sheen NAPL on water, wood chips, red bricks. FILL. (21'- 23.3') PEAT (PT); moist, brown, meadow mat. (23.3'- 24.3') ORGANIC SOIL (OL); black to brown. (24.3'- 24.8') SILTY CLAY (CL-ML); moderate organic-like odor,
	25							

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG

GPEC-SB304B

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
				1.1 0.9				moist, gray. (24.8'- 25') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, gray. End of Boring at 25 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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GEI PROJECT NUMBER: 125180-2-1202

BORING LOG
PAGE 1 of 2
GPEC-SB304C

GROUND SURFACE ELEVATION (FT): 13.77 **LOCATION:** Area 5 North of Holder 1
NORTHING (FT): 687184 **EASTING (FT):** 649231 **TOTAL DEPTH (FT):** 25.0
DRILLED BY: Zebra Environmental / Luke Caballero **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 5/7/2015 - 5/7/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 7.50 5/7/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
10	0							(0'- 8') Vacuum/Hand Cleared.
5	5							
▽								
5	10	S1	2/15	9.5			TLO	(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, angular to subangular, ~5% fines; max. size 1.5", slight tar-like odor, moderate tar-like odor, wet, black.
0	15	S2	5/20	1770 817 951 341			TLO	(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, angular to subangular, ~5% fines; max. size 1.5", moderate tar-like odor, wet, black, soil staining, sheen on water, sleeve/liner staining with tar-like material, wooden chips.
-5	20	S3	5/40	9.6 53 48 32 21.5 1.9			TLO	(15'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, angular to subangular, ~5% fines; max. size 1.5", moderate tar-like odor, wet, black, soil staining, sheen observed, blebs, soil staining, sleeve/liner staining with tar-like material, wooden chips.
-10	25	S4	5/60	209 417 487 319 271 189 719 256			TLO OLO	(20'- 23.8') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, angular to subangular, ~5% fines; max. size 1.5", moderate tar-like odor, wet, black, soil staining, sheen observed, blebs, soil staining, sleeve/liner staining with tar-like material, wooden chips. (23.8'- 25') PEAT (PT); moderate organic-like odor, moist, meadow mat, fibrous root.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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(860) 368-5300

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PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG

GPEC-SB304C

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
			119 86					End of Boring at 25 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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BORING LOG
PAGE 1 of 1
GPEC-SB304D

GROUND SURFACE ELEVATION (FT): 13.78 **LOCATION:** Area 5 North of Holder 1
NORTHING (FT): 687151 **EASTING (FT):** 649197 **TOTAL DEPTH (FT):** 20.0
DRILLED BY: Zebra Environmental / Luke Caballero **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 5/7/2015 - 5/7/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 7.50 5/7/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
10	0							(0'- 8') Vacuum/Hand Cleared.
5	5							
▽								
5	10	S1	2/10	7.1			TLO	(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, angular to subangular, ~15% gravel, fine to coarse, subangular to angular, ~5% fines; max. size 1.5", moderate tar-like odor, slight tar-like odor, wet, black, trace sheen on water.
0	10	S2	5/30	39.1 40.5 109 45 39 22			TLO	(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, angular to subangular, ~15% gravel, fine to coarse, subangular to angular, ~5% fines; max. size 1.5", moderate tar-like odor, wet, black, blebs/staining/sheen on water, wood chips/red bricks.
-5	15	S3	5/32	17.5 165.9 75.6 103.1 117.6 110.3 85.5 78.6			TLO	(15'- 19.8') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, angular to subangular, ~15% gravel, fine to coarse, subangular to angular, ~5% fines; max. size 1.5", moderate tar-like odor, wet, black, blebs/staining/sheen on water, wood chips/red bricks.
	20							(19.8'- 20') PEAT (PT); meadow mat. End of Boring at 20 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants

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455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG
PAGE 1 of 1
GPEC-SB304E

GROUND SURFACE ELEVATION (FT): 13.53 **LOCATION:** Area 5 North of Holder 1
NORTHING (FT): 687184 **EASTING (FT):** 649231 **TOTAL DEPTH (FT):** 20.0
DRILLED BY: Zebra Environmental / Carlos Hernandez **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 6/30/2015 - 6/30/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6610 DT
WATER LEVEL DEPTHS (FT): ▽ 5.50 6/30/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
10	0							(0'- 8') Vacuum/Hand Cleared.
5	5	S1	2/24	149			TLO	(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wood chips, red brick fragments, max. size 1.5, moderate tar-like odor, wet, brown with black, soil staining with tar-like mat, sheen observed. FILL.
0	10	S2	5/NM	301 407 489 322 109			TLO	(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wood chips, red brick fragments, max. size 1.5, strong tar-like odor, wet, brown with black, liner smeared with NAPL viscous tar-like mat, tar-like saturated soil observed.
-5	15	S3	5/48	122 178 277 246 266 99 5.6 4.1			TLO	(15'- 19.8') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wood chips, red brick fragments, max. size 1.5, strong tar-like odor, wet, brown with black, liner smeared with NAPL viscous tar-like mat, tar-like saturated soil observed.
	20							(19.8'- 20') PEAT (PT); moist, brown, meadow mat. End of Boring at 20 feet. Grout to surface.

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S_V = TORVANE PEAK

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IN. = INCHES
FT. = FEET

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

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

ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG
PAGE 1 of 1
GPEC-SB304F

GROUND SURFACE ELEVATION (FT): 13.99 **LOCATION:** Area 5 North of Holder 1
NORTHING (FT): 687241 **EASTING (FT):** 649199 **TOTAL DEPTH (FT):** 20.0
DRILLED BY: Zebra Environmental / Carlos Hernandez **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 6/30/2015 - 6/30/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6610 DT
WATER LEVEL DEPTHS (FT): ▽ 3.00 6/30/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
10	0							(0'- 8') Vacuum/Hand Cleared.
5	5	S1	2/24	1.5				(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, subangular, ~20% gravel, coarse, angular to subangular, ~5% fines; red brick fragments, max. size 1.5, wet, black.
0	10	S2	5/38	1.3 19.1 23.3 12.1				(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, subangular, ~20% gravel, coarse, angular to subangular, ~5% fines; red brick fragments, trace shell fragments, max. size 1.5, wet, black, FILL.
-5	15	S3	5/48	1.5 2.3 1.8 6.1 5.1			TLO	(15'- 19.2') WIDELY GRADED SAND WITH GRAVEL (SW); fine to coarse, angular to subangular; glass and red brick fragments, slight tar-like odor, wet, gray with brown, slight sheen, no soil staining. FILL.
	20							(19.2'- 20') PEAT (PT); moist, meadow mat, fibrous.
								End of Boring at 20 feet.
								Grout to surface.

ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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GEI Consultants

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG
PAGE 1 of 1
GPEC-SB304G

GROUND SURFACE ELEVATION (FT): 14.24 **LOCATION:** Area 5 North of Holder 1
NORTHING (FT): 687244 **EASTING (FT):** 649226 **TOTAL DEPTH (FT):** 23.0
DRILLED BY: Zebra Environmental / Carlos Hernandez **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 6/30/2015 - 6/30/2015
DRILLING DETAILS: GeoProbe 6610 DT
WATER LEVEL DEPTHS (FT): ▽ 5.50 6/30/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
10	0							(0'- 8') Vacuum/Hand Cleared.
▽	5							
5	10	S1	2/24					(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, angular to subangular, ~25% gravel, fine to coarse, angular to subangular; red brick fragments, cinder, scrap metal fragments, max. size 2", wet, brown, FILL.
		S2	5/44	11.9 22.4 150.1 175.9 214 195.6 12.6 9.1			TLO	(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, angular to subangular, ~25% gravel, fine to coarse, angular to subangular; red brick fragments, cinder, scrap metal fragments, max. size 2", moderate tar-like odor, wet, black, tar-like mat staining soil, sheen.
0	15	S3	5/10	92.6			TLO	(15'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, angular to subangular, ~25% gravel, fine to coarse, angular to subangular; red brick fragments, cinder, scrap metal fragments, max. size 2", moderate tar-like odor, wet, black, blebs, soil staining, sheen, tar-like mat observed.
-5	20			130				
		S4	3/36	12.6 59.7 195.0 238 9.1 6.5			TLO	(20'- 21.2') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, angular to subangular, ~25% gravel, fine to coarse, angular to subangular; red brick fragments, cinder, scrap metal fragments, max. size 2", moderate tar-like odor, wet, black, blebs, soil staining, sheen, tar-like mat observed. (21.2'- 23') PEAT (PT); moist, gray with brown, meadow mat. End of Boring at 23 feet. Grout to surface.

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IN. = INCHES
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SLO = SULFUR LIKE ODOR
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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG
PAGE 1 of 1
GPEC-SB304H

GROUND SURFACE ELEVATION (FT): 14.19 **LOCATION:** Area 5 North of Holder 1
NORTHING (FT): 687236 **EASTING (FT):** 649185 **TOTAL DEPTH (FT):** 20.0
DRILLED BY: Zebra Environmental / Carlos Hernandez **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 6/30/2015 - 6/30/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6610 DT
WATER LEVEL DEPTHS (FT): ▽ 3.00 6/30/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
14	0							(0'- 8') Vacuum/Hand Cleared.
10	5							
5	10	S1	2/24	0.0				(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular, ~15% gravel, fine to coarse, ~5% fines; red brick fragments, wood chip fragments, max. size 0.5", wet, brown and gray, FILL.
0	15	S2	5/34	2.9 3.1 0.7 0.4			TLO	(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, ~15% gravel, coarse, ~5% fines; red brick fragments, max. size 2", slight tar-like odor, wet, black gray, trace sheen. FILL.
-5	20	S3	5/60	1.6 4.1 5.6 6.7 5.1 4.9 10.1 30.7 4.5 2.9			TLO	(15'- 19.6') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, ~15% gravel, coarse, ~5% fines; red brick fragments, max. size 2", moderate tar-like odor, wet, black, sheen observed, soil staining. FILL.
								(19.6'- 20') PEAT (PT); moist, meadow mat, fibrous.
								End of Boring at 20 feet.
								Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG

GPEC-SB304I

GROUND SURFACE ELEVATION (FT): 14.20 **LOCATION:** Area 5 North of Holder 1
NORTHING (FT): 687216 **EASTING (FT):** 649252 **TOTAL DEPTH (FT):** 30.0
DRILLED BY: Zebra Environmental / Carlos Hernandez **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 6/30/2015 - 6/30/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6610 DT
WATER LEVEL DEPTHS (FT): ▽ 3.00 6/30/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
10	0							(0'- 8') Vacuum/Hand Cleared.
5	5	S1	2/24	436			TLO	(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular, ~15% gravel, fine to coarse, ~5% fines; red brick fragments, max. size 1.5", moderate tar-like odor, wet, brown with black, soil staining, sheen observed. FILL.
0	10	S2	5/24	209 285 314 175 149 125			TLO	(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular, ~15% gravel, fine to coarse, ~5% fines; red brick fragments, max. size 1.5", moderate tar-like odor, wet, black, soil staining, sheen observed. FILL.
-5	15	S3	5/0					(15'- 20') No recovery.
-10	20	S4	5/20	175 109 75			TLO	(20'- 25') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular, ~15% gravel, fine to coarse, ~5% fines; red brick fragments, max. size 1.5", moderate tar-like odor, wet, black, soil staining, sheen observed. FILL.
	25							

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IN. = INCHES
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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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Suite 201
Glastonbury, CT 06033
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CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG

GPEC-SB304I

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	25	S5	5/30	170			TLO	(25'- 28') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular, ~15% gravel, fine to coarse, ~5% fines; red brick fragments, max. size 1.5", moderate tar-like odor, wet, black, soil staining, sheen observed. FILL.
				76				
				30				(28'- 30') PEAT (PT); moderate organic-like odor, moist, brown, fibrous, meadow mat.
-15				6.9			OLO	
	30			5.7				End of Boring at 30 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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GEI PROJECT NUMBER: 125180-2-1202

BORING LOG
PAGE 1 of 1
GPEC-SB304J

GROUND SURFACE ELEVATION (FT): 13.90 **LOCATION:** Area 5
NORTHING (FT): 687287 **EASTING (FT):** 649207 **TOTAL DEPTH (FT):** 20.0
DRILLED BY: Zebra Environmental / Charlie Green **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Devin Byrne **DATE START / END:** 3/24/2016 - 3/24/2016
DRILLING DETAILS: GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
10	0							(0'- 8') Hand cleared.
5	5	S1	2/2	0.2 0.2 0.3			OLO	(8'- 10') WELL GRADED SAND (SW); ~85% sand, fine to medium, ~15% fines; slight organic-like odor, moist, brown to black, mixed sand/wood/roots/gravel.
0	10	S2	5/4.1	0.2 0.2 2.1 68 211 380 276 99 174			OLO	(10'- 10.4') WELL GRADED SAND (SW); ~85% sand, fine to medium, ~15% fines; moist, brown to black, 4"-49" white to grey to black to brown. (10.4'- 15') SILT (ML); non plastic; moderate organic-like odor, moderate sulfur-like odor, clay-like material, similar to putty, wet/loose from 4-29", more clay 29-49".
-5	15	S3	5/4.1	120 7.4 29 44 244 129 206 118			OLO	(15'- 19.7') SILT (ML); non plastic; moderate organic-like odor, moderate sulfur-like odor, clay-like material, similar to putty.
	20			102				(19.7'- 20') (PT); meadow mat, mostly organics. End of Boring at 20 feet.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants, Inc. P.C. 455 Winding Brook Drive Suite 201 Glastonbury, CT 06033 (860) 368-5300	CLIENT: National Grid PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-2-1202	BORING LOG PAGE 1 of 1	GPEC-SB304K

GROUND SURFACE ELEVATION (FT): 13.93 LOCATION: Area 5
NORTHING (FT): 687291 EASTING (FT): 649242 TOTAL DEPTH (FT): 20.0
DRILLED BY: Zebra Environmental / Charlie Green DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: Devin Byrne DATE START / END: 3/24/2016 - 3/24/2016
DRILLING DETAILS: GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
10	0							(0'- 8') Hand cleared.
5	5	S1	2/2	2.9 8.4 6.1			SLO	(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to medium, ~15% gravel, fine to medium; 25% clay, putty-like material, moderate sulfur-like odor, moderate organic-like odor, wet, brown, loose.
0	10	S2	5/5	6.7 11.2 9.4 44 79 218 121 84 106 192			SLO SLO	(10'- 11.2') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to medium, ~15% gravel, fine to medium; 25% clay, putty-like material, moderate sulfur-like odor, moderate organic-like odor, wet, brown. (11.2'- 15') moderate sulfur-like odor, clay/putty/grout-like material, varying color and compactness, white to gray to black.
-5	15	S3	5/2.6	174 202 188 47 39 68 106 77 79				(15'- 20') clay/putty/grout-like material, firmer and dryer at bottom, meadow mat bottom 2", varying color and compactness. Mostly organics. White to gray to black.
	20							End of Boring at 20 feet.

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

CLIENT:	National Grid
PROJECT:	Greenpoint Energy Center
CITY/STATE:	Brooklyn, New York
GEI PROJECT NUMBER:	125180-2-1202

BORING LOG

PAGE 1 of 2

GPEC-SB304S

GROUND SURFACE ELEVATION (FT):	14.00	LOCATION:	Area 5
NORTHING (FT):	687212	EASTING (FT):	649230
TOTAL DEPTH (FT):	35.0		
DRILLED BY:	Cascade Drilling / Olden Gonzalez	DATUM VERT. / HORZ.:	NAVD 88 / NAD83 NY East Zone
LOGGED BY:	Devin Byrne	DATE START / END:	7/29/2015 - 7/30/2015
DRILLING DETAILS:	Mini Sonic BL 100C		
WATER LEVEL DEPTHS (FT):	▽ 5.00 7/29/2015		
GENERAL NOTE:			

ELEV. FT.	DEPTH FT.	SAMPLE INFO TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
10	0							(0'- 8') Vacuum/Hand Cleared.
▽	5							
5	10	S1	2/60	401 398 398 421			NLO	(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, ~5% fines; slight naphthalene-like odor, dry, black brown, tar-like saturated soil 0-40", free floating NAPL with sheen.
		S3	5/46	44 67 115 298 702 424 298			NLO	(10'- 14.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, ~5% fines; strong naphthalene-like odor, wet, black to brown, tar-like saturated soil 0-40", free floating NAPL with sheen.
0	15	S4	5/44	301 542 816 293 81 46 37 32			NLO	(14.3'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, ~5% fines; max. size 3", moderate naphthalene-like odor, dry, black, stained with tar-like material, sand & gravel, cobbles, trace coal fragments. (15'- 16.8') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, ~5% fines; max. size 3", strong naphthalene-like odor, wet, black, tar saturated, NAPL with sheen, odor ranges from moderate to strong.
-5	20	S5	5/57	76 84 52 56 37 21 29 11			NLO	(16.8'- 20') WIDELY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, subangular, ~15% fines; max. size 3", strong naphthalene-like odor, moist, brown to black, stained with some sheen, odor ranges from moderate to strong. (20'- 20.9') WIDELY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, subangular, ~15% fines; max. size 3", strong naphthalene-like odor, moist, brown to black, lightly coated with tar-like material from 0-10", odor ranges from moderate to strong. (20.9'- 25') WIDELY GRADED SAND WITH SILT AND GRAVEL (SP-SM); subrounded; max. size 3", slight naphthalene-like odor,
-10	25							

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IN. = INCHES
FT. = FEET

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OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG

GPEC-SB304S

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	25	S6	5/0	9 6				moist, brown gray, intermittent light staining, cobbles. (25'- 30') No recovery.
-15								
	30	S7	5/60	36 7 9.3 29 3.7 5.8 5.2 8.4 2.8 1.9				(30'- 35') SILTY SAND (SM); ~60% sand, fine to medium, ~40% fines, non plastic; wet, gray.
-20								
	35							End of Boring at 35 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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455 Winding Brook Drive
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BORING LOG
PAGE 1 of 1
GPEC-SB305

GROUND SURFACE ELEVATION (FT): 17.58 **LOCATION:** Area 5
NORTHING (FT): 687269 **EASTING (FT):** 649292 **TOTAL DEPTH (FT):** 20.0
DRILLED BY: Zebra Environmental / Luke Reiss **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi, Chris Anastasiou **DATE START / END:** 3/31/2015 - 3/31/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 4.00 3/31/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
15	0								(0'- 8') Vacuum/Hand Cleared.	
▽										
5	5									
10	10	S1	2/24						(8'- 10') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to medium, ~15% gravel, fine, subangular to angular, ~10% fines; red brick fragments, max. size 1", moist, black to brown, FILL.	
	10	S2	5/28	0.1 0.1 0.3 0.4 0.7 0.4 0.3					(10'- 15') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to medium, ~15% gravel, fine, subangular to angular, ~10% fines; red brick fragments, max. size 1", moist, black to brown, FILL.	
5	15	S3	5/32	0.1 0.5 0.4			TLO		(15'- 17.5') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, ~15% gravel, ~10% fines; moderate tar-like odor, moderate petroleum-like odor, moist, black, some sheen, some soil staining.	
0				6.4 33.1 187 40.9			OLO	GPEC-SB/PZ-305 (18.5-19.5)	(17.5'- 20') PEAT (PT); moderate organic-like odor, moist, fibrous.	
	20								End of Boring at 20 feet. Piezometer installed upon completion. Screened 2'-12'.	

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GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
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GEI PROJECT NUMBER: 125180-2-1202

BORING LOG
PAGE 1 of 3
GPEC-SB306

GROUND SURFACE ELEVATION (FT): 11.96 **LOCATION:** Area 4
NORTHING (FT): 687360 **EASTING (FT):** 650607 **TOTAL DEPTH (FT):** 75.0
DRILLED BY: Cascade Drilling / Olden Gonzalez **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Devin Byrne **DATE START / END:** 7/21/2015 - 7/21/2015
DRILLING DETAILS: Mini Sonic BL 100C
WATER LEVEL DEPTHS (FT): ▽ 5.00 7/21/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0								(0'- 8') Vacuum/Hand Cleared.	
▽ 5	5									
5		S1	2/21	12.4 22.0 18.7			PLO		(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to angular; max. size 3", moderate petroleum-like odor, moist, brown, loose.	
0	10	S2	5/20	103 237 239 315 420			PLO		(10'- 15') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~80% sand, fine to coarse, ~10% gravel, fine to coarse, subangular, ~10% fines, non plastic; max. size 2.5", moderate petroleum-like odor, moist, brown to black, loose, color change brown to black at 8", lightly coated with petroleum-like product.	
-5	15	S3	5/48	670 666 342 840 550 620 756			PLO PLO PLO		(15'- 16') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded to subangular; max. size 3", moderate petroleum-like odor, moist, black, loose, moderate to strong petroleum-like odor. (16'- 18.1') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded to subangular; max. size 3", moderate petroleum-like odor, moist, dark brown/black stained, light-moderate petroleum-like coating, moderate to strong petroleum-like odor.	
-10	20	S4	5/0				PLO		(18.1'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded to subangular; max. size 3", moderate petroleum-like odor, moist, brown, dark brown/black stained, light-moderate petroleum-like coating, moderate to strong petroleum-like odor. (20'- 25') moderate petroleum-like odor, No recovery.	
	25									

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455 Winding Brook Drive
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BORING LOG

GPEC-SB306

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-15	25	S5	5/36	104 242 212 392 288 196			PLO		(25'- 30') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded to subangular; max. size 3", moderate petroleum-like odor, moist, brown gray, loose, loose, moderate to strong petroleum-like odor.	
-20	30	S6	5/26	78 100 122 214			PLO		(30'- 35') WIDELY GRADED SAND WITH GRAVEL (SW); ~95% sand, fine to coarse, ~5% gravel, fine to coarse; max. size 2", moderate petroleum-like odor, wet, brown gray, loose, slight-moderate petroleum-like odor.	
-25	35	S7	5/36	182 149 190 111 94 101			PLO		(35'- 40') WIDELY GRADED SAND WITH GRAVEL (SW); ~95% sand, fine to coarse, ~5% gravel, fine to coarse; max. size 2", moderate petroleum-like odor, wet, gray, loose, slight-moderate petroleum-like odor.	
-30	40	S8	5/37	10.8 46.7 42.0 27.0 13.0 16.0			PLO		(40'- 45') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines, non plastic; moderate petroleum-like odor, moist, gray.	
-35	45	S9	5/51	16.2 4.4 0.0 0.0 0.0 0.0 0.0 0.0					(45'- 50') NARROWLY GRADED SAND (SP); ~80% sand, fine to medium, ~20% fines, non plastic; moist, gray, firm.	
-40	50	S10	5/42	4.6 0.0 0.0 0.0 0.0 0.0 0.0					(50'- 55') NARROWLY GRADED SAND (SP); ~80% sand, fine to medium, ~20% fines, non plastic; moist, brown to gray, firm.	
	55	S11	5/0						(55'- 60') No recovery.	

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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BORING LOG
PAGE 3 of 3
GPEC-SB306

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-45	60	S12	5/18	7.2 4.1 1.4					(60'- 65') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; moist, gray brown, loose.	
-50	65	S13	5/0						(65'- 70') No recovery.	
-55	70	S14	5/32	0.0 0.0 0.0 0.0 0.0 0.0				GPEC-SB-306 (74-75)	(70'- 75') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; wet, gray brown, loose.	
-60	75								End of Boring at 75 feet. Monitoring well installed 65-75'. Piezometer (1-11') and monitoring well (30-40') installed at adjacent locations.	

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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GROUND SURFACE ELEVATION (FT): 13.07 LOCATION: Area 5 Holder 1 Surface
NORTHING (FT): 686999 EASTING (FT): 649304 TOTAL DEPTH (FT): 25.0
DRILLED BY: Zebra Environmental / Luke Caballero DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi DATE START / END: 5/7/2015 - 5/7/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 3.50 5/7/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	0								(0'- 8') Vacuum/Hand Cleared.
▽ 10									
	5								
5		S1	2/0						(8'- 10') No recovery.
	10	S2	5/48	22 17.9 60.2 18.9 8.5 5.0 10.9			TLO	GPEC-SB-307 (11-12)	(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subangular, ~5% fines; red bricks fragments, wood chip fragments, max. size 1.5", moderate tar-like odor, wet, black gray, some spotted sheen, trace soil staining. FILL.
0									
	15	S3	5/36	0.0 0.0 0.0 0.0 0.0 0.0					(15'- 20') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, subangular, ~15% gravel, fine to coarse, subangular, ~15% fines; max. size 1.5", wet, gray.
-5									
	20	S4	5/34	0.0 0.0 1.5 0.4 7.5 1.5					(20'- 23.5') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, subangular, ~15% gravel, fine to coarse, subangular, ~15% fines; max. size 1.5", wet, gray.
-10							OLO	GPEC-SB-307 (23.5-24.5)	(23.5'- 25') PEAT (PT); moderate organic-like odor, moist, meadow mat, fibrous.
	25			6.1					

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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

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BORING LOG

GPEC-SB307

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
									End of Boring at 25 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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GROUND SURFACE ELEVATION (FT): 13.58 LOCATION: Area 5
NORTHING (FT): 687025 EASTING (FT): 649466 TOTAL DEPTH (FT): 11.0
DRILLED BY: Zebra Environmental / Luke Reiss DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi DATE START / END: 4/2/2015 - 4/2/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 3.00 4/2/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	0								(0'- 8') Vacuum/Hand Cleared.
▽ 10	5								
5		S1	2/24	25 10.5			TLO	GPEC-SB-308 (9-10)	(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, subangular, ~30% gravel, fine to coarse, subangular; some red brick fragments, max. size 2", moderate tar-like odor, wet, brown, tar-like staining, some sheen. FILL.
	10	S2	1/12				TLO		(10'- 11') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, subangular, ~30% gravel, fine to coarse, subangular; some red brick fragments, max. size 2", moderate tar-like odor, wet, brown, sheen and blebs observed. FILL. End of Boring at 11 feet. Refusal at 11 feet. Grout to surface

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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455 Winding Brook Drive
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BORING LOG
PAGE 1 of 1
GPEC-SB308A

GROUND SURFACE ELEVATION (FT): 13.68 **LOCATION:** Area 5 SE of Holder 1
NORTHING (FT): 687037 **EASTING (FT):** 649472 **TOTAL DEPTH (FT):** 16.0
DRILLED BY: Zebra Environmental / Luke Caballero **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 5/7/2015 - 5/7/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 4.50 5/7/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
10	0							(0'- 8') Vacuum/Hand Cleared.
5	5	S1	2/0					(8'- 10') No recovery.
0	10	S2	5/20	1.6 22.7 11.1			TLO	(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, subangular, ~20% gravel, fine to coarse, subangular, ~5% fines; red brick fragments, max. size 2", moderate tar-like odor, wet, brown, trace soil staining with tar-like mat, some sheen. FILL.
	15	S3	1/6	1.6 0.0 0.0			TLO	(15'- 15.25') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, subangular, ~20% gravel, fine to coarse, subangular, ~5% fines; red brick fragments, max. size 2", moderate tar-like odor, wet, brown, trace soil staining with tar-like mat, some sheen. FILL. (15.25'- 15.5') concrete fragments. FILL. End of Boring at 16 feet. Refusal at 16 feet. Grout to surface.

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Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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

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CrLO= CREOSOTE LIKE ODOR
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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG
PAGE 1 of 1
GPEC-SB309

GROUND SURFACE ELEVATION (FT): 11.62 **LOCATION:** Area 4
NORTHING (FT): 687271 **EASTING (FT):** 649837 **TOTAL DEPTH (FT):** 20.0
DRILLED BY: Zebra Environmental / Bob Burgwa, Luke Reiss **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 4/3/2015 - 4/3/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 7.00 4/3/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0								(0'- 8') Vacuum/Hand Cleared.	
5	5									
▽ 5		S1	2/18	0.0				GPEC-SB/PZ-309 (8.5-9.5)	(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, ~15% gravel, ~5% fines; wood chip/red brick fragments, cinder and glass fragments, max. size 2", wet, FILL.	
0	10	S2	5/22	0.0 0.0 0.0 0.0 0.0					(10'- 15') wet, brown to gray.	
-5	15	S3	5/42	0.8 0.7 0.1 1.1 3.3 4.5 0.7 7.1			OLO OLO	GPEC-SB/PZ-309 (16-17)	(15'- 15.7') shell fragments, moderate organic-like odor, wet, black gray, FILL. (15.7'- 20') PEAT (PT); root fragments, moderate organic-like odor, moist, brown, fibrous meadow mat.	
	20								End of Boring at 20 feet. Piezometer installed upon completion. Screened 5'-15'.	

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
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BORING LOG
PAGE 1 of 1
GPEC-SB310

GROUND SURFACE ELEVATION (FT): 10.78 **LOCATION:** Area 4
NORTHING (FT): 687212 **EASTING (FT):** 649895 **TOTAL DEPTH (FT):** 15.0
DRILLED BY: Zebra Environmental / Luke Reiss **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 4/7/2015 - 4/7/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 5.00 4/7/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0			5.6					(0'- 8') Vacuum/Hand Cleared.
				4.9					
				8.1					
▽ 5	5			5.1					
				51.2					
		S1	2/24	15.9					
				18.1			TLO	GPEC-SB-310 (9-10)	(8'- 10') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, subangular, ~35% fines, ~15% gravel, coarse, subangular; wood chips and fragments, max. size 1.5", moderate tar-like odor, wet, gray, some sheen. FILL.
0	10	S2	5/50	0.9					(10'- 13') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, subangular, ~35% fines, ~15% gravel, coarse, subangular; wood chips and fragments, max. size 1.5", moderate tar-like odor, wet, gray, some sheen. FILL.
				0.4					
				14			TLO		
				6.5					
				5.1					
				5.6					(13'- 13.5') ORGANIC SOIL (OL); black.
				7.0				GPEC-SB-310 (13.5-14.5)	(13.5'- 15') ELASTIC SILT (MH); moist.
				4.5					
	15			3.9					End of Boring at 15 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
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BORING LOG
PAGE 1 of 2
GPEC-SB311

GROUND SURFACE ELEVATION (FT): 12.25 **LOCATION:** Area 4
NORTHING (FT): 687447 **EASTING (FT):** 650187 **TOTAL DEPTH (FT):** 25.0
DRILLED BY: Zebra Environmental / Luke Reiss **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 4/7/2015 - 4/7/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 3.00 4/7/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10 ▽	0								(0'- 8') Vacuum/Hand Cleared.	
5	5									
0	10	S1	2/24	565			PLO	GPEC-SB/PZ-311 (9-10)	(8'- 10') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, subangular, ~15% gravel, fine to coarse, ~15% fines; max. size 1.5", moderate petroleum-like odor, wet, brown, some sheen observed.	
		S2	5/34	301 229 214 85 195 111 105			PLO		WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, subangular, ~15% gravel, fine to coarse, ~15% fines; max. size 1.5", moderate petroleum-like odor, wet, some sheen observed.	
-5	15	S3	5/28	2.5 0.9 0.3 0.4 1.1			PLO		(15'- 20') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, subangular, ~15% gravel, fine to coarse, ~15% fines; max. size 1.5", moderate petroleum-like odor, wet, some sheen observed.	
-10	20	S4	5/42	0.3 4.2 15.1 4.1 2.5 1.7			PLO OLO	GPEC-SB/PZ-311 (22-23)	(20'- 21.9') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, subangular, ~15% gravel, fine to coarse, ~15% fines; max. size 1.5", moderate petroleum-like odor, wet, some sheen observed. (21.9'- 24.8') ELASTIC SILT (MH); moderate organic-like odor, moist, trace root fiber, trace peat.	
	25									

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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

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BORING LOG

GPEC-SB311

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
							OLO		(24.8'- 25') PEAT (PT); moderate organic-like odor, moist. End of Boring at 25 feet. Piezometer installed upon completion. Screened 2'-12'.	

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BORING LOG
PAGE 1 of 1
GPEC-SB313

GROUND SURFACE ELEVATION (FT): 15.34 **LOCATION:** Area 5
NORTHING (FT): 686922 **EASTING (FT):** 648821 **TOTAL DEPTH (FT):** 20.0
DRILLED BY: Zebra Environmental / Luke Reiss **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 4/1/2015 - 4/1/2015
DRILLING DETAILS: Geoprobe / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 4.50 4/1/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
15	0								(0'- 8') Vacuum/Hand Cleared.
10	5								
		S1	2/16	0.0					(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse; trace concrete fragments, max. size 1.5", moist to wet, brown, FILL.
5	10	S2	5/3	0.0					(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse; trace concrete fragments, max. size 1.5", wet, brown, FILL.
0	15	S3	5/60	0.5 1.5 25.1 75.6 16 5.1 207 89.1 4.2			SLO	GPEC-SB-313 (18-19)	(15'- 15.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse; trace concrete fragments, max. size 1.5", wet, brown, FILL. (15.5'- 18.3') low plasticity; moderate sulfur-like odor, wet, whiteish, soft paint residue-like substance. FILL. (18.3'- 19') ORGANIC SOIL (OL); wet, black, some root fibers. (19'- 20') PEAT (PT); meadow mat.
	20								End of Boring at 20 feet. Grout to surface (Bentonite).

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
(860) 368-5300

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BORING LOG
PAGE 1 of 1
GPEC-SB314

GROUND SURFACE ELEVATION (FT): 13.12 **LOCATION:** Area 4
NORTHING (FT): 687517 **EASTING (FT):** 650410 **TOTAL DEPTH (FT):** 15.0
DRILLED BY: Zebra Environmental / Luke Reiss **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 4/7/2015 - 4/7/2015
DRILLING DETAILS: Geoprobe / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 3.00 4/7/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0								(0'- 8') Vacuum/Hand Cleared.	
5	5	S1	2/3						(8'- 10') red brick fragments, trace asphalt, max. size 2", moist, FILL.	
0	10	S2	5/44	49.5 67.8 117 105 209 25.1 17.2 5.1 1.4			PLO	GPEC-SB/PZ-314 (12-13)	(10'- 12.7') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, fine to medium, ~15% gravel, fine to medium, ~5% fines; cinder, red brick fragments, max. size 0.5", moderate petroleum-like odor, brown black, petroleum like sheen. (12.7'- 15') PEAT (PT); moist, meadow mat, fibrous, trace fine brown sand at the bottom.	
	15								End of Boring at 15 feet. Piezometer installed upon completion. Screened 1'-11'.	

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BORING LOG
PAGE 1 of 2
GPEC-SB315

GROUND SURFACE ELEVATION (FT): 12.63 **LOCATION:** Area 4
NORTHING (FT): 687445 **EASTING (FT):** 650483 **TOTAL DEPTH (FT):** 30.0
DRILLED BY: Zebra Environmental / Luke Reiss **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 4/8/2015 - 4/8/2015
DRILLING DETAILS: Geoprobe / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 12.00 4/8/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	0								(0'- 8') Vacuum/Hand Cleared.
10									
	5								
5		S1	2/32	13.1			PLO		(8'- 10') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~10% gravel, fine; slight petroleum-like odor, moderate petroleum-like odor, moist, brown, sheen, some soil staining.
	10	S2	5/42	13.6			PLO		(10'- 11.9') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~10% gravel, fine; slight petroleum-like odor, moderate petroleum-like odor, moist, brown, sheen, some soil staining.
▽ 0				25.6 81.5 79.6 75.1 61.9 51.8			PLO		(11.9'- 15') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~10% gravel, fine; slight petroleum-like odor, moderate petroleum-like odor, wet, brown gray, sheen, some soil staining.
	15	S3	5/48	22.4 60.0 108.5 122.1 84.0			PLO		(15'- 20') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~10% gravel, fine; slight petroleum-like odor, moderate petroleum-like odor, wet, gray black, sheen, some soil staining.
-5									
	20	S4	5/54	54.0 89 122 165 151 108			PLO	GPEC-SB-315 (22-23)	(20'- 25') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~10% gravel, fine; mottled, moderate petroleum-like odor, wet, gray black, sheen, some soil staining.
-10									
	25								

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
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Glastonbury, CT 06033
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BORING LOG

GPEC-SB315

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25	S5	5/52	39 5.6 54.1 12.2 22.9			PLO		(25'- 30') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~10% gravel, fine; mottled, slight petroleum-like odor, wet, gray black, sheen, some soil staining.
-15				339 33.1				GPEC-SB-315 (29-30)	
	30								End of Boring at 30 feet. Grout to surface.

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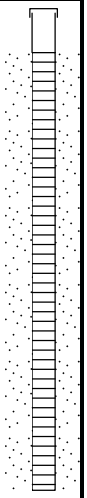
BORING LOG
PAGE 1 of 1
GPEC-SB316

GROUND SURFACE ELEVATION (FT): 11.77 **LOCATION:** Area 4 (ROW)
NORTHING (FT): 687192 **EASTING (FT):** 650158 **TOTAL DEPTH (FT):** 18.0
DRILLED BY: Zebra Environmental / Carlos Hernandez **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 6/30/2015 - 6/30/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6610 DT
WATER LEVEL DEPTHS (FT): ▽ 2.00 6/30/2015
GENERAL NOTE: 1 foot East of the initial refusal area.

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0								(0'- 8') Vacuum/Hand Cleared.
5	5								
		S1	2/24	22.1 14.2 316			PLO	GPEC-SB/PZ-316 (9-10)	(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, ~5% fines; max. size 2", moderate petroleum-like odor, wet, brown, red brick.
0	10	S2	5/36	9.4 6.3 49.1 75.1 62.7			PLO		(10'- 13.6') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, ~15% gravel, ~5% fines; max. size 2", moderate petroleum-like odor, wet, black with brown, red brick.
	15			603 55.9				GPEC-SB/PZ-316 (14-15)	(13.6'- 15') SILTY SAND WITH GRAVEL (SM); ~65% sand, ~25% fines, low plasticity, ~10% gravel; gray black, wood chips.
		S3	3/22	.01			OLO		(15'- 15.7') ORGANIC SOIL (OL); moderate organic-like odor, wet, brown, wood chips.
-5				0.1 0.0 0.1			OLO		(15.7'- 18') SANDY SILT WITH GRAVEL (ML); ~60% fines, non plastic, ~25% sand, fine to medium, ~15% gravel, fine; max. size 1", moderate organic-like odor, moist, gray, trace shell fragments. End of Boring at 18 feet. Piezometer installed upon completion. Screened 1'-11'.

WELL DETAILS



NOTES:

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Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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IN. = INCHES
FT. = FEET

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

ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
(860) 368-5300

CLIENT:	National Grid
PROJECT:	Greenpoint Energy Center
CITY/STATE:	Brooklyn, New York
GEI PROJECT NUMBER:	125180-2-1202

BORING LOG

PAGE 1 of 1

GPEC-SB317

GROUND SURFACE ELEVATION (FT):	11.93	LOCATION:	Area 4
NORTHING (FT):	687317	EASTING (FT):	650411
TOTAL DEPTH (FT):	15.0		
DRILLED BY:	Zebra Environmental / Luke Reiss	DATUM VERT. / HORZ.:	NAVD 88 / NAD83 NY East Zone
LOGGED BY:	Akin Adegbayi	DATE START / END:	3/30/2015 - 4/8/2015
DRILLING DETAILS:	Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig		
WATER LEVEL DEPTHS (FT):	▽ 9.00 4/8/2015		
GENERAL NOTE:			

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0								(0'- 8') Vacuum/Hand Cleared.
5	5								
0	10	S1	2/18	75 26.7			TLO	GPEC-SB-317 (8.5-9.5)	(8'- 10') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, fine to medium, ~20% gravel, fine, subangular to angular; red brick fragments, wood chips and fragments, max. size 0.5", moderate tar-like odor, brown, petroleum-like odor, soil staining, sheen on water. FILL.
		S2	5/48	125 137 451 1200 375			TLO	GPEC-SB-317 (12-13)	(10'- 13.3') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, fine to medium, ~20% gravel, fine, subangular to angular; red brick fragments, wood chips and fragments, max. size 0.5", moderate tar-like odor, wet, brown, petroleum-like odor, soil staining, sheen on water. FILL.
	15			132 145 81 51					(13.3'- 15') PEAT (PT); moist, fibrous, meadow mat.
									End of Boring at 15 feet.
									Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG
PAGE 1 of 2
GPEC-SB318

GROUND SURFACE ELEVATION (FT): 13.92 **LOCATION:** Area 5
NORTHING (FT): 687376 **EASTING (FT):** 648978 **TOTAL DEPTH (FT):** 25.0
DRILLED BY: Zebra Environmental / Luke Reiss **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 3/30/2015 - 3/30/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 0.50 3/30/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
▽	0								(0'- 8') Vacuum/Hand Cleared.
10	5								
5	10	S1	2/36						(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subangular, ~5% fines; max. size 1", wet, dark brown to black.
		S2	5/24	0.0 0.0 0.1 0.0 0.0 0.1					(10'- 15') WELL GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to medium, ~15% gravel, coarse, subangular, ~5% fines; some burnt mat/newspaper, some white ash, max. size 1", gray, FILL.
0	15	S3	5/30	0.0 0.0 0.0 0.0 0.0					(15'- 20') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to medium, ~25% fines, ~10% gravel, fine to coarse; max. size 0.5", wet, brown gray.
-5	20	S4	5/60	0.0 0.0			OLO	GPEC-SB-318 (20.5-21)	(20'- 20.5') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to medium, ~25% fines, ~10% gravel, fine to coarse; max. size 0.5", wet, brown gray. (20.5'- 22.5') PEAT (PT); moderate organic-like odor, moist, fibrous, dense, some root fibers, meadow mat. (22.5'- 25') SILTY SAND (SM); ~50% sand, fine to medium, ~40% fines, ~10% gravel, fine, subangular; max. size 1.2", moist, dark gray black.
-10	25			0.0					

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
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GEI PROJECT NUMBER: 125180-2-1202

BORING LOG

GPEC-SB318

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
									End of Boring at 25 feet. Grout to surface.

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455 Winding Brook Drive
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BORING LOG
PAGE 1 of 3
GPEC-SB319

GROUND SURFACE ELEVATION (FT): 12.29 **LOCATION:** Area 4 CNG Area
NORTHING (FT): 687177 **EASTING (FT):** 649984 **TOTAL DEPTH (FT):** 80.0
DRILLED BY: Cascade Drilling / Olden Gonzalez **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 7/9/2015 - 7/10/2015
DRILLING DETAILS: Mini Sonic BL 100C
WATER LEVEL DEPTHS (FT): ▽ 5.50 7/9/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0								(0'- 8') Vacuum/Hand Cleared.
5	5								
▽									
5		S1	2/24	0.0 0.1 0.2			TLO		(8'- 10') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, subangular to angular, ~20% gravel, fine to coarse, subangular to angular, ~10% fines, non plastic; max. size 2.5", slight tar-like odor, wet, brown tan, red brick fragments. FILL.
0	10	S2	5/50	0.1 2.5 4.1 6.2 6.5 4.6 7.1 2.2 5.3			TLO	GPEC-SB-319 (14-15)	(10'- 15') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, subangular to angular, ~20% gravel, fine to coarse, subangular to angular, ~10% fines, non plastic; max. size 2.5", slight tar-like odor, wet, brown tan, red brick fragments. FILL.
-5	15	S3	5/45	3.1 0.1 0.2 0.1 0.0 0.0 0.1			TLO		(15'- 20') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, subangular to angular, ~20% gravel, fine to coarse, subangular to angular, ~10% fines, non plastic; max. size 2.5", slight tar-like odor, wet, brown tan, red brick fragments. FILL.
-10	20	S4	5/40	0.0 0.1 0.0 0.1 0.0 0.0 0.0			TLO		(20'- 20.8') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, subangular to angular, ~20% gravel, fine to coarse, subangular to angular, ~10% fines, non plastic; max. size 2.5", slight tar-like odor, wet, brown tan, red brick fragments. (20.8'- 25') PEAT (PT); max. size 3.5", moist, brownish gray, meadow mat, fibrous, piece of rock fragment.
	25								

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG
PAGE 2 of 3
GPEC-SB319

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25	S5	5/0						(25'- 30') no recovery.
-15									
	30	S6	5/45	0.1 0.0 0.0 0.1 0.2			OLO		(30'- 35') SILT WITH SAND (ML); ~90% fines, non plastic, ~10% sand, fine; moderate organic-like odor, moist, gray.
-20									
	35	S7	5/45	0.0 0.0			OLO		(35'- 40') SILT WITH SAND (ML); ~90% fines, non plastic, ~10% sand, fine; moderate organic-like odor, moist, gray.
-25									
	40	S8	5/55	0.0					(40'- 45') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; moist, gray brown, moderately stiff.
-30									
	45	S9	5/40	0.0					(45'- 50') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; moist, gray brown, moderately stiff.
-35									
	50	S10	5/30	0.0					(50'- 55') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; moist, gray brown, moderately stiff.
-40									
	55	S11	5/30						(55'- 60') LEAN CLAY (CL); ~95% fines, low plasticity,

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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BORING LOG

GPEC-SB319

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-45				0.0					~5% sand, fine; very moist, gray brown, moderately stiff.
	60	S12	5/42						(60'- 65') LEAN CLAY (CL); ~90% fines, low plasticity, ~10% sand, fine; very moist, gray brown, moderately stiff.
-50				0.0					
	65	S13	5/52						(65'- 70') LEAN CLAY (CL); ~90% fines, low plasticity, ~10% sand, fine; very moist, gray brown, moderately stiff.
-55				0.0					
	70	S14	5/32						(70'- 73.8') LEAN CLAY (CL); ~90% fines, low plasticity, ~10% sand, fine; very moist, gray brown, moderately stiff.
-60				0.0					
	75	S15	5/60					GPEC-SB-319 (74-75)	(73.8'- 75') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine, subangular, ~25% fines, non plastic, ~15% gravel, fine, subangular, subrounded; max. size 1.5", wet, gray. (75'- 76.8') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine, subangular, ~25% fines, non plastic, ~15% gravel, fine, subangular, subrounded; max. size 1.5", wet, gray. (76.8'- 80') LEAN CLAY (CL); ~90% fines, low plasticity, ~10% sand, fine; very moist, gray brown, moderately stiff.
-65									
	80								End of Boring at 80 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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CLIENT: National Grid
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GEI PROJECT NUMBER: 125180-2-1202

BORING LOG
PAGE 1 of 1
GPEC-SB320

GROUND SURFACE ELEVATION (FT): 12.40 **LOCATION:** Area 4
NORTHING (FT): 687405 **EASTING (FT):** 649799 **TOTAL DEPTH (FT):** 20.0
DRILLED BY: Zebra Environmental / Luke Reiss **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 4/3/2015 - 4/3/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 7.00 4/3/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0								(0'- 10') Vacuum/Hand Cleared.	
10										
	5									
5										
		S1	2/24							
	10	S2	5/5							
0				0.0					(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, coarse, ~5% fines; loose wood chips, some red bricks and cinder, some glass fragments, max. size 2", wet, brown to black, FILL.	
	15	S3	5/60	2.0				GPEC-SB/PZ-320 (15-17)	(15'- 15.8') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, coarse, ~5% fines; loose wood chips, some red bricks and cinder, some glass fragments, max. size 2", wet, brown to black, FILL.	
				1.2						
				4.2						
				6.1						
-5				22.1						
				14.1					(15.8'- 17.5') PEAT (PT); moist, meadow mat, fibrous, trace silt.	
				6.2						
				5.1			OLO		(17.5'- 20') ELASTIC SILT (MH); moderate organic-like odor, gray, trace root fiber.	
				7.2						
	20			0.4					End of Boring at 20 feet. Piezometer installed upon completion. Screened 5'- 15'.	

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants, Inc. P.C. 455 Winding Brook Drive Suite 201 Glastonbury, CT 06033 (860) 368-5300	CLIENT: National Grid PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-2-1202	BORING LOG PAGE 1 of 2 GPEC-SB321

GROUND SURFACE ELEVATION (FT): 13.83 LOCATION: Area 4
NORTHING (FT): 687566 EASTING (FT): 650498 TOTAL DEPTH (FT): 30.0
DRILLED BY: Zebra Environmental / Luke Reiss DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi DATE START / END: 4/9/2015 - 4/9/2015
DRILLING DETAILS: Geoprobe / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 13.00 4/9/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0							(0'- 8') Vacuum/Hand Cleared.
5	5	S1	2/24					(8'- 10') WIDELY GRADED SAND (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse; max. size 1.5", moist, brown, some red brick fragments.
	10	S2	5/32	0.0 0.0 0.0 0.0			GPEC-SB-321 (12-13)	(10'- 12.5') WIDELY GRADED SAND (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse; max. size 1.5", moist, brown, some red brick fragments. (12.5'- 15') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, fine to medium, ~15% gravel, fine to coarse; max. size 1.5", wet, reddish brown.
0 ▽	15	S3	5/54	0.0				(15'- 20') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, fine to medium, ~15% gravel, fine to coarse; max. size 1.5", wet, reddish brown.
-5	20	S4	5/54	0.0 0.0				(20'- 25') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, fine to medium, ~15% gravel, fine to coarse; max. size 1.5", wet, reddish brown.
-10	25			0.0				

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S_V = TORVANE PEAK

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

NLO = NAPHTHALENE LIKE ODOR
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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG

GPEC-SB321

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25	S5	5/58					(25'- 30') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, fine to medium, ~15% gravel, fine to coarse; max. size 1.5", wet, reddish brown.
				0.0				
-15				0.0			GPEC-SB-321 (29-30)	
	30							End of Boring at 30 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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BORING LOG
PAGE 1 of 2
GPEC-SB322

GROUND SURFACE ELEVATION (FT): 13.74 **LOCATION:** Area 4
NORTHING (FT): 687655 **EASTING (FT):** 650536 **TOTAL DEPTH (FT):** 30.0
DRILLED BY: Zebra Environmental / Luke Reiss **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 4/9/2015 - 4/9/2015
DRILLING DETAILS: Geoprobe / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 14.50 4/9/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0							(0'- 8') Vacuum/Hand Cleared.	
5	5	S1	2/24					(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse; mottled, max. size 1", moist, brown whiteish gray.	
0 ▽	10	S2	5/24	0.0 0.0 0.0 0.0 0.0			GPEC-SB/PZ-322 (13.5-14.5)	(10'- 15') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, fine to medium, ~15% gravel, fine to coarse; max. size 1.5", wet, brown.	
-5	15	S3	5/44	0.0 0.0 0.0 0.0 0.0				(15'- 20') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, fine to medium, ~15% gravel, fine to coarse; max. size 1.5", wet, brown.	
-10	20	S4	5/58	0.0 0.0 0.0 0.0				(20'- 25') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, fine to medium, ~15% gravel, fine to coarse; max. size 1.5", wet, brown, lens of silty sand at 23.5-24.5.	
	25								

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants, Inc. P.C.
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Suite 201
Glastonbury, CT 06033
(860) 368-5300

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GEI PROJECT NUMBER: 125180-2-1202

BORING LOG

GPEC-SB322

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	25	S5	5/60					(25'- 30') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, fine to medium, ~15% gravel, fine to coarse; max. size 1.5", wet, brown.	
				0.0					
-15				0.0					
				0.0			GPEC-SB/PZ-322 (29-30)		
	30							End of Boring at 30 feet. Piezometer installed upon completion. Screened 12'- 22'.	

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BORING LOG
PAGE 1 of 2
GPEC-SB323

GROUND SURFACE ELEVATION (FT): 14.79 **LOCATION:** Area 4
NORTHING (FT): 687708 **EASTING (FT):** 650723 **TOTAL DEPTH (FT):** 30.0
DRILLED BY: Zebra Environmental / Luke Reiss **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 4/9/2015 - 4/9/2015
DRILLING DETAILS: Geoprobe / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 14.50 4/9/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0							(0'- 8') Vacuum/Hand Cleared.	
5	5	S1	2/19					(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, angular; concrete and red brick fragments, max. size 1.5", moist, reddish brown.	
	10	S2	5/14	0.0 0.0			GPEC-SB/PZ-323 (13.5-14.5)	(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, angular; concrete and red brick fragments, max. size 1.5", moist, reddish brown.	
0 ▽	15	S3	5/30	0.0				(15'- 20') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, fine to medium, ~15% gravel, coarse; max. size 1.5", wet, reddish brown.	
-5	20	S4	5/52	0.0				(20'- 25') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded subangular; red brick fragments, max. size 1.5", moist, reddish brown, FILL.	
-10	25								

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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CLIENT: National Grid
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GEI PROJECT NUMBER: 125180-2-1202

BORING LOG

GPEC-SB323

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	25	S5	5/60					(25'- 30') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, angular; max. size 1.5", moist, reddish brown, piece of nylon material.	
				0.0					
-15	30			0.0			GPEC-SB/PZ-323 (29-30)		

End of Boring at 30 feet.
Piezometer installed upon completion. Screened 12'- 22'.

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BORING LOG
PAGE 1 of 1
GPEC-SB324

GROUND SURFACE ELEVATION (FT): 12.99 **LOCATION:** Area 4
NORTHING (FT): 687664 **EASTING (FT):** 650848 **TOTAL DEPTH (FT):** 15.0
DRILLED BY: Zebra Environmental / Luke Reiss **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 4/9/2015 - 4/9/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 12.00 4/9/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	0								(0'- 8') Vacuum/Hand Cleared.
10	5								
5		S1	2/24						(8'- 10') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, subangular, ~10% fines; trace cinder and red brick fragments, max. size 1.5", moist, brown, FILL.
	10	S2	5/40						(10'- 12.5') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, subangular, ~10% fines; trace cinder and red brick fragments, max. size 1.5", wet, brown, FILL.
▽ 0				0.0			OLO	GPEC-SB-324 (12.5-13.5)	(12.5'- 14') ORGANIC SOIL (OL); trace meadow mat, trace root fibers, moderate organic-like odor, moist, black.
	15			0.0					(14'- 15') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, ~15% fines; wet, brown.
									End of Boring at 15 feet.
									Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
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BORING LOG
PAGE 1 of 2
GPEC-SB325

GROUND SURFACE ELEVATION (FT): 12.19 **LOCATION:** Area 4
NORTHING (FT): 687324 **EASTING (FT):** 649987 **TOTAL DEPTH (FT):** 30.0
DRILLED BY: Zebra Environmental / Luke Reiss **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 4/7/2015 - 4/7/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 5.00 4/7/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0								(0'- 8') Vacuum/Hand Cleared.	
▽ 5	5									
5		S1	2/24	0.0					(8'- 10') WIDELY GRADED SAND WITH GRAVEL AND SILT (SW-SM); ~70% sand, ~15% gravel, ~15% fines; wood chips, wet, brown.	
	10	S2	5/48	0.0					(10'- 15') WIDELY GRADED SAND WITH GRAVEL AND SILT (SW-SM); ~70% sand, fine to medium, ~15% gravel, fine to coarse, ~15% fines; wood chips, wet, brown, FILL.	
0				0.2						
				0.1						
	15			0.0						
		S3	5/38	0.0					(15'- 20') WIDELY GRADED SAND WITH GRAVEL AND SILT (SW-SM); ~70% sand, fine to medium, ~15% gravel, fine to coarse, ~15% fines; wood chips, wet, grayish brown, FILL.	
-5	20	S4	5/36	0.1					(20'- 25') WIDELY GRADED SAND WITH GRAVEL AND SILT (SW-SM); ~70% sand, fine to medium, ~15% gravel, fine to coarse, ~15% fines; wood chips, wet, grayish brown, FILL.	
-10				0.1						
				0.0						
	25			0.1						

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
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BORING LOG
PAGE 2 of 2
GPEC-SB325

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-15	25	S5	5/60	0.7 0.8 3.1 1.5 0.9 0.1 0.2 3.1 2.2 4.5 1.2			OLO	GPEC-SB/PZ-325 (26-27)	(25'- 27') WIDELY GRADED SAND WITH GRAVEL AND SILT (SW-SM); ~70% sand, fine to medium, ~15% gravel, fine to coarse, ~15% fines; wood chips, wet, grayish brown, FILL. (27'- 27.5') PEAT (PT); moist, meadow mat. (27.5'- 30') ELASTIC SILT (MH); moderate organic-like odor, moist. End of Boring at 30 feet. Piezometer installed upon completion. Screened 3'-13'.	
	30									

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BORING LOG
PAGE 1 of 2
GPEC-SB326

GROUND SURFACE ELEVATION (FT): 13.03 **LOCATION:** Area 5 Holder 1 Surface
NORTHING (FT): 686975 **EASTING (FT):** 649371 **TOTAL DEPTH (FT):** 30.0
DRILLED BY: Zebra Environmental / Luke Caballero **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 5/7/2015 - 5/7/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 3.50 5/7/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10 ▽	0		8/NM						(0'- 8') Vacuum/Hand Cleared.
5	5								
	10	S1	2/0						(8'- 10') No recovery.
0		S2	5/24	0.0 0.0 0.0 0.0 0.0					(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, coarse, subangular, ~5% fines; red brick fragments, wood chips, cinders, nails, max. size 1.5", wet, black, FILL.
	15	S3	5/32	0.0					(15'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, coarse, subangular, ~5% fines; red brick fragments, wood chips, cinders, nails, max. size 1.5", wet, black, FILL.
-5	20	S4	5/16	0.0					(20'- 25') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, coarse, subangular, ~5% fines; red brick fragments, wood chips, cinders, nails, max. size 1.5", wet, black, GRAVELLY FILL.
-10	25								

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG

GPEC-SB326

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25	S5	5/60	0.9				GPEC-SB-326 (26-27)	(25'- 26.7') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, coarse, subangular, ~5% fines; red brick fragments, wood chips, cinders, nails, max. size 1.5", wet, black, GRAVELLY FILL.
				9.0					
				7.5					
				1.6					
				5.1					
-15				0.0					(26.7'- 28.2') PEAT (PT); moist, meadow mat.
				0.0			OLO		(28.2'- 29') ORGANIC SOIL (OL); moderate organic-like odor, moist, dark brown.
				0.0					(29'- 29.5') ELASTIC SILT (MH); moist.
				0.0					(29.5'- 30') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; gray.
	30			0.0					End of Boring at 30 feet.
				0.0					Grout to surface.

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JHS = JAR HEADSPACE PID READING (PPM)

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NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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

NLO = NAPHTHALENE LIKE ODOR
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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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BORING LOG
PAGE 1 of 3
GPEC-SB328

GROUND SURFACE ELEVATION (FT): 11.74 **LOCATION:** Area 4 CNG Area
NORTHING (FT): 687119 **EASTING (FT):** 649825 **TOTAL DEPTH (FT):** 75.0
DRILLED BY: Cascade Drilling / Olden Gonzalez **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 7/8/2015 - 7/9/2015
DRILLING DETAILS: Mini Sonic BL 100C
WATER LEVEL DEPTHS (FT): ▽ 5.00 7/8/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0								(0'- 8') Vacuum/Hand Cleared.	
5	5									
▽ 5										
	10	S1	2/24	0.0 0.0 0.0					(8'- 10') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, subangular to angular, ~15% fines, non plastic; max. size 2", wet, brown, glass, red brick, shell, ceramic ware fragments. FILL.	
0		S2	5/55	0.0 0.0					(10'- 15') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, subangular to angular, ~15% fines, non plastic; max. size 2", wet, brown, glass, red brick, shell, ceramic ware fragments. FILL.	
	15	S3	5/46	0.0 0.1 0.2 0.2 0.0 0.0 0.1			OLO OLO OLO	GPEC-SB-328 (17.5-18.5)	(15'- 17.6') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, subangular to angular, ~15% fines, non plastic; max. size 2", wet, brown, glass, red brick, shell, ceramic ware fragments. FILL. (17.6'- 18.9') PEAT (PT); moderate organic-like odor, moist, brown gray, meadow mat, piece of rock 3" diameter. (18.9'- 20') ORGANIC SOIL (OL); moderate organic-like odor, moist, gray, silty. (20'- 20.7') ORGANIC SOIL (OL); moderate organic-like odor, moist, gray, silty. (20.7'- 25') PEAT (PT); moist, meadow mat, fibrous (root fiber).	
-5	20	S4	5/45	0.7 0.9 12.1 11.2 14.1						
-10	25									

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BORING LOG
PAGE 2 of 3
GPEC-SB328

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	25	S5	5/48	14.7 13.5 11.7 8.1 6.2 5.4			OLO		(25'- 30') SILT WITH SAND (ML); ~80% fines, non plastic, ~20% sand, fine; slight organic-like odor, moist, gray, moderately stiff, trace root fiber.	
-15										
	30	S6	5/54	0.1 0.2 0.1 0.0 0.0 0.2 0.1 0.0 0.0			OLO		(30'- 35') SILT WITH SAND (ML); no to low; moderate organic-like odor, moist, gray, moderately stiff, trace root fiber.	
-20										
	35	S7	5/54	0.0 0.0 0.0 0.0 0.0			OLO		(35'- 40') SILT WITH SAND (ML); no to low; moderate organic-like odor, moist, gray, moderately stiff, trace root fiber.	
-25										
	40	S8	5/58	0.0					(40'- 45') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; moist, gray brown, moderately stiff.	
-30										
	45	S9	5/54	0.0					(45'- 50') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; moist, gray brown, moderately stiff.	
-35										
	50	S10	5/52	0.0					(50'- 55') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; moist, gray brown, moderately stiff.	
-40										
	55	S11	5/52						(55'- 60') LEAN CLAY (CL); ~95% fines, low plasticity,	

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Glastonbury, CT 06033
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BORING LOG

GPEC-SB328

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-45	60	S12	5/42	0.0					~5% sand, fine; moist, gray brown, moderately stiff.	
-50	65	S13	5/22	0.1 0.1 0.0					(60'- 65') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, fine to medium, ~15% gravel, coarse, subangular, subrounded; max. size 1.5", very moist, brown, loose.	
-55	70	S14	5/50	0.0					(65'- 70') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, fine to medium, ~15% gravel, coarse, subangular, subrounded; max. size 1.5", wet, brown, moderately stiff.	
-60	75			0.0 0.1 0.0 0.0 0.0				GPEC-SB-328 (74-75)	(70'- 75') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, fine to medium, ~15% gravel, coarse, subangular, subrounded; max. size 1.5", wet, brown, moderately stiff.	
									End of Boring at 75 feet. Grout to surface. Piezometer (3-13') and monitoring wells (30-40' and 63-73') installed at adjacent locations.	

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BORING LOG
PAGE 1 of 2
GPEC-SB329

GROUND SURFACE ELEVATION (FT): 12.52 **LOCATION:** Area 4
NORTHING (FT): 687419 **EASTING (FT):** 649720 **TOTAL DEPTH (FT):** 25.0
DRILLED BY: Zebra Environmental / Luke Reiss **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 4/2/2015 - 4/2/2015
DRILLING DETAILS: Geoprobe / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 7.00 4/2/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0								(0'- 8') Vacuum/Hand Cleared.	
5	5							GPEC-SB/PZ-329 (7-8)		
▽ 5		S1	2/24						(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, coarse, ~5% fines; loose wood chips/fragments, red brick & cinders, glass fragments, max. size 2", moist to wet, brown to black, FILL.	
0	10	S2	5/12	0.0					(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, coarse, ~5% fines; some shell fragments, red brick fragments, max. size 2", wet, brown to black, FILL.	
				0.0						
-5	15	S3	5/12	0.0					(15'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, coarse, ~5% fines; some shell fragments, red brick fragments, max. size 2", wet, brown to black, FILL.	
				0.0						
-10	20	S4	5/20	0.0					(20'- 22.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, coarse, ~5% fines; some shell fragments, red brick fragments, max. size 2", wet, brown to black, FILL.	
				0.0						
				10.6					(22.5'- 24.3') ELASTIC SILT (MH); moist, gray.	
				5.7						
	25			17.5			OLO	GPEC-SB/PZ-329 (24-25)	(24.3'- 25') PEAT (PT); moderate organic-like odor,	

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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BORING LOG

GPEC-SB329

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
									trace fiber, meadow mat. End of Boring at 25 feet. Piezometer installed upon completion. Screened 5'-15'.	

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BORING LOG

PAGE 1 of 2

GPEC-SB330

GROUND SURFACE ELEVATION (FT): 14.37 **LOCATION:** Area 5
NORTHING (FT): 687242 **EASTING (FT):** 649464 **TOTAL DEPTH (FT):** 25.0
DRILLED BY: Zebra Environmental / Luke Reiss **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 4/1/2015 - 4/1/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 9.00 4/1/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0								(0'- 8') Vacuum/Hand Cleared.
5	5								
▽		S1	2/24	0.0				GPEC-SB/PZ-330 (9-10)	(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse, subangular; wet, brown.
0	10	S2	5/12	0.0					(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse, subangular; wet, brown.
-5	15	S3	5/24	0.0 0.0 0.7 0.0				GPEC-SB/PZ-330 (18.5-19.5)	(15'- 20') WELL GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, subangular, ~15% fines; some wood chips, max. size 2".
-10	20	S4	5/12				OLO		(20'- 22.5') WELL GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, subangular, ~15% fines; some wood chips, max. size 2". (22.5'- 25') ORGANIC SOIL (OL); peat, moderate organic-like odor.
	25								

WELL DETAILS

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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BORING LOG

GPEC-SB330

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-15	25 / 30								End of Boring at 25 feet. Piezometer installed upon completion. Screened 7'-17'.	

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BORING LOG
PAGE 1 of 3
GPEC-SB331

GROUND SURFACE ELEVATION (FT): 13.92 **LOCATION:** Area 5 SW OF Holder 1
NORTHING (FT): 686925 **EASTING (FT):** 649293 **TOTAL DEPTH (FT):** 75.0
DRILLED BY: Cascade Drilling / Olden Gonzalez **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 7/17/2015 - 7/17/2015
DRILLING DETAILS: Mini Sonic BL 100C
WATER LEVEL DEPTHS (FT): ▽ 5.50 7/17/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0								(0'- 8') Vacuum/Hand Cleared.
▽	5								
5	10	S1	2/12	4.5 8.6 10.4			TLO		(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, ~5% fines, non plastic; max. size 3", slight tar-like odor, wet, brown, concrete/red brick fragments, some cinder. FILL.
0	15	S2	5/30	357 196 107 169 104 89.2			TLO	GPEC-SB-331 (14-15)	(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, ~5% fines, non plastic; max. size 3", slight tar-like odor, wet, brown, concrete/red brick fragments, some cinder, soil staining, sheen. FILL.
-5	20	S3	5/42	79 413 62 38 37.6 148.8 298.8 180			TLO		(15'- 20') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, ~15% fines, non plastic; max. size 2", moderate tar-like odor, wet, brown black, soil staining, sheen.
-10	25	S4	5/32	23 37 59.9 62.5 41.0 105.9			TLO		(20'- 23.1') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, ~15% fines, non plastic; max. size 2", moderate tar-like odor, wet, brown black, soil staining, sheen. (23.1'- 25') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to medium, subangular, ~35% fines, low plasticity, ~10% gravel, coarse; max. size 1", slight

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG

GPEC-SB331

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25	S5	5/30	42.3 37.5 36.7 0.0 14.5 9.2 57.7			OLO		tar-like odor, moist-wet, trace meadow mat, trace sheen. (25'- 30') SILT (ML); ~95% fines, low plasticity, ~5% sand, fine; moderate organic-like odor, moist, gray, organic soil at the bottom 2".
-15	30	S6	5/44	2.0 1.1 1.4 5.1 5.5 6.7 15.9			OLO		(30'- 35') SILTY SAND (SM); ~60% sand, fine, ~35% fines, non plastic, ~5% gravel, fine; moderate organic-like odor, very moist, gray.
-20	35	S7	5/60	0.0					(35'- 36.8') SILT (ML); ~95% fines, low plasticity, ~5% sand; gray. (36.8'- 38.8') SILTY SAND (SM); ~70% sand, fine to medium, ~30% fines, non plastic; wet, gray.
-25	40	S8	5/50	0.0 0.0					(38.8'- 40') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; moist, moderately stiff. (40'- 45') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; moist, gray, moderately stiff.
-30	45	S9	5/60	0.0					(45'- 50') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; moist, gray, moderately stiff.
-35	50	S10	5/60	0.0					(50'- 55') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; moist, gray, moderately stiff.
-40	55	S11	5/60						(55'- 60') LEAN CLAY (CL); ~95% fines, low plasticity,

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BORING LOG

GPEC-SB331

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
				0.0					~5% sand, fine; moist, gray, moderately stiff.
-45	60	S12	5/60	0.0					(60'- 65') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; moist, gray brown, moderately stiff.
-50	65	S13	5/30	2.7 6.2 0.7 0.0 0.0					(65'- 70') NARROWLY GRADED SAND WITH CLAY/SILT (SP-SM); ~60% sand, fine to medium, ~35% fines, low plasticity, ~5% gravel, fine; wet, brown and gray.
-55	70	S14	5/48	.0 2.1 0.6 0.3 1.2 5.2				GPEC-SB-331 (74-75)	(70'- 75') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, fine to medium, ~10% fines, non plastic, ~5% gravel, coarse, subangular-subrounded; max. size 2", wet, brown.
-60	75								End of Boring at 75 feet. Grout to surface.

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BORING LOG
PAGE 1 of 4
GPEC-SB332

GROUND SURFACE ELEVATION (FT): 13.48 **LOCATION:** Area 5 SE OF Holder 1
NORTHING (FT): 686983 **EASTING (FT):** 649449 **TOTAL DEPTH (FT):** 90.0
DRILLED BY: Cascade Drilling / Olden Gonzalez **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 7/7/2015 - 7/8/2015
DRILLING DETAILS: Mini Sonic BL 100C
WATER LEVEL DEPTHS (FT): ▽ 6.00 7/7/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0		8/NM						(0'- 8') Vacuum/Hand Cleared.
5	5	S1	2/24	8.8 5.2			TLO		(8'- 10') WIDELY GRADED SAND WITH GRAVEL AND SILT (SW-SM); ~70% sand, fine to coarse, subangular, ~15% gravel, fine to coarse, ~15% fines, low plasticity; max. size 2.5", slight tar-like odor, moist to wet, black to gray, red brick, wood chips, cloth fabric pieces, loose, trace sheen. FILL.
0	10	S2	5/48	136 196 137 102 98 75 66			TLO		(10'- 15') WIDELY GRADED SAND WITH GRAVEL AND SILT (SW-SM); ~70% sand, fine to coarse, subangular, ~15% gravel, fine to coarse, ~15% fines, low plasticity; max. size 2.5", slight tar-like odor, moist to wet, black to gray, red brick, wood chips, cloth fabric pieces, loose, trace sheen, soil staining. FILL.
-5	15	S3	5/38	39 6.5 10.9 7.2 6.0 3.4 2.7			TLO		(15'- 20') WIDELY GRADED SAND WITH GRAVEL AND SILT (SW-SM); ~70% sand, fine to coarse, subangular, ~15% gravel, fine to coarse, ~15% fines, low plasticity; max. size 2.5", slight tar-like odor, wet, black to gray, red brick, wood chips, cloth fabric pieces, some cinder, white ash, burnt material, loose, trace sheen, soil staining, some NAPL observed in water. FILL.
-10	20	S4	5/56	187 209 330 455 363 259 179 185			TLO OLO	GPEC-SB/PZ-332 (22-23)	(20'- 23.2') WIDELY GRADED SAND WITH GRAVEL AND SILT (SW-SM); ~70% sand, ~15% gravel, ~15% fines, plastic; max. size 2.5", strong tar-like odor, wet, black, brick, wood chips, cloth pieces, cinder, white ash, burnt material, loose, soil saturated and plastic sleeve smeared wtih tar-like material, viscous. FILL. (23.2'- 25') PEAT (PT); moderate organic-like odor, moist, brown, meadow mat, leaf fragments, fibrous (root fiber).
	25								

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

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BORING LOG
PAGE 2 of 4
GPEC-SB332

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25	S5	5/60	172					(25'- 25.7') ORGANIC SOIL (OL); moist, black brown, loose.
				35					(25.7'- 29') PEAT (PT); moist, brown, meadow mat, root fiber, somehow loose.
				26					
				48					
				22					
-15				15					
				21					
				69.2					
				85.1			PLO		(29'- 30') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, subangular, ~5% fines, non plastic; moderate petroleum-like odor, moist, brown, trace soil staining, loose.
	30	S6	5/60	97.7					
				100					(30'- 35') SILT WITH SAND (ML); ~90% fines, low plasticity, ~10% sand; slight organic-like odor, moist, gray, moderately stiff, trace root fiber.
				36					
				39					
				21			OLO		
				7.1					
-20				6.5					
				2.3					
				1.5					
				1.0					
	35	S7	5/60	1.1					(35'- 40') SILT WITH SAND (ML); ~90% fines, low plasticity, ~10% sand; moist, gray, moderately stiff.
				1.0					
				0.1					
				0.1					
				0.2					
				0.3					
-25				0.0					
				0.1					
				0.2					
	40	S8	5/60	0.1					(40'- 41.7') SILT WITH SAND (ML); ~90% fines, low plasticity, ~10% sand; moist, gray, moderately stiff.
				0.0					
				0.1					(41.7'- 42.2') NARROWLY GRADED SAND (SP); ~80% sand, fine, ~15% fines, non plastic, ~5% gravel, fine; lensed, max. size 10", wet, gray, lense of fine sand.
				0.0					
				0.0					(42.2'- 45') LEAN CLAY WITH SAND (CL); ~95% fines, low plasticity, ~5% sand, fine; very moist, gray brown, trace fine sand, moderately stiff.
-30				0.0					
				0.0					
				0.0					
				0.0					
	45	S9	5/60	0.0					(45'- 50') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; very moist, gray brown.
				0.0					
				0.0					
				0.0					
				0.0					
-35				0.0					
				0.0					
	50	S10	5/55						(50'- 55') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; very moist, gray brown, slightly dense.
				0.0					
-40									
				0.0					
	55	S11	5/54						(55'- 60') LEAN CLAY (CL); ~95% fines, low plasticity,

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants, Inc. P.C. 455 Winding Brook Drive Suite 201 Glastonbury, CT 06033 (860) 368-5300	CLIENT: National Grid PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-2-1202	BORING LOG PAGE 3 of 4 GPEC-SB332

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
				0.0					~5% sand, fine; very moist, gray brown.
				0.0					
				0.0					
-45				0.0					
				0.0					
	60	S12	5/48						(60'- 65') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; very moist, gray brown.
				0.0					
				0.0					
-50				0.0					
				0.0					
	65	S13	5/42						(65'- 70') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; very moist, gray brown.
				0.0					
				0.0					
-55				0.0					
				0.0					
	70	S14	5/30						(70'- 71.7') SILTY SAND (SM); ~80% sand, fine, subangular, ~20% fines, low plasticity; wet.
				0.1					(71.7'- 75') NARROWLY GRADED SAND (SP); ~95% sand, fine, subangular, ~5% fines, low plasticity; wet, brown, loose.
-60				0.2					
				0.0					
	75	S15	5/5						(75'- 80') NARROWLY GRADED SAND (SP); ~95% sand, fine, subangular, ~5% fines, low plasticity; max. size 3", wet, brown, sand/sample got flushed out, loose.
-65									
	80	S16	5/30	0.0					(80'- 82') SILTY SAND (SM); ~70% sand, fine to medium, ~30% fines, non plastic; wet, brown, loose.
				0.0					
				0.0					
				0.0				GPEC-SB/PZ-332 (82-83)	(82'- 83.3') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines, non plastic; wet, brown, loose.
-70				0.0					(83.3'- 85') WIDELY GRADED GRAVEL WITH SAND AND SILT (GW-GM); ~65% gravel, fine to coarse, subangular to subrounded, ~25% sand, fine to coarse, subangular subrounded, ~10% fines, non plastic; max. size 3.5", wet, brown, loose.
				0.0					
				0.0					
	85	S17	5/56	0.0					

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BORING LOG

GPEC-SB332

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-75	90			0.0 0.0 0.0 0.0					(85'- 86.4') WIDELY GRADED GRAVEL WITH SAND AND SILT (GW-GM); ~65% gravel, fine to coarse, subangular to subrounded, ~25% sand, fine to coarse, subangular subrounded, ~10% fines, non plastic; wet, brown, loose. (86.4'- 90') LEAN CLAY WITH SAND (CL); ~90% fines, non plastic, ~10% sand, fine; moist, green, moderately stiff. End of Boring at 90 feet. Grout to surface. 8" isolation casing installed during boring advancement. Piezometer (2-12') installed at adjacent location.

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BORING LOG

GPEC-SB333

GROUND SURFACE ELEVATION (FT): 14.24 **LOCATION:** Area 5
NORTHING (FT): 686892 **EASTING (FT):** 649129 **TOTAL DEPTH (FT):** 80.0
DRILLED BY: Cascade Drilling / Olden Gonzalez **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 7/13/2015 - 7/14/2015
DRILLING DETAILS: Mini Sonic BL 100C
WATER LEVEL DEPTHS (FT): ▽ 5.00 7/13/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0								(0'- 8') Vacuum/Hand Cleared.	
10 ▽	5									
5	10	S1	2/24	0.5 0.4 0.4					(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular to angular, ~20% gravel, fine to coarse; max. size 3", wet, brown, some cinder, white ash, glass & red brick fragments. FILL.	
0	15	S2	5/60	0.5 0.4 0.4 0.4 0.4 0.3 0.3 0.4 0.0					(10'- 15') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, subangular to angular, ~10% fines, non plastic; max. size 3", brown black, concrete fragments, brick & wood fragments. FILL.	
-5	20	S3	5/42	0.8 0.5 2.1 5.4 57.5 23.3 42 6.2			NLO		(15'- 20') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, subangular to angular, ~10% fines, non plastic; max. size 3", slight naphthalene-like odor, black, red brick/wood fragments, trace sheen. FILL.	
-10	25	S4	5/60	60.2 233.7 101.7 30.3 145.2 101.9 163.9 25.3			TLO OLO	GPEC-SB/PZ-333 (21-22)	(20'- 21.3') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, subangular to angular, ~10% fines, non plastic; max. size 3", moderate tar-like odor, black, soil coating with tar-like material. (21.3'- 25') PEAT (PT); moderate organic-like odor, moist, brown, meadow mat, fibrous, trace organic soil.	

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BORING LOG
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GPEC-SB333

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	25	S5	5/52	219.2 118.2 58.5 175.8 234.7 99.2			OLO		(25'- 28.3') PEAT (PT); moderate organic-like odor, moist, brown and gray, meadow mat, fibrous, trace organic soil.	
-15	30			8.7 76.0 67.0			OLO		(28.3'- 30') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, subangular, ~15% fines, non plastic; moderate organic-like odor, wet, gray, trace organic soil and root fiber.	
		S6	5/47	1.6 3.7 2.0 9.7 5.9 4.7 7.6					(30'- 35') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, subangular, ~5% fines, non plastic; wet, gray.	
-20	35	S7	5/50	2.7 1.1 1.0 4.3 1.8 1.1 1.4					(35'- 40') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, subangular, ~5% fines, non plastic; wet, gray brown, more silt at the bottom.	
-25	40	S8	5/56	0.0 0.0					(40'- 45') LEAN CLAY (CL); ~90% sand, fine, subangular, ~5% gravel, coarse, ~5% fines, low plasticity; max. size 0.5", dry, gray, trace sand and gravel, moderately stiff.	
-30	45	S9	5/60	0.0					(45'- 50') LEAN CLAY (CL); ~90% sand, fine, subangular, ~5% gravel, coarse, ~5% fines, low plasticity; max. size 0.5", moist, gray, trace sand and gravel, moderately stiff.	
-35	50	S10	5/60	0.0					(50'- 55') LEAN CLAY (CL); ~90% sand, fine, subangular, ~5% gravel, coarse, ~5% fines, low plasticity; max. size 0.5", moist, gray, trace sand and gravel, moderately stiff.	
-40	55	S11	5/60						(55'- 60') LEAN CLAY (CL); ~90% sand, fine,	

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JHS = JAR HEADSPACE PID READING (PPM)

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NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
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OLO = ORGANIC LIKE ODOR
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MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG
PAGE 3 of 3
GPEC-SB333

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
				0.0					subangular, ~5% gravel, coarse, ~5% fines, low plasticity; max. size 0.5", moist, gray, trace sand and gravel, moderately stiff.	
-45	60	S12	5/48							
				0.0					(60'- 61.3') LEAN CLAY (CL); ~90% sand, fine, subangular, ~5% gravel, coarse, ~5% fines, low plasticity; max. size 0.5", moist, gray, trace sand and gravel, moderately stiff. (61.3'- 65') NARROWLY GRADED SAND WITH GRAVEL AND SILT (SP-SC); ~75% sand, fine to medium, subangular, ~15% gravel, coarse, subangular, subrounded, ~10% fines, non plastic; max. size 2", wet, brown and gray.	
-50	65	S13	5/32							
				2.2					(65'- 70') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to medium, ~20% fines, non plastic, ~15% gravel, coarse, subangular; max. size 3", wet, gray brown.	
				0.9						
				0.3						
-55				10.1						
	70	S14	5/42							
				0.9					(70'- 75') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to medium, ~20% fines, non plastic, ~15% gravel, coarse, subangular; max. size 3", wet, gray brown.	
				0.3						
				0.1						
				0.0						
-60				0.0						
	75	S15	5/18							
				0.1					(75'- 80') SILTY SAND (SM); ~65% sand, fine to medium, ~20% fines, non plastic, ~15% gravel, coarse, subangular; max. size 3", wet, gray brown.	
				0.1						
-65				0.6				GPEC-SB/PZ-333 (79-80)		
	80								End of Boring at 80 feet. Monitoring well installed 65-75'. Piezometer (2-12') and monitoring well (30-40') installed at adjacent locations. 8" isolation casing installed during boring advancement.	

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants	CLIENT: National Grid	BORING LOG
GEI Consultants, Inc. P.C. 455 Winding Brook Drive Suite 201 Glastonbury, CT 06033 (860) 368-5300	PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-2-1202	PAGE 1 of 3 — GPEC-SB334

GROUND SURFACE ELEVATION (FT): 14.76 LOCATION: Area 5 Ballfield
NORTHING (FT): 686850 EASTING (FT): 649017 TOTAL DEPTH (FT): 75.0
DRILLED BY: Cascade Drilling / Olden Gonzalez DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi DATE START / END: 7/16/2015 - 7/16/2015
DRILLING DETAILS: Mini Sonic BL 100C
WATER LEVEL DEPTHS (FT): ▽ 5.50 7/16/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0								(0'- 8') Vacuum/Hand Cleared.
	5								
▽									
5	10	S1	2/24	0.5 0.7 1.6 4.9 2.1					(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, angular to subangular, ~20% gravel, fine to coarse; max. size 3", wet, brown black, some cinder, white ash, concrete & red brick fragments. FILL.
		S2	5/18	1.2 1.9					(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); non plastic, ~80% sand, fine to coarse, angular to subangular, ~20% gravel, fine to coarse; max. size 3", wet, brown black, some cinder, white ash, concrete & red brick fragments. FILL.
0	15	S3	5/12	2.1 0.9 1.5			TLO		(15'- 20') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, angular to subangular, ~15% gravel, fine to coarse, angular to subangular, ~10% fines, non plastic; max. size 2.5", slight tar-like odor, brown black, wood chip fragments, trace red brick fragments. FILL.
-5	20	S4	5/32	71.1 56.7 49.2 78 99.9 107.2 136.1 234			TLO	GPEC-SB-334 (24-25)	(20'- 22.5') NARROWLY GRADED SAND (SP); ~100% sand, fine to medium; wet, black gray. (22.5'- 25') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, angular to subangular, ~15% gravel, fine to coarse, ~10% fines, non plastic; max. size 1.5", moderate
-10	25								

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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455 Winding Brook Drive
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Glastonbury, CT 06033
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GEI PROJECT NUMBER: 125180-2-1202

BORING LOG

GPEC-SB334

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25	S5	5/18	122.5			TLO		tar-like odor, rope fragments, cinder, red brick/glass fragments, moderate soil staining/coating. FILL.
				22.4					(25'- 25.6') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, angular to subangular, ~15% gravel, fine to coarse, ~10% fines, non plastic; max. size 1.5", moderate tar-like odor, wet, rope and metal scrap fragments, cinder, red brick/glass fragments, moderate soil staining/coating. FILL.
				30.6			OLO		
				21.7					
-15				12.1					
	30	S6	5/24						(25.6'- 30') PEAT (PT); moderate organic-like odor, moist, brown, meadow mat, fibrous.
				2.3					(30'- 34.2') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~85% sand, fine to medium, subangular, ~10% fines, non plastic, ~5% gravel, fine to coarse, angular to subangular; max. size 0.5", wet, gray.
				1.1					
				0.9					
-20				1.2					(34.2'- 35') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; wet to moist, gray, moderately stiff.
	35	S7	5/58	0.1					(35'- 40') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; moist, gray brown, moderately stiff.
				0.1					
				0.0					
				0.0					
				0.1					
				0.1					
				0.0					
-25				0.1					
	40	S8	5/60	0.0					
				0.4					(40'- 45') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; moist, gray brown, moderately stiff.
				0.0					
				0.0					
-30	45	S9	5/54						(45'- 50') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; moist, gray brown, moderately stiff.
				0.0					
-35	50	S10	5/60						(50'- 52.5') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; moist, gray brown, moderately stiff.
				0.0					(52.5'- 55') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine to medium, angular to subangular, ~15% fines, non plastic, ~10% gravel, coarse, angular to subangular; max. size 2.5", wet, gray brown.
-40	55	S11	5/28						(55'- 60') NARROWLY GRADED SAND WITH SILT

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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Glastonbury, CT 06033
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BORING LOG

GPEC-SB334

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
				0.1 0.3 0.0 0.2 0.0					AND GRAVEL (SP-SM); ~75% sand, fine to medium, angular to subangular, ~15% fines, non plastic, ~10% gravel, coarse, angular to subangular; max. size 2.5", wet, gray brown.
-45	60	S12	5/1	0.0					(60'- 65') wet, no recovery, traces of sand from the drill bit (flushed out sample).
-50	65	S13	5/28	0.1 0.0					(65'- 70') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine to medium, angular to subangular, ~15% fines, non plastic, ~10% gravel, coarse, angular to subangular; max. size 2.5", wet, gray brown.
-55	70	S14	5/45	0.0					(70'- 75') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to medium, ~20% fines, non plastic, ~15% gravel, coarse, subangular; max. size 2", gray brown.
-60	75			0.0				GPEC-SB-334 (74-75)	End of Boring at 75 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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BORING LOG
PAGE 1 of 2
GPEC-SB336

GROUND SURFACE ELEVATION (FT): 15.27 **LOCATION:** Area 5
NORTHING (FT): 686849 **EASTING (FT):** 648855 **TOTAL DEPTH (FT):** 25.0
DRILLED BY: Zebra Environmental / Luke Reiss **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi, Chris Anastasiou **DATE START / END:** 4/1/2015 - 4/1/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 4.00 4/1/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
15	0								(0'- 8') Vacuum/Hand Cleared.
▽									
10	5								
		S1	2/30	232			PLO	GPEC-SB-336 (9-10)	(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to angular; brick fragments, concrete fragments, moderate petroleum-like odor, moist, brown to gray, FILL.
5	10	S2	5/24	18.2			PLO		(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to angular; brick fragments, concrete fragments, moderate petroleum-like odor, wet, brown to gray, FILL.
				23.8					
	15			7.3					
0		S3	5/24	0.0			PLO		(15'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to angular; brick fragments, concrete fragments, moderate petroleum-like odor, wet, brown to gray, FILL.
				0.8					
				0.4					
-5	20	S4	5/24	0.3			PLO		(20'- 22.1') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to angular; brick fragments, concrete fragments, moderate petroleum-like odor, wet, brown to gray, FILL.
				3.5					
				7				GPEC-SB-336 (22-23)	
				0.2					(22.1'- 22.9') ORGANIC SOIL (OL/OH); trace fine sand, black.
				0.8			OLO		(22.9'- 25') PEAT (PT); moderate organic-like odor, moist, meadow mat.
	25			0.1					

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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BORING LOG

GPEC-SB336

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
									End of Boring at 25 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants, Inc. P.C. 455 Winding Brook Drive Suite 201 Glastonbury, CT 06033 (860) 368-5300	CLIENT: National Grid PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-2-1202	BORING LOG PAGE 1 of 3 GPEC-SB339

GROUND SURFACE ELEVATION (FT): 15.13 LOCATION: Area 5
NORTHING (FT): 687188 EASTING (FT): 648739 TOTAL DEPTH (FT): 85.0
DRILLED BY: Cascade Drilling / Olden Gonzalez DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: Devin Byrne DATE START / END: 7/29/2015 - 7/29/2015
DRILLING DETAILS: Sonic Coring
WATER LEVEL DEPTHS (FT): ▽ 10.00 7/29/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0								(0'- 8') Vacuum/Hand Cleared.	
	5	S1	2/0						(8'- 10') No recovery.	
5	10	S2	5/27	0.6 0.9 22.1 44.0 264.1			NLO		(10'- 13.7') WIDELY GRADED SAND WITH GRAVEL (SW); black, bricks, cobbles, wood, moist at 12.8'. FILL. (13.7'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); slight naphthalene-like odor, bricks, cobbles, wood, slight naphthalene-like odor. FILL.	
0	15	S3	5/36	24.7 78 82 16 94 113			TLO NLO NLO	GPEC-SB-339 (19-20)	(15'- 18.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~20% fines, ~10% gravel, fine to coarse; moderate tar-like odor, moist, black, FILL. (18.3'- 19') COBBLE; moderate naphthalene-like odor, cobble up to 3" diameter, lightly coated with LNAPL, light to moderate sheen.	
-5	20	S4	5/48	19 21 30.2 5.7			NLO TLO TLO		(19'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, subangular; max. size 3", slight naphthalene-like odor, dry, light brown. (20'- 20.8') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, subangular to angular; slight naphthalene-like odor, wet, brown, light to moderate sheen at 20.8'. (20.8'- 22.4') WIDELY GRADED SAND WITH	
	25									

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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BORING LOG

GPEC-SB339

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	25	S5	5/23	51.1 17.0 16.0 13.2			TLO		GRAVEL (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse; max. size 3". (22.4'- 23.1') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, subangular to angular; max. size 1", slight tar-like odor, wet, black, loose, moderately coated in weathered tar-like material. (23.1'- 25') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, subangular to angular; max. size 1", slight tar-like odor, wet, brown, loose, cobbles. (25'- 30') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse, subrounded to rounded; max. size 2", slight tar-like odor, wet, brown black, loose, light staining, mostly medium to coarse sand. (30'- 35') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse, subrounded to rounded; max. size 2", wet, brown black, loose. (35'- 40') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse, subrounded to rounded; max. size 3", wet, brown, cobbles, loose.	
-15	30	S6	5/16	2.1 1.7 7.4 9.2						
	35	S7	5/26	2.4 1.7 2.4 3.6 2.2						
-25	40	S8	5/50	4.6 0.3 0.4 0.2 0.6					(40'- 45') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse, subrounded to rounded; max. size 3", wet, brown, loose.	
-30	45	S9	5/0						(45'- 50') No recovery.	
-35	50	S10	5/50	0.1 0.2 0.4 0.4 0.1 0.0 0.0					(50'- 54') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse, subrounded to rounded; max. size 3", wet, brown, loose.	
-40	55	S11	5/20	0.2					(54'- 55') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, rounded to subrounded, ~40% sand, fine to coarse; max. size 0.5.	

NOTES:

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NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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

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

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

ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG
PAGE 3 of 3
GPEC-SB339

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
				0.0					(55'- 60') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to medium, rounded, ~5% fines; max. size 0.5", wet, brown, loose.	
				0.2						
				0.4						
				0.7						
				0.4						
-45	60	S12	5/43						(60'- 65') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, rounded, ~5% fines; max. size 3", wet, brown, loose.	
				0.0						
				0.0				GPEC-SB-339 (64-65)		
-50	65	S13	5/60						(65'- 65.2') LEAN CLAY WITH SAND (CL); non plastic; brown. (65.2'- 70') LEAN CLAY (CL); gray, trace shells and fine sand.	
				0.0						
				0.0						
-55	70	S14	5/27						(70'- 74.8') LEAN CLAY (CL); gray, trace shells and fine sand.	
				0.0						
				0.0						
-60	75	S15	5/60						(74.8'- 75') WIDELY GRADED GRAVEL WITH SAND (SW); wet, brown, loose, fine gravel. (75'- 79.2') LEAN CLAY (CL); low to medium plasticity; gray.	
				0.0						
				0.0					(79.2'- 80') CLAYEY SAND (SC); ~60% fines, ~40% sand, fine to medium; gray. (80'- 82.5') CLAYEY SAND (SC); ~60% fines, ~40% sand, fine to medium; gray.	
-65	80	S16	5/60							
				0.0					(82.5'- 85') LEAN CLAY (CL); non to low plasticity; gray dark gray, firm.	
				0.0						
	85								End of Boring at 85 feet. Monitoring well installed from 56-66'. Monitoring wells (3-13' & 30-40') installed at adjacent locations.	

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
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PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG
PAGE 1 of 2
GPEC-SB340

GROUND SURFACE ELEVATION (FT): 15.79 **LOCATION:** Area 5
NORTHING (FT): 686885 **EASTING (FT):** 648841 **TOTAL DEPTH (FT):** 25.0
DRILLED BY: Zebra Environmental / Luke Reiss **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi, Chris Anastasiou **DATE START / END:** 4/1/2015 - 4/1/2015
DRILLING DETAILS: Geoprobe / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 5.00 4/1/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
15	0							(0'- 8') Vacuum/Hand Cleared.	
▽ 10	5								
		S1	2/0					(8'- 10') wet, no recovery.	
5	10	S2	5/3	0.0				(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to angular; cinders and ash, trace tiny red brick fragments, wet, brown.	
0	15	S3	5/3	0.0				(15'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to angular; cinders and ash, trace tiny red brick fragments, wet, brown.	
-5	20	S4	5/42	0.0 0.4 1.2 1.5 5.0 0.2			GPEC-SB/PZ-340 (21-22)	(20'- 21.4') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to angular; cinders and ash, trace tiny red brick fragments, wet, brown. (21.4'- 21.9') ORGANIC SOIL (OL/OH); trace fine sand, black. (21.9'- 25') PEAT (PT); moist, fiborous, meadow mat.	
	25								

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GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
(860) 368-5300

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GEI PROJECT NUMBER: 125180-2-1202

BORING LOG

GPEC-SB340

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
								End of Boring at 25 feet. Piezometer installed upon completion. Screened 3'-13'.	

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455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
(860) 368-5300

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BORING LOG
PAGE 1 of 2
GPEC-SB341

GROUND SURFACE ELEVATION (FT): 20.82 **LOCATION:** Area 5
NORTHING (FT): 687138 **EASTING (FT):** 648834 **TOTAL DEPTH (FT):** 30.0
DRILLED BY: Zebra Environmental / Luke Reiss **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 3/30/2015 - 3/30/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 15.00 3/30/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
20	0								(0'- 8') Vacuum/Hand Cleared.
15	5								
		S1	2/0						(8'- 10') no recovery.
10	10	S2	5/18	1.2			PLO		(10'- 11.7') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, subangular, ~5% fines; red brick fragments, max. size 2", slight petroleum-like odor, moist, brown black, FILL.
				2.4					(11.7'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, subangular, ~5% fines; red brick fragments, max. size 2", moderate petroleum-like odor, wet, brown black, some sheen observed on water. FILL.
				47.5			PLO		
				3.4					
5 ▽	15			47.5				GPEC-SB-341 (14.5-15)	
		S3	5/12						(15'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, subangular, ~5% fines; red brick fragments, max. size 2", moderate petroleum-like odor, wet, brown black, some sheen observed on water. FILL.
				1.1			PLO		
				1.3					
0	20	S4	5/30						(20'- 25') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, subangular, ~5% fines; red brick fragments, max. size 2", moderate petroleum-like odor, wet, brown black, some sheen observed on water. FILL.
				0.9			PLO		
	25								

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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455 Winding Brook Drive
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Glastonbury, CT 06033
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BORING LOG

GPEC-SB341

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-5	25	S5	5/30	5.2 4.3 1.2 4.2 1.5 0.7			PLO OLO	GPEC-SB-341 (28-28.5)	(25'- 26') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, subangular, ~5% fines; red brick fragments, max. size 2", moderate petroleum-like odor, wet, brown black, some sheen observed on water. FILL. (26'- 30') PEAT (PT); max. size 2", moderate organic-like odor, fibrous, some root.
	30								End of Boring at 30 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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BORING LOG
PAGE 1 of 1
GPEC-SB342

GROUND SURFACE ELEVATION (FT): 17.94 **LOCATION:** Area 5 near Holder 2
NORTHING (FT): 687259 **EASTING (FT):** 648926 **TOTAL DEPTH (FT):** 20.0
DRILLED BY: Zebra Environmental / Luke Reiss **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi, Chris Anastasiou **DATE START / END:** 3/31/2015 - 3/31/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 5.00 3/31/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
15	0								(0'- 8') Vacuum/Hand Cleared.	
▽ 5	5									
10	10	S1	2/20	47.7			PLO		(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, subangular to angular, ~5% fines; some concrete fragments, max. size 2", moderate petroleum-like odor, brown black, some sheen observed.	
5	10	S2	5/42	63 15.9 8.4 14.4 7.5 5.4 5.4 4.0			PLO	GPEC-SB/PZ-342 (10-11)	(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, subangular to angular, ~5% fines; some concrete fragments, max. size 2", moderate petroleum-like odor, wet, brown black, some sheen observed.	
0	15	S3	5/60	0.9 0.5 0.5 15.5 15.5 6.4 2.7			PLO		(15'- 18.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular to angular, ~15% gravel, fine to coarse, subangular to angular, ~5% fines; some concrete fragments, max. size 2", moderate petroleum-like odor, wet, black, some sheen observed.	
							OLO	GPEC-SB/PZ-342 (18-19)	(18.3'- 20') PEAT (PT); moderate organic-like odor, moist, meadow mat, fibrous.	
	20								End of Boring at 20 feet. Piezometer installed upon completion. Screened 3'-13'.	

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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455 Winding Brook Drive
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Glastonbury, CT 06033
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BORING LOG
PAGE 1 of 2
GPEC-SB343

GROUND SURFACE ELEVATION (FT): 19.19 **LOCATION:** Area 5 near Holder 2
NORTHING (FT): 687455 **EASTING (FT):** 648924 **TOTAL DEPTH (FT):** 25.0
DRILLED BY: Zebra Environmental / Luke Reiss **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi, Chris Anastasiou **DATE START / END:** 3/31/2015 - 3/31/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 3.50 3/31/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
15	0								(0'- 8') Vacuum/Hand Cleared.	
▽										
10	5	S1	2/24	0.0			OLO		(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; moderate organic-like odor, wet, brown.	
5	10	S2	5/45	0.0 0.0 0.0 0.0 0.5 0.4				GPEC-SB/PZ-343 (14-15)	(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular, ~15% gravel, fine to coarse, ~5% fines; some red bricks, some wood chips/fragments, brown.	
0	15	S3	5/30	0.5 1.6 0.8 1.0 0.4			OLO		(15'- 17.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular, ~15% gravel, fine to coarse, ~5% fines; some red bricks, some wood chips/fragments, brown. (17.5'- 20') NARROWLY GRADED SAND (SP); ~80% sand, subangular, ~20% gravel, fine; max. size 2", moderate organic-like odor, wet, black, some fiber.	
-5	20	S4	5/32	0.1 0.1 0.5 0.1 0.5 0.0			OLO	GPEC-SB/PZ-343 (22-23)	(20'- 22.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, angular to subangular, ~20% gravel, fine, subangular to angular; max. size 0.5", wet. (22.5'- 25') PEAT (PT); moderate organic-like odor, moist, meadow mat, fibrous.	
	25									

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
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(860) 368-5300

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BORING LOG

GPEC-SB343

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
									End of Boring at 25 feet. Piezometer installed upon completion. Screened 2'-12'.	

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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GEI Consultants, Inc. P.C.
455 Winding Brook Drive
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Glastonbury, CT 06033
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BORING LOG
PAGE 1 of 3
GPEC-SB344

GROUND SURFACE ELEVATION (FT): 15.20 **LOCATION:** Area 5
NORTHING (FT): 686805 **EASTING (FT):** 648882 **TOTAL DEPTH (FT):** 85.0
DRILLED BY: Cascade Drilling / Olden Gonzalez **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Devin Byrne **DATE START / END:** 7/24/2015 - 7/24/2015
DRILLING DETAILS: Mini Sonic BL 100C
WATER LEVEL DEPTHS (FT): ▽ 12.00 7/24/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
15	0							(0'- 8') Vacuum/Hand Cleared.	
10	5								
		S1	2/0					(8'- 10') No recovery.	
5	10	S2	5/24	0.0 0.0 0.0 0.0				(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, subangular, ~10% fines; 5% roots, max. size 3", moist, brown, loose.	
0	15	S3	5/49	0.0 0.0				(15'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; max. size 3", wet, brown, loose.	
-5	20	S4	5/35	0.0 0.0				(20'- 25') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; max. size 3", wet, brown, loose.	
	25								

NOTES:

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JHS = JAR HEADSPACE PID READING (PPM)

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Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG
PAGE 2 of 3
GPEC-SB344

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-10	25	S5	5/41	0.0				(25'- 26.8') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; max. size 3", wet, brown, loose.	
								(26.8'- 27.8') PEAT (PT); max. size 0.75", brown black, firm.	
				0.0				(27.8'- 30') CLAYEY SAND (SC); non to low plasticity, ~10% gravel; max. size 0.75", gray.	
-15	30	S6	5/50	0.0				(30'- 34') CLAYEY SAND (SC); non to low plasticity, ~10% gravel; gray.	
				0.0				(34'- 35') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines; gray with interbedded bands of brown, firm.	
-20	35	S7	5/38	0.0				(35'- 40') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines; gray with interbedded bands of brown, firm.	
				0.0					
-25	40	S8	5/60	0.0				(40'- 45') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines; max. size 3", gray with interbedded bands of brown, firm.	
				0.0					
-30	45	S9	5/60	0.0				(45'- 50') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines; max. size 3", gray with interbedded bands of brown, firm.	
				0.0					
-35	50	S10	5/58	0.0				(50'- 55') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines; max. size 3", wet, gray with interbedded bands of brown, firm.	
				0.0					
-40	55	S11	5/60					(55'- 60') WIDELY GRADED SAND WITH GRAVEL (SW);	

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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Glastonbury, CT 06033
(860) 368-5300

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BORING LOG

GPEC-SB344

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
				0.0				~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines; max. size 3", wet, gray with interbedded bands of brown, firm.	
				0.0					
-45	60	S12	5/58					(60'- 65') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines; max. size 3", wet, gray with interbedded bands of brown, firm.	
				0.0					
				0.0					
-50	65	S13	5/58					(65'- 70') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines; max. size 3", wet, gray with interbedded bands of brown, firm.	
				0.0					
				0.0					
-55	70	S14	5/60					(70'- 75') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines; max. size 3", wet, gray with interbedded bands of brown, firm.	
				0.0					
				0.0					
-60	75	S15	5/52					(75'- 78.9') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines; max. size 3", wet, gray with interbedded bands of brown, firm.	
				0.0					
				0.0			GPEC-SB-344 (79-80)	(79'- 80') WIDELY GRADED SAND WITH GRAVEL (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse; max. size 2", wet, brown, loose, trace fines.	
-65	80	S16	5/60					(80'- 83.3') LEAN CLAY (CL); low plasticity; firm.	
				0.0					
				0.0				(83.3'- 84.1') LEAN CLAY WITH SAND (CL); ~85% fines, low plasticity, ~15% sand, fine to medium; firm.	
	85							(84.1'- 85') LEAN CLAY (CL); low plasticity; firm.	
								End of Boring at 85 feet. Monitoring well installed 65-75'. Monitoring wells (8-18' & 30-40') installed at adjacent locations.	

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants

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GEI PROJECT NUMBER: 125180-2-1202

BORING LOG
PAGE 1 of 1
GPEC-SB346

GROUND SURFACE ELEVATION (FT): 12.60 **LOCATION:** Area 4
NORTHING (FT): 687574 **EASTING (FT):** 650262 **TOTAL DEPTH (FT):** 20.0
DRILLED BY: Zebra Environmental / Luke Reiss **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 4/8/2015 - 4/8/2015
DRILLING DETAILS: Geoprobe / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 5.50 4/8/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0								(0'- 8') Vacuum/Hand Cleared.	
5	5									
0	10	S1	2/24	0.0					(8'- 10') WIDELY GRADED SAND WITH GRAVEL AND TRACE SILT (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to angular, ~5% fines; some cinders/white ash, some red brick fragments, some concrete fragments, some wood chips, max. size 1.5", wet, brown, FILL.	
		S2	5/42	0.0					(10'- 14.8') WIDELY GRADED SAND WITH GRAVEL AND TRACE SILT (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to angular, ~5% fines; some cinders/white ash, some red brick fragments, some concrete fragments, some wood chips, max. size 1.5", wet, brown, FILL.	
				0.0						
				0.0						
				0.0						
				0.0						
				0.0						
-5	15	S3	5/36	0.0			OLO		(14.8'- 15') PEAT (PT); moderate organic-like odor, moist, tip of meadow mat.	
				0.0					(15'- 17.8') WIDELY GRADED SAND WITH GRAVEL AND TRACE SILT (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to angular, ~5% fines; some cinders/white ash, some red brick fragments, some concrete fragments, some wood chips, max. size 1.5", wet, brown, FILL.	
				0.0						
				2.1						
				0.1			OLO	GPEC-SB/PZ-346 (18.5-19.5)		
	20			3.4					(17.8'- 20') PEAT (PT); moderate organic-like odor, moist, meadow mat, fibrous.	
									End of Boring at 20 feet.	
									Piezometer installed upon completion. Screened 3'-13'.	

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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BORING LOG
PAGE 1 of 2
GPEC-SB347

GROUND SURFACE ELEVATION (FT): 16.44 **LOCATION:** Area 5
NORTHING (FT): 687009 **EASTING (FT):** 648915 **TOTAL DEPTH (FT):** 25.0
DRILLED BY: Zebra Environmental / Luke Reiss **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi **DATE START / END:** 4/1/2015 - 4/1/2015
DRILLING DETAILS: Geoprobe / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 9.00 4/1/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
15	0								(0'- 8') Vacuum/Hand Cleared.
10	5								
▽	10	S1	2/24	1.1			PLO	GPEC-SB-347 (9-10)	(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, coarse, subangular to angular; some red brick fragments, cinders, wood chip fragments, some white ash, max. size 2", slight petroleum-like odor, moist, black - brown, FILL.
5		S2	5/36	0.0 0.0 0.0 0.0 0.0 0.0			PLO		(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, coarse, subangular to angular; some red brick fragments, cinders, wood chip fragments, some white ash, max. size 2", slight petroleum-like odor, wet, black brown, FILL.
0	15	S3	5/26	0.0			PLO		(15'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, coarse, subangular to angular; some red brick fragments, cinders, wood chip fragments, some white ash, max. size 2", slight petroleum-like odor, wet, black brown, FILL.
-5	20	S4	5/36	0.6 18.1 51 18.5 0.4 16.5 4.2 0.6			PLO OLO	GPEC-SB-347 (22-23)	(20'- 22.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, coarse, subangular to angular; some red brick fragments, cinders, wood chip fragments, some white ash, max. size 2", slight petroleum-like odor, wet, black brown, FILL. (22.5'- 23.1') ORGANIC SOIL (OL); trace fibers, moderate organic-like odor, black. (23.1'- 25') PEAT (PT); moist, friable, some root fibers,
	25								

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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BORING LOG

GPEC-SB347

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
									meadow mat. End of Boring at 25 feet. Grout to surface (Bentonite).

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GEI Consultants, Inc. P.C. 455 Winding Brook Drive Suite 201 Glastonbury, CT 06033 (860) 368-5300	CLIENT: National Grid PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-2-1202	BORING LOG PAGE 1 of 2 GPEC-SB348

GROUND SURFACE ELEVATION (FT): 15.10 LOCATION: Area 5
NORTHING (FT): 687405 EASTING (FT): 648634 TOTAL DEPTH (FT): 30.0
DRILLED BY: Zebra Environmental / Luke Reiss DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: Akin Adegbayi DATE START / END: 3/30/2015 - 3/30/2015
DRILLING DETAILS: Geoprobe/5 ft long plastic sleeves / GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT): ▽ 12.50 3/30/2015
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	0		2/NM					(0'- 8') Vacuum/Hand Cleared.
10	5							
		S1	2/48	0.0 0.0				(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, subangular, ~30% gravel, fine to coarse, subangular to angular; max. size 1.5", moist to wet, reddish brown.
5	10	S2	5/36	0.0 0.0 0.0 0.0 0.0			GPEC-SB-348 (12.5-13)	(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, subangular, ~30% gravel, fine to coarse, subangular to angular; max. size 1.5", wet, reddish brown.
0	15	S3	5/36	0.0 0.0 0.0 0.0				(15'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, subangular, ~30% gravel, fine to coarse, subangular to angular; max. size 1.5", wet, reddish brown.
-5	20	S4	5/36	0.0 0.0 0.0 0.0				(20'- 25') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, subangular, ~30% gravel, fine to coarse, subangular to angular; max. size 1.5", wet, reddish brown.
	25							

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

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BORING LOG

GPEC-SB348

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25	S5	5/58					(25'- 30') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, subangular, ~30% gravel, fine to coarse, subangular to angular; max. size 1.5", wet, reddish brown, no meadow mat observed.
	30			0.0			GPEC-SB-348 (29.5-30)	End of Boring at 30 feet. Grout to surface.

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BORING LOG
PAGE 1 of 2
GPEC-SB349

GROUND SURFACE ELEVATION (FT): 14.25 **LOCATION:** Holder pad #2
NORTHING (FT): 687279 **EASTING (FT):** 648788 **TOTAL DEPTH (FT):** 30.0
DRILLED BY: Zebra Environmental / Quincy Brandt **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Devin Byrne **DATE START / END:** 3/23/2016 - 3/23/2016
DRILLING DETAILS: GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0								(0'- 8') Hand cleared.
	5							GPEC-SB349 (5-5.5)	
5		S1	2/2	0.0 0.0 0.0			OLO		(8'- 10') WIDELY GRADED SAND WITH SILT (SW); ~80% sand, fine to medium, subangular, ~10% gravel, fine to medium, ~10% fines; max. size 1.5, slight organic-like odor, wet, gray to black, burnt odor at bottom.
	10	S2	5/4.5	0.9 0.0 0.0 1.0 1.9 0.0 0.2 0.0 0.1			OLO		(10'- 15') WIDELY GRADED SAND WITH CLAY (SW-SC); ~70% sand, fine to medium, ~20% fines, ~10% gravel, fine to medium; slight organic-like odor, wet, light gray to dark gray, burnt smell.
0	15	S3	5/5	0.0 0.8 4.6 6.9 7.7 3.6 30.1 3.2			OLO OLO	GPEC-SB349 (15-17)	(15'- 16.8') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to medium, ~10% gravel, fine, ~10% fines; slight organic-like odor, black, loose, burnt odor, trace mica. (16.8'- 19.3') slight organic-like odor, peat/meadow mat, burnt smell, light gray to brown to black.
-5	20	S4	5/5	5.8 3.2 0.2					(19.3'- 20') WIDELY GRADED SAND WITH CLAY (SW-SC); ~90% sand, fine to medium, ~10% fines; light gray. (20'- 20.4') meadow mat. (20.4'- 22.6') WIDELY GRADED SAND WITH CLAY (SW-SC); ~90% sand, fine to medium, ~10% fines; dark gray to light gray. (22.6'- 23') WIDELY GRADED SAND WITH CLAY (SW-SC); ~90% sand, fine to medium, ~10% fines; interbedded, dark gray to light gray, green and red
-10	25								

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MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG

GPEC-SB349

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25	S5	5/5	0.2					interbedded sections.
				0.0					(23'- 25') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~15% gravel, fine to medium, angular to rounded cobbles, ~10% fines; max. size 1.5, light brown to brown red.
				0.0					
				1.1					
				0.9				GPEC-SB349 (28-30)	(25'- 30') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; brown, loose.
-15				2.4					
				0.6					
	30			1.2					End of Boring at 30 feet.

NOTES:

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JHS = JAR HEADSPACE PID READING (PPM)

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NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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

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

CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants

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455 Winding Brook Drive
Suite 201
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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG
PAGE 1 of 1
GPEC-SB350

GROUND SURFACE ELEVATION (FT): 14.25 **LOCATION:** Holder pad #2
NORTHING (FT): 687331 **EASTING (FT):** 648884 **TOTAL DEPTH (FT):** 20.0
DRILLED BY: Zebra Environmental / Quincy Brandt **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Devin Byrne **DATE START / END:** 3/23/2016 - 3/23/2016
DRILLING DETAILS: GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0								(0'- 8') Hand cleared.
5	5							GPEC-SB350 (5-5.5)	
		S1	2/2	9.4			NLO		(8'- 9.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, ~15% gravel, ~5% fines; slight naphthalene-like odor, gray to black, loose, tar stained at 9'-9.3'.
				1.9					
5	10			2.2					(9.3'- 10') WIDELY GRADED SAND WITH CLAY (SW-SC); ~80% sand, ~20% fines; gray, firm.
		S2	5/5	2.7			NLO		(10'- 11.8') WIDELY GRADED SAND WITH CLAY (SW-SC); slight naphthalene-like odor, gray, loose.
				1.9					
				7.4					(11.8'- 12.4') WIDELY GRADED SAND WITH CLAY (SW-SC); moderate naphthalene-like odor, gray, loose, moderate tar coated with sheen on soil.
				8.2			NLO		
				9.4			NLO	GPEC-SB350 (12-13)	
				129.7					(12.4'- 13.1') WIDELY GRADED SAND WITH CLAY (SW-SC); moderate naphthalene-like odor, gray, loose, 1" lightly coated at 33", wood pieces.
0	15			62					
				94					(13.1'- 15') WIDELY GRADED SAND (SW); ~85% sand, fine to medium, ~10% fines, ~5% gravel, fine to medium; compact.
				11.9					
		S3	5/2	3.9					(15'- 18.8') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~10% gravel, fine, subangular, ~10% fines; slight naphthalene-like odor, trace cobbles less than 1.5" diameter, lightly coated at 5-6", interbedding colors gray, red, black.
				6.2			NLO		
				4.4					
-5	20			74.0				GPEC-SB350 (18-20)	(18.8'- 20') WIDELY GRADED SAND (SW); meadow mat.
				18.2					End of Boring at 20 feet.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
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CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG
PAGE 1 of 2
GPEC-SB351

GROUND SURFACE ELEVATION (FT): 13.33 **LOCATION:** Holder pad #1
NORTHING (FT): 687063 **EASTING (FT):** 649259 **TOTAL DEPTH (FT):** 25.0
DRILLED BY: Zebra Environmental / Charlie Green **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Devin Byrne **DATE START / END:** 3/24/2016 - 3/24/2016
DRILLING DETAILS: GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	0								(0'- 8') Hand cleared.
10									
	5							GPEC-SB351 (5-5.5)	
5		S1	2/1.9	0.0					(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, ~5% fines; broken rock/cement/brick/miscellaneous FILL material.
	10	S2	5/5	0.0					(10'- 12.1') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; slight naphthalene-like odor, wet, brown, loose.
				6.4			NLO		
				11.2					
				18					
0				99				GPEC-SB351 (12-15)	(12.1'- 15') SILTY SAND (SM); ~70% sand, fine to medium, ~30% fines; moderate naphthalene-like odor, moist, compact, lightly coated/tar stained from 25" to 29" and from 44" to 52".
				278					
				310			NLO		
				192					
				94					
	15	S3	5/3	101					(15'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, ~10% fines; max. size 1.5, moderate naphthalene-like odor, lots of FILL material, brick, cement, etc. Lightly coated/tar stained soil from 0-26", some product/sheen in water.
				74					
				224					
-5				291			NLO		
				198					
				202					
	20	S4	5/5	79					(20'- 24.7') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, ~20% gravel, ~10% fines; moderate naphthalene-like odor, wet, loose, plastic liner stained brown with floating product/sheen in water, larger grain size & rock fragments toward bottom 3", lightly coated/tar stained soils.
				240					
				385					
				292					
-10				341			NLO	GPEC-SB351 (22-25)	
				372					
				184					
				402					
				313					
	25								

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG

GPEC-SB351

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
				142 118					(24.7'- 25') meadow mat. End of Boring at 25 feet.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants	CLIENT: National Grid	BORING LOG
GEI Consultants, Inc. P.C. 455 Winding Brook Drive Suite 201 Glastonbury, CT 06033 (860) 368-5300	PROJECT: Greenpoint Energy Center CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-2-1202	PAGE 1 of 2 — GPEC-SB352

GROUND SURFACE ELEVATION (FT): 13.46 LOCATION: Holder pad #1
NORTHING (FT): 687102 EASTING (FT): 649435 TOTAL DEPTH (FT): 25.0
DRILLED BY: Zebra Environmental / Charlie Green DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: Devin Byrne DATE START / END: 3/24/2016 - 3/24/2016
DRILLING DETAILS: GeoProbe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	0							(0'- 8') Hand cleared.
10								
	5						GPEC-SB352 (5-5.5)	
5		S1	2/1.1	0.2 0.3				(8'- 10') WIDELY GRADED SAND WITH SILT (SW); ~80% sand, fine to medium, ~15% fines, ~5% gravel; max. size 0.5, wet, brown to dark gray, loose.
	10	S2	5/1.4	0.0 0.0				(10'- 15') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, subangular, ~5% fines; max. size 1, larger grain size bottom 3".
0								
	15	S3	5/0.8	0.0 0.0			GPEC-SB352 (18-20)	(15'- 20') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, subangular, ~5% fines; max. size 1.
-5								
	20	S4	5/5	0.0 0.0			GPEC-SB352 (23-25)	(20'- 21.8') WIDELY GRADED SAND WITH SILT (SW); ~80% sand, fine to medium, ~10% gravel, fine, ~10% fines; wet, gray, loose. (21.8'- 23.3') SILTY SAND (SM); ~70% sand, fine to medium, ~20% fines, ~10% gravel, fine to medium; moist, compact. (23.3'- 23.9') WIDELY GRADED SAND WITH GRAVEL (SW); black, shards of angular rock fragments. (23.9'- 24.3') WIDELY GRADED SAND WITH SILT (SW);
-10								
	25							

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS 125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants, Inc. P.C.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-2-1202

BORING LOG

GPEC-SB352

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
								~70% sand, fine to medium, ~20% fines, ~10% gravel, fine; moist, brown, loose. (24.3'- 25') Meadow mat. End of Boring at 25 feet.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_125180-2-1202.GPJ GEI TEMPLATE 11-7-13.GDT 7/26/16

GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3-1302

BORING LOG
PAGE 1 of 3
GPEC-SB400

GROUND SURFACE ELEVATION (FT): 12.52 **LOCATION:** Area 7
NORTHING (FT): 687488 **EASTING (FT):** 649755 **TOTAL DEPTH (FT):** 70.0
DRILLED BY: Cascade Drilling / Evan Moraits **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 1/3/2017 - 1/3/2017
DRILLING DETAILS: Direct Push - Macro Core / Geoprobe 7822 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0							GPEC-SB400 (5)	(0'- 8') VACUUM/HAND CLEARED.
5	5								
0	10	S1	2/1.7	0.0					(8'- 13.1') SILTY SAND (SM); ~60% sand, fine to medium, ~30% fines, non plastic, ~10% gravel, fine to coarse, angular to subrounded; max. gravel size 1.25", slight organic-like odor, wet, black, organics, wood.
		S2	5/2.2	0.0			OLO		
				0.0					
				0.0					
				1.0				GPEC-SB400 (13-15)	
				1.0			NLO		(13.1'- 15') SILTY SAND (SM); ~60% sand, fine to medium, ~30% fines, non plastic, ~10% gravel, fine to coarse, angular to subrounded; max. gravel size 1.25", slight naphthalene-like odor, wet, black, organics, wood.
-5	15	S3	5/2.4	0.0			OLO		(15'- 18.6') PEAT (PT); ~100% fines; slight organic-like odor, moist, brown and gray.
							OLO		(18.6'- 20') CLAY (CL); ~100% fines, medium plasticity; slight organic-like odor, moist, gray.
-10	20	S4	5/3.4	0.0			OLO		(20'- 24.5') CLAY (CL); ~100% fines, medium plasticity; slight organic-like odor, moist, gray, shell fragments.
	25						OLO		(24.5'- 27') PEAT (PT); ~100% fines; strong

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3-1302

BORING LOG

GPEC-SB400

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25	S5	5/2.9	0.0			OLO		organic-like odor, moist, reddish brown.
-15									(27'- 31.8') CLAY (CL); ~100% fines, low plasticity; moderate organic-like odor, moist, gray.
	30	S6	5/3.7	0.0			OLO		
-20									(31.8'- 32.5') WIDELY GRADED SAND WITH CLAY (SW-SC); ~90% sand, fine to coarse, ~10% fines, low plasticity; wet, gray.
							OLO		(32.5'- 33.6') SANDY CLAY (CL); ~70% fines, low plasticity, ~30% sand, fine to medium; slight organic-like odor, wet, gray.
	35	S7	5/4.6	0.0			OLO		(33.6'- 34.2') WIDELY GRADED SAND WITH CLAY (SW-SC); ~90% sand, fine to coarse, ~10% fines, low plasticity; wet, gray.
-25									(34.2'- 35') CLAY WITH SAND (CL); ~80% fines, low plasticity, ~20% sand, fine to medium; slight organic-like odor, moist, gray.
	40	S8	5/4.6	0.0					(35'- 54.7') CLAY (CL); ~90% fines, low plasticity, ~10% sand, fine; wet, gray.
-30									
	45	S9	5/4.8	0.0					
-35									
	50	S10	5/4.6	0.0					
-40									
	55	S11	5/4.6	0.0					(54.7'- 55') CLAY (CL); low to medium plasticity; moist, gray.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3-1302

BORING LOG

GPEC-SB400

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-45	60	S12	5/4.7	0.0					(55'- 70') CLAY (CL); ~95% fines, low to medium plasticity, ~5% sand, fine; wet, gray.
-50	65	S13	5/4.6	0.0					
-55	70							GPEC-SB400 (69-70)	End of Boring at 70 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

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GEI PROJECT NUMBER: 125180-3-1302

BORING LOG
PAGE 1 of 3
GPEC-SB401

GROUND SURFACE ELEVATION (FT): 15.72 **LOCATION:** Area 7
NORTHING (FT): 687844 **EASTING (FT):** 649714 **TOTAL DEPTH (FT):** 70.0
DRILLED BY: Cascade Drilling / Evan Moraits **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 1/4/2017 - 1/4/2017
DRILLING DETAILS: Direct Push - Macro Core / Geoprobe 7822 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
15	0								(0'- 8') VACUUM/HAND CLEARED.
10	5							GPEC-SB401 (5)	
		S1	2/1.1	0.0					(8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 1.75", moist, brown.
5	10	S2	5/2.8	0.0			OLO		(10'- 12.1') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 1.75", wet, brown, Groundwater at 10' bgs.
							OLO		(12.1'- 13.4') ORGANIC SILTY SAND (OL); ~60% sand, fine to medium, ~40% fines, non plastic; moderate organic-like odor, wet, black.
0	15	S3	5/2.2	0.0			PLO	GPEC-SB401 (16-17)	(13.4'- 15') WIDELY GRADED SAND WITH GRAVEL AND SILT (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, subangular, ~10% fines, non plastic; max. gravel size 1.25", moderate organic-like odor, wet, brown to black, shell fragments.
							OLO		(15'- 17.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subangular, ~5% fines, non plastic; max. gravel size 0.75", slight petroleum-like odor, wet, brown, trace sheen on water.
-5	20	S4	5/4.3	0.0			OLO		(17.3'- 21.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 1.25", moderate organic-like odor, wet, brown to black, shell fragments.
							OLO		(21.3'- 22') CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; slight organic-like odor, moist, gray, trace organics.
	25								(22'- 24.6') PEAT (PT); strong organic-like odor, moist, brown to black.

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
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JHS = JAR HEADSPACE PID READING (PPM)

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Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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

NLO = NAPHTHALENE LIKE ODOR
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CLO = CHEMICAL LIKE ODOR
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CrLO= CREOSOTE LIKE ODOR
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SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3-1302

BORING LOG
PAGE 2 of 3
GPEC-SB401

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-10	25	S5	5/3.5	0.0			OLO		(24.6'- 25') SANDY CLAY (CL); ~80% fines, low plasticity, ~20% sand, fine; moist, gray. (25'- 25.6') SANDY CLAY (CL); ~80% fines, low plasticity, ~20% sand, fine; wet, gray. (25.6'- 30') SANDY CLAY (CL); ~60% fines, low plasticity, ~40% sand, fine to medium; moderate organic-like odor, wet, gray to brown.
-15	30	S6	5/3.6	0.0					(30'- 32.7') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines, non plastic; max. gravel size 0.5", wet, light brown. (32.7'- 34.1') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, fine to medium, ~20% gravel, fine; max. gravel size 0.5", wet, light brown. (34.1'- 35') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, ~5% fines, non plastic; max. gravel size 0.5", wet, light brown.
-20	35	S7	5/3.5	0.0					(35'- 45') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines, non plastic; max. gravel size 0.5", slight organic-like odor, wet, brown, liner jammed in rod on 40-45' interval.
-25	40	S8	5/NM	0.0			OLO		
-30	45	S9	5/4.7	0.0					(45'- 48.7') NARROWLY GRADED GRAVEL (SP); ~95% sand, fine to medium, ~5% fines, non plastic; wet, brown. (48.7'- 50') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 1.5", wet, brown.
-35	50	S10	5/4.7	0.0					(50'- 55') SILTY SAND (SM); ~60% sand, fine to medium, ~30% fines, non plastic, ~10% gravel, fine to coarse, subrounded; max. gravel size 1.75", wet, brown.
	55	S11	5/3.2	0.0					(55'- 58.2') SILTY SAND (SM); ~60% sand, fine to

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ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
									medium, ~30% fines, non plastic, ~10% gravel, fine to coarse, subrounded; max. gravel size 1.75", wet, brown.
	60	S12	5/3.1	0.0					(58.2'- 68.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded, ~5% fines, non plastic; max. gravel size 1.75", wet, brown.
-45									
	65	S13	5/4.7	0.0					
-50									
	70							GPEC-SB401 (69-70)	(68.5'- 70') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines, non plastic; wet, brown. End of Boring at 70 feet. Grout to surface.

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BORING LOG
PAGE 1 of 3
GPEC-SB402

GROUND SURFACE ELEVATION (FT): 15.46 **LOCATION:** Area 7
NORTHING (FT): 687803 **EASTING (FT):** 649709 **TOTAL DEPTH (FT):** 70.0
DRILLED BY: Cascade Drilling / Mike Ryan **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 1/5/2017 - 1/5/2017
DRILLING DETAILS: Direct Push - Macro Core / Geoprobe 7822 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
15	0								(0'- 8') VACUUM / HAND CLEARED.
10	5							GPEC-SB402 (5)	
		S1	2/1.4	0.0					(8'- 10') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic, ~20% gravel, fine to coarse, subangular; max. gravel size 1", wet, brown to gray, wood and shell fragments. Groundwater at 9' bgs.
5	10	S2	5/2.3	0.0			OLO		(10'- 14.3') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic, ~20% gravel, fine to coarse, subangular; max. gravel size 1", slight organic-like odor, wet, brown to gray, wood and shell fragments.
							NLO	GPEC-SB402 (14-15)	(14.3'- 15') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic, ~20% gravel, fine to coarse, subangular; max. gravel size 1", slight naphthalene-like odor, wet, stained black, trace sheen on water, wood and shell fragments.
0	15	S3	5/NM						(15'- 20') NO RECOVERY.
-5	20	S4	5/3.5	0.0			OLO		(20'- 21.5') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, subrounded to subangular, ~40% sand, fine to coarse; max. gravel size 1.25", strong organic-like odor, wet, brown, shell fragments.
							OLO		(21.5'- 25') PEAT (PT); strong organic-like odor, moist, brown to black.
	25								

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

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BORING LOG

GPEC-SB402

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-10	25	S5	5/5	0.0			OLO		(25'- 26.5') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, subrounded to subangular, ~40% sand, fine to coarse; max. gravel size 1", strong organic-like odor, wet, brown, shell fragments.
							OLO		
							OLO		(26.5'- 27.3') PEAT (PT); strong organic-like odor, moist, brown to black.
									(27.3'- 29.7') SANDY CLAY (CL); ~60% fines, low plasticity, ~30% sand, fine to medium, ~10% gravel, medium to coarse, subangular; max. gravel size 1.5", moderate organic-like odor, wet, gray.
-15	30	S6	5/3.3	0.0			OLO		(29.7'- 30') CLAY WITH SAND (CL); ~80% fines, low plasticity, ~20% sand, fine; moderate organic-like odor, moist, gray.
									(30'- 40') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine; max. gravel size 0.25", slight organic-like odor, wet, gray.
-20	35	S7	5/3.5	0.0			OLO		
-25	40	S8	5/4.2	0.0			OLO		(40'- 45') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; moderate organic-like odor, wet, gray.
-30	45	S9	5/3.8	0.0			OLO		(45'- 50') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines, non plastic; max. gravel size 0.5", moderate organic-like odor, wet, gray.
-35	50	S10	5/3.2	0.0					(50'- 55') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, rounded to subangular, ~5% fines, non plastic; max. gravel size 1.5", wet, brown.
-40	55	S11	5/5	0.0					(55'- 65') SILTY SAND WITH GRAVEL (SM); ~60%

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

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BORING LOG

GPEC-SB402

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
									sand, fine to coarse, ~20% gravel, fine to coarse, subrounded to subangular, ~20% fines, non plastic; max. gravel size 1", wet, brown.
-45	60	S12	5/4.3	0.0					
-50	65	S13	5/2.5	0.0					(65'- 70') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subangular; max. gravel size 1.5", wet, brown.
	70							GPEC-SB402 (69-70)	End of Boring at 70 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

GEI Consultants, Inc. P.C. 110 Walt Whitman Road Suite 204 Huntington Station, New York 11746	CLIENT: National Grid - Greenpoint PROJECT: Phase 3 Remedial Investigation CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-3-1302	BORING LOG PAGE 1 of 3 GPEC-SB403

GROUND SURFACE ELEVATION (FT): 12.18 LOCATION: Area 7
NORTHING (FT): 687599 EASTING (FT): 650217 TOTAL DEPTH (FT): 70.0
DRILLED BY: Cascade Drilling / Mike Ryan DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes DATE START / END: 1/9/2017 - 1/9/2017
DRILLING DETAILS: Direct Push - Macro Core / Geoprobe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0						NLO	GPEC-SB403 (3-4)	(0'- 8') VACUUM/HAND CLEARED; moderate naphthalene-like odor, stained black.
5	5								
		S1	2/1.1	0.0					(8'- 9.1') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic, ~20% gravel, fine to coarse, angular; max. gravel size 1.25", wet, brown, red brick, porcelain, and wood fragments, FILL.
	10			10.0			NLO	GPEC-SB403 (9-10)	
		S2	5/1.6	1.0			NLO		(9.1'- 10') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic, ~20% gravel, fine to coarse, angular; max. gravel size 1.25", moderate naphthalene-like odor, wet, black staining, sheen on water, red brick, porcelain, and wood fragments, FILL.
0				1.0					
				1.0					(10'- 12.9') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, angular to subangular, ~40% sand, fine to coarse; max. gravel size 1", slight naphthalene-like odor, wet, brown, black staining, trace sheen on water, shell fragments.
				0.0			OLO		(12.9'- 15') PEAT (PT); moderate organic-like odor, moist, reddish brown.
	15	S3	5/3.1	0.0			OLO		(15'- 16.8') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, angular to subangular, ~40% sand, fine to coarse; max. gravel size 1", slight organic-like odor, wet, brown to black, shell fragments.
-5							OLO		(16.8'- 18.5') PEAT (PT); moderate organic-like odor, moist, brown.
	20	S4	5/3.3	0.0			OLO		(18.5'- 23.1') CLAY (CL); ~100% fines, low to medium plasticity; moderate organic-like odor, moist, gray, some organics.
-10							OLO		(23.1'- 24.2') PEAT (PT); strong organic-like odor, moist, reddish brown to black.
	25						OLO		(24.2'- 25') SANDY CLAY (CL); ~60% fines, low

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ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25	S5	5/4.6	0.0			OLO		plasticity, ~40% sand, fine to coarse; moderate organic-like odor, wet, gray. (25'- 29.2') WIDELY GRADED SAND WITH CLAY (SW-SC); ~90% sand, fine to coarse, ~10% fines, low plasticity; strong organic-like odor, wet, gray.
-15									
	30	S6	5/NM	0.0			OLO		(29.2'- 35') CLAYEY SAND (SC); ~60% sand, fine to medium, ~40% fines, low plasticity; strong organic-like odor, wet, gray, liner jammed in rod on 30-35' interval.
-20									
	35	S7	5/4.8	0.0			OLO		(35'- 39.5') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; moderate organic-like odor, wet, gray.
-25									
	40	S8	5/NM	0.0			OLO		(39.5'- 40') CLAYEY SAND (SC); ~60% sand, fine, ~40% fines, low plasticity; slight organic-like odor, wet, gray. (40'- 45') WIDELY GRADED SAND WITH CLAY (SW-SC); ~90% sand, fine to coarse, ~10% fines, low plasticity; slight organic-like odor, wet, gray, liner jammed in rod.
-30									
	45	S9	5/4.2	0.0			OLO		(45'- 48.7') CLAYEY SAND (SC); ~70% sand, fine to medium, ~30% fines, low plasticity; slight organic-like odor, wet, gray.
-35									
	50	S10	5/4.6	0.0			OLO		(48.7'- 50') SANDY CLAY (CL); ~60% fines, low plasticity, ~40% sand, fine to medium; slight organic-like odor, wet, gray. (50'- 51.3') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; wet, gray. (51.3'- 54.5') CLAY WITH SAND (CL); ~80% fines, low to medium plasticity, ~20% sand, fine; wet, gray.
-40									
	55	S11	5/NM	0.0					(54.5'- 55') WIDELY GRADED GRAVEL WITH SAND (GW); ~70% gravel, fine to coarse, angular to

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Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3-1302

BORING LOG

GPEC-SB403

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-45	60	S12	5/4.1	0.0					subangular, ~30% sand, fine to coarse; max. gravel size 1", wet, brown to gray. (55'- 64.1') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; wet, gray, liner jammed in rod on 55-60' interval.
-50	65	S13	5/5	0.0			OLO		(64.1'- 65') SANDY CLAY (CL); ~60% fines, low plasticity, ~40% sand, fine to medium; wet, brown to gray. (65'- 70') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, angular to subrounded, ~5% fines, non plastic; max. gravel size 1.25", slight organic-like odor, wet, brown.
-55	70							GPEC-SB403 (69-70)	End of Boring at 70 feet. Grout to surface.

NOTES:

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PID = PHOTOIONIZATION DETECTOR READING (PPM)
JHS = JAR HEADSPACE PID READING (PPM)

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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

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

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

ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

GEI Consultants, Inc. P.C. 110 Walt Whitman Road Suite 204 Huntington Station, New York 11746	CLIENT: National Grid - Greenpoint PROJECT: Phase 3 Remedial Investigation CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-3-1302	BORING LOG PAGE 1 of 3	GPEC-SB404

GROUND SURFACE ELEVATION (FT): 11.99 LOCATION: Area 7
NORTHING (FT): 687795 EASTING (FT): 650128 TOTAL DEPTH (FT): 70.0
DRILLED BY: Cascade Drilling / Evan Moraits DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes DATE START / END: 1/20/2017 - 1/20/2017
DRILLING DETAILS: Direct Push - Macro Core / Geoprobe 7822 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0						NLO	GPEC-SB404 (5)	(0'- 8') VACUUM/HAND CLEARED; slight naphthalene-like odor.
5	5								
		S1	5/1.4	0.0 2.0 0.0			NLO OLO	GPEC-SB404 (8-9)	(8'- 9.1') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, angular to subangular, ~20% fines, non plastic; max. gravel size 1", slight naphthalene-like odor, wet, gray to white, red brick and glass fragments. Sawdust from 8.6'-9.1'. FILL.
0	10	S2	5/2.6	0.0					(9.1'- 10') SANDY CLAY WITH GRAVEL (CL); ~50% fines, low plasticity, ~30% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to subrounded; max. gravel size 1.5", moderate organic-like odor, wet, gray to black.
	15	S3	5/2.2	0.0			OLO		(10'- 22') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, angular to subangular; max. gravel size 1", moderate organic-like odor, wet, gray to black, shell fragments.
-5	20	S4	5/5	0.0					
-10							OLO OLO		(22'- 22.3') CLAY WITH SAND (CL); ~80% fines, low plasticity, ~20% sand, fine; moderate organic-like odor, wet, gray to black, trace roots.
	25						OLO		(22.3'- 23.3') PEAT (PT); strong organic-like odor, moist, reddish brown to black.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

GEI Consultants

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BORING LOG
PAGE 2 of 3
GPEC-SB404

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25	S5	5/4.5	0.0			OLO		(23.3'- 25') SILTY SAND (SM); ~75% sand, fine to coarse, ~25% fines, non plastic; strong organic-like odor, wet, gray. (25'- 25.9') PEAT (PT); strong organic-like odor, moist, reddish brown to black. (25.9'- 33.8') SILTY SAND (SM); ~70% sand, fine to coarse, ~30% fines, non plastic; strong organic-like odor, wet, gray.
-15	30	S6	5/4.3	0.0			OLO		
-20									
	35	S7	5/2.5	0.0			OLO		(33.8'- 38') SANDY SILT (MLS); ~60% fines, non plastic, ~40% sand, fine; moderate organic-like odor, moist, gray.
-25									
							OLO		(38'- 40') SILTY SAND (SM); ~60% sand, fine to medium, ~40% fines, non plastic; moderate organic-like odor, moist, reddish brown to gray.
	40	S8	5/5	0.0					(40'- 47') CLAY WITH SAND (CL); ~80% fines, low plasticity, ~20% sand, fine; slight organic-like odor, wet, gray.
-30							OLO		
	45	S9	5/4.6	0.0					
-35							OLO		(47'- 48.6') SILTY SAND (SM); ~75% sand, fine to coarse, ~25% fines, non plastic; slight organic-like odor, wet, tan to gray.
							OLO		(48.6'- 50') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine, ~5% fines, non plastic; max. gravel size 0.25", slight organic-like odor, wet, light brown to gray.
	50	S10	5/4.4	0.0					(50'- 55') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, subrounded, ~5% fines, non plastic; max. gravel size 1", wet, brown.
-40									
	55	S11	5/3.6	0.0					(55'- 57.4') NARROWLY GRADED SAND WITH

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BORING LOG

GPEC-SB404

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-45									GRAVEL (SP); ~60% sand, medium to coarse, ~40% gravel, fine to coarse, rounded to subrounded; max. gravel size 1.5", wet, brown.
	60	S12	5/4.3	0.0					(57.4'- 60') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~5% fines, non plastic; max. gravel size 1", wet, brown.
-50									(60'- 70') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines, non plastic; moderate organic-like odor, wet, brown.
	65	S13	5/4.2	0.0			OLO		
-55									
	70							GPEC-SB404 (69-70)	End of Boring at 70 feet. Grout to surface.

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BORING LOG
PAGE 1 of 3
GPEC-SB405

GROUND SURFACE ELEVATION (FT): 12.01 **LOCATION:** Area 7
NORTHING (FT): 687830 **EASTING (FT):** 650183 **TOTAL DEPTH (FT):** 70.0
DRILLED BY: Cascade Drilling / Evan Moraits **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 1/6/2017 - 1/6/2017
DRILLING DETAILS: Direct Push - Macro Core / Geoprobe 7822 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0						PLO	GPEC-SB405 (5)	(0'- 8') VACUUM/HAND CLEARED; slight petroleum-like odor, stained black.
5	5								
	10	S1	2/1	0.0			NLO	GPEC-SB405 (9-10)	(8'- 10') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic, ~20% gravel, fine to coarse, subrounded to subangular; max. gravel size 1", slight naphthalene-like odor, wet, brown, black staining in 9'-10' interval, trace sheen on water.
0		S2	5/2.8	0.0			OLO		(10'- 13.9') SILTY SAND WITH GRAVEL (SM); ~40% sand, fine to coarse, ~30% gravel, fine to coarse, subrounded to subangular, ~30% fines, non plastic; max. gravel size 1.5", moderate organic-like odor, wet, brown to black, shell fragments.
	15	S3	5/1.9	0.0			OLO		(13.9'- 15') SILTY SAND (SM); ~60% sand, fine to coarse, ~30% fines, non plastic, ~10% gravel, fine to coarse, subrounded; max. gravel size 1", wet, brown.
-5							OLO		(15'- 17.4') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic, ~20% gravel, fine to coarse, subrounded; max. gravel size 1", moderate organic-like odor, wet, brown to black, shell fragments.
	20	S4	5/5	0.0			OLO		(17.4'- 19.6') SILTY SAND (SM); ~60% sand, fine to coarse, ~30% fines, non plastic, ~10% gravel, fine to coarse, subrounded; max. gravel size 1.5", slight organic-like odor, wet, brown.
-10							OLO		(19.6'- 20') PEAT (PT); strong organic-like odor, moist, brown to black.
							OLO		(20'- 22.3') CLAYEY SAND WITH GRAVEL (SC); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded to subangular, ~20% fines, low plasticity; max. gravel size 1", moderate organic-like odor, wet, brown to black.
	25						OLO		(22.3'- 23.5') PEAT (PT); strong organic-like odor, moist, brown to black.

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PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3-1302

BORING LOG

GPEC-SB405

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-15	25	S5	5/1.1	0.0			OLO		(23.5'- 30.7') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; slight organic-like odor, wet, gray to light brown.
	30	S6	5/5	0.0					(30.7'- 39') SANDY CLAY (CL); ~60% fines, low plasticity, ~40% sand, fine; slight organic-like odor, wet, gray.
-20									
	35	S7	5/4.3	0.0			OLO		
-25									
	40	S8	5/5	0.0					(39'- 44') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine; max. gravel size 0.25", wet, gray to brown.
-30									
	45	S9	5/4.3	0.0					(44'- 45') CLAYEY SAND (SC); ~70% sand, fine to coarse, ~30% fines, low plasticity; wet, brown to gray. (45'- 47.3') CLAYEY SAND (SC); ~70% sand, fine to coarse, ~30% fines, low plasticity; wet, brown.
-35									(47.3'- 53.7') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 1.5", wet, brown.
	50	S10	5/4.3	0.0					
-40									
	55	S11	5/3.7	0.0					(53.7'- 55') SILTY SAND (SM); ~70% sand, fine to coarse, ~30% fines, non plastic; wet, brown. (55'- 62.6') WIDELY GRADED SAND WITH GRAVEL

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

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110 Walt Whitman Road
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Huntington Station,
New York 11746

CLIENT:	National Grid - Greenpoint
PROJECT:	Phase 3 Remedial Investigation
CITY/STATE:	Brooklyn, New York
GEI PROJECT NUMBER:	125180-3-1302

BORING LOG

GPEC-SB405

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-45	60	S12	5/3.8	0.0					(SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 1.25", wet, brown.
-50									(62.6'- 63.9') WIDELY GRADED GRAVEL WITH SAND (GW); ~80% gravel, fine to coarse, rounded to subrounded, ~20% sand, fine to coarse; max. gravel size 1.25", wet, brown to tan.
	65	S13	5/4.6	0.0					(63.9'- 65') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines, non plastic; wet, brown.
-55									(65'- 70') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 1", wet, brown.
	70							GPEC-SB405 (69-70)	End of Boring at 70 feet. Grout to surface.

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BORING LOG
PAGE 1 of 3
GPEC-SB406

GROUND SURFACE ELEVATION (FT): 12.92 **LOCATION:** Area 7
NORTHING (FT): 687839 **EASTING (FT):** 650316 **TOTAL DEPTH (FT):** 70.0
DRILLED BY: Cascade Drilling / Evan Moraits **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 1/18/2017 - 1/18/2017
DRILLING DETAILS: Direct Push - Macro Core / Geoprobe 7822 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0								(0'- 8') VACUUM / HAND CLEARED.
5	5							GPEC-SB406 (5)	
		S1	2/0.8	0.0					(8'- 13.9') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic, ~20% gravel, fine to coarse, angular to subrounded; max. gravel size 1.25", wet, brown, asphalt fragments, FILL.
0	10	S2	5/3	0.0				GPEC-SB406 (12-13)	
	15	S3	5/5	0.0			OLO		(13.9'- 15') CLAYEY SAND WITH GRAVEL (SC); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, angular to subangular, ~20% fines, low plasticity; max. gravel size 1", slight organic-like odor, wet, black, shell fragments.
-5							OLO		(15'- 17.2') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 1.75", slight organic-like odor, wet, gray to black, trace organics/roots.
							OLO		(17.2'- 19') PEAT (PT); strong organic-like odor, moist, reddish brown to black.
-10	20	S4	5/NM						(19'- 20') CLAYEY SAND (SC); ~85% sand, fine to medium, ~15% fines, low plasticity; moderate organic-like odor, wet, gray, roots.
	25								(20'- 25') NO RECOVERY.

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BORING LOG

GPEC-SB406

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25	S5	5/4	0.0					(25'- 34.2') CLAYEY SAND WITH GRAVEL (SC); ~70% sand, fine to medium, ~15% gravel, fine to coarse, angular to subrounded, ~15% fines, low plasticity; max. gravel size 1", slight organic-like odor, wet, gray, shell fragments, trace roots.
-15									
	30	S6	5/5	0.0			OLO		
-20									
	35	S7	5/5	0.0			OLO		(34.2'- 35') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 1.5", wet, gray. (35'- 37.3') SILTY SAND (SM); ~70% sand, fine to medium, ~30% fines, non plastic to low plasticity; moderate organic-like odor, wet, gray, trace shell fragments.
-25							OLO		(37.3'- 40') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse, subangular to subrounded; max. gravel size 1.5", slight organic-like odor, wet, gray to black, shell fragments.
	40	S8	5/5	0.0			OLO		(40'- 45') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~10% fines, non plastic; max. gravel size 1", slight organic-like odor, wet, gray to black, trace shell fragments.
-30									
	45	S9	5/4.1	0.0					(45'- 55') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 1", moderate organic-like odor, wet, light brown.
-35									
	50	S10	5/3.1	0.0			OLO		
-40									
	55	S11	5/5	0.0			OLO		(55'- 57.7') SILTY SAND WITH GRAVEL (SM); ~60%

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S_V = TORVANE PEAK

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IN. = INCHES
FT. = FEET

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3-1302

BORING LOG

GPEC-SB406

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-45	60	S12	5/5	0.0			OLO		sand, fine to coarse, ~25% gravel, fine to coarse, angular to subrounded, ~15% fines, non plastic; max. gravel size 1.25", moderate organic-like odor, wet, light brown to gray. (57.7'- 58') WIDELY GRADED GRAVEL WITH SAND (GW); ~80% gravel, fine to coarse, subangular to subrounded, ~20% sand, fine to coarse; max. gravel size 1", wet, brown. (58'- 59.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse, rounded to subangular; max. gravel size 1.5", wet, light brown. (59.3'- 60') WIDELY GRADED SAND WITH GRAVEL (GW); ~60% gravel, fine to coarse, rounded to subangular, ~40% sand, fine to coarse; max. gravel size 1.25", wet, brown.
-50	65	S13	5/5	0.0					(60'- 64.3') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines, non plastic; wet, brown. (64.3'- 65') SILTY SAND (SM); ~70% sand, fine to medium, ~30% fines, non plastic; wet, reddish brown.
-55	70							GPEC-SB406 (69-70)	(65'- 67') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, angular to subrounded; max. gravel size 2", wet, brown. (67'- 70') SILTY SAND (SM); ~60% sand, fine, ~40% fines, non plastic; wet, tan to brown. End of Boring at 70 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

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BORING LOG

PAGE 1 of 1

GPEC-SB407

GROUND SURFACE ELEVATION (FT): 12.38 **LOCATION:** Area 7
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 8.0
DRILLED BY: Cascade Drilling / Carlos **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 12/19/2016 - 12/19/2016
DRILLING DETAILS: _____
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: Boring was vacuum/hand cleared to 8 ft bgs. Boring was not advanced due to utility concerns in the area.

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0			0.0			GPEC-SB407 (5)	(0'- 8') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, angular to subrounded, ~10% fines, non plastic; max. gravel size 4", brown, red brick, concrete, wood, and glass fragments, FILL, sheen on water at 2'.
5	5							
								End of Boring at 8 feet. Backfilled in reverse sequence.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

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GEI PROJECT NUMBER: 125180-3-1302

BORING LOG

PAGE 1 of 3

GPEC-SB408

GROUND SURFACE ELEVATION (FT): 13.25 **LOCATION:** Area 7
NORTHING (FT): 687886 **EASTING (FT):** 650430 **TOTAL DEPTH (FT):** 70.0
DRILLED BY: Cascade Drilling / Evan Moraits **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes and D. Sharpe **DATE START / END:** 1/20/2017 - 1/24/2017
DRILLING DETAILS: Direct Push - Macro Core / Geoprobe 7822 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	0								(0'- 8') VACUUM / HAND CLEARED.
10									
	5							GPEC-SB408 (5)	
5		S1	2/1.8	0.0				GPEC-SB408 (9-10)	(8'- 8.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 1.25", dry, brown. (8.5'- 10') SILTY SAND (SM); ~60% sand, fine to coarse, ~40% fines, non plastic; dry, tan to reddish brown. (10'- 20') SILTY SAND (SM); ~80% sand, fine to coarse, ~20% fines, non plastic; wet, tan to reddish brown.
	10	S2	5/2.6	0.0					
0									
	15	S3	5/3.5	0.0					
-5									
	20	S4	5/4.8	0.0					(20'- 25') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded, ~10% fines, non plastic; max. gravel size 0.75", wet, tan to reddish brown.
-10									
	25								

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

GEI Consultants

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110 Walt Whitman Road
Suite 204
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CLIENT: National Grid - Greenpoint
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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3-1302

BORING LOG

GPEC-SB408

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25	S5	5/4.7	0.0					(25'- 29.1') SILTY SAND (SM); ~85% sand, fine to coarse, ~15% fines, non plastic; wet, tan.
-15									
	30	S6	5/4.7	0.0					(29.1'- 38.3') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; wet, brown to gray.
-20									
	35	S7	5/2.9	0.0					
-25									(38.3'- 42.2') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subangular to subrounded, ~5% fines, non plastic; max. gravel size 1", moderate organic-like odor, wet, brown to gray.
	40	S8	5/3.8	0.0			OLO		
-30									(42.2'- 45') SILTY SAND (SM); ~60% sand, fine, ~40% fines, non plastic; wet, brown to gray.
	45	S9	5/4.2	0.0					(45'- 54.6') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines, non plastic; wet, gray to brown.
-35									
	50	S10	5/3.2	0.0					
-40									
	55	S11	5/4.2	0.0					(54.6'- 55') SILTY SAND (SM); ~60% sand, fine, ~40% fines, non plastic; wet, brown to gray.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

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BORING LOG

GPEC-SB408

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-45	60	S12	5/4.2	0.0					(55'- 60') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines, non plastic; wet, brown to gray.
-50	65	S13	5/4.6	0.0					(60'- 67.7') NARROWLY GRADED SAND (SP); ~90% sand, medium to coarse, ~5% gravel, fine, subangular to subrounded, ~5% fines, non plastic; max. gravel size 0.5", wet, gray to brown.
-55	70							GPEC-SB408 (69-70)	(67.7'- 70') NARROWLY GRADED SAND WITH GRAVEL (SP); ~75% sand, coarse, ~25% gravel, fine to coarse, subangular to subrounded; max. gravel size 1", wet, gray to brown.
									End of Boring at 70 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

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GEI PROJECT NUMBER: 125180-3-1302

BORING LOG

PAGE 1 of 3

GPEC-SB409

GROUND SURFACE ELEVATION (FT): 13.36 **LOCATION:** Area 7
NORTHING (FT): 687964 **EASTING (FT):** 650301 **TOTAL DEPTH (FT):** 70.0
DRILLED BY: Cascade Drilling / Charles Green **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 1/10/2017 - 1/11/2017
DRILLING DETAILS: Direct Push - Macro Core / Geoprobe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0						NLO	GPEC-SB409 (1-2.5)	(0'- 8') VACUUM/HAND CLEARED; moderate naphthalene-like odor, stained black.
5	5								
	10	S1	2/1.4	171 81 1.0			PLO		(8'- 10') SILTY SAND (SM); ~70% sand, fine to coarse, ~30% fines, non plastic; moderate petroleum-like odor, wet, brown.
0		S2	5/2.3	64 210 14 0.0 0.0			NLO NLO	GPEC-SB409 (11-12)	(10'- 13.2') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, angular to subrounded, ~40% sand, fine to coarse; max. gravel size 1", strong naphthalene-like odor, wet, brown to black, NAPL coated material. (13.2'- 15') SILTY SAND (SM); ~70% sand, fine to coarse, ~30% fines, non plastic; moderate naphthalene-like odor, wet, brown.
-5	15	S3	5/5	3.0 3.0 3.0 2.5 2.5			NLO		(15'- 20') SILTY SAND (SM); ~60% sand, fine to coarse, ~40% fines, non plastic; moderate naphthalene-like odor, wet, brown to black, sheen, some black staining.
-10	20	S4	5/4.2	5.5 5.5 3.0 3.0 3.0			NLO		(20'- 25') SILTY SAND (SM); ~85% sand, fine to coarse, ~15% fines, non plastic; moderate naphthalene-like odor, wet, brown, sheen, trace black staining.
	25								

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

GEI Consultants

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110 Walt Whitman Road
Suite 204
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CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
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GEI PROJECT NUMBER: 125180-3-1302

BORING LOG

GPEC-SB409

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-15	25	S5	5/4.8	0.0			NLO		(25'- 30') SILTY SAND (SM); ~85% sand, fine to coarse, ~15% fines, non plastic; slight naphthalene-like odor, wet, brown, trace sheen.
-20	30	S6	5/NM	0.0			NLO		(30'- 40') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; slight naphthalene-like odor, wet, brown, liner jammed in rod on 30-35' and 35-40' intervals.
-25	35	S7	5/NM	0.0					
-30	40	S8	5/NM	0.0			OLO		(40'- 58.3') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, subrounded, ~5% fines, non plastic; max. gravel size 1", slight organic-like odor, wet, brown to gray, liner jammed in rod on 40-45', 45-50', and 50-55' intervals.
-35	45	S9	5/NM	0.0					
-40	50	S10	5/NM	0.0					
	55	S11	5/4.5	0.0					

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

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BORING LOG

GPEC-SB409

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-45	60	S12	5/4	0.0			OLO		(58.3'- 65') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 1.25", slight organic-like odor, wet, brown.
-50	65	S13	5/1	0.0			OLO		(65'- 70') SILTY SAND (SM); ~60% sand, fine to medium, ~40% fines, non plastic; moderate organic-like odor, wet, brown.
-55	70						OLO	GPEC-SB409 (69-70)	End of Boring at 70 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

GEI Consultants, Inc. P.C. 110 Walt Whitman Road Suite 204 Huntington Station, New York 11746	CLIENT: National Grid - Greenpoint PROJECT: Phase 3 Remedial Investigation CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-3-1302	BORING LOG PAGE 1 of 3 GPEC-SB410

GROUND SURFACE ELEVATION (FT): 12.94 LOCATION: Area 7
NORTHING (FT): 687962 EASTING (FT): 650185 TOTAL DEPTH (FT): 70.0
DRILLED BY: Cascade Drilling / Evan Moraits DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: D. Sharpe DATE START / END: 1/26/2017 - 1/26/2017
DRILLING DETAILS: Direct Push - Macro Core / Geoprobe 7822 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0						NLO	GPEC-SB410 (4-6)	(0'- 8') VACUUM/HAND CLEARED; moderate naphthalene-like odor, stained black.
5	5	S1	2/1.8	0.8					(8'- 8.9') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines, non plastic; dark brown to red, red brick pieces, FILL.
				1.2			NLO		(8.9'- 10') SANDY SILT (MLS); ~60% fines, non plastic, ~30% sand, fine to coarse, ~10% gravel; max. gravel size 1", slight naphthalene-like odor, wet, red to dark brown, FILL.
0	10	S2	5/2.2	0.7			NLO	GPEC-SB410 (11-12)	(10'- 11') SANDY SILT (MLS); ~60% fines, non plastic, ~30% sand, fine to coarse, ~10% gravel; max. gravel size 1", moderate naphthalene-like odor, wet, brown to black, trace staining, FILL.
				1.6					(11'- 15') SANDY SILTY WITH GRAVEL (MLS); ~40% fines, non plastic, ~30% gravel, ~30% sand, fine to coarse; max. gravel size 1", moderate naphthalene-like odor, wet, black, staining, FILL.
				2.6			NLO		(15'- 18.6') SILT WITH SAND (ML); ~80% fines, non plastic, ~20% sand, fine; wet, gray to brown, red brick pieces, FILL.
	15	S3	5/1.5	1.1					
-5				0.3					
				1.1					
	20	S4	5/4	4.7			OLO		(18.6'- 20') CLAY WITH SAND (CL); ~90% fines, low plasticity, ~10% sand, fine; moderate organic-like odor, wet, gray to dark brown.
				0.4			OLO		(20'- 22.3') CLAY WITH SAND (CL); ~90% fines, low plasticity, ~10% sand, fine; moderate organic-like odor, wet, yellow brown to gray.
-10				0.1					(22.3'- 25') CLAY WITH GRAVEL (CL); ~90% fines, low plasticity, ~10% gravel, coarse; max. gravel size 1", wet, yellow brown.
	25			0.0					

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S_V = TORVANE PEAK

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IN. = INCHES
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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3-1302

BORING LOG

GPEC-SB410

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25	S5	5/4	0.0					(25'- 29') CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; wet, gray, sandy clay lense from 26.8'-27' bgs.
-15									
	30	S6	5/4.4	0.0					(29'- 30.9') CLAY WITH SAND (CL); ~85% fines, low plasticity, ~15% sand, fine; wet, gray.
-20									(30.9'- 32.1') SANDY CLAY (CL); ~50% fines, low plasticity, ~40% sand, fine, ~10% gravel; max. gravel size 0.5", wet, gray. (32.1'- 32.9') CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; wet, gray. (32.9'- 33.6') SANDY CLAY (CL); ~50% fines, low plasticity, ~40% sand, fine, ~10% gravel; max. gravel size 0.5", wet, gray.
	35	S7	5/4	0.0					(33.6'- 33.9') CLAY WITH SAND (CL); ~90% fines, low plasticity, ~10% sand, fine; wet, gray. (33.9'- 35') SANDY CLAY (CL); ~50% fines, low plasticity, ~40% sand, fine, ~10% gravel; max. gravel size 0.5", wet, gray.
-25									(35'- 35.8') CLAY WITH SAND (CL); ~80% fines, low plasticity, ~20% sand, fine; wet, red brown. (35.8'- 38.3') SILTY SAND (SM); ~60% sand, fine to medium, ~40% fines, non plastic; wet, red brown. (38.3'- 40') CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; wet, red brown.
	40	S8	5/4.4	0.0					(40'- 44.6') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines, non plastic; wet, gray brown.
-30									
	45	S9	5/4.3	0.0					(44.6'- 45') SILT WITH SAND (ML); ~80% fines, non plastic, ~20% sand, fine; wet, gray brown. (45'- 50') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines, non plastic; wet, gray brown.
-35									
	50	S10	5/4	0.0					(50'- 58.2') SILTY SAND (SM); ~75% sand, fine to medium, ~25% fines, non plastic; wet, gray to brown.
-40									
	55	S11	5/4.2	0.0					

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BORING LOG

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GPEC-SB410

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-45	60	S12	5/4.3	0.0					(58.2'- 60') SILTY SAND (SM); ~75% sand, medium to coarse, ~20% fines, non plastic, ~5% gravel; max. gravel size 0.5", wet, gray brown. (60'- 70') SILTY SAND (SM); ~75% sand, fine to medium, ~25% fines, non plastic; wet, gray.
-50	65	S13	5/2.7	0.0					
-55	70							GPEC-SB410 (69-70)	End of Boring at 70 feet. Grout to surface.

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BORING LOG
PAGE 1 of 3
GPEC-SB411

GROUND SURFACE ELEVATION (FT): 13.60 **LOCATION:** Area 7
NORTHING (FT): 687984 **EASTING (FT):** 650343 **TOTAL DEPTH (FT):** 70.0
DRILLED BY: Cascade Drilling / Mike Ryan **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes and A. Adegbayi **DATE START / END:** 1/12/2017 - 1/16/2017
DRILLING DETAILS: Direct Push - Macro Core / Geoprobe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0							GPEC-SB411 (2-3)	(0'- 8') VACUUM/HAND CLEARED; moderate naphthalene-like odor, stained black.
5	5						NLO		
	10	S1	2/0.9	1.5 3.0 16.5			PLO	GPEC-SB411 (10.5-11.5)	(8'- 11.4') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subangular to subrounded, ~5% fines, non plastic; max. gravel size 1.5", moderate petroleum-like odor, wet, brown, trace sheen on water.
0	15	S2	5/4.2	60 22 0.0 0.0 0.0					(11.4'- 17') SANDY CLAY (CL); ~70% fines, low plasticity, ~30% sand, fine; moist, light brown.
-5	20	S3	5/2.3	0.0					(17'- 20') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; wet, brown.
-10	25	S4	5/4.3	0.0			OLO		(20'- 30') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; slight organic-like odor, wet, brown.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3-1302

BORING LOG

GPEC-SB411

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25	S5	5/4.3	0.0			OLO		
-15	30	S6	5/2.7	0.0					(30'- 35') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, coarse, ~5% fines, non plastic; wet, brown.
-20	35	S7	5/2.5	0.0					(35'- 55') NARROWLY GRADED SAND (SP); ~95% sand, medium to fine, ~5% fines, non plastic; wet, brown.
-25	40	S8	5/4.2	0.0					
-30	45	S9	5/3.8	0.0					
-35	50	S10	5/3.8	0.0					
-40	55	S11	5/4.3	0.0					(55'- 65') NARROWLY GRADED GRAVEL WITH

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BORING LOG

GPEC-SB411

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
									SAND (GP); ~90% gravel, coarse, subrounded, ~10% sand, fine; max. gravel size 1", wet, brown.
-45	60	S12	5/4.6	0.0					
-50	65	S13	5/2.7	0.0					(65'- 70') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% gravel, coarse, subrounded; max. gravel size 1.5", wet, gray.
-55	70							GPEC-SB411 (69-70)	End of Boring at 70 feet. Grout to surface.

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BORING LOG
PAGE 1 of 3
GPEC-SB412

GROUND SURFACE ELEVATION (FT): 13.26 **LOCATION:** Area 7
NORTHING (FT): 688050 **EASTING (FT):** 650394 **TOTAL DEPTH (FT):** 70.0
DRILLED BY: Cascade Drilling / Evan Moraits **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 1/17/2017 - 1/17/2017
DRILLING DETAILS: Direct Push - Macro Core / Geoprobe 6620 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0							GPEC-SB412 (5)	(0'- 8') VACUUM / HAND CLEARED.
5	5	S1	2/1.3	3.0 7.5 28.5					(8'- 8.6') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to coarse, ~30% fines, low plasticity, ~20% gravel, fine to coarse, angular to subangular; max. gravel size 1", wet, tan, shell fragments.
0	10	S2	5/3.8	46 294 710 120 0.0 0.0			PLO PLO	GPEC-SB412 (12-13)	(8.6'- 9') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, angular to subangular; max. gravel size 1", wet, black, shell fragments. (9'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 1.25", wet, brown to gray. (10'- 11.5') SANDY CLAY (CL); ~60% fines, low plasticity, ~40% sand, fine to medium; moderate petroleum-like odor, wet, gray to black, some black staining.
-5	15	S3	5/5	0.0			PLO		(11.5'- 15') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; strong petroleum-like odor, wet, brown. (15'- 24') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; slight petroleum-like odor, wet, brown.
-10	20	S4	5/5	0.0 1.5 0.0 0.0 0.0 0.0					(24'- 25') SILTY SAND (SM); ~80% sand, fine to coarse, ~20% fines, non plastic; wet, reddish brown.
	25								

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

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BORING LOG

GPEC-SB412

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25	S5	5/4.6	3.5 8.0 7.5 3.0 0.0 0.0					(25'- 30') SILTY SAND (SM); ~80% sand, fine to coarse, ~20% fines, non plastic; wet, reddish brown, trace black staining.
-15	30	S6	5/5	0.0					(30'- 40') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded, ~5% fines, non plastic; max. gravel size 0.75", wet, brown, liner jammed in rod on 35-40' interval.
-20	35	S7	5/NM	0.0					
-25	40	S8	5/4.3	0.0					(40'- 50') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; wet, brown.
-30	45	S9	5/1.9	0.0					
-35	50	S10	5/4.3	0.0					(50'- 70') NARROWLY GRADED SAND WITH GRAVEL (SP); ~75% sand, medium to coarse, ~25% gravel, fine to coarse, subrounded; max. gravel size 1.5", wet, brown, liner jammed in rod on 55-60' interval.
-40	55	S11	5/NM	0.0					

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GPEC-SB412

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-45	60	S12	5/5	0.0					
-50	65	S13	5/3.9	0.0					
-55	70							GPEC-SB412 (69-70)	End of Boring at 70 feet. Grout to surface.

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BORING LOG
PAGE 1 of 3
GPEC-SB413

GROUND SURFACE ELEVATION (FT): 7.81 **LOCATION:** Area 7
NORTHING (FT): 688106 **EASTING (FT):** 650685 **TOTAL DEPTH (FT):** 70.0
DRILLED BY: Cascade Drilling / Evan Moraits **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 1/19/2017 - 1/19/2017
DRILLING DETAILS: Direct Push - Macro Core / Geoprobe 7822 DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
5	0						NLO	GPEC-SB413 (5)	(0'- 8') VACUUM/HAND CLEARED; slight naphthalene-like odor, stained black.
0	5	S1	2/2	0.0			OLO	GPEC-SB413 (9-10)	(8'- 9.2') CLAY WITH SAND AND GRAVEL (CL); ~60% fines, low plasticity, ~20% gravel, fine to coarse, subrounded to subangular, ~20% sand, fine to coarse; max. gravel size 1", moderate organic-like odor, wet, brown, shell fragments.
-5	10	S2	5/3.8	0.0			NLO		(9.2'- 11.4') SILTY GRAVEL WITH SAND (GM); ~60% gravel, fine to coarse, angular to subangular, ~20% sand, fine to coarse, ~20% fines, non plastic; max. gravel size 1.25", slight naphthalene-like odor, wet, black, trace sheen on water.
-10	15	S3	5/2.5	0.0			OLO		(11.4'- 15') PEAT (PT); moderate organic-like odor, moist, reddish brown to black.
-15	20	S4	5/4.4	0.0			OLO		(15'- 21.8') SANDY CLAY (CL); ~50% fines, low plasticity, ~40% sand, fine to coarse, ~10% gravel, fine, subrounded; max. gravel size 0.25", moderate organic-like odor, wet, gray.
	25								(21.8'- 23.2') CLAY (CL); ~100% fines, low plasticity; slight organic-like odor, wet, gray.
									(23.2'- 24.5') CLAY (CL); ~100% fines, low to medium plasticity; moist, gray to light brown.
									(24.5'- 25') SILTY SAND (SM); ~80% sand, fine to

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IN. = INCHES
FT. = FEET

NLO = NAPHTHALENE LIKE ODOR
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CrLO= CREOSOTE LIKE ODOR
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MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3-1302

BORING LOG

GPEC-SB413

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25	S5	5/3.3	0.0					medium, ~20% fines, non plastic; moist, brown to reddish brown. (25'- 28.5') SANDY SILT (MLS); ~70% fines, non plastic, ~30% sand, fine; wet, light brown.
-20									
	30	S6	5/3.8	0.0					(28.5'- 30') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; wet, light brown to reddish brown. (30'- 36.8') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines, non plastic; wet, brown.
-25									
	35	S7	5/5	0.0					
-30									(36.8'- 39.7') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, rounded to subrounded, ~5% fines, non plastic; max. gravel size 1", wet, brown.
	40	S8	5/1.8	0.0					(39.7'- 40.7') WIDELY GRADED GRAVEL WITH SAND (GW); ~80% gravel, fine to coarse, rounded to subangular, ~20% sand, fine to coarse; max. gravel size 1.25", wet, brown. (40.7'- 45') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines, non plastic; wet, brown.
-35									
	45	S9	5/5	0.0					(45'- 65') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, rounded to subrounded, ~5% fines, non plastic; max. gravel size 1.25", wet, brown.
-40									
	50	S10	5/4.5	0.0					
-45									
	55	S11	5/4.1	0.0					

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

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CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3-1302

BORING LOG

GPEC-SB413

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-50	60	S12	5/2.3	0.0					
-55	65	S13	5/1.1	0.0					(65'- 70') SILTY SAND (SM); ~85% sand, fine to coarse, ~15% fines, non plastic; wet, brown.
-60	70							GPEC-SB413 (69-70)	End of Boring at 70 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_RI_AREA 7_GH.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

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CLIENT: National Grid - Greenpoint
PROJECT: Ph. 3 RI Additional Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180

BORING LOG
PAGE 1 of 2
GPEC-SB404A

GROUND SURFACE ELEVATION (FT): 8.05 **LOCATION:** Area 1
NORTHING (FT): 687830 **EASTING (FT):** 651238 **TOTAL DEPTH (FT):** 50.0
DRILLED BY: Cascade Drilling / Evan Moraits **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 5/10/2017 - 5/10/2017
DRILLING DETAILS: Direct Push / Geoprobe 7822DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
5	0							(0'- 8') VACUUM / HAND CLEARED.
0	5	S1	2/2	0.0				(8'- 10') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic, ~20% gravel, fine to coarse, angular to subangular; max. gravel size 2", moist, brown, asphalt, red brick, and concrete fragments, loose, FILL.
-5	10	S2	5/5	0.0				(10'- 15') SILTY SAND (SM); ~50% sand, fine to coarse, ~40% fines, non plastic to low plasticity, ~10% gravel, fine, angular to subangular; max. gravel size 0.25", wet, brown to black, red brick fragments, wood chips/chunks, loose, FILL. Groundwater at 10' bgs.
-10	15	S3	5/4.2	0.0				(15'- 19.3') SILTY SAND (SM); ~50% sand, fine to coarse, ~40% fines, non plastic to low plasticity, ~10% gravel, fine, angular to subangular; max. gravel size 0.25", wet, brown to black, red brick fragments, wood chips/chunks, loose, FILL.
-15	20	S4	5/2.8	0.0			OLO	(19.3'- 20') SANDY CLAY WITH GRAVEL (CL); ~40% fines, low to medium plasticity, ~30% gravel, fine to coarse, angular to subangular, ~30% sand, fine to coarse; max. gravel size 1.75", wet, black to dark brown, black staining, trace sheen, trace black ash, loose, FILL.
							OLO	(20'- 22.9') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; slight organic-like odor, wet, brown, loose, FILL.
	25							(22.9'- 25') SANDY GRAVEL (GW); ~70% gravel, fine to coarse, angular to subrounded, ~30% sand, fine to coarse; max. gravel size

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_LOADING PLATFORM ADDITIONAL_GH.GPJ GEI TEMPLATE 11-7-13.GDT 7/29/19

GEI Consultants	CLIENT: National Grid - Greenpoint	BORING LOG
GEI Consultants, Inc. P.C. 110 Walt Whitman Road Suite 204 Huntington Station, New York 11746	PROJECT: Ph. 3 RI Additional Investigation CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180	PAGE 2 of 2 GPEC-SB404A

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	25	S5	5/3.8	0.0			OLO	2.25", moderate organic-like odor, wet, brown to gray, loose, FILL. (25'- 27') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; slight organic-like odor, wet, brown, loose, FILL.
-20							OLO	(27'- 28.4') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, angular to subrounded; max. gravel size 1.5", moderate organic-like odor, wet, brown to gray, red brick fragments, loose, FILL.
							OLO	(28.4'- 30') WIDELY GRADED GRAVEL WITH CLAY (GW-GC); ~80% gravel, fine to coarse, angular to subangular, ~20% fines, low plasticity; max. gravel size 2", strong organic-like odor, wet, black, loose.
	30	S6	5/1.6	0.0				
-25							OLO	(30'- 35') CLAY WITH SAND (CL); ~70% fines, low to medium plasticity, ~20% sand, fine to medium, ~10% gravel, fine, subrounded to subangular; max. gravel size 0.25", slight organic-like odor, wet, black to gray, roots/organics, loose.
	35	S7	5/4.7	0.0				
-30							OLO	(35'- 39.1') CLAY WITH SAND (CL); ~80% fines, low to medium plasticity, ~20% sand, fine; slight organic-like odor, wet, black to brown, roots/organics, tight.
	40	S8	5/4.3	0.0				(39.1'- 40') SILTY SAND (SM); ~80% sand, fine to medium, ~20% fines, non plastic; wet, gray, tight. (40'- 45') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, subrounded to subangular; max. gravel size 1.5", wet, gray, loose.
-35								
	45	S9	5/4.2	0.0				(45'- 50') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, subrounded to subangular, ~5% fines, non plastic; max. gravel size 0.5", wet, light brown to gray, loose.
-40								
	50							End of Boring at 50 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_LOADING PLATFORM ADDITIONAL_GH.GPJ GEI TEMPLATE 11-7-13.GDT 7/29/19

GEI Consultants

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Suite 204
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New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Ph. 3 RI Additional Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180

BORING LOG
PAGE 1 of 2
GPEC-SB405A

GROUND SURFACE ELEVATION (FT): 9.96 **LOCATION:** Area 1
NORTHING (FT): 687900 **EASTING (FT):** 651204 **TOTAL DEPTH (FT):** 50.0
DRILLED BY: Cascade Drilling / Evan Moraits **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 5/16/2017 - 5/16/2017
DRILLING DETAILS: Direct Push / Geoprobe 7822DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
5	0							(0'- 8') VACUUM / HAND CLEARED; black staining.
0	10	S1	2/0.8	0.0				(8'- 10') WIDELY GRADED SAND WITH GRAVEL AND SILT (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, angular to subrounded, ~10% fines, non plastic; max. gravel size 1.5", wet, brown, red brick fragments, loose, FILL.
		S2	5/3.8	0.0				(10'- 11.7') SILTY SAND WITH GRAVEL (SM); ~40% sand, fine to coarse, ~30% gravel, fine to coarse, angular to subrounded, ~30% fines, non plastic to low plasticity; max. gravel size 1", wet, brown, red brick and concrete fragments, loose, FILL.
							NLO	(11.7'- 14.2') SANDY CLAY WITH GRAVEL (CL); ~50% fines, low to medium plasticity, ~30% sand, fine to coarse, ~20% gravel, fine to coarse, angular to subrounded; max. gravel size 1", slight naphthalene-like odor, wet, black staining, organics, roots, tight.
-5	15	S3	5/1.3	0.0				(14.2'- 15') SANDY CLAY (CL); ~60% fines, low to medium plasticity, ~30% sand, fine to coarse, ~10% gravel, fine to coarse, subangular to subrounded; max. gravel size 2", wet, gray, tight. (15'- 20') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% gravel, fine to coarse, angular to subrounded, ~20% fines, non plastic to low plasticity; max. gravel size 2", wet, brown to black, trace black staining, trace sheen on water, loose.
-10	20	S4	5/2.2	0.0 0.0 0.0 0.0 8.7			OLO	(20'- 25') SILTY SAND (SM); ~70% sand, fine to coarse, ~20% fines, non plastic to low plasticity, ~10% gravel, fine, angular to subrounded; max. gravel size 0.25", moderate organic-like odor, wet, brown, trace sheen on water, loose.
	25							

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_LOADING PLATFORM ADDITIONAL_GH.GPJ GEI TEMPLATE 11-7-13.GDT 7/29/19

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BORING LOG
PAGE 2 of 2
GPEC-SB405A

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	25	S5	5/2.6	0.8				(25'- 27.4') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine, subangular to subrounded; max. gravel size 0.25", moderate organic-like odor, wet, brown, trace sheen on water, loose.
				1.1			OLO	
				3.3				
				4.1			OLO	(27.4'- 28.2') WIDELY GRADED GRAVEL WITH SAND (GW); ~70% gravel, fine to coarse, angular to subrounded, ~30% sand, coarse; max. gravel size 1.75", moderate organic-like odor, wet, brown, trace sheen on water, loose.
				3.2			NLO	(28.2'- 30') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic, ~20% gravel, fine to coarse, angular to subrounded; max. gravel size 1.75", slight naphthalene-like odor, wet, brown, trace sheen, loose.
-20	30	S6	5/2.8	23.0			NLO	
				6.0				
				23.1			OLO	(30'- 30.9') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic, ~20% gravel, fine to coarse, angular to subrounded; max. gravel size 1.75", moderate naphthalene-like odor, wet, gray, NAPL blebs, sheen, loose.
				6.9				
				1.2				(30.9'- 33.7') PEAT (PT); strong organic-like odor, moist, reddish brown to gray, meadow mat, organics, roots, leaf fragments.
				1.3				
-25	35	S7	5/NM	0.0				(33.7'- 40') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% gravel, fine to coarse, angular to subrounded, ~15% fines, non plastic; max. gravel size 1", slight organic-like odor, wet, brown to black, shell fragments, loose.
				0.0			OLO	
-30	40	S8	5/1.8	0.0				(40'- 50') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 1", wet, brown to gray, loose.
-35	45	S9	5/5	0.0				
-40	50							End of Boring at 50 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_LOADING PLATFORM ADDITIONAL_GH.GPJ GEI TEMPLATE 11-7-13.GDT 7/29/19

GEI Consultants, Inc. P.C. 110 Walt Whitman Road Suite 204 Huntington Station, New York 11746	CLIENT: National Grid - Greenpoint PROJECT: Ph. 3 RI Additional Investigation CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180	BORING LOG PAGE 1 of 2 GPEC-SB406A

GROUND SURFACE ELEVATION (FT): 8.75 LOCATION: Area 2
NORTHING (FT): 687997 EASTING (FT): 651173 TOTAL DEPTH (FT): 50.0
DRILLED BY: Cascade Drilling / Evan Moraits DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes DATE START / END: 5/11/2017 - 5/11/2017
DRILLING DETAILS: Direct Push / Geoprobe 7822DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
5	0							(0'- 8') VACUUM / HAND CLEARED.
0	10	S1	2/0.8	0.0				(8'- 10') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to medium, ~20% gravel, fine to coarse, angular to subangular, ~20% fines, non plastic; max. gravel size 1.5", moist, brown, red brick and asphalt fragments, tight, FILL.
		S2	5/2.3	0.0			PLO	(10'- 15') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to medium, ~20% gravel, fine to coarse, angular to subangular, ~20% fines, non plastic; max. gravel size 1.5", moderate petroleum-like odor, wet, brown, sheen, trace black staining, red brick and asphalt fragments, loose, FILL.
-5	15	S3	5/5	0.0			PLO	(15'- 20') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic to low plasticity, ~20% gravel, fine to coarse, angular to subrounded; max. gravel size 1.25", slight petroleum-like odor, wet, black staining, red brick, glass, and wood fragments, loose, FILL.
-10	20	S4	5/3.5	0.8 0.8 0.7 0.5 0.5			PLO	(20'- 23.9') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, non plastic, ~5% gravel, fine, subrounded to subangular; max. gravel size 0.25", slight petroleum-like odor, wet, brown, trace sheen, loose.
-15	25			0.0 0.0				(23.9'- 25') WIDELY GRADED GRAVEL WITH SAND (GW); ~75% gravel, fine to coarse, angular to subrounded, ~25% sand, fine to

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_LOADING PLATFORM ADDITIONAL_GH.GPJ GEI TEMPLATE 11-7-13.GDT 7/29/19

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BORING LOG
PAGE 2 of 2
GPEC-SB406A

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	25	S5	5/3.9	4.3 12.8 2.1 9.0 8.7 11.1 2.1 0.0			OLO	coarse; max. gravel size 1.75", wet, brown, tight. (25'- 29') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, subangular to subrounded, ~5% fines, non plastic; max. gravel size 0.75", moderate organic-like odor, wet, brown, trace sheen, loose.
-20							OLO	(29'- 30') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic, ~20% gravel, fine to coarse, angular to subrounded; max. gravel size 1.25", moderate organic-like odor, wet, brown, trace sheen, loose.
	30	S6	5/2.9	25.2 18.2 6.8 11.4 28.2 6.7 7.0			PLO	(30'- 34.3') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; moderate petroleum-like odor, wet, gray to black, sheen, loose.
-25							PLO	(34.3'- 35') CLAY WITH SAND (CL); ~90% fines, medium plasticity, ~10% sand, fine; moderate petroleum-like odor, wet, black staining, sheen, trace organics, tight.
	35	S7	5/3.8	0.0			OLO	(35'- 37.5') CLAYEY GRAVEL WITH SAND (GC); ~50% gravel, fine to coarse, angular to subrounded, ~30% sand, fine to coarse, ~20% fines, low to medium plasticity; max. gravel size 0.5", moderate organic-like odor, wet, black to brown, organics, roots, shell fragments, loose.
-30							OLO	(37.5'- 39.5') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% gravel, fine to coarse, angular to subrounded, ~15% fines, non plastic; max. gravel size 0.75", moderate organic-like odor, wet, dark brown to black, shell fragments, trace organics, loose.
	40	S8	5/3.9	0.0				(39.5'- 50') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 1.25", slight organic-like odor, wet, gray to brown, tight.
-35							OLO	
	45	S9	5/3.3	0.0				
-40								
	50							End of Boring at 50 feet. Grout to surface.

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IN. = INCHES
FT. = FEET

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CLO = CHEMICAL LIKE ODOR
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CrLO= CREOSOTE LIKE ODOR
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SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_LOADING PLATFORM ADDITIONAL_GH.GPJ GEI TEMPLATE 11-7-13.GDT 7/29/19

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Ph. 3 RI Additional Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180

BORING LOG
PAGE 1 of 2
GPEC-SB407A

GROUND SURFACE ELEVATION (FT): 7.10 **LOCATION:** Area 2
NORTHING (FT): 688086 **EASTING (FT):** 651114 **TOTAL DEPTH (FT):** 50.0
DRILLED BY: Cascade Drilling / Evan Moraits **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 5/15/2017 - 5/15/2017
DRILLING DETAILS: Direct Push / Geoprobe 7822DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
5	0							(0'- 8') VACUUM / HAND CLEARED.
0	5							
-5	10	S1	2/0.8	0.0				(8'- 10') SILTY SAND (SM); ~60% sand, fine to coarse, ~35% fines, non plastic, ~5% gravel, fine to coarse, angular to subangular; max. gravel size 0.75", wet, brown, red brick and asphalt fragments, loose, FILL.
		S2	5/5	0.0				(10'- 15') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic to low plasticity, ~20% gravel, fine to coarse, angular to subangular; max. gravel size 1.25", wet, brown to dark brown, trace sheen on water, red brick and wood fragments, loose, FILL.
-10	15	S3	5/5	0.0				(15'- 20') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic to low plasticity, ~20% gravel, fine to coarse, angular to subangular; max. gravel size 1.25", wet, brown to dark brown, trace sheen on water, trace black staining, red brick and wood fragments, loose, FILL.
-15	20	S4	5/5	1.2			PLO	(20'- 21.2') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic to low plasticity, ~20% gravel, fine to coarse, angular to subangular; max. gravel size 1.25", moderate petroleum-like odor, wet, brown to dark brown, petroleum blebs, sheen, trace black staining, red brick and wood fragments, loose, FILL.
				0.5				
				0.7			PLO	
				7.0				
				24.4			PLO	
				4.0			PLO	
				2.7				(21.2'- 22.3') CLAY (CL); medium plasticity; moderate petroleum-like odor, wet, gray, petroleum blebs, sheen, tight.
				2.3			PLO	(22.3'- 22.8') SANDY CLAY (CL); ~70% fines, low to medium
	25							

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_LOADING PLATFORM ADDITIONAL_GH.GPJ GEI TEMPLATE 11-7-13.GDT 9/24/19

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110 Walt Whitman Road
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BORING LOG
PAGE 2 of 2
GPEC-SB407A

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
-20	25	S5	5/3.7	0.0				plasticity, ~30% sand, fine to coarse; moderate petroleum-like odor, wet, black, petroleum blebs, sheen, black staining, loose. (22.8'- 23') PEAT (PT); moderate petroleum-like odor, brown to black, sheen, meadow mat, organics, roots,. (23'- 25') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, fine to coarse, subangular to subrounded, ~10% fines, non plastic; max. gravel size 1", moderate petroleum-like odor, wet, black, petroleum blebs, sheen, black staining, loose.
-25	30	S6	5/5	0.0				(25'- 30') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, angular to subrounded, ~5% fines, non plastic; max. gravel size 1.5", wet, black staining, trace shell fragments, loose. (30'- 35') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; wet, gray, loose.
-30	35	S7	5/5	0.0				(35'- 40') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; wet, gray, loose.
-35	40	S8	5/5	0.0				(40'- 47.4') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; wet, gray to brown, loose.
-40	45	S9	5/3.7	0.0				(47.4'- 48.2') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 1.25", wet, brown, loose. (48.2'- 50') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; wet, brown, loose.
	50							End of Boring at 50 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_LOADING PLATFORM ADDITIONAL_GH.GPJ GEI TEMPLATE 11-7-13.GDT 9/24/19

GEI Consultants

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110 Walt Whitman Road
Suite 204
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New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Ph. 3 RI Additional Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180

BORING LOG
PAGE 1 of 2
GPEC-SB408A

GROUND SURFACE ELEVATION (FT): 6.80 **LOCATION:** Area 2
NORTHING (FT): 688177 **EASTING (FT):** 651086 **TOTAL DEPTH (FT):** 50.0
DRILLED BY: Cascade Drilling / Evan Moraits **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 6/8/2017 - 6/8/2017
DRILLING DETAILS: Direct Push / Geoprobe 7822DT Track Mounted Rig
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
5	0							(0'- 8') VACUUM / HAND CLEARED; black staining.
0	5							
-5	10	S1	2/1.2	0.0				(8'- 19.2') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic, ~20% gravel, fine to coarse, angular to subrounded; max. gravel size 1.5", wet, brown to dark brown, red brick, concrete, and wood fragments, loose, FILL.
		S2	5/4.8	0.0				
-10	15	S3	5/5	0.0				
-15	20	S4	5/3.6	0.0			NLO	(19.2'- 20') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to medium, ~30% fines, low plasticity, ~20% gravel, fine to coarse, angular to subangular; max. gravel size 1", slight naphthalene-like odor, wet, black staining, red brick and asphalt fragments, trace roots/organics, tight, FILL. (20'- 23.4') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to medium, ~30% fines, low plasticity, ~20% gravel, fine to coarse, angular to subangular; max. gravel size 1", wet, brown to black, black staining near base, red brick and asphalt fragments, trace roots/organics, tight, FILL. (23.4'- 25') SILTY SAND (SM); ~80% sand, fine to coarse, ~15%
	25							

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_LOADING PLATFORM ADDITIONAL_GH.GPJ GEI TEMPLATE 11-7-13.GDT 7/29/19

GEI Consultants

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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180

BORING LOG
PAGE 2 of 2
GPEC-SB408A

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	25	S5	5/5	0.0				fines, non plastic, ~5% gravel, fine to coarse, angular; max. gravel size 0.75", wet, black, black staining, trace sheen, slag, red brick and wood fragments, loose.
-20				0.0			NLO	
				0.0				(25'- 27.7') SILTY SAND (SM); ~80% sand, fine to coarse, ~15% fines, non plastic, ~5% gravel, fine to coarse, angular; max. gravel size 0.75", slight naphthalene-like odor, wet, brown to black, trace black staining, trace sheen, slag, red brick and wood fragments, loose.
				0.8			NLO	
				33.2				(27.7'- 30') CLAY WITH SAND (CL); ~80% fines, medium plasticity, ~20% sand, fine to coarse; strong naphthalene-like odor, wet, black staining, sheen, trace NAPL blebs, wood fragments, organics, coarse sand lense at 29.7', tight.
				82.8				
	30	S6	5/5	56.2			NLO	
				21.6				(30'- 31.3') CLAYEY SAND WITH GRAVEL (SC); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, angular to subrounded, ~20% fines, medium plasticity; max. gravel size 1.5", moderate naphthalene-like odor, wet, black staining, wood fragments.
-25				0.6				
				0.0				(31.3'- 35') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, subangular to subrounded; max. gravel size 1.75", wet, dark brown, loose.
				0.0				
				0.0				(35'- 40') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine, subrounded; max. gravel size 0.25", wet, tan to light gray, loose.
				0.0				
	35	S7	5/5	0.0				
-30								
	40	S8	5/4.4	0.0				(40'- 49.2') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, subrounded, ~5% fines, non plastic; max. gravel size 0.25", wet, gray to brown, loose.
-35								
	45	S9	5/4.6	0.0				
-40								
	50							(49.2'- 50') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines, non plastic; wet, tan, loose.
								End of Boring at 50 feet.
								Grout to surface.

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_LOADING PLATFORM ADDITIONAL_GH.GPJ GEI TEMPLATE 11-7-13.GDT 7/29/19

GEI Consultants

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CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG
PAGE 1 of 4
GPEC-SB501

GROUND SURFACE ELEVATION (FT): 36.99 **LOCATION:** Area 6
NORTHING (FT): 688240 **EASTING (FT):** 649081 **TOTAL DEPTH (FT):** 100.0
DRILLED BY: ADT / Dave Moon **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 12/29/2017 - 1/2/2018
DRILLING DETAILS: Sonic Coring / SonicSampDrill XL Max
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
35	0						GPEC-SB501 (7-8)	(0'- 8') VACUUM/HAND CLEARED.
	5							
30		S1	2/1.5	0.0				(8'- 11.6') SANDY SILT (MLS); ~60% fines, non plastic, ~40% sand, fine; dry, brown, loose.
	10	S2	10/7.2	0.0				(11.6'- 16') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to medium, ~30% gravel, fine to coarse, angular-subrounded, ~20% fines, low plasticity; max. gravel size 3", dry, brown-reddish brown, tight.
25	15							
20							GPEC-SB501 (17.5-18.5)	(16'- 17.3') SILTY GRAVEL WITH SAND (GM); ~50% gravel, fine to coarse, angular-subrounded, ~30% sand, fine to medium, ~20% fines, non plastic; max. gravel size 3", dry, brown, loose. (17.3'- 18.3') SILTY SAND (SM); ~80% sand, fine to medium, ~20% fines, non plastic; dry, brown, loose. (18.3'- 20') CLAYEY SAND WITH GRAVEL (SC); ~40% sand, fine to medium, ~30% gravel, fine to coarse, angular-subrounded, ~30% fines, low plasticity; max. gravel size 2", wet, brown, loose, wet at 18.6'.
	20	S3	10/3.5	0.0				(20'- 21.7') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, fine to medium, ~20% gravel, fine to coarse, angular-subrounded; max. gravel size 2", wet, brown, loose.
15								(21.7'- 24.8') CLAYEY GRAVEL (GC); ~70% gravel, fine to

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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

GEI Consultants, Inc. P.C. 110 Walt Whitman Road Suite 204 Huntington Station, New York 11746	CLIENT: National Grid - Greenpoint PROJECT: Phase 3 Remedial Investigation CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-3.1302	BORING LOG PAGE 2 of 4	GPEC-SB501

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	25							coarse, angular-subrounded, ~30% fines, low plasticity; max. gravel size 3", wet, gray, tight. (24.8'- 30') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, mostly fine to medium, ~10% gravel, fine to coarse, angular-subrounded, ~5% fines, non plastic; max. gravel size 1.5", wet, brown, loose.
5	30	S4	10/2.3	0.0				(30'- 40') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, mostly fine to medium, ~20% gravel, fine to coarse, subangular-subrounded, ~10% fines, non plastic; max. gravel size 2.5", wet, brown, loose.
0	35							
-5	40	S5	10/4.9	0.0				(40'- 60') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded-subangular, ~5% fines, non plastic; max. gravel size 1.5", wet, brown, loose.
-10	45							
-15	50	S6	10/4.3	0.0				

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ENVIRONMENTAL BORING LOG AREA 6&9 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

GEI Consultants

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110 Walt Whitman Road
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BORING LOG
PAGE 3 of 4
GPEC-SB501

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-20	55							
	60	S7	10/4.3	0.0				(60'- 73.8') NARROWLY GRADED SAND WITH GRAVEL (SP); ~75% sand, medium to coarse, ~25% gravel, fine to coarse, rounded-subrounded; max. gravel size 2.5", wet, brown, loose.
-25								
	65							
-30								
	70	S8	10/6.8	0.0				
-35								
	75							(73.8'- 78.4') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine to coarse; wet, orangey-brown, loose.
-40								(78.4'- 80') SILTY SAND (SM); ~60% sand, fine, ~40% fines, non plastic; wet, gray-brown, tight.
	80	S9	10/5.7	0.0				(80'- 87.5') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse, mostly fine to medium; wet, brown-gray, loose.
-45								

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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB501

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-50	85							(87.5'- 90') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine, ~30% fines, non plastic, ~20% gravel, fine; wet, reddish brown, tight.
	90	S10	10/7.5	0.0				(90'- 91.8') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine; wet, gray, loose.
-55								(91.8'- 100') CLAY (CL); ~100% fines, medium plasticity; moist, gray, some organic fibers, very tight.
-60	95							
	100						GPEC-SB501 (99-100)	End of Boring at 100 feet. Grout to surface.

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S_V = TORVANE PEAK

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BORING LOG
PAGE 1 of 5
GPEC-SB502

GROUND SURFACE ELEVATION (FT): 56.45 **LOCATION:** Area 6
NORTHING (FT): 688860 **EASTING (FT):** 648953 **TOTAL DEPTH (FT):** 120.0
DRILLED BY: ADT / Dave Moon **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 1/12/2018 - 1/12/2018
DRILLING DETAILS: Sonic Coring / SonicSampDrill XL Max
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
55	0						GPEC-SB502 (7-8)	(0'- 8') VACUUM/HAND CLEARED.	
50	5	S1	2/1.1	0.0				(8'- 10') SILTY SAND (SM); ~60% sand, fine to medium, ~30% fines, non plastic, ~10% gravel, fine to coarse, angular-subrounded; max. gravel size 1", dry, brown, red brick fragments, concrete fragments, asphalt fragments, loose, FILL.	
45	10	S2	10/1.8	0.0				(10'- 21.6') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, fine to coarse, angular-subrounded, ~10% fines, non plastic; max. gravel size 2.5", dry, brown, loose.	
40	15								
35	20	S3	10/4.3	0.0				(21.6'- 22.5') SILT (ML); ~90% fines, non plastic, ~10% sand, fine; dry, brown, tight. (22.5'- 23.5') SILTY SAND (SM); ~80% sand, fine to medium, ~20% fines, non plastic; dry, brown, loose.	

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BORING LOG

GPEC-SB502

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
30	25							(23.5'- 24.5') SILTY SAND (SM); ~60% sand, fine, ~40% fines, non plastic; dry, light brown, loose. (24.5'- 26.3') SANDY SILT (MLS); ~70% fines, non plastic, ~30% sand, fine; dry, brown, loose. (26.3'- 30') SILTY SAND (SM); ~60% sand, fine to medium, ~40% fines, non plastic; dry, brown, loose.	
25	30	S4	10/4.3	0.0				(30'- 33.1') SILT (ML); ~90% fines, non plastic, ~10% sand, fine; dry, brown, tight.	
20	35							(33.1'- 34.4') SILTY SAND (SM); ~75% sand, fine to medium, ~20% fines, non plastic, ~5% gravel, fine; dry, light brown, loose. (34.4'- 36.2') SILT (ML); ~85% fines, non plastic, ~10% sand, fine, ~5% gravel, fine; dry, brown, tight. (36.2'- 37.7') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to medium, ~20% gravel, fine to coarse, subangular-subrounded, ~20% fines, non plastic; max. gravel size 2", dry, light brown, loose. (37.7'- 40') SILT (ML); ~80% fines, non plastic, ~10% gravel, fine, ~10% sand, fine; dry, brown, tight.	
15	40	S5	10/5.9	0.0				(40'- 43.4') SILTY SAND (SM); ~60% sand, fine to medium, ~30% fines, non plastic, ~10% gravel, fine to coarse, subrounded; max. gravel size 2", dry, brown, loose. (43.4'- 47.7') SILT WITH SAND (ML); ~75% fines, non plastic to low plasticity, ~20% sand, fine, ~5% gravel, fine; dry, brown, tight.	
10	45							(47.7'- 48.5') BOULDERS AND COBBLES; drilled through rock. (48.5'- 55.6') SILTY SAND (SM); ~75% sand, fine to coarse, ~25% fines, non plastic; dry, brown, loose.	
5	50	S6	10/3	0.0					

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ENVIRONMENTAL BORING LOG AREA 6&9 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

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BORING LOG

GPEC-SB502

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
0	55							(55.6'- 60') SILTY GRAVEL WITH SAND (GM); ~40% gravel, fine to coarse, angular-subrounded, ~30% sand, fine to medium, ~30% fines, non plastic; max. gravel size 3", dry, light brown, loose.	
-5	60	S7	10/4.5	0.0			GPEC-SB502 (62-63)	(60'- 67.4') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~50% gravel, fine to coarse, rounded-subangular, ~40% sand, fine to coarse, ~10% fines, non plastic; max. gravel size 3", wet, brown, loose, wet at 63.3'.	
-10	65								
	70	S8	10/5.1	0.0				(67.4'- 71.6') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, rounded-subangular; max. gravel size 3", wet, brown, loose.	
-15								(71.6'- 76.1') NARROWLY GRADED SAND (SP); ~90% sand, medium to coarse, ~10% gravel, fine; wet, brown, loose.	
-20	75							(76.1'- 90') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines, non plastic; wet, brown, loose.	
	80	S9	10/6	0.0					
-25									

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GPEC-SB502

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-30	85								
	90	S10	10/4.8	0.0				(90'- 93.2') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse, rounded-subangular; max. gravel size 3", wet, brown, loose.	
-35									
								(93.2'- 110') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines, non plastic; wet, brown-tan, loose.	
-40	95								
	100	S11	10/6	0.0					
-45									
	105								
-50									
	110	S12	10/8.3	0.0			GPEC-SB502	(110'- 113') SILTY SAND (SM); ~60% sand, fine, ~40% fines, non plastic; wet, gray, loose.	
-55									

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BORING LOG
PAGE 5 of 5
GPEC-SB502

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-60	115						(112-113)	(113'- 120') CLAY (CL); ~100% fines, medium plasticity; wet, gray, organic/shells, tight.	
	120							End of Boring at 120 feet. Monitoring well GPEC-MW502 installed. Monitoring Well GPEC-MW502 installed.	

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GEI Consultants, Inc. P.C. 110 Walt Whitman Road Suite 204 Huntington Station, New York 11746	CLIENT: National Grid - Greenpoint PROJECT: Phase 3 Remedial Investigation CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-3.1302	BORING LOG PAGE 1 of 5 GPEC-SB503

GROUND SURFACE ELEVATION (FT): 55.13 LOCATION: Area 6
NORTHING (FT): 688751 EASTING (FT): 648617 TOTAL DEPTH (FT): 120.0
DRILLED BY: ADT / Dave Moon DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes DATE START / END: 1/10/2018 - 1/11/2018
DRILLING DETAILS: Sonic Coring / SonicSampDrill XL Max
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	0							GPEC-SB503 (7-8)	(0'- 8') VACUUM/HAND CLEARED.
50	5	S1	2/1.9	0.0					(8'- 10') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine to medium, ~10% gravel, fine to coarse, angular-subrounded, ~10% fines, non plastic; max. gravel size 1.5", dry, brown, loose.
45	10	S2	10/6.1	0.0					(10'- 26.8') SILTY SAND WITH GRAVEL (SM); ~45% sand, fine to medium, ~30% fines, non plastic, ~25% gravel, fine to coarse, angular-subangular; max. gravel size 2", dry, brown, loose.
40	15								
35	20	S3	10/2.3	0.0					

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GPEC-SB503

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30	25								(26.8'- 30') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines, non plastic; dry, grayish-brown, loose.
25	30	S4	10/4.7	0.0			OLO		(30'- 31.9') SILTY SAND (SM); ~50% sand, fine, ~45% fines, non plastic, ~5% gravel, fine; slight organic-like odor, dry, brown-gray, loose.
							OLO		(31.9'- 32.7') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines, non plastic; slight organic-like odor, dry, grayish-brown, loose.
20	35						OLO		(32.7'- 34.1') SILTY SAND (SM); ~50% sand, fine, ~45% fines, non plastic, ~5% gravel, fine; slight organic-like odor, dry, grayish-brown, loose. (34.1'- 40') GRAVELLY CLAY WITH SAND (CL); ~50% fines, low plasticity, ~30% gravel, fine to coarse, angular-subrounded, ~20% sand, fine; max. gravel size 1.5", dry, reddish brown to gray, tight, drilled through rock from 36.6'-38.3'.
15	40	S5	10/3.3	0.0					(40'- 43.3') CLAYEY SAND (SC); ~75% sand, fine to coarse, ~20% fines, low plasticity, ~5% gravel, fine; dry, brown, loose.
10	45								(43.3'- 50') BOULDERS AND COBBLES; drilled through rock.
5	50	S6	10/1.8	0.0				GPEC-SB503	(50'- 70') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, subangular-subrounded; max. gravel size 3", wet, brown, loose, wet at 54.2', pieces of boulders/cobbles in drill bit.

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GPEC-SB503

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								(53-54)	
0	55								
-5	60	S7	10/1.3	0.0					
-10	65								
-15	70	S8	10/1.7	0.0					(70'- 90') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subangular-subrounded; max. gravel size 2", wet, brown, loose.
-20	75								
-25	80	S9	10/3.6	0.0					

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BORING LOG
PAGE 4 of 5
GPEC-SB503

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-30	85								
-35	90	S10	10/5.1	0.0					(90'- 100') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, rounded-subrounded, ~10% fines, non plastic; max. gravel size 2", wet, brown, loose.
-40	95								
-45	100	S11	10/7	0.0					(100'- 103.1') NARROWLY GRADED SAND WITH GRAVEL (SP); ~70% sand, medium to coarse, ~30% gravel, fine to coarse, subrounded-subangular; max. gravel size 3", wet, brown, loose. (103.1'- 103.7') GRAVELLY SILT (ML); ~60% fines, non plastic, ~40% gravel, fine to coarse, subangular-subrounded; max. gravel size 3", wet, whitish-brown, tight. (103.7'- 107.1') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~25% gravel, fine to coarse, rounded-subangular, ~25% fines, non plastic; max. gravel size 3", wet, orangey-brown, loose. (107.1'- 110') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% gravel, fine to coarse, rounded-subrounded, ~15% fines, non plastic; max. gravel size 1.5", wet, orangey-brown, loose.
-50	105								
-55	110	S12	10/6.8	0.0					(110'- 115.9') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, fine, ~10% fines, non plastic; wet, orangey-brown, loose.

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MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB503

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-60	115							GPEC-SB503 (119-120)	(115.9'- 117.4') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to medium, ~20% gravel, fine to coarse, subangular-subrounded, ~20% fines, non plastic; max. gravel size 2", wet, brown, loose. (117.4'- 118.8') SILTY SAND (SM); ~60% sand, fine, ~40% fines, non plastic; wet, brown, tight. (118.8'- 120') SANDY SILT (MLS); ~60% fines, non plastic, ~40% sand, fine; wet, gray, shells/organics, tight.
	120								End of Boring at 120 feet. Grout to surface.

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JHS = JAR HEADSPACE PID READING (PPM)

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NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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IN. = INCHES
FT. = FEET

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TLO = TAR LIKE ODOR
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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

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GEI PROJECT NUMBER: 125180-3.1302

BORING LOG
PAGE 1 of 5
GPEC-SB504

GROUND SURFACE ELEVATION (FT): 52.85 **LOCATION:** Area 6
NORTHING (FT): 688580 **EASTING (FT):** 648935 **TOTAL DEPTH (FT):** 120.0
DRILLED BY: ADT / Dave Moon **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 1/3/2018 - 1/8/2018
DRILLING DETAILS: Sonic Coring / SonicSampDrill XL Max
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
50	0						GPEC-SB504 (7-8)	(0'- 8') VACUUM/HAND CLEARED.
45	5	S1	2/1.7	0.0				(8'- 15.1') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine, ~30% fines, non plastic, ~20% gravel, fine to coarse, angular-subrounded; max. gravel size 1.5", dry, brown, red brick fragments, asphalt fragments, wood fragments, tight, FILL.
40	10	S2	10/4.4	0.0				
35	15							(15.1'- 50') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% sand, fine to coarse, ~40% gravel, fine to coarse, angular-subrounded, ~10% fines, non plastic; max. gravel size 3", dry, brown, loose, drilled through several boulders/cobbles.
30	20	S3	10/2.6	0.0				

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ENVIRONMENTAL BORING LOG AREA 6&9 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

GEI Consultants, Inc. P.C. 110 Walt Whitman Road Suite 204 Huntington Station, New York 11746	CLIENT: National Grid - Greenpoint PROJECT: Phase 3 Remedial Investigation CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-3.1302	BORING LOG PAGE 2 of 5 GPEC-SB504

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
25	25							
	30	S4	10/4.3	0.0				
20	35							
15	40	S5	10/2.1	0.0				
10	45							
5	50	S6	10/3.8	0.0				(50'- 60') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, rounded-subrounded, ~10% fines, non plastic; max. gravel size 2", wet, brown, loose, wet at 54.4'.
0							GPEC-SB504	

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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

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ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	55						(53-54)	
-5								
	60	S7	10/6.7	0.0				(60'- 70') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, rounded-subrounded, ~5% fines, non plastic; max. gravel size 1.5", wet, brown, loose.
-10								
	65							
-15								
	70	S8	10/3.5	0.0				(70'- 90') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, rounded-subrounded, ~5% fines, non plastic; max. gravel size 2", wet, brown, loose.
-20								
	75							
-25								
	80	S9	10/5.8	0.0				

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ENVIRONMENTAL BORING LOG AREA 6&9 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

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GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB504

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-35	85							
	90	S10	10/5	0.0				(90'- 97.8') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, angular-subrounded; max. gravel size 3", wet, brown, loose.
-40								
	95							
-45								(97.8'- 113.2') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines, non plastic; wet, reddish brown, loose.
	100	S11	10/6.6	0.0				
-50								
	105							
-55								
	110	S12	10/7.7	0.0				

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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

GEI Consultants, Inc. P.C. 110 Walt Whitman Road Suite 204 Huntington Station, New York 11746	CLIENT: National Grid - Greenpoint PROJECT: Phase 3 Remedial Investigation CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-3.1302	BORING LOG PAGE 5 of 5 GPEC-SB504

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-60	115							(113.2'- 118.8') SILTY SAND (SM); ~60% sand, fine to medium, ~40% fines, non plastic to low plasticity; wet, gray, loose.
-65	120						GPEC-SB504 (119-120)	(118.8'- 120') CLAY (CL); ~90% fines, low to medium plasticity, ~10% sand, fine; moist, gray, tight.
								End of Boring at 120 feet. Grout to surface.

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GEI Consultants, Inc. P.C. 110 Walt Whitman Road Suite 204 Huntington Station, New York 11746	**CLIENT:** National Grid - Greenpoint **PROJECT:** Phase 3 Remedial Investigation **CITY/STATE:** Brooklyn, New York **GEI PROJECT NUMBER:** 125180-3.1302	**BORING LOG** **PAGE 1 of 5**	**GPEC-SB505**

GROUND SURFACE ELEVATION (FT): 49.45 **LOCATION:** Area 6
NORTHING (FT): 688500 **EASTING (FT):** 648740 **TOTAL DEPTH (FT):** 120.0
DRILLED BY: ADT / Dave Moon **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 1/8/2018 - 1/10/2018
DRILLING DETAILS: Sonic Coring / SonicSampDrill XL Max
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
45	0						GPEC-SB505 (7-8)	(0'- 8') VACUUM/HAND CLEARED.	
	5	S1	2/1.6	0.0				(8'- 12') SILTY SAND (SM); ~60% sand, fine to medium, ~30% fines, non plastic, ~10% gravel, fine to coarse, angular-subangular; max. gravel size 2", dry, tan to brown, red brick fragments, asphalt fragments, coal fragments, loose, FILL.	
40	10	S2	10/4.5	0.0				(12'- 14.2') SILTY SAND WITH GRAVEL (SM); ~40% sand, fine, ~30% gravel, fine to coarse, rounded-subrounded, ~30% fines, non plastic; max. gravel size 3", dry, brown, loose.	
35	15							(14.2'- 16.7') SILTY SAND (SM); ~60% sand, fine, ~40% fines, non plastic; dry, brown, loose.	
								(16.7'- 20') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; dry, brown, loose.	
30	20	S3	10/5.7	0.0				(20'- 25.3') SANDY CLAY WITH GRAVEL (CL); ~40% fines, low plasticity, ~30% gravel, fine to coarse, rounded-subrounded, ~30% sand, fine to medium; max. gravel size 2.5", dry, brown, tight.	

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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

GEI Consultants

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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB505

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
25	25							(25.3'- 26.5') SILTY SAND WITH GRAVEL (SM); ~40% sand, fine, ~30% gravel, fine to coarse, angular-subrounded, ~30% fines, non plastic; max. gravel size 3", dry, light brown, loose. (26.5'- 30') SILTY SAND WITH GRAVEL (SM); ~40% sand, fine to medium, ~30% gravel, fine to coarse, angular-subrounded, ~30% fines, non plastic; max. gravel size 3", dry, brown, loose.	
20	30	S4	10/4.3	0.0				(30'- 32.3') WIDELY GRADED GRAVEL WITH SAND (GW); ~80% gravel, fine to coarse, angular-subrounded, ~20% sand, fine to coarse; max. gravel size 3", dry, brown, loose.	
15	35							(32.3'- 40') SILTY SAND WITH GRAVEL (SM); ~40% sand, fine to medium, ~30% gravel, fine to coarse, subangular-subrounded, ~30% fines, non plastic; max. gravel size 4", dry, brown, loose, drilled through boulders/cobbles.	
10	40	S5	10/5.1	0.0				(40'- 42.5') WIDELY GRADED GRAVEL WITH SAND (GW); ~80% gravel, fine to coarse, rounded-subangular, ~20% sand, fine to coarse; max. gravel size 3", dry, brown, loose.	
5	45							(42.5'- 50') SANDY SILTY WITH GRAVEL (MLS); ~40% fines, non plastic, ~30% gravel, fine to coarse, subrounded-subangular, ~30% sand, fine; max. gravel size 3", dry, tan-brown, loose, drilled through boulders/cobbles.	
0	50	S6	10/4.8	0.0				(50'- 55.7') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, rounded-subrounded; max. gravel size 3", dry, brown, loose, wet at 55.3'.	

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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

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BORING LOG

GPEC-SB505

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-5	55						GPEC-SB505 (54-55)	(55.7'- 60') SILTY SAND (SM); ~70% sand, fine to medium, ~20% fines, non plastic, ~10% gravel, fine to coarse, rounded-subrounded; max. gravel size 1", wet, brown, loose.	
-10	60	S7	10/5.1	0.0				(60'- 63.3') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded; max. gravel size 1", wet, brown, loose.	
-15	65							(63.3'- 64.8') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines, non plastic; wet, light brown, loose. (64.8'- 80') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded-subangular; max. gravel size 1.5", wet, brown, loose.	
-20	70	S8	10/4.1	0.0					
-25	75								
-30	80	S9	10/0					(80'- 90') No recovery.	

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ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-35	85								
-40	90	S10	10/6.3	0.0				(90'- 92.4') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, rounded-subangular; max. gravel size 2", wet, brown, loose.	
-45	95							(92.4'- 98.1') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, fine to coarse, subangular-subrounded, ~10% fines, non plastic; max. gravel size 1.5", wet, brown, loose.	
-50	100	S11	10/6.1	0.0				(98.1'- 100') SILTY SAND (SM); ~60% sand, fine to medium, ~40% fines, non plastic; wet, brown to gray, tight. (100'- 110') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, non plastic, ~5% gravel, fine; wet, brown, loose.	
-55	105								
-60	110	S12	10/8	0.0				(110'- 112.7') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, non plastic, ~5% gravel, fine; wet, brown-gray, loose.	

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BORING LOG
PAGE 5 of 5
GPEC-SB505

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-65	115						GPEC-SB505 (113-114)	(112.7'- 114') SILTY SAND (SM); ~60% sand, fine to medium, ~40% fines, non plastic; wet, gray, loose. (114'- 120') CLAY (CL); ~100% fines, low to medium plasticity; wet, gray, some shells/organics, tight.	
-70	120							End of Boring at 120 feet. Monitoring well GPEC-MW505 installed. Monitoring Well GPEC-MW505D installed.	

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

GEI Consultants, Inc. P.C. 110 Walt Whitman Road Suite 204 Huntington Station, New York 11746	CLIENT: National Grid - Greenpoint PROJECT: Phase 3 Remedial Investigation CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-3.1302	BORING LOG PAGE 1 of 2	GPEC-SB506

GROUND SURFACE ELEVATION (FT): 39.45 LOCATION: Area 6
NORTHING (FT): 688380 EASTING (FT): 649091 TOTAL DEPTH (FT): 30.0
DRILLED BY: ADT / Dave Moon DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Crockett DATE START / END: 12/28/2017 - 12/28/2017
DRILLING DETAILS: Sonic Coring / SonicSampDrill XL Max
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION
35	0						(0'- 8') VACUUM/HAND CLEARED.
	5						
30		S1	2/2	0.0			(8'- 13') SILTY SAND (SM); ~75% sand, fine to coarse, mostly fine, ~20% fines, non plastic, ~5% gravel, fine to coarse, rounded-angular; max. gravel size 2", moist, brown.
	10	S2	5/3.9	0.0			
25							(13'- 16') SANDY SILT (MLS); ~60% fines, non plastic, ~30% sand, fine to coarse, mostly fine, ~10% gravel, fine to coarse, rounded-angular; max. gravel size 3", moist, brown.
	15	S3	5/4	0.0			(16'- 18') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, mostly medium, ~10% gravel, fine to coarse, rounded-angular, ~10% fines, non plastic; max. gravel size 3", wet, brown to grayish-brown, cobbles.
20							(18'- 21') SILT (SM); ~80% fines, non plastic, ~10% gravel, fine to coarse, rounded-angular, ~10% sand, fine to coarse; max. gravel size 1", moist, gray, tight.
	20	S4	5/2.6	0.0			(21'- 22') SANDY SILT (MLS); ~50% fines, non plastic, ~40% sand, fine to coarse, mostly fine, ~10% gravel, fine to coarse, rounded-angular; max. gravel size 0.75", moist, brown, tight.
							(22'- 30') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, mostly fine, ~20% gravel, fine to coarse, rounded-angular, ~10% fines, non plastic; max. gravel size 2", moist,

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JHS = JAR HEADSPACE PID READING (PPM)

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB506

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION
15	25	S5	5/3	0.0			brown.
10	30						End of Boring at 30 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

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GROUND SURFACE ELEVATION (FT): 37.59 LOCATION: Area 6
NORTHING (FT): 688299 EASTING (FT): 649012 TOTAL DEPTH (FT): 30.0
DRILLED BY: ADT / Dave Moon DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Crockett DATE START / END: 12/28/2017 - 12/28/2017
DRILLING DETAILS: Sonic Coring / SonicSampDrill XL Max
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION
	0						(0'- 8') VACUUM/HAND CLEARED.
35							
	5						
30		S1	2/2	0.0			(8'- 11') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, fine to coarse, rounded-angular, ~10% fines, non plastic; max. gravel size 3", moist, brown.
	10	S2	5/3.2	0.0			(11'- 15.5') SANDY SIT (MLS); ~60% fines, non plastic, ~30% sand, fine to coarse, mostly fine, ~10% gravel, fine to coarse, rounded-angular; max. gravel size 3", moist, tight.
25							
	15	S3	5/2.5	0.0			(15.5'- 16') Drilled through boulder. (16'- 22') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, mostly fine, ~20% gravel, fine to coarse, rounded-angular, ~20% fines, non plastic; max. gravel size 3", moist, brown.
20							
	20	S4	5/2.8	0.0			
15							(22'- 24') SILTY SAND (SM); ~80% sand, fine to coarse, mostly fine, ~15% fines, non plastic, ~5% gravel, fine to coarse, rounded-angular; max. gravel size 3", moist, gray.

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S_V = TORVANE PEAK

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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

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ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION
	25	S5	5/2.9	0.0			(24'- 26') Drilled through boulder.
10							(26'- 27') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, mostly medium, ~10% gravel, fine to coarse, rounded-angular, ~10% fines, non plastic; max. gravel size 3", moist, brown. (27'- 30') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, mostly medium, ~10% gravel, fine to coarse, rounded-angular, ~10% fines, non plastic; max. gravel size 3", moist, gray-brown.
	30						End of Boring at 30 feet. Grout to surface.

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GROUND SURFACE ELEVATION (FT): 39.11 LOCATION: Area 6
NORTHING (FT): 688326 EASTING (FT): 648975 TOTAL DEPTH (FT): 30.0
DRILLED BY: ADT / Dave Moon DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Crockett DATE START / END: 12/28/2017 - 12/28/2017
DRILLING DETAILS: Sonic Coring / SonicSampDrill XL Max
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION
35	0						(0'- 8') VACUUM/HAND CLEARED.
	5						
30		S1	2/2	0.0			(8'- 9') SILTY SAND (SM); ~70% sand, fine to coarse, mostly fine, ~20% fines, non plastic, ~10% gravel, fine to coarse, rounded-angular; max. gravel size 3", moist, brown.
	10	S2	5/3	0.0			(9'- 15') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, mostly fine, ~10% gravel, fine to coarse, rounded-angular, ~10% fines, non plastic; max. gravel size 2", moist, gray.
25	15	S3	5/2.6	0.0			(15'- 20') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, mostly fine, ~20% gravel, fine to coarse, rounded-angular, ~10% fines, non plastic; max. gravel size 3", moist, grayish-brown.
20	20	S4	5/3.6	0.0			(20'- 22') SANDY SILT (MLS); ~60% fines, non plastic, ~30% sand, fine to coarse, ~10% gravel, fine to coarse, rounded-angular; max. gravel size 3", dry, light brown. (22'- 25') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, mostly fine, ~10% gravel, fine to coarse, rounded-angular, ~10% fines, non plastic; max. gravel size 0.75", moist, brown.

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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

GEI Consultants

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110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB508

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION
	25	S5	5/1.7	0.0			(25'- 30') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, mostly fine, ~20% gravel, fine to coarse, rounded-angular, ~10% fines, non plastic; moist, grayish-brown.
10	30						End of Boring at 30 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

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GEI PROJECT NUMBER: 125180-3.1302

BORING LOG
PAGE 1 of 2
GPEC-SB509

GROUND SURFACE ELEVATION (FT): 39.33 **LOCATION:** Area 6
NORTHING (FT): 688311 **EASTING (FT):** 648912 **TOTAL DEPTH (FT):** 30.0
DRILLED BY: ADT / Dave Moon **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 12/29/2017 - 12/29/2017
DRILLING DETAILS: Sonic Coring / SonicSampDrill XL Max
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION
39	0						(0'- 8') VACUUM/HAND CLEARED.
35	5						
		S1	2/2	0.0			(8'- 15') SILTY SAND (SM); ~50% sand, fine to medium, ~40% fines, non plastic, ~10% gravel, fine to coarse, angular-subrounded; max. gravel size 1.5", dry, reddish brown, tight.
30	10	S2	5/1.5	0.0			
25	15	S3	5/5	0.0			(15'- 25') SILTY SAND WITH GRAVEL (SM); ~40% sand, fine to medium, ~30% gravel, fine to coarse, angular-subrounded, ~30% fines, non plastic; max. gravel size 2.5", dry, tan-brown, loose.
20	20	S4	5/5	0.0			

NOTES:

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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

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ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION
15	25	S5	5/5	0.0			(25'- 30') SILTY SAND WITH GRAVEL (SM); ~40% sand, fine to medium, ~30% gravel, fine to coarse, rounded-subangular, ~30% fines, non plastic; max. gravel size 3", dry, tan-brown, loose.
10	30						End of Boring at 30 feet. Grout to surface.

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CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

PAGE 1 of 2

GPEC-SB510

GROUND SURFACE ELEVATION (FT): 50.75 **LOCATION:** Area 6
NORTHING (FT): 688604 **EASTING (FT):** 648753 **TOTAL DEPTH (FT):** 30.0
DRILLED BY: ADT / Dave Moon **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 1/3/2018 - 1/3/2018
DRILLING DETAILS: Sonic Coring / SonicSampDrill XL Max
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION
50	0						(0'- 8') VACUUM/HAND CLEARED.
45	5						
		S1	2/1.8	0.0			(8'- 10') SILTY SAND (SM); ~50% sand, fine, ~40% fines, non plastic, ~10% gravel, fine to coarse, angular-subangular; max. gravel size 3", dry, brown, loose.
40	10	S2	10/NM	0.0			(10'- 22.1') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to medium, ~20% gravel, fine to coarse, angular-subrounded, ~20% fines, non plastic; max. gravel size 2.5", dry, brown, loose.
35	15						
30	20	S3	10/7.5	0.0			
							(22.1'- 26.4') SILTY SAND (SM); ~60% sand, fine, ~40% fines, non plastic; dry, brown, loose.

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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

GEI Consultants, Inc. P.C. 110 Walt Whitman Road Suite 204 Huntington Station, New York 11746	CLIENT: National Grid - Greenpoint PROJECT: Phase 3 Remedial Investigation CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-3.1302	BORING LOG PAGE 2 of 2 GPEC-SB510

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION
25	25						(26.4'- 27.8') SANDY SILT (MLS); ~60% fines, non plastic, ~40% sand, fine; moist, brown, tight. (27.8'- 30') CLAY WITH GRAVEL (CL); ~75% fines, low to medium plasticity, ~20% gravel, fine to coarse, subangular-subrounded, ~5% sand, fine; max. gravel size 3", moist, gray to reddish brown, tight.
	30						End of Boring at 30 feet. Grout to surface.

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GEI Consultants, Inc. P.C. 110 Walt Whitman Road Suite 204 Huntington Station, New York 11746	CLIENT: National Grid - Greenpoint PROJECT: Phase 3 Remedial Investigation CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-3.1302	BORING LOG PAGE 1 of 4	GPEC-SB511

GROUND SURFACE ELEVATION (FT): 23.58 LOCATION: Area 9
NORTHING (FT): 687541 EASTING (FT): 649293 TOTAL DEPTH (FT): 90.0
DRILLED BY: ADT / Dave Moon DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes and R.Crockett DATE START / END: 1/15/2018 - 1/16/2018
DRILLING DETAILS: Sonic Coring / SonicSampDrill XL Max
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
20	0							GPEC-SB511 (7-8)	(0'- 8') VACUUM/HAND CLEARED.
15	5	S1	2/2	0.2 1.4 1.6 1.7			PLO	GPEC-SB511 (9-10)	(8'- 10') SILTY SAND (SM); ~60% sand, fine to coarse, mostly fine, ~30% fines, non plastic, ~10% gravel, fine to coarse, rounded-angular; max. gravel size 3", slight petroleum-like odor, moist, red brick fragments, concrete fragments, glass, metal scrap, dark gray staining, FILL.
10	10	S2	10/2	0.2 0.0					(10'- 11') SILTY SAND (SM); ~60% sand, fine to coarse, mostly fine, ~30% fines, non plastic, ~10% gravel, fine to coarse, rounded-angular; max. gravel size 3", moist, red brick fragments, concrete fragments, glass, metal scrap, dark gray staining, FILL.
5	15								(11'- 27.2') SILTY SAND (SM); ~50% sand, fine to coarse, mostly fine, ~40% fines, non plastic, ~10% gravel, fine to coarse, rounded-angular; max. gravel size 1", wet, light gray to gray.
0	20	S3	10/4.3	0.0					

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S_V = TORVANE PEAK

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

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
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CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
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GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB511

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25								
-5									(27.2'- 38.5') PEAT (PT); ~100% fines; strong organic-like odor, moist, grayish brown to dark brown, meadow mat, roots/organics, tight.
	30	S4	10/5.9	0.0			OLO		
-10									
	35								
-15									(38.5'- 40') SILTY SAND (SM); ~50% sand, fine, ~40% fines, non plastic, ~10% gravel, fine to coarse, rounded-subrounded; max. gravel size 1", wet, gray, loose.
	40	S5	10/5	0.0			OLO		(40'- 44.5') SANDY CLAY WITH GRAVEL (CL); ~50% fines, low plasticity, ~30% sand, fine, ~20% gravel, fine to coarse, rounded-subangular; max. gravel size 3", moderate organic-like odor, wet, gray, loose.
-20									
	45								(44.5'- 47.8') CLAY (CL); ~100% fines, low to medium plasticity; moist, brownish-gray, tight.
-25									(47.8'- 49.3') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded-subangular, ~10% fines, non plastic; max. gravel size 1", wet, brownish-gray, loose.
	50	S6	10/5.8	0.0					(49.3'- 50') SILTY SAND (SM); ~70% sand, fine, ~30% fines, non plastic; wet, light reddish-brown, tight.
									(50'- 60') SILTY SAND (SM); ~50% sand, fine, ~40% fines, non plastic, ~10% gravel, fine to coarse, rounded-subangular; max. gravel size 2", wet, light reddish-brown to gray, tight.

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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

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BORING LOG
PAGE 3 of 4
GPEC-SB511

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-35	55								
	60	S7	10/6.4	0.0					(60'- 65.3') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines, non plastic; wet, brown, loose.
-40	65								(65.3'- 67.4') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to medium, ~20% gravel, fine to coarse, subrounded-subangular, ~20% fines, non plastic; max. gravel size 2", wet, brown, loose.
-45									(67.4'- 70') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~30% fines, non plastic, ~20% gravel, fine to coarse, rounded-angular; max. gravel size 2", moist, brown, some oxidation, very tight.
	70	S8	10/1.8	0.0					(70'- 84.7') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, rounded-subangular, ~10% fines, non plastic; max. gravel size 2.5", wet, brown, loose.
-50	75								
-55	80	S9	10/6.2	0.0					

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GPEC-SB511

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-60	85								(84.7'- 86.6') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine; wet, brown, loose. (86.6'- 88.5') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines, non plastic; wet, orangey-brown, loose.
-65	90							GPEC-SB511 (89-90)	(88.5'- 89.1') SILTY SAND (SM); ~75% sand, fine to medium, ~20% fines, non plastic, ~5% gravel, fine; wet, brown, loose. (89.1'- 90') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subangular-subrounded; max. gravel size 1", wet, orangey-brown, loose. End of Boring at 90 feet. Grout to surface.

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BORING LOG
PAGE 1 of 4
GPEC-SB512

GROUND SURFACE ELEVATION (FT): 25.84 **LOCATION:** Area 9
NORTHING (FT): 687695 **EASTING (FT):** 649226 **TOTAL DEPTH (FT):** 90.0
DRILLED BY: ADT / Dave Moon **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 1/16/2018 - 1/17/2018
DRILLING DETAILS: Sonic Coring / SonicSampDrill XL Max
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
25	0						PLO	GPEC-SB512 (4-5)	(0'- 8') VACUUM/HAND CLEARED; moderate petroleum-like odor, black staining.
20	5								
		S1	2/1.2	0.0					(8'- 10') CONCRETE.
15	10	S2	10/3.8	0.0 0.0 0.0 0.0 0.0 0.0 0.0					(10'- 16.9') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~30% fines, non plastic, ~20% gravel, fine to coarse, angular-subangular; max. gravel size 3", wet, brown with some white, gray, orange, red brick fragments, concrete fragments, wood fragments, loose, FILL.
10	15			1.1 0.7					(16.9'- 20') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~30% fines, non plastic, ~20% gravel, fine to coarse, angular-subangular; max. gravel size 3", wet, black, red brick fragments, concrete fragments, wood fragments, stained black, trace blue silty soil, loose, FILL.
5	20	S3	10/4	0.0 0.0 0.0 0.0			PLO		(20'- 30') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~30% fines, non plastic, ~20% gravel, fine to coarse, angular-subangular; max. gravel size 3", slight petroleum-like odor, wet, gray to dark brown, chunks/fragments of red brick and wood, clay pipe pieces, metal scrap, trace sheen, some black staining, loose, FILL.

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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

GEI Consultants, Inc. P.C. 110 Walt Whitman Road Suite 204 Huntington Station, New York 11746	CLIENT: National Grid - Greenpoint PROJECT: Phase 3 Remedial Investigation CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-3.1302	BORING LOG PAGE 2 of 4 GPEC-SB512

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
0	25			0.0 0.0 0.0 0.0 39.3 44.2			PLO	GPEC-SB512 (29-30)	
-5	30	S4	10/7.7	6.6 4.3 3.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0			PLO OLO		(30'- 30.6') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~30% fines, non plastic, ~20% gravel, fine to coarse, angular-subangular; max. gravel size 3", slight petroleum-like odor, wet, gray to dark brown, chunks/fragments of red brick and wood, clay pipe pieces, metal scrap, loose, FILL. (30.6'- 36.5') PEAT (PT); ~100% fines; strong organic-like odor, moist, brown, meadow mat, roots/fibers, organics.
-10	35								(36.5'- 38.7') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to medium, ~30% fines, low plasticity, ~20% gravel, fine to coarse, rounded-subrounded; max. gravel size 2", wet, gray, loose. (38.7'- 40') SILTY SAND (SM); ~60% sand, fine, ~30% fines, non plastic, ~10% gravel, fine to coarse, subrounded-subangular; max. gravel size 2.5", wet, reddish-brown to gray, loose. (40'- 40.7') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded-subangular; max. gravel size 1", wet, grayish-brown, loose. (40.7'- 50') SILTY SAND (SM); ~60% sand, fine, ~30% fines, non plastic, ~10% gravel, fine to coarse, subrounded-subangular; max. gravel size 3.5", wet, light brown, tight.
-15	40	S5	10/5.7	0.0					
-20	45								
-25	50	S6	10/5.9	0.0					(50'- 57.2') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~30% fines, non plastic, ~20% gravel, fine to coarse, subangular-subrounded; max. gravel size 3", wet, light brown, loose.

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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

GEI Consultants, Inc. P.C. 110 Walt Whitman Road Suite 204 Huntington Station, New York 11746	CLIENT: National Grid - Greenpoint PROJECT: Phase 3 Remedial Investigation CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-3.1302	BORING LOG PAGE 3 of 4 GPEC-SB512

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-30	55								(57.2'- 60') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine, ~30% fines, non plastic, ~20% gravel, fine to coarse, subangular-subrounded; max. gravel size 3", wet, brown, drilled through boulders/cobbles, tight.
-35	60	S7	10/2.1	0.0					(60'- 70') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~60% sand, fine to medium, ~30% gravel, fine to coarse, angular-subrounded, ~10% fines, non plastic; max. gravel size 2", wet, brown, drilled through several boulders/cobbles, loose.
-40	65								
-45	70	S8	10/1.3	0.0					(70'- 80') WIDELY GRADED GRAVEL (GW); ~90% gravel, fine to coarse, angular-subrounded, ~10% sand, fine to coarse; max. gravel size 3", wet, brown, loose.
-50	75								
-55	80	S9	10/1.7	0.0					(80'- 90') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, angular-subrounded, ~10% fines, non plastic; max. gravel size 3", wet, brown, loose.

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BORING LOG

GPEC-SB512

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-60	85							GPEC-SB512 (89-90)	
	90								End of Boring at 90 feet. Grout to surface.

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BORING LOG
PAGE 1 of 4
GPEC-SB513

GROUND SURFACE ELEVATION (FT): 33.50 **LOCATION:** Area 9
NORTHING (FT): 687846 **EASTING (FT):** 648475 **TOTAL DEPTH (FT):** 100.0
DRILLED BY: ADT / Dave Moon **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 1/18/2018 - 1/19/2018
DRILLING DETAILS: Sonic Coring / SonicSampDrill XL Max
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
30	0						GPEC-SB513 (7-8)	(0'- 8') VACUUM/HAND CLEARED.	
25	5	S1	2/1.4	0.0				(8'- 13.9') CLAYEY SAND (SC); ~60% sand, fine to medium, ~30% fines, low plasticity, ~10% gravel, fine to coarse, angular-subrounded; max. gravel size 1", moist, brown, tight.	
20	10	S2	10/6	0.0				(13.9'- 15.6') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, angular-subrounded; max. gravel size 3", dry, brown, loose. (15.6'- 16') BOULDER/COBBLE; drilled through a boulder/cobble. (16'- 21.6') SILTY SAND WITH GRAVEL (SM); ~40% sand, fine to medium, ~30% gravel, fine to coarse, angular-subrounded, ~30% fines, non plastic; max. gravel size 3", dry, brown, drilled through boulders/cobbles, tight.	
15	15								
15	20	S3	10/4.8	0.0				(21.6'- 24.6') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine to medium, ~10% gravel, fine to coarse, subangular-subrounded, ~10% fines, non plastic; max. gravel size 3", dry, brown, loose.	
10									

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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

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BORING LOG

GPEC-SB513

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	25							(24.6'- 26.8') SILTY SAND (SM); ~75% sand, fine, ~20% fines, non plastic, ~5% gravel, fine; dry, brown, loose.	
5								(26.8'- 30') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~70% gravel, fine to coarse, angular-subrounded, ~20% sand, fine to medium, ~10% fines, non plastic; max. gravel size 3", dry, brown, drilled through several boulders/cobbles, loose.	
	30	S4	10/1.3	0.0				(30'- 40') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine, ~30% fines, non plastic, ~20% gravel, fine to coarse, angular-subangular; max. gravel size 2", wet, brown, tight, wet at 33.8'.	
0							GPEC-SB513 (33-34)		
	35								
-5									
	40	S5	10/4.8	0.0				(40'- 63.2') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subangular-subrounded; max. gravel size 3", wet, brown, loose.	
-10									
	45								
-15									
	50	S6	10/5.6	0.0					

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ENVIRONMENTAL BORING LOG AREA 6&9 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

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BORING LOG

GPEC-SB513

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-25	55								
	60	S7	10/5.9	0.0					
-30	65							(63.2'- 68.7') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, rounded-subrounded; max. gravel size 1.75", wet, brown, loose.	
-35	70	S8	10/5.8	0.0				(68.7'- 70') SILTY SAND (SM); ~75% sand, fine to medium, ~25% fines, non plastic; wet, yellowish-brown, tight. (70'- 80') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, fine to coarse, rounded-subrounded, ~10% fines, non plastic; max. gravel size 1", wet, brown, some oxidation near base, loose.	
-40	75								
-45	80	S9	10/6.7	0.0				(80'- 85.9') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine; wet, brown to orangey-brown, loose.	

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S_V = TORVANE PEAK

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FT. = FEET

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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB513

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-50	85						GPEC-SB513 (87-88)	(85.9'- 88.1') SILTY SAND (SM); ~60% sand, fine, ~40% fines, non plastic; wet, gray, tight.	
-55	90	S10	10/10	0.0				(88.1'- 89') CLAY WITH SAND (CL); ~80% fines, low to medium plasticity, ~20% sand, fine; wet, gray, tight. (89'- 100') CLAY (CL); ~100% fines, medium plasticity; wet, gray, some organics, tight.	
-60	95								
-65	100							End of Boring at 100 feet. Monitoring well GPEC-MW513 installed. Monitoring Well GPEC-MW513D installed.	

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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

GEI Consultants, Inc. P.C. 110 Walt Whitman Road Suite 204 Huntington Station, New York 11746	CLIENT: National Grid - Greenpoint PROJECT: Phase 3 Remedial Investigation CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-3.1302	BORING LOG PAGE 1 of 5	GPEC-SB514

GROUND SURFACE ELEVATION (FT): 38.38 LOCATION: Area 9
NORTHING (FT): 688117 EASTING (FT): 648385 TOTAL DEPTH (FT): 140.0
DRILLED BY: ADT / Dave Moon DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes DATE START / END: 1/19/2018 - 1/22/2018
DRILLING DETAILS: Sonic Coring / SonicSampDrill XL Max
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
35	0						GPEC-SB514 (7-8)	(0'- 8') VACUUM/HAND CLEARED.	
	5								
30		S1	2/1.3	0.0				(8'- 12.8') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to medium, ~20% gravel, fine to coarse, angular-subangular, ~20% fines, non plastic; max. gravel size 3", dry, brown, loose.	
	10	S2	10/4.4	0.0					
25								(12.8'- 16.2') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, angular-subrounded, ~10% fines, non plastic; max. gravel size 1.5", dry, light reddish-brown, loose.	
	15							(16.2'- 20') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine, ~30% fines, non plastic, ~20% gravel, fine to coarse, angular-subrounded; max. gravel size 1", dry, brown, tight.	
20									
	20	S3	10/2.8	0.0				(20'- 32.9') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine, ~30% fines, non plastic, ~20% gravel, fine to coarse, angular-subrounded; max. gravel size 1", dry, reddish-brown, very tight.	
15									

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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB514

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	25								
	30	S4	10/5.2	0.0					
5	35							(32.9'- 38.1') SILTY GRAVEL WITH SAND (GM); ~40% gravel, fine to coarse, subrounded-subangular, ~30% sand, fine to medium, ~30% fines, non plastic; max. gravel size 3", dry, brown to reddish brown, loose.	
0	40	S5	10/4	0.0				(38.1'- 42.3') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~30% fines, non plastic, ~20% gravel, fine to coarse, subangular-subrounded; max. gravel size 1", dry, brown, tight.	
-5	45						GPEC-SB514 (42-43)	(42.3'- 54.1') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, rounded-subrounded, ~10% fines, non plastic; max. gravel size 3", wet, brown, loose, wet at 43.3'.	
-10	50	S6	10/4.1	0.0					

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BORING LOG

GPEC-SB514

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	55							(54.1'- 57.8') WIDELY GRADED GRAVEL WITH SAND (GW); ~80% gravel, fine to coarse, angular-subrounded, ~20% sand, fine to coarse; max. gravel size 3", wet, brown, drilled through boulders/cobbles, loose.	
-20								(57.8'- 60') SILTY GRAVEL WITH SAND (GM); ~50% gravel, fine to coarse, angular-subrounded, ~30% sand, fine to coarse, ~20% fines, non plastic; max. gravel size 3", wet, brown, loose.	
	60	S7	10/6.4	0.0				(60'- 68.3') WIDELY GRADED SAND (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded-subangular, ~5% fines, non plastic; max. gravel size 1.5", wet, brown, loose.	
-25									
	65								
-30								(68.3'- 70') SILTY SAND (SM); ~70% sand, fine to coarse, ~20% fines, non plastic, ~10% gravel, fine to coarse, rounded-subrounded; max. gravel size 2", wet, brown, tight.	
	70	S8	10/4.5	0.0				(70'- 80') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded-subangular; max. gravel size 1.5", wet, brown, loose.	
-35									
	75								
-40									
	80	S9	10/6	0.0				(80'- 86.3') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, rounded-subangular, ~10% fines, non plastic; max. gravel size 3", wet, brown, loose.	

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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

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BORING LOG

PAGE 4 of 5

GPEC-SB514

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-45	85							(86.3'- 87.1') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% gravel, fine; wet, orange-brown, loose. (87.1'- 91.8') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine, ~30% fines, non plastic, ~20% gravel, fine to coarse, rounded-subrounded; max. gravel size 2", wet, brown, tight.	
-50	90	S10	10/5.9	0.0					
-55	95							(91.8'- 98.7') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% sand, fine to coarse, ~40% gravel, fine to coarse, rounded-subangular, ~10% fines, non plastic; max. gravel size 2", wet, brown, loose.	
-60	100	S11	10/7	0.0				(98.7'- 100') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~30% fines, non plastic, ~20% gravel, fine to coarse, rounded-subrounded; max. gravel size 1", wet, brown, tight. (100'- 107.3') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, mostly medium to coarse, ~30% gravel, fine to coarse, rounded-subrounded, ~10% fines, non plastic; max. gravel size 1.5", wet, brown, loose.	
-65	105								
-70	110	S12	10/7.7	0.0			GPEC-SB514 (108-109)	(107.3'- 108.7') SILTY SAND (SM); ~50% sand, fine to medium, ~40% fines, non plastic, ~10% gravel, fine; wet, gray to brown, tight. (108.7'- 115.1') CLAY WITH SAND (CL); ~80% fines, low to medium plasticity, ~20% sand, fine; moist, gray, tight.	

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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

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BORING LOG

GPEC-SB514

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-75	115							(115.1'- 127.1') CLAY (CL); ~100% fines, medium plasticity; moist, gray, tight.	
-80	120	S13	10/8.2	0.0					
-85	125							(127.1'- 130') CLAY WITH GRAVEL (CL); ~70% fines, low to medium plasticity, ~20% gravel, fine to coarse, subangular-subrounded, ~10% sand, fine; max. gravel size 3", moist, gray to reddish brown, drilled through boulders/cobbles, tight.	
-90	130	S14	10/10	0.0				(130'- 138') CLAY (CL); ~85% fines, low to medium plasticity, ~10% sand, fine, ~5% gravel, fine to coarse, rounded-subangular; max. gravel size 1", moist, gray to black, organics, tight.	
-95	135								
-100	140							(138'- 140') CLAY (CL); ~100% fines, medium plasticity; moist, gray, tight.	
								End of Boring at 140 feet. Monitoring well GPEC-MW514 installed. Monitoring Well GPEC-MW514 installed.	

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BORING LOG
PAGE 1 of 4
GPEC-SB515

GROUND SURFACE ELEVATION (FT): 26.24 **LOCATION:** Area 9
NORTHING (FT): 687846 **EASTING (FT):** 649151 **TOTAL DEPTH (FT):** 90.0
DRILLED BY: ADT / Dave Moon **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 1/17/2018 - 1/18/2018
DRILLING DETAILS: Sonic Coring / SonicSampDrill XL Max
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
25	0						PLO	GPEC-SB515 (2-3)	(0'- 8') VACUUM/HAND CLEARED; moderate petroleum-like odor, black staining.
20	5								
		S1	2/1.5	0.0					(8'- 10') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to medium, ~30% fines, low plasticity, ~20% gravel, fine to coarse, angular-subangular; max. gravel size 3", moist, black, red brick fragments, concrete fragments, rubber pieces, wood fragments/fibers, glass fragments, metal scrap, black staining, loose, FILL.
15	10	S2	10/2.6	1.1			PLO		(10'- 15.8') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to medium, ~30% fines, low plasticity, ~20% gravel, fine to coarse, angular-subangular; max. gravel size 3", moderate petroleum-like odor, moist, black, red brick fragments, concrete fragments, rubber pieces, wood fragments/fibers/pieces, glass fragments, metal scrap, sheen, black staining, loose, FILL.
				2.3					
				4.8					
	15			15.4				GPEC-SB515 (15-16)	
10				2.6					(15.8'- 23.6') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine, ~30% fines, non plastic, ~20% gravel, fine to coarse, angular-subrounded; max. gravel size 2", wet, grayish-brown to black, red brick fragments, wood fragments, porcelain fragments, some black staining, tight, FILL.
				0.2					
	20	S3	10/6.1	0.2					
5				0.0					
				0.0					
				0.0					

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ENVIRONMENTAL BORING LOG AREA 6&9 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

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BORING LOG
PAGE 2 of 4
GPEC-SB515

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
0	25			0.0 0.0 0.0 0.0 0.0 0.0					(23.6'- 30') SILTY SAND (SM); ~50% sand, fine to medium, ~40% fines, non plastic, ~10% gravel, fine to coarse, subrounded-subangular; max. gravel size 3.5", wet, light brown, tight.
-5	30	S4	10/NM						(30'- 40') NO RECOVERY, rock lodged in drill bit.
-10	35								
-15	40	S5	10/3.1	0.0					(40'- 52.1') SILTY SAND (SM); ~70% sand, fine to coarse, ~20% fines, non plastic, ~10% gravel, fine to coarse, subangular-subrounded; max. gravel size 3", wet, brown, very loose.
-20	45								
-25	50	S6	10/4.6	0.0					(52.1'- 56.4') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30%

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ENVIRONMENTAL BORING LOG AREA 6&9 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

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ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	55								gravel, fine to coarse, subangular-subrounded; max. gravel size 3", wet, brown, loose.
-30									(56.4'- 57.1') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, subangular-subrounded, ~40% sand, coarse; max. gravel size 3", wet, brown, loose.
	60	S7	10/6.3	0.0					(57.1'- 68.3') WELL GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subangular-subrounded; max. gravel size 1", wet, light brown, loose.
-35									
	65								
-40									
	70	S8	10/5.4	0.0					(68.3'- 72.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded-subangular; max. gravel size 3", wet, light brown, loose.
-45									(72.3'- 76.2') NARROWLY GRADED SAND WITH GRAVEL (SP); ~60% sand, medium to coarse, ~40% gravel, fine to coarse, rounded-subrounded; max. gravel size 1.75", wet, light brown, loose.
	75								
-50									(76.2'- 78.2') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine to coarse, rounded-subrounded, ~5% fines, non plastic; max. gravel size 1", wet, yellowish-brown, loose.
	80	S9	10/6.4	0.0					(78.2'- 82.2') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, subangular-subrounded, ~10% fines, non plastic; max. gravel size 3", wet, light brown, loose.
-55									(82.2'- 83.1') WIDELY GRADED SAND (SW); ~95%

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S_V = TORVANE PEAK

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IN. = INCHES
FT. = FEET

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ENVIRONMENTAL BORING LOG AREA 689 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/2/19

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB515

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-60	85							GPEC-SB515 (89-90)	sand, fine to coarse, ~5% gravel, fine; wet, orange-brown, loose. (83.1'- 83.9') SILTY SAND (SM); ~50% sand, fine, ~40% fines, non plastic, ~10% gravel, fine; wet, brown, tight. (83.9'- 84.7') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine; wet, brown, loose. (84.7'- 90') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, ~10% fines, non plastic, ~5% gravel, fine; wet, orange-brown to brown, loose.
	90								End of Boring at 90 feet. Grout to surface.

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BORING LOG
PAGE 1 of 4
GPEC-SB516

GROUND SURFACE ELEVATION (FT): 22.39 **LOCATION:** Area 8
NORTHING (FT): 687984 **EASTING (FT):** 649426 **TOTAL DEPTH (FT):** 90.0
DRILLED BY: ADT / Tony Palomegue **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 4/3/2019 - 4/4/2019
DRILLING DETAILS: Sonic Coring / XL Max 170
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
20	0							GPEC-SB516 (3-4)	(0'- 8') VACUUM/HAND CLEARED.
15	5	S1	2/1.6	0.0					(8'- 14.8') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic to low plasticity, ~20% gravel, fine to coarse, angular to subangular; max. gravel size 1", dry, light brown, slightly tight, FILL.
10	10	S2	10/5.2	0.0					
				0.0					
				0.0					
	15			0.5				GPEC-SB516 (15.5-16.5)	(14.8'- 17.3') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic to low plasticity, ~20% gravel, fine to coarse, angular to subangular; max. gravel size 1", dry, red brick, concrete, and glass fragments, stained black, slightly tight, FILL.
5				0.0			OLO		(17.3'- 20') SILTY SAND (SM); ~60% sand, fine, ~40% fines, non plastic to low plasticity; slight organic-like odor, wet, grayish brown, loose.
	20	S3	10/5.4	0.0					(20'- 21.4') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subangular to subrounded; max. gravel size 1", wet, light brown, loose.
0									(21.4'- 30') SILTY SAND (SM); ~75% sand, fine to medium, ~20% fines, non plastic, ~5% gravel, fine to coarse, rounded; max. gravel size 2.5", wet, tan-brown, loose.

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

GEI Consultants, Inc. P.C. 110 Walt Whitman Road Suite 204 Huntington Station, New York 11746	CLIENT: National Grid - Greenpoint PROJECT: Phase 3 Remedial Investigation CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-3.1302	BORING LOG PAGE 2 of 4 GPEC-SB516

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-5	25								
	30	S4	10/1.8	0.0					(30'- 40') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, subangular to subrounded, ~5% fines, non plastic; max. gravel size 2", wet, light brown, loose.
-10	35								
-15									
	40	S5	10/5.8	0.0					(40'- 50') SILTY SAND (SM); ~70% sand, fine to medium, ~20% fines, non plastic, ~10% gravel, fine to coarse, subrounded to rounded; max. gravel size 2.5", wet, tan-brown, loose.
-20									
-25	45								
	50	S6	10/2.6	0.0					(50'- 62.8') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine to medium, ~10% gravel, fine to coarse, subangular to subrounded, ~10% fines, non plastic; max. gravel size 3", wet, light brown, loose.
-30									

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB516

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-35	55								
	60	S7	10/5.4	0.0					(62.8'- 64.8') NARROWLY GRADED SAND WITH GRAVEL (SP); ~60% sand, coarse, ~40% gravel, fine to coarse, subrounded; max. gravel size 1.5", wet, light tan, loose.
-40									(64.8'- 67.2') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines, non plastic; wet, orange brown, loose.
	65								
-45									(67.2'- 70.5') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine; wet, light brown, loose.
	70	S8	10/6.8	0.0				GPEC-SB516 (69.4-70.4)	
-50									(70.5'- 90') CLAY (CL); ~95% fines, low to medium plasticity, ~5% gravel, fine to coarse, angular; max. gravel size 2", moist, gray, very tight.
	75								
-55									
	80	S9	10/7.1	0.0					
-60									

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BORING LOG

GPEC-SB516

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-65	85								
	90								End of Boring at 90 feet. Grout to surface.

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BORING LOG
PAGE 1 of 2
GPEC-SB517

GROUND SURFACE ELEVATION (FT): 19.53 **LOCATION:** Area 8
NORTHING (FT): 688078 **EASTING (FT):** 649597 **TOTAL DEPTH (FT):** 40.0
DRILLED BY: ADT / Tony Palomegue **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 4/3/2019 - 4/3/2019
DRILLING DETAILS: Sonic Coring / XL Max 170
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
15	0						PLO	GPEC-SB517 (3-4)	(0'- 8') VACUUM/HAND CLEARED; slight petroleum-like odor, gray to black staining.
	5								
10	10	S1	2/1.5	0.0					(8'- 9.1') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to subrounded, ~10% fines, non plastic; max. gravel size 3", dry, light brown, loose.
		S2	10/4.7	0.0					(9.1'- 10') CLAYEY SAND WITH GRAVEL (SC); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to subrounded, ~20% fines, low plasticity; max. gravel size 2", grayish brown.
5	15			0.0					(10'- 14.6') CLAY WITH SAND AND GRAVEL (CL); ~50% fines, low plasticity, ~30% gravel, fine to coarse, angular to subrounded, ~20% sand, fine to medium; max. gravel size 1.5", wet, brown, loose.
				117.4			PLO		(14.6'- 16.9') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, subangular to subrounded; max. gravel size 2", moderate petroleum-like odor, dry, brown, stained black from 15.9-16.4', loose.
0	20			22.4					
				20.6			PLO		(16.9'- 20') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to subrounded, ~20% fines, non plastic; max. gravel size 1", slight petroleum-like odor, dry, grayish brown, loose.
		S3	10/5.4	96.9			NLO		(20'- 25.7') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded; max. gravel size 1", moderate naphthalene-like odor, wet, stained black, trace NAPL blebs, loose.
				56.5					

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

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BORING LOG

GPEC-SB517

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-5	25			35.2			NLO		(25.7'- 28.8') NARROWLY GRADED SAND (SP); ~100% sand, fine to medium; slight naphthalene-like odor, wet, grayish brown, loose.
				9.8			NLO		(28.8'- 32.3') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium to coarse, ~20% gravel, fine; wet, light brown, loose.
-10	30			0.0					
		S4	10/3.3	0.0					(32.3'- 36.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, subrounded to rounded; max. gravel size 2.5", wet, brown, loose.
-15	35								(36.3'- 40') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded to rounded; max. gravel size 2.5", wet, light brown, loose.
-20	40								End of Boring at 40 feet. Grout to surface.

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BORING LOG
PAGE 1 of 2
GPEC-SB518

GROUND SURFACE ELEVATION (FT): 15.46 **LOCATION:** Area 8
NORTHING (FT): 688033 **EASTING (FT):** 649707 **TOTAL DEPTH (FT):** 50.0
DRILLED BY: ADT / Tony Palomegue **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 4/2/2019 - 4/2/2019
DRILLING DETAILS: Sonic Coring / XL Max 170
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
15	0						PLO	GPEC-SB518 (4-5)	(0'- 8') VACUUM/HAND CLEARED; moderate petroleum-like odor, gray to black staining.
10	5								
		S1	2/0.7	1.1					(8'- 10') CLAY WITH SAND (CL); ~75% fines, low plasticity, ~20% sand, fine to medium, ~5% gravel, fine to coarse, angular; max. gravel size 1", dry, brown to gray.
				14.7					
5	10	S2	10/7.7	59.4					(10'- 16.7') CLAY WITH SAND (CL); ~75% fines, low plasticity, ~20% sand, fine to medium, ~5% gravel, fine to coarse, angular; max. gravel size 1", strong petroleum-like odor, moist, brown to gray.
				66.6					
0	15			294.4			PLO		
				1,247					
				503					
				3,569			PLO		(16.7'- 18.3') CLAY (CL); ~90% fines, low plasticity, ~10% gravel, fine to coarse, angular to subangular; max. gravel size 1", strong petroleum-like odor, wet, brown to gray, tight.
				15,000			NLO		(18.3'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to subrounded; max. gravel size 2", moderate naphthalene-like odor, wet, stained black, loose.
-5	20	S3	10/4.8	400.4			NLO		(20'- 27.2') SILTY SAND (SM); ~60% sand, fine, ~35% fines, non plastic, ~5% gravel, fine; moderate naphthalene-like odor, wet, grayish brown, slightly tight.
				724.6					

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

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BORING LOG
PAGE 2 of 2
GPEC-SB518

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-10	25			227.2			NLO		(27.2'- 28.4') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse; moderate naphthalene-like odor, wet, grayish brown, loose.
				388.8			NLO		(28.4'- 30') SILT WITH SAND (ML); ~80% fines, non plastic, ~20% sand, fine; moderate naphthalene-like odor, wet, grayish brown, loose.
				140.6			NLO		(30'- 40') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse, subangular to subrounded; max. gravel size 2.5", wet, light brown, loose, rock stuck in bit.
-15	30	S4	10/1.2	0.0					
-20	35								
-25	40	S5	10/4.5	0.0					(40'- 42.9') WIDELY GRADED GRAVEL WITH SAND (GW); ~70% gravel, fine to coarse, subangular to subrounded, ~30% sand, fine to coarse; max. gravel size 3", wet, light brown, loose.
									(42.9'- 50') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse; wet, light brown, loose.
-30	45								
	50								End of Boring at 50 feet. Grout to surface.

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New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG
PAGE 1 of 4
GPEC-SB519

GROUND SURFACE ELEVATION (FT): 15.41 **LOCATION:** Area 8
NORTHING (FT): 688045 **EASTING (FT):** 649751 **TOTAL DEPTH (FT):** 100.0
DRILLED BY: ADT / Tony Palomegue **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 4/1/2019 - 4/2/2019
DRILLING DETAILS: Sonic Coring / XL Max 170
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
15	0							GPEC-SB519 (3-4)	(0'- 8') VACUUM/HAND CLEARED; black staining.
10	5								
		S1	2/2	0.1					(8'- 12.9') CLAY (CL); ~100% fines, non plastic to low plasticity; moderate organic-like odor, moist, gray to black, contains shells, loose.
5	10	S2	10/6.4	5.0			OLO		
				1.2					
				113.9			NLO		(12.9'- 15.1') SANDY CLAY (CL); ~60% fines, low plasticity, ~30% sand, fine to medium, ~10% gravel, fine to coarse, subrounded to rounded; max. gravel size 1.5", moderate naphthalene-like odor, stained black, sheen, NAPL blebs.
				366.6					
0	15			786.9			NLO	GPEC-SB519 (15.7-16.7)	(15.1'- 16.8') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded; max. gravel size 1.5", strong naphthalene-like odor, stained black, NAPL coated.
				1,546					
				1,023			NLO		(16.8'- 18.2') SILTY SAND (SM); ~60% sand, fine, ~40% fines, non plastic; strong naphthalene-like odor, gray.
				264.7			NLO		(18.2'- 20') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine; strong naphthalene-like odor, wet, gray, loose.
				162.9					
-5	20	S3	10/2.6						(20'- 24.2') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~20% fines, non plastic; max. gravel size 2", strong naphthalene-like odor, wet, gray, NAPL blebs, loose.
				116.7			NLO		

NOTES:

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NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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

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

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

ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB519

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-10	25			97.4			NLO		(24.2'- 30') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded; max. gravel size 1.5", moderate naphthalene-like odor, wet, gray, loose.
	30			72.6					
-15		S4	10/3.1	3.0					(30'- 36.8') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, subangular to subrounded, ~40% sand, fine to coarse; max. gravel size 2.75", wet, gray, loose.
-20	35			3.0					
									(36.8'- 40') SILTY SAND (SM); ~60% sand, fine, ~40% fines, non plastic; wet, gray, slightly tight.
	40			3.0					
-25		S5	10/5.1	0.0					(40'- 50') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse, subangular to subrounded; max. gravel size 3", wet, brown, loose.
-30	45								
-35	50	S6	10/6.3	0.0					(50'- 63.3') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine to coarse, subangular to subrounded; max. gravel size 1.25", wet, light brown, loose.

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-40	55								
-45	60	S7	10/5.3	0.0				GPEC-SB519 (62.2-63.2)	(63.3'- 88.4') CLAY (CL); ~100% fines, medium plasticity; moist, gray, very tight.
-50	65								
-55	70	S8	10/6.2	0.0					
-60	75								
-65	80	S9	10/6.1	0.0					

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-70	85								
-75	90	S10	10/2.9	0.0					(88.4'- 92.3') ORGANIC CLAY (OL); ~100% fines, low to medium plasticity; brown to black, fibrous, contains lignite, very tight.
-80	95								(92.3'- 100') CLAY (CL); ~95% fines, low to medium plasticity, ~5% gravel, fine; moist, gray, very tight.
	100								End of Boring at 100 feet. Grout to surface.

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BORING LOG
PAGE 1 of 3
GPEC-SB520

GROUND SURFACE ELEVATION (FT): 15.25 **LOCATION:** Area 8
NORTHING (FT): 688113 **EASTING (FT):** 649917 **TOTAL DEPTH (FT):** 80.0
DRILLED BY: ADT / Tony Palomegue **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 3/26/2019 - 4/1/2019
DRILLING DETAILS: Sonic Coring / XL Max 170
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
15	0								(0'- 8') VACUUM/HAND CLEARED; moderate naphthalene-like odor, solid NAPL fragments and black staining.
							NLO	GPEC-SB520 (3-4)	
10	5								
		S1	2/2	3.3					(8'- 9.1') CLAYEY SAND (SC); ~60% sand, fine, ~30% fines, low plasticity, ~10% gravel, fine to coarse, angular to subrounded; max. gravel size 1.5", moist, gray to brown, timber, stained black at base, FILL.
				2.9					
5	10	S2	5/3.1	2.4					(9.1'- 10') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic, ~20% gravel, fine to coarse, angular to subrounded; max. gravel size 1.5", dry, brown, concrete and red brick fragments, loose, FILL.
				5.1			NLO		
				29.3			NLO		(10'- 12.4') CLAYEY SAND (SC); ~60% sand, fine, ~30% fines, low plasticity, ~10% gravel, fine to coarse, angular to subrounded; max. gravel size 1", slight naphthalene-like odor, moist, gray to brown, red brick and concrete fragments, FILL.
				2.4					
0	15	S3	5/4.2	40.1					(12.4'- 14') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~30% fines, non plastic, ~20% gravel, fine to coarse, angular to subrounded; max. gravel size 2", moderate naphthalene-like odor, stained black.
				26.1			NLO		
				126.5					(14'- 15') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~30% fines, non plastic, ~20% gravel, fine to coarse, angular to subrounded; max. gravel size 2", light brown.
				393.5					
				415.5				GPEC-SB520 (19.5-20)	(15'- 18.7') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to rounded, ~10% fines, non plastic; max. gravel size 2.5", moderate naphthalene-like odor, wet, stained gray, sheen, NAPL blebs, loose.
-5	20	S4	5/2	157.6			NLO		
				56.8					(18.7'- 23.5') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse,
							NLO		

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BORING LOG
PAGE 2 of 3
GPEC-SB520

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
				18.1					~20% gravel, fine to coarse, subangular to rounded, ~10% fines, non plastic; max. gravel size 2.5", strong naphthalene-like odor, wet, stained black, sheen, NAPL blebs, loose.
-10	25	S5	5/2.4	6.2			NLO		(23.5'- 28.3') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines, non plastic; slight naphthalene-like odor, wet, gray to brown, loose.
				14.5					(28.3'- 30') SANDY SILT (MLS); ~70% fines, non plastic, ~30% sand, fine; wet, gray to brown, slightly tight.
				8.1					
-15	30	S6	5/2.6	14.0					(30'- 35') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine; wet, light brown, loose.
				5.2					
				2.6					
-20	35	S7	5/3	0.0					(35'- 37.5') NARROWLY GRADED SAND WITH GRAVEL (SP); ~60% sand, medium to coarse, ~40% gravel, fine to coarse, subangular to subrounded; max. gravel size 2", wet, brown, loose.
									(37.5'- 40') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% sand, fine to coarse, ~40% gravel, fine to coarse, subangular to subrounded, ~10% fines, non plastic; max. gravel size 2", wet, light brown, loose.
-25	40	S8	5/2.6	0.0					(40'- 43.5') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine to coarse, subangular to subrounded; max. gravel size 2", wet, light brown, loose.
									(43.5'- 45') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse, subangular to subrounded; max. gravel size 2", wet, light brown, loose.
-30	45	S9	5/3.3	26.2					(45'- 47.5') WIDELY GRADED SAND WITH CLAY (SW-SC); ~80% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded, ~10% fines, low plasticity; max. gravel size 1.5", wet, brown, loose.
				2.4					(47.5'- 55') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, subangular to subrounded; max. gravel size 2.5", wet, brown, loose.
				1.1					
				1.8					
-35	50	S10	5/3.8	0.0					

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BORING LOG

GPEC-SB520

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-40	55	S11	5/4.2	0.0				GPEC-SB520 (61.5-62.5)	(55'- 56.1') WIDELY GRADED GRAVEL WITH SAND (GW); ~70% gravel, fine to coarse, subangular to subrounded, ~30% sand, fine to coarse; max. gravel size 3", wet, light brown, loose. (56.1'- 57.1') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse, subrounded; max. gravel size 3", wet, brown, loose. (57.1'- 58.3') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~25% gravel, fine to coarse, subangular to subrounded, ~25% fines, non plastic; max. gravel size 3", wet, brown, loose. (58.3'- 60') WIDELY GRADED GRAVEL (GW); ~90% gravel, fine to coarse, subangular to subrounded, ~10% sand, fine to coarse; max. gravel size 2", wet, brown, loose. (60'- 62.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, subangular to subrounded; max. gravel size 2", wet, brown, loose. (62.3'- 62.7') SANDY CLAY (CL); ~60% fines, low to medium plasticity, ~40% sand, fine to coarse; wet, gray to brown, tight. (62.7'- 80') CLAY (CL); ~100% fines, low to medium plasticity; moist, gray, tight.
	60	S12	5/3.8	0.0					
-45									
	65	S13	5/2.3	0.0					
-50									
	70	S14	5/5	0.0					
-55									
	75	S15	5/5	0.0					
-60									
	80								End of Boring at 80 feet. Grout to surface.

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BORING LOG
PAGE 1 of 2
GPEC-SB521

GROUND SURFACE ELEVATION (FT): 15.51 **LOCATION:** Area 8
NORTHING (FT): 688159 **EASTING (FT):** 649958 **TOTAL DEPTH (FT):** 40.0
DRILLED BY: ADT / Tony Palomegue **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 4/2/2019 - 4/2/2019
DRILLING DETAILS: Sonic Coring / XL Max 170
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
15	0						NLO	GPEC-SB521 (4-5)	(0'- 8') VACUUM/HAND CLEARED; strong naphthalene-like odor, solid NAPL fragments and black staining.
10	5								
		S1	2/1.1	92.8 23.9			NLO		(8'- 10') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, angular to subrounded, ~20% fines, non plastic; max. gravel size 2", slight naphthalene-like odor, dry, light brown, loose.
5	10	S2	10/4.7	80.1 68.7 46.6 16.4 8.1 1.1			NLO		(10'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, angular to subrounded, ~5% fines, non plastic; max. gravel size 3", slight naphthalene-like odor, dry, light brown, loose.
0	15								
	20	S3	10/5.8	260.6 336.2			NLO		(20'- 23') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded; max. gravel size 2", moderate naphthalene-like odor, wet, grayish brown, lense of NAPL blebs at base, loose.
-5				228.4			NLO		(23'- 25.6') SILTY SAND (SM); ~60% sand, fine, ~40% fines, non plastic; slight naphthalene-like odor,

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BORING LOG

GPEC-SB521

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25			130.9			NLO		wet, grayish brown, loose.
-10				121.5					(25.6'- 26.6') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine; wet, light brown, loose.
				18.2					(26.6'- 27.9') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine; wet, light brown to reddish brown, loose.
				6.4					(27.9'- 30') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse; wet, light brown to tan, loose.
	30	S4	10/4.7	1.1					(30'- 32.9') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, subangular to subrounded; max. gravel size 3", wet, light brown, loose.
-15				0.0					
				0.0					(32.9'- 35') NARROWLY GRADED SAND (SP); ~100% sand, fine to medium; wet, light brown, loose.
	35			0.0					(35'- 37.7') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine; wet, light brown, loose.
-20				0.0					(37.7'- 40') WIDELY GRADED GRAVEL WITH SAND (GW); ~80% gravel, fine to coarse, subrounded to rounded, ~20% sand, fine to coarse; max. gravel size 2", wet, grayish brown, loose.
	40								End of Boring at 40 feet.
									Grout to surface.

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FT. = FEET

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG
PAGE 1 of 4
GPEC-SB522

GROUND SURFACE ELEVATION (FT): 15.65 **LOCATION:** Area 8
NORTHING (FT): 688109 **EASTING (FT):** 650082 **TOTAL DEPTH (FT):** 100.0
DRILLED BY: ADT / Dave Moon **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 4/18/2019 - 4/18/2019
DRILLING DETAILS: Sonic Coring / XL Max 170
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
15	0						NLO	GPEC-SB522 (3-4)	(0'- 8') VACUUM/HAND CLEARED; moderate naphthalene-like odor, black staining.
10	5								
		S1	2/1.8	0.0 3.1					(8'- 12.5') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~30% fines, non plastic, ~20% gravel, fine to coarse, angular to subangular; max. gravel size 3", dry, brown, red brick and wood fragments, clinkers, trace black staining mixed in, loose, FILL.
5	10	S2	10/6	0.0					
				0.0					(12.5'- 13.8') CLAY WITH SAND (CL); ~70% fines, low plasticity, ~25% sand, fine to coarse, ~5% gravel, fine; wet, gray, some black staining, loose.
0	15			4.5			NLO		(13.8'- 14.7') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded; max. gravel size 1", slight naphthalene-like odor, wet, stained black, loose.
				2.3					(14.7'- 19') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse, subangular to subrounded; max. gravel size 2.25", wet, light gray, loose.
				2.2					(19'- 20') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines, non plastic; wet, light gray, loose.
-5	20	S3	10/5.7	0.4					(20'- 23.6') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to subrounded; max. gravel size 3", wet, light gray, loose.
				1.2					

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BORING LOG
PAGE 2 of 4
GPEC-SB522

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-10	25			1.6					(23.6'- 30') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines, non plastic; wet, light gray, loose.
				2.8					
-15	30	S4	10/5.6	8.8			NLO	GPEC-SB522 (30-31)	(30'- 34') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, angular to subrounded, ~40% sand, coarse; max. gravel size 3", slight naphthalene-like odor, wet, stained gray to black, trace NAPL blebs, sheen on water, loose.
				2.7					
-20	35			0.9					(34'- 35.8') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, angular to subrounded, ~40% sand, coarse; max. gravel size 3", wet, tan-brown, loose.
				0.0					(35.8'- 42.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, subangular to subrounded; max. gravel size 2.5", wet, tan-brown, loose.
				0.0					
-25	40	S5	10/6	0.0					
-30	45								(42.5'- 44.4') SILTY GRAVEL (GM); ~70% gravel, fine to coarse, subangular to subrounded, ~20% fines, non plastic, ~10% sand, fine; max. gravel size 3", wet, gray, tight. (44.4'- 50') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines, non plastic; wet, light brown, loose.
-35	50	S6	10/6	0.0					(50'- 52.8') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine; wet, light brown to grayish-brown, loose.
									(52.8'- 56.3') SILTY SAND (SM); ~80% sand, fine,

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BORING LOG
PAGE 3 of 4
GPEC-SB522

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-40	55								~20% fines, non plastic; wet, light grayish-brown, loose.
									(56.3'- 58.3') SANDY SILT (MLS); ~60% fines, non plastic, ~40% sand, fine; wet, light grayish-brown, slightly tight.
									(58.3'- 60') SILTY SAND (SM); ~80% sand, fine, ~20% fines, non plastic; wet, light grayish-brown, loose.
-45	60	S7	10/6.1	0.0					(60'- 67.9') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine; wet, tan-brown, loose.
-50	65								
									(67.9'- 70') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine to medium, ~10% gravel, fine, ~10% fines, non plastic; wet, tan-brown, loose.
-55	70	S8	10/7.1	0.0					(70'- 72') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, subangular to rounded, ~40% sand, medium to coarse; max. gravel size 2.5", wet, light brown, loose. (72'- 74.5') SILTY SAND (SM); ~65% sand, fine to medium, ~30% fines, non plastic, ~5% gravel, fine; wet, light brown, loose.
-60	75								(74.5'- 75.6') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, subangular to subrounded, ~40% sand, fine to coarse; max. gravel size 2", wet, light brown, loose. (75.6'- 78.8') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, subangular to subrounded; max. gravel size 2", wet, light brown to reddish brown, loose.
-65	80	S9	10/5.8	0.0					(78.8'- 80') GRAVELLY CLAY WITH SAND (CL); ~50% fines, low plasticity, ~30% gravel, fine to coarse, angular to subangular, ~20% sand, fine to coarse; max. gravel size 3", moist, gray to reddish brown, tight. (80'- 81.7') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to

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BORING LOG

GPEC-SB522

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-70	85							GPEC-SB522 (85-86)	coarse, subangular to subrounded; max. gravel size 3", wet, light brown to grayish-brown, loose. (81.7'- 86') WIDELY GRADED GRAVEL WITH CLAY AND SAND (GW-GC); ~70% gravel, fine to coarse, subangular to subrounded, ~20% sand, fine to coarse, ~10% fines, low plasticity; max. gravel size 2.5", wet, gray, loose. (86'- 91.5') CLAY (CL); ~95% fines, low to medium plasticity, ~5% gravel, coarse, subrounded; max. gravel size 2.5", moist, gray, tight.
-75	90	S10	10/9	0.0					
							OLO		(91.5'- 93.5') ORGANIC CLAY (OL); ~100% fines, low plasticity; slight organic-like odor, wet, brown to black, organics and lignite, tight. (93.5'- 100') CLAY (CL); ~95% fines, low to medium plasticity, ~5% gravel, coarse, subangular to subrounded; max. gravel size 3", moist, gray, tight, silt lense from 8.9' - 9.2'.
-80	95								
	100								End of Boring at 100 feet. Grout to surface.

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BORING LOG
PAGE 1 of 2
GPEC-SB523

GROUND SURFACE ELEVATION (FT): 16.20 **LOCATION:** Area 8
NORTHING (FT): 688205 **EASTING (FT):** 650188 **TOTAL DEPTH (FT):** 30.0
DRILLED BY: ADT / Tony Palomegue **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 4/3/2019 - 4/3/2019
DRILLING DETAILS: Sonic Coring / XL Max 170
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
15	0						NLO	GPEC-SB523 (3-4)	(0'- 8') VACUUM/HAND CLEARED; slight naphthalene-like odor, black staining.
10	5								
		S1	2/2	0.0					(8'- 16.6') SANDY CLAY (CL); ~60% fines, low plasticity, ~40% sand, fine; moist, tan-brown, tight.
5	10	S2	10/5.6	0.0					
0	15						OLO		(16.6'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, subangular to subrounded; max. gravel size 2", slight organic-like odor, wet, grayish brown, loose.
-5	20	S3	10/3.3	0.0			OLO		(20'- 30') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, subangular to subrounded; max. gravel size 2", moderate organic-like odor, wet, gray, some organics and shells, loose.

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BORING LOG

GPEC-SB523

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-10	25						OLO		
	30								End of Boring at 30 feet. Grout to surface.

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BORING LOG
PAGE 1 of 3
GPEC-SB524

GROUND SURFACE ELEVATION (FT): 14.73 **LOCATION:** Area 8
NORTHING (FT): 688234 **EASTING (FT):** 650316 **TOTAL DEPTH (FT):** 80.0
DRILLED BY: ADT / Dave Moon **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 4/17/2019 - 4/17/2019
DRILLING DETAILS: Sonic Coring / XL Max 170
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	0							GPEC-SB524 (4-5)	(0'- 8') VACUUM/HAND CLEARED.
10	5								
		S1	2/0.9	0.0					(8'- 10') SILTY SAND (SM); ~80% sand, fine to medium, ~20% fines, non plastic; dry, tan-brown, loose.
5	10	S2	10/6.4	0.0					(10'- 12.9') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine to medium, ~10% gravel, fine to coarse, angular to subangular, ~10% fines, non plastic; max. gravel size 1.5", moist, tan-brown, loose.
							NLO		(12.9'- 16.5') SILTY SAND (SM); ~75% sand, fine to medium, ~20% fines, non plastic, ~5% gravel, fine to coarse, angular to subangular; max. gravel size 1", slight naphthalene-like odor, wet, light brown, loose.
0	15								(16.5'- 20') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines, non plastic; wet, tan-brown, loose.
-5	20	S3	10/4.5	4.2			NLO		(20'- 30') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, ~10% fines, non plastic, ~5% gravel, fine to coarse, subrounded; max. gravel size 3", slight naphthalene-like odor, wet, tan-brown, loose.

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BORING LOG

GPEC-SB524

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-10	25			3.3			NLO		
				16.3					
-15	30	S4	10/5.8	2.6					(30'- 40') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to subrounded, ~5% fines, non plastic; max. gravel size 3", slight naphthalene-like odor, wet, tan-brown, loose.
				0.8					
-20	35			10.6			NLO		
				24.5				GPEC-SB524 (39-40)	
-25	40	S5	10/5.8	0.8					(40'- 42.6') SILTY GRAVEL WITH SAND (GM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to subrounded, ~20% fines, non plastic; max. gravel size 2.5", slight naphthalene-like odor, wet, light brown, loose.
				2.8			NLO		(42.6'- 52.3') NARROWLY GRADED SAND WITH GRAVEL (SP); ~75% sand, medium to coarse, ~25% gravel, fine to coarse, subangular to rounded; max. gravel size 2.5", slight naphthalene-like odor, wet, light grayish-brown, loose.
-30	45			10.9					
				2.8					
				2.7			NLO		
-35	50	S6	10/7.5	3.0					
				2.6					
				0.8			NLO		(52.3'- 53.8') WIDELY GRADED SAND WITH CLAY AND GRAVEL (SW-SC); ~70% sand, fine to coarse,

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New York 11746

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PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG
PAGE 3 of 3
GPEC-SB524

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-40	55			0.0					~20% gravel, fine to coarse, subangular to subrounded, ~10% fines, low plasticity; max. gravel size 2", slight naphthalene-like odor, wet, tan-brown, loose. (53.8'- 55.3') CLAYEY SAND (SC); ~70% sand, fine to coarse, ~20% fines, low plasticity, ~10% gravel, fine to coarse, subangular to subrounded; max. gravel size 1.25", wet, tan-brown, loose. (55.3'- 60') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, subrounded to rounded, ~10% fines, non plastic; max. gravel size 3", wet, tan-brown, loose.
-45	60	S7	10/4.2	0.0					(60'- 67.6') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, angular to subrounded; max. gravel size 1", wet, tan-brown, loose.
-50	65								
-55	70	S8	10/6.9	0.0					(67.6'- 70') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~30% gravel, fine to coarse, subangular to subrounded, ~20% fines, non plastic; max. gravel size 3", wet, light brown, loose. (70'- 71.3') SILT WITH SAND (ML); ~80% fines, non plastic, ~20% sand, fine; wet, light purple-brown, loose. (71.3'- 73.3') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, fine, ~10% fines, non plastic; wet, tan-brown, loose. (73.3'- 74.3') SANDY SILT WITH GRAVEL (MLS); ~50% fines, non plastic, ~30% sand, fine, ~20% gravel, fine to coarse, subangular to subrounded; max. gravel size 2", wet, light purple-brown, tight. (74.3'- 80') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to subrounded, ~10% fines, non plastic; max. gravel size 2", wet, light brown, loose.
-60	75								
-65	80							GPEC-SB524 (79-80)	End of Boring at 80 feet. Grout to surface.

NOTES:

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REC = RECOVERY LENGTH OF SAMPLE
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JHS = JAR HEADSPACE PID READING (PPM)

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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

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

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

ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG
PAGE 1 of 2
GPEC-SB525

GROUND SURFACE ELEVATION (FT): 14.20 **LOCATION:** Area 8
NORTHING (FT): 688276 **EASTING (FT):** 650399 **TOTAL DEPTH (FT):** 30.0
DRILLED BY: ADT / Dave Moon **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 4/17/2019 - 4/17/2019
DRILLING DETAILS: Sonic Coring / XL Max 170
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
10	0						PLO	GPEC-SB525 (2-3)	(0'- 8') VACUUM/HAND-CLEARED; moderate petroleum-like odor, gray to black staining.
5	5								
		S1	2/0.3	0.0					(8'- 10') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, ~10% fines, non plastic, ~5% gravel, fine to coarse, angular to subangular; max. gravel size 1", dry, tan-brown, loose.
0	10	S2	10/4.6	0.0					(10'- 23.9') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, subangular to subrounded; max. gravel size 3", light brown to orange-brown, wet at 14', loose.
-5	15								
	20	S3	10/5.8	0.0					

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BORING LOG

GPEC-SB525

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-10	25								(23.9'- 26.4') NARROWLY GRADED SAND WITH GRAVEL (SP); ~60% sand, medium to coarse, ~40% gravel, fine to coarse, subangular to rounded; max. gravel size 2", wet, light brown, loose. (26.4'- 30') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse; wet, tan-brown, loose.
-15	30								End of Boring at 30 feet. Grout to surface.

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BORING LOG
PAGE 1 of 2
GPEC-SB526

GROUND SURFACE ELEVATION (FT): 15.46 **LOCATION:** Area 8
NORTHING (FT): 688311 **EASTING (FT):** 650278 **TOTAL DEPTH (FT):** 40.0
DRILLED BY: ADT / Dave Moon **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 4/17/2019 - 4/17/2019
DRILLING DETAILS: Sonic Coring / XL Max 170
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
15	0							GPEC-SB526 (1-2)	(0'- 8') VACUUM/HAND CLEARED.
10	5								
		S1	2/1.2	0.0 4.3 0.0					(8'- 13.6') SILTY SAND (SM); ~50% sand, fine to medium, ~40% fines, non plastic, ~10% gravel, fine; slight naphthalene-like odor, moist, stained black, loose.
5	10	S2	10/3.9	0.0			NLO		
				1.4					(13.6'- 16.8') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subangular to subrounded; max. gravel size 2.5", wet, light brown, loose.
0	15			98.3					(16.8'- 26.9') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subangular to subrounded; max. gravel size 2.5", moderate naphthalene-like odor, wet, stained gray to black, loose.
-5	20	S3	10/6.7	43.4			NLO		

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

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BORING LOG

GPEC-SB526

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-10	25			115			NLO		(26.9'- 28.5') SILTY SAND (SM); ~70% sand, fine to medium, ~30% fines, non plastic; wet, light brown to grayish-brown, loose.
				8.9					(28.5'- 40') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, subangular to subrounded; max. gravel size 3", wet, light brown, loose.
				0.0					
-15	30	S4	10/3.7	0.0					
-20	35								
	40								End of Boring at 40 feet. Grout to surface.

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BORING LOG
PAGE 1 of 3
GPEC-SB527

GROUND SURFACE ELEVATION (FT): 16.99 **LOCATION:** Area 8
NORTHING (FT): 688320 **EASTING (FT):** 650169 **TOTAL DEPTH (FT):** 80.0
DRILLED BY: ADT / Tony Palomegue **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 4/2/2019 - 4/3/2019
DRILLING DETAILS: Sonic Coring / XL Max 170
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
15	0						NLO	GPEC-SB527 (5-6)	(0'- 8') VACUUM/HAND CLEARED; slight naphthalene-like odor, solid NAPL fragments and black staining.
10	5								
5	10	S1	2/NM	252.7			NLO		(8'- 10') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic, ~20% gravel, fine to coarse, angular to subrounded; max. gravel size 1.5", moderate naphthalene-like odor, dry, stained black, loose, FILL. Could not measure recovery because sample got stuck in rod.
	10	S2	10/4.8	188.5			NLO		(10'- 15.7') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic, ~20% gravel, fine to coarse, angular to subrounded; max. gravel size 1.5", moderate naphthalene-like odor, dry, stained black, NAPL blebs, sheen, loose, FILL.
0	15			248.6					
				2,345			NLO		(15.7'- 16.9') WOOD; moderate naphthalene-like odor, stained balck, NAPL blebs, sheen, FILL.
				806.9			NLO		(16.9'- 20') SILT WITH SAND (ML); ~80% fines, non plastic, ~20% sand, fine; moderate naphthalene-like odor, stained gray to black, NAPL blebs, sheen.
-5	20	S3	10/5.2	15,000			NLO	GPEC-SB527 (21-22)	(20'- 22.4') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, subangular to subrounded, ~40% sand, fine to coarse; max. gravel size 3", strong naphthalene-like odor, wet, stained black, NAPL coated, loose.
				400.6			NLO		(22.4'- 26.6') CLAYEY SAND (SC); ~80% sand, fine to medium, ~20% fines, low plasticity; slight naphthalene-like odor, wet, grayish brown, loose.

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

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GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB527

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25			319.4			NLO		
-10				116.4					(26.6'- 36.7') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse; slight naphthalene-like odor, wet, tan-brown, loose.
	30			130.3					
		S4	10/2.3	31.5					
-15							NLO		
	35			18.6					
-20									(36.7'- 40') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse, subangular to subrounded; max. gravel size 2.5", wet, brown, loose.
				14.9					
	40	S5	10/5.3	0.0					(40'- 41.4') WIDELY GRADED GRAVEL (GW); ~90% gravel, fine to coarse, angular to subrounded, ~10% sand, fine to coarse; max. gravel size 3", wet, brown, loose.
-25									(41.4'- 55.1') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to subrounded; max. gravel size 2", wet, brown, loose.
	45								
-30									
	50	S6	10/5.1	0.0					
-35									

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BORING LOG

GPEC-SB527

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	55								(55.1'- 60') SILTY SAND (SM); ~60% sand, fine, ~40% fines, non plastic; wet, pinkish brown, loose.
-40									
	60	S7	10/5.8	0.0					(60'- 66') CLAYEY SAND (SC); ~80% sand, fine to coarse, ~20% fines, low plasticity; wet, light brown, loose.
-45									
	65								(66'- 70.7') CLAYEY SAND (SC); ~70% sand, fine, ~30% fines, low plasticity; wet, grayish brown, loose.
-50									
	70	S8	10/4.8	0.0					(70.7'- 76.4') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic to low plasticity; wet, light brown, loose.
-55									
	75							GPEC-SB527 (75.4-76.4)	(76.4'- 80') CLAY (CL); ~100% fines, medium plasticity; moist, gray, tight.
-60									
	80								End of Boring at 80 feet. Grout to surface.

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BORING LOG
PAGE 1 of 3
GPEC-SB528

GROUND SURFACE ELEVATION (FT): 15.78 **LOCATION:** Area 8
NORTHING (FT): 688377 **EASTING (FT):** 650258 **TOTAL DEPTH (FT):** 70.0
DRILLED BY: ADT / Dave Moon **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: C. Morris **DATE START / END:** 4/19/2019 - 4/19/2019
DRILLING DETAILS: Sonic Coring / XL Max 170
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
15	0							GPEC-SB528 (0.5-1.5)	(0'- 8') VACUUM/HAND CLEARED.
10	5								
		S1	2/1.8	0.0					(8'- 13.8') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to medium, ~20% gravel, fine to coarse, subrounded, ~20% fines, non plastic; wet, loose.
5	10	S2	10/5.1	0.0					
0	15			65.1					(13.8'- 16.6') CLAY (CL); ~80% fines, low plasticity, ~10% gravel, fine, ~10% sand, fine; moist, brown.
				31.6			NLO		(16.6'- 17.2') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, subangular, ~10% fines, non plastic; moderate naphthalene-like odor, wet, gray, trace staining.
				23.8			NLO		(17.2'- 20') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% gravel, coarse, subangular; slight naphthalene-like odor, wet, brown.
				18.7					
-5	20	S3	10/1.8	5.7					(20'- 35.7') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% gravel, coarse, subangular; wet, brown, loose.
				2.9					

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BORING LOG

GPEC-SB528

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25			0.0					
-10				0.0					
	30	S4	10/5.1	0.0					
-15				1.0					
				0.5					
				0.6					
	35			0.8					
-20				5.1			NLO		(35.7'- 39') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to subrounded; strong naphthalene-like odor, wet, brown.
				67.8					
				151.2					(39'- 43.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to subrounded; max. gravel size 4", strong naphthalene-like odor, wet, brown, sheen and NAPL blebs.
	40	S5	10/6	187.4			NLO		
-25				325.2					
				398.1					
				374.2					(43.5'- 46.8') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to subrounded; max. gravel size 4", strong naphthalene-like odor, wet, brown, slight NAPL coating.
	45			382.1			NLO		
-30				348.2					
				198.1					(46.8'- 50') SILTY SAND (SM); ~65% sand, fine to coarse, ~25% fines, non plastic, ~10% gravel, fine to coarse, subangular; strong naphthalene-like odor, wet, brown.
				34.2			NLO		
				1.4					
	50	S6	10/6	0.0					(50'- 58.8') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subangular, ~5% fines, non plastic; max. gravel size 3.5", wet, brown.
-35									

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IN. = INCHES
FT. = FEET

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB528

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-40	55								
	60	S7	10/8.2	0.0					(58.8'- 60') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to medium, ~10% fines, non plastic, ~5% gravel, fine; wet, brown. (60'- 64.5') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, subrounded, ~5% fines, non plastic; wet.
-45									
	65								(64.5'- 65.3') CLAY WITH SAND (CL); ~80% fines, low plasticity, ~15% sand, fine, ~5% gravel, fine; gray. (65.3'- 68.9') CLAY (CL); ~100% fines, low plasticity; dark gray, some silt lenses, dense and firm.
-50									
	70								(68.9'- 70') CLAY (CL); ~100% fines, low to medium plasticity; gray, some silt lenses. End of Boring at 70 feet. Grout to surface.

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BORING LOG
PAGE 1 of 3
GPEC-SB529

GROUND SURFACE ELEVATION (FT): 16.78 **LOCATION:** Area 8
NORTHING (FT): 688410 **EASTING (FT):** 650133 **TOTAL DEPTH (FT):** 80.0
DRILLED BY: ADT / Tony Palomegue **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 4/3/2019 - 4/3/2019
DRILLING DETAILS: Sonic Coring / XL Max 170
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
15	0						NLO	GPEC-SB529 (0.5-1.5)	(0'- 8') VACUUM/HAND CLEARED; moderate naphthalene-like odor, black staining.
10	5								
5	10	S1	2/1.5	0.0					(8'- 10') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subangular to subrounded; max. gravel size 2", dry, tan, loose.
	10	S2	10/4.3	8.2			NLO	GPEC-SB529 (11-12)	(10'- 12.5') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to subrounded, ~10% fines, non plastic; max. gravel size 3", slight naphthalene-like odor, dry, dark brown, loose.
0	15			2.1					(12.5'- 16.5') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subangular to subrounded; max. gravel size 1.75", dry, light brown, loose.
				0.0					(16.5'- 18.6') SILTY SAND (SM); ~70% sand, fine to medium, ~20% fines, non plastic, ~10% gravel, fine to coarse, subangular to subrounded; max. gravel size 0.75", dry, tan-brown, loose.
	20			0.0					(18.6'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, subangular to subrounded; max. gravel size 1.5", dry, light brown, loose.
-5		S3	10/4.3	0.0					(20'- 35.2') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, subangular to rounded; max. gravel size 3", wet, light brown, loose.

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB529

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-10	25								
	30	S4	10/3.8	0.0					
-15									
	35								(35.2'- 38.7') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse, subangular to rounded; max. gravel size 2.5", wet, light brown, loose.
-20									
	40	S5	10/6.5	0.0					(38.7'- 64.7') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse; wet, light brown, silt lense at 56.1', loose.
-25									
	45								
-30									
	50	S6	10/6.3	0.0					
-35									

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

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BORING LOG

GPEC-SB529

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-40	55								
	60	S7	10/4.9	0.0					
-45									
	65								(64.7'- 70') SILTY SAND (SM); ~70% sand, fine to medium, ~30% fines, non plastic; wet, light brown, loose.
-50									
	70	S8	10/7.1	0.0					(70'- 73.4') NARROWLY GRADED SAND (SP); ~100% sand, medium to coarse; wet, light brown, loose.
-55									(73.4'- 75.2') SANDY SILT (MLS); ~60% fines, non plastic, ~40% sand, fine; moist, light brown, tight.
	75								(75.2'- 78.7') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse; wet, light brown to orange-brown, loose.
-60									
	80							GPEC-SB529 (79-80)	(78.7'- 80') CLAYEY SAND (SC); ~70% sand, fine to medium, ~30% fines, low plasticity; moist, light brown, tight. End of Boring at 80 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

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GEI PROJECT NUMBER: 125180-3.1302

BORING LOG
PAGE 1 of 4
GPEC-SB530

GROUND SURFACE ELEVATION (FT): 18.06 **LOCATION:** Area 8
NORTHING (FT): 688593 **EASTING (FT):** 650183 **TOTAL DEPTH (FT):** 100.0
DRILLED BY: ADT / Dave Moon **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: C. Morris **DATE START / END:** 4/19/2019 - 4/19/2019
DRILLING DETAILS: Sonic Coring / XL Max 170
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	0						GPEC-SB530 (0.5-1.5)	(0'- 8') VACUUM/HAND CLEARED.
15								
	5							
10		S1	2/1.8	0.0				(8'- 9.1') SILTY SAND (SM); ~60% sand, fine to medium, ~30% fines, non plastic, ~10% gravel, fine to coarse; max. gravel size 2", dry, brown, contains brick, FILL.
	10	S2	10/3.5	0.0				(9.1'- 9.8') SILTY SAND (SM); ~70% sand, fine to medium, ~20% fines, non plastic, ~10% gravel, fine to coarse; dry, light brown to brown. (9.8'- 10') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine to medium, ~10% gravel, fine to coarse, ~10% fines, non plastic; max. gravel size 4", dry, light brown. (10'- 12.4') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% fines, non plastic, ~15% gravel, fine to coarse; dry, brown, loose. (12.4'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, ~5% fines, non plastic; max. gravel size 3", dry, light brown.
5								
	15							
0								
	20	S3	10/3	0.0			GPEC-SB530 (20-22)	(20'- 23.9') WIDELY GRADED SAND WITH GRAVEL (SW); ~50% gravel, fine to coarse, ~50% sand, fine to coarse; max. gravel size 3", wet, light brown, loose.
-5								

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

GEI Consultants, Inc. P.C. 110 Walt Whitman Road Suite 204 Huntington Station, New York 11746	CLIENT: National Grid - Greenpoint PROJECT: Phase 3 Remedial Investigation CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-3.1302	BORING LOG PAGE 2 of 4 GPEC-SB530

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25							(23.9'- 33.4') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine; wet, brown, loose.
-10								
	30	S4	10/6.9	0.0				
-15								(33.4'- 35.1') NARROWLY GRADED SAND WITH GRAVEL (SP); ~70% sand, medium to coarse, ~30% gravel, fine to coarse, subangular; max. gravel size 4", wet, light brown.
	35							(35.1'- 37.9') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine; wet, brown.
-20								(37.9'- 40') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines, non plastic; wet, light brown.
	40	S5	10/7.1	0.0				(40'- 46.9') SILTY SAND (SM); ~80% sand, fine to medium, ~20% fines, non plastic; wet, light brown.
-25								
	45							
-30								(46.9'- 47.6') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subangular; wet, brown, loose.
	50	S6	10/4.1	0.0				(47.6'- 63.1') WIDELY GRADED GRAVEL (GW); ~95% gravel, fine to coarse, subangular, ~5% fines, non plastic; max. gravel size 4", wet, brown, cobbles up to 5", loose.
-35								

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

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CLIENT: National Grid - Greenpoint
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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB530

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-40	55							
	60	S7	10/3.3	0.0				
-45								(63.1'- 67.7') WIDELY GRADED GRAVEL (GW); ~100% gravel, fine to coarse; max. gravel size 4", wet, dark brown, cobbles up to 5", loose.
	65							
-50								(67.7'- 70') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% gravel, fine to coarse, subrounded, ~20% fines, non plastic; wet, brown.
	70	S8	10/7.3	0.0				(70'- 72.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse, subangular; wet, brown, loose.
-55								(72.3'- 72.9') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, subangular; max. gravel size 4", wet, brown.
	75							(72.9'- 80') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% gravel, fine to coarse, subrounded, ~20% fines, non plastic; wet, brown.
-60								
	80	S9	10/4.8	0.0				(80'- 85.9') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subangular; wet, brown.

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

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BORING LOG

GPEC-SB530

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	85							(85.9'- 90') WIDELY GRADED SAND WITH GRAVEL (SW); ~50% gravel, fine to coarse, subangular to rounded, ~50% sand, fine to coarse; max. gravel size 4", wet, brown, cobbles up to 5", lense of angular gravel from 7.5-8.2'.
-70	90	S10	10/7.1	0.0			GPEC-SB530 (91-92)	(90'- 91.3') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subangular; wet, brown. (91.3'- 92.7') SILTY SAND (SM); ~80% sand, fine to medium, ~15% fines, non plastic, ~5% gravel, fine; wet, light brown to gray, contains organics, lense of peat. (92.7'- 93.4') CLAY (CL); ~100% fines, low to medium plasticity; light gray to brown, some silt, tight. (93.4'- 98.6') CLAY (CL); ~100% fines, low plasticity; dark gray, dense and tight.
-75	95							
-80	100							(98.6'- 100') ORGANIC CLAY (OL); ~100% fines, low to medium plasticity; organic matter and lignite, tight.
								End of Boring at 100 feet. Grout to surface.

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BORING LOG

PAGE 1 of 3

GPEC-SB531

GROUND SURFACE ELEVATION (FT): 16.41 **LOCATION:** Area 8
NORTHING (FT): 688648 **EASTING (FT):** 650033 **TOTAL DEPTH (FT):** 80.0
DRILLED BY: ADT / Dave Moon **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 4/23/2019 - 4/23/2019
DRILLING DETAILS: Sonic Coring / XL Max 170
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
15	0							GPEC-SB531 (4-5)	(0'- 8') VACUUM/HAND CLEARED.
10	5								
5	10	S1	2/NM						(8'- 10') NO RECOVERY.
0	15	S2	10/5.8	0.0					(10'- 22.9') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic, ~20% gravel, fine to coarse, subangular to subrounded; max. gravel size 3", light brown, slightly tight, wet at 15'.
-5	20	S3	10/2.9	0.0 0.0					(22.9'- 26.9') SILT WITH SAND AND GRAVEL (ML); ~60% fines, non plastic, ~20% gravel, fine to coarse,

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IN. = INCHES
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SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB531

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25			0.0					subangular to subrounded, ~20% sand, fine; max. gravel size 2", wet, light brown, tight.
-10				0.0					
				30.3			NLO		(26.9'- 30') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to subrounded, ~20% fines, non plastic; max. gravel size 2", moderate naphthalene-like odor, wet, light brown, NAPL blebs, loose.
	30	S4	10/NM						(30'- 40') NO RECOVERY - rock stuck in bit.
-15									
	35								
-20									
	40	S5	10/4.1						(40'- 43.3') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines, non plastic; moderate naphthalene-like odor, wet, gray-brown, trace NAPL blebs, loose.
-25				6.7			NLO		
				76.9			NLO	GPEC-SB531 (44-45)	(43.3'- 45.5') NARROWLY GRADED SAND (SP); ~90% sand, medium to coarse, ~10% gravel, fine; moderate naphthalene-like odor, wet, gray-brown, trace NAPL blebs, loose.
	45								
-30				6.4			NLO		(45.5'- 48.2') NARROWLY GRADED SAND WITH GRAVEL (SP); ~70% sand, medium to coarse, ~30% gravel, fine to coarse, subangular to subrounded; max. gravel size 2.5", slight naphthalene-like odor, wet, gray-brown, loose.
				3.1					(48.2'- 50') NARROWLY GRADED SAND WITH GRAVEL (SP); ~70% sand, medium to coarse, ~30% gravel, fine to coarse, subangular to subrounded; max. gravel size 2.5", wet, tan-brown, loose.
	50	S6	10/5.8	3.3					(50'- 70') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~50% gravel, fine, ~5% fines, non plastic; wet, light brown, loose.
-35				2.4					

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

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BORING LOG
PAGE 3 of 3
GPEC-SB531

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-40	55			1.1					
				0.0					
	60	S7	10/4.5	0.0					
-45									
	65								
-50									
	70	S8	10/6.3	0.0					(70'- 78.2') NARROWLY GRADED SAND WITH GRAVEL (SP); ~75% sand, medium to coarse, ~25% gravel, fine to coarse, subangular to subrounded; max. gravel size 2", wet, light brown, loose.
-55									
	75								
-60									
	80							GPEC-SB531 (79-80)	(78.2'- 80') SILTY SAND (SM); ~75% sand, fine to medium, ~25% fines, non plastic; wet, light brown, loose.
									End of Boring at 80 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

GEI Consultants, Inc. P.C. 110 Walt Whitman Road Suite 204 Huntington Station, New York 11746	CLIENT: National Grid - Greenpoint PROJECT: Phase 3 Remedial Investigation CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-3.1302	BORING LOG PAGE 1 of 4 GPEC-SB532

GROUND SURFACE ELEVATION (FT): 17.72 LOCATION: Area 8
NORTHING (FT): 688552 EASTING (FT): 649655 TOTAL DEPTH (FT): 100.0
DRILLED BY: ADT / Dave Moon DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes DATE START / END: 4/22/2019 - 4/22/2019
DRILLING DETAILS: Sonic Coring / XL Max 170
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
15	0						GPEC-SB532 (3-4)	(0'- 8') VACUUM/HAND CLEARED.
10	5	S1	2/1.1	0.0				(8'- 10') NARROWLY GRADED SAND WITH GRAVEL (SP); ~65% sand, fine to medium, ~30% gravel, fine to coarse, subangular to subrounded, ~5% fines, non plastic; max. gravel size 3", dry, tan, loose.
5	10	S2	10/3.2	0.0				(10'- 15') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~30% gravel, fine to coarse, subangular to subrounded, ~20% fines, non plastic; max. gravel size 3", dry, brown, loose.
0	15						GPEC-SB532 (16-17)	(15'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, subangular to subrounded; max. gravel size 3", tan-brown, loose, wet at 17'.
-5	20	S3	10/5.1	0.0				(20'- 25.2') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, subangular to subrounded; max. gravel size 2.5", wet, tan-brown, loose.

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BORING LOG

GPEC-SB532

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25							(25.2'- 27.5') WIDELY GRADED GRAVEL WITH SAND (GW); ~80% gravel, fine to coarse, subangular to subrounded, ~20% sand, medium to coarse; max. gravel size 3", wet, tan-brown, loose. (27.5'- 37.9') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium to coarse, ~20% gravel, fine to coarse, subangular to subrounded; max. gravel size 3", wet, tan-brown, loose.
-10								
	30	S4	10/5.3	0.0				
-15								
	35							
-20								(37.9'- 43.6') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% sand, fine to coarse, ~40% gravel, fine to coarse, subangular to rounded, ~10% fines, non plastic; max. gravel size 2", wet, light brown, loose.
	40	S5	10/5.8	0.0				
-25								(43.6'- 46.1') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium to coarse, ~20% gravel, fine to coarse, subangular to subrounded; max. gravel size 2", wet, light brown, loose. (46.1'- 48.6') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine to coarse, subangular to subrounded; max. gravel size 2", wet, light brown, loose. (48.6'- 50') SILTY SAND (SM); ~80% sand, fine to coarse, ~20% fines, non plastic; wet, light brown, loose.
	45							
-30								
	50	S6	10/7	0.0				(50'- 55.8') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subangular to subrounded; max. gravel size 2", wet, light brown, loose.
-35								

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

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BORING LOG
PAGE 3 of 4
GPEC-SB532

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	55							(55.8'- 58.6') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines, non plastic; wet, light brown, loose.
-40								(58.6'- 60') SILT WITH SAND (ML); ~80% fines, non plastic, ~20% sand, fine; wet, light reddish-brown, tight.
	60	S7	10/6.6	0.0				(60'- 64.1') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines, non plastic; wet, light brown, loose.
-45								
	65							(64.1'- 70') WIDELY GRADED SAND WITH GRAVEL (SW); ~55% sand, fine to coarse, ~45% gravel, fine to coarse, angular to rounded; max. gravel size 3", wet, light brown, loose.
-50								
	70	S8	10/6	0.0				(70'- 74.7') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse, subangular to subrounded; max. gravel size 3", wet, light brown, loose.
-55								
	75							(74.7'- 76.9') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines, non plastic; wet, light brown, loose.
-60								(76.9'- 82.2') NARROWLY GRADED SAND WITH GRAVEL (SP); ~60% sand, medium to coarse, ~40% gravel, fine to coarse, subangular to subrounded; max. gravel size 3", wet, light brown, loose.
	80	S9	10/7.7	0.0				
-65								(82.2'- 84.7') NARROWLY GRADED SAND WITH SILT

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

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ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	85						GPEC-SB532 (85-86)	(SP-SM); ~90% sand, fine to medium, ~10% fines, non plastic; wet, tan-brown, loose. (84.7'- 86.1') SILTY SAND (SM); ~75% sand, fine, ~25% fines, non plastic; wet, yellow-brown, loose.
-70								(86.1'- 88.7') CLAY WITH GRAVEL (CL); ~70% fines, low plasticity, ~25% gravel, fine to coarse, angular to subrounded, ~5% sand, fine; max. gravel size 3", moist, gray, some organics/lignite at base, black at base, tight. (88.7'- 90') SILT (ML); ~100% fines, non plastic; moist, gray, tight.
	90	S10	10/8.3	0.0				(90'- 97.6') SILT (ML); ~100% fines, non plastic; moist, greenish-gray, tight.
-75								
	95							
-80								(97.6'- 100') CLAY (CL); ~100% fines, low to medium plasticity; moist, gray, tight.
	100							End of Boring at 100 feet. Grout to surface.

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GROUND SURFACE ELEVATION (FT): 27.51 LOCATION: Area 8
NORTHING (FT): 688132 EASTING (FT): 649403 TOTAL DEPTH (FT): 100.0
DRILLED BY: ADT / Tony Palomegue DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes DATE START / END: 4/4/2019 - 4/4/2019
DRILLING DETAILS: Sonic Coring / XL Max 170
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
25	0						GPEC-SB533 (5)	(0'- 8') VACUUM/HAND CLEARED.
20	5	S1	2/1.7	0.0				(8'- 10') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, ~10% fines, non plastic, ~5% gravel, fine to coarse, subangular to subrounded; max. gravel size 1", dry, light brown, loose.
15	10	S2	10/5.9	0.0				(10'- 17.9') SILTY SAND (SM); ~70% sand, fine to medium, ~20% fines, non plastic, ~10% gravel, fine to coarse, subangular to subrounded; max. gravel size 1.5", dry, light brown, loose.
10	15						GPEC-SB533 (19-20)	(17.9'- 19.2') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, ~10% fines, non plastic, ~5% gravel, fine to coarse, subrounded; max. gravel size 1", dry, light brown, loose.
5	20	S3	10/1.7	0.0				(19.2'- 20') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines, non plastic; dry, light brown, loose.
								(20'- 30') NARROWLY GRADED SAND WITH GRAVEL (SP); ~70% sand, fine to medium, ~25% gravel, fine to coarse, subangular to subrounded, ~5% fines, non plastic; max. gravel size 3", wet, light brown, loose.

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

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BORING LOG

GPEC-SB533

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
0	25							
	30	S4	10/4.4	0.0				(30'- 30.9') NARROWLY GRADED GRAVEL (GP); ~100% gravel, coarse, subrounded to rounded; max. gravel size 3", wet, loose. (30.9'- 40') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to medium, ~30% gravel, fine to coarse, subangular to rounded, ~20% fines, low plasticity; max. gravel size 3", wet, tan-brown, tight.
-5	35							
-10	40	S5	10/2.9	0.0				(40'- 44.3') WIDELY GRADED GRAVEL WITH SAND (GW); ~70% gravel, fine to coarse, subangular to rounded, ~30% sand, fine to medium; max. gravel size 3", wet, brown, loose.
-15	45							(44.3'- 47.1') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subangular to subrounded; max. gravel size 1.5", wet, brown, loose.
-20	50	S6	10/NM					(47.1'- 50') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse, angular to subrounded; max. gravel size 2", wet, brown, loose. (50'- 60') NO RECOVERY.
-25								

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ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-30	55							
-35	60	S7	10/5.9	0.0				(60'- 70') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subangular to subrounded; max. gravel size 2.5", wet, tan-brown, loose.
-40	65							
-45	70	S8	10/3.2	0.0			GPEC-SB533 (71.1-72.1)	(70'- 72.1') NARROWLY GRADED SAND (SP); ~90% sand, medium to coarse, ~10% gravel, fine to coarse, subrounded; max. gravel size 1", wet, light brown, loose. (72.1'- 100') CLAY (CL); ~100% fines, medium plasticity; moist, gray, tight.
-50	75							
-55	80	S9	10/7.7	0.0				

NOTES:

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PID = PHOTOIONIZATION DETECTOR READING (PPM)
JHS = JAR HEADSPACE PID READING (PPM)

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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

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

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

ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB533

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	85							
-60								
	90	S10	10/7.2	0.0				
-65								
	95							
-70								
	100							End of Boring at 100 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

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BORING LOG
PAGE 1 of 4
GPEC-SB534

GROUND SURFACE ELEVATION (FT): 46.15 **LOCATION:** Area 8
NORTHING (FT): 688497 **EASTING (FT):** 649329 **TOTAL DEPTH (FT):** 110.0
DRILLED BY: ADT / Greg Rivera **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 4/5/2019 - 4/5/2019
DRILLING DETAILS: Sonic Coring / XL Max 170
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
45	0						GPEC-SB534 (5)	(0'- 8') VACUUM/HAND CLEARED.
40	5							
		S1	2/1.5	0.0				(8'- 13.8') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, ~10% fines, non plastic, ~5% gravel, fine to coarse, subangular to subrounded; max. gravel size 1", dry, light brown, loose.
35	10	S2	10/2.2	0.0				
30	15							(13.8'- 20') SILTY SAND (SM); ~75% sand, fine, ~20% fines, non plastic, ~5% gravel, fine to coarse, angular to subangular; max. gravel size 1", dry, tan-brown, loose.
25	20	S3	10/4.3	0.0				(20'- 25.5') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to medium, ~30% gravel, fine to coarse, subangular to subrounded, ~20% fines, low plasticity; max. gravel size 2.5", dry, light brown, slightly tight.

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S_V = TORVANE PEAK

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IN. = INCHES
FT. = FEET

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PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
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CrLO= CREOSOTE LIKE ODOR
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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

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CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB534

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
20	25							(25.5'- 30') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, subangular to subrounded; max. gravel size 2", dry, tan-brown, loose.
15	30	S4	10/4.6	0.0				(30'- 32.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, subangular to subrounded; max. gravel size 2.5", dry, tan-brown, loose.
								(32.5'- 34.4') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subangular to subrounded; max. gravel size 1.5", dry, tan-brown, loose.
10	35							(34.4'- 40') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine, ~10% gravel, fine to coarse, angular to subangular, ~10% fines, non plastic; max. gravel size 1", dry, light tan, loose.
5	40	S5	10/2.2	0.0				(40'- 50') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, non plastic, ~5% gravel, fine; light brown, wet at 47.6', loose.
0	45						GPEC-SB534 (46.5-47.5)	
-5	50	S6	10/4.8	0.0				(50'- 55.6') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines, non plastic; wet, light brown, slightly tight.

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB534

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-10	55							(55.6'- 62.3') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine to coarse, angular to subrounded; max. gravel size 1", wet, light brown, loose.
-15	60	S7	10/2.2	0.0				(62.3'- 75.2') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to subrounded, ~5% fines, non plastic; max. gravel size 3", wet, light brown, loose.
-20	65							
-25	70	S8	10/3.5	0.0				
-30	75							(75.2'- 80') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium to coarse, ~20% gravel, fine to coarse, subangular to subrounded; max. gravel size 1.75", wet, light brown, loose.
-35	80	S9	10/NM				GPEC-SB534 (79-80)	(80'- 90') NO RECOVERY.

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB534

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-40	85							
-45	90	S10	10/7.1	0.0				(90'- 109.3') CLAY (CL); ~95% fines, medium plasticity, ~5% gravel, coarse, angular; max. gravel size 2", moist, gray, tight.
-50	95							
-55	100	S11	10/7.2	0.0				
-60	105							
	110							(109.3'- 110') ORGANIC CLAY (OL); ~100% fines, low to medium plasticity; moist, black, contains lignite. End of Boring at 110 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG
PAGE 1 of 4
GPEC-SB535

GROUND SURFACE ELEVATION (FT): 49.69 **LOCATION:** Area 8
NORTHING (FT): 688662 **EASTING (FT):** 649275 **TOTAL DEPTH (FT):** 110.0
DRILLED BY: ADT / Dave Moon **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 4/16/2019 - 4/16/2019
DRILLING DETAILS: Sonic Coring / XL Max 170
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
45	0						GPEC-SB535 (5)	(0'- 8') VACUUM/HAND CLEARED.
	5							
		S1	2/2	0.0				(8'- 10') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, ~10% fines, non plastic, ~5% gravel, fine to coarse, angular to subrounded; max. gravel size 1.25", dry, light brown, loose.
40	10	S2	10/3.5	0.0				(10'- 20') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine to medium, ~10% gravel, fine to coarse, angular to subrounded, ~10% fines, non plastic; max. gravel size 1.25", dry, light brown, loose.
35	15							
30	20	S3	10/5.9	0.0				(20'- 26.2') NARROWLY GRADED SAND WITH CLAY (SP-SC); ~80% sand, fine to medium, ~10% gravel, fine to coarse, angular to subrounded, ~10% fines, low plasticity; max. gravel size 1.5", dry, light brown, loose.

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Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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

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TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

GEI Consultants, Inc. P.C. 110 Walt Whitman Road Suite 204 Huntington Station, New York 11746	CLIENT: National Grid - Greenpoint PROJECT: Phase 3 Remedial Investigation CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-3.1302	BORING LOG PAGE 2 of 4 GPEC-SB535

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
25	25							(26.2'- 33.5') SANDY SILT (MLS); ~70% fines, non plastic, ~30% sand, fine; dry, light brown, tight.
20	30	S4	10/4.1	0.0				
15	35							(33.5'- 37.1') SILTY SAND (SM); ~60% sand, fine to medium, ~40% fines, non plastic; dry, light brown, loose.
								(37.1'- 40') SANDY SILT (MLS); ~70% fines, non plastic, ~30% sand, fine; dry, light brown, tight.
10	40	S5	10/6.5	0.0				(40'- 56.9') SANDY SILT (MLS); ~50% fines, non plastic, ~30% sand, fine to medium, ~20% gravel, fine to coarse, angular to subrounded; max. gravel size 2.5", light brown, tight, wet at 7.1'.
5	45						GPEC-SB535 (46-47)	
0	50	S6	10/8.2	0.0				

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

GEI Consultants

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CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB535

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-5	55							
-10	60	S7	10/4.5	0.0				(56.9'- 64.3') SANDY CLAY WITH GRAVEL (CL); ~40% fines, low plasticity, ~30% gravel, fine to coarse, subangular to rounded, ~30% sand, fine to medium; max. gravel size 3", moist, gray, tight.
-15	65							(64.3'- 70') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, subangular to rounded, ~40% sand, medium to coarse; max. gravel size 3", wet, light brown, loose.
-20	70	S8	10/6	0.0				(70'- 82.8') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, subangular to subrounded, ~5% fines, non plastic; max. gravel size 2.25", wet, light brown, loose.
-25	75							
-30	80	S9	10/5.6	0.0			GPEC-SB535 (81.8-82.8)	

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

GEI Consultants	CLIENT: National Grid - Greenpoint	BORING LOG
GEI Consultants, Inc. P.C. 110 Walt Whitman Road Suite 204 Huntington Station, New York 11746	PROJECT: Phase 3 Remedial Investigation CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-3.1302	PAGE 4 of 4 GPEC-SB535

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-35	85							(82.8'- 87.2') CLAY WITH SAND AND GRAVEL (CL); ~60% fines, low plasticity, ~20% gravel, fine to coarse, angular to subrounded, ~20% sand, fine to medium; max. gravel size 3", moist, gray, tight.
								(87.2'- 88.7') ORGANIC CLAY (OL); ~100% fines, low plasticity; moist, black to gray, organics and lignite, tight.
-40	90	S10	10/7.8	0.0				(88.7'- 90') CLAY WITH SAND AND GRAVEL (CL); ~60% fines, low plasticity, ~20% gravel, fine to coarse, angular to subrounded, ~20% sand, fine to medium; max. gravel size 3", moist, gray, tight. (90'- 97.9') CLAY (CL); ~100% fines, medium plasticity; moist, gray, tight.
-45	95							
								(97.9'- 101.9') ORGANIC CLAY (OL); ~100% fines, low to medium plasticity; moist, black to gray, some lignite, tight.
-50	100	S11	10/7.2	0.0				
								(101.9'- 110') CLAY (CL); ~80% fines, low to medium plasticity, ~10% gravel, fine to coarse, subangular to subrounded, ~10% sand, fine; max. gravel size 2", moist, gray, tight.
-55	105							
-60	110							End of Boring at 110 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

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GEI PROJECT NUMBER: 125180-3.1302

BORING LOG
PAGE 1 of 4
GPEC-SB536

GROUND SURFACE ELEVATION (FT): 48.48 **LOCATION:** Area 8
NORTHING (FT): 688842 **EASTING (FT):** 649433 **TOTAL DEPTH (FT):** 110.0
DRILLED BY: ADT / Dave Moon **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 4/15/2019 - 4/15/2019
DRILLING DETAILS: Sonic Coring / XL Max 170
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
48	0						GPEC-SB536 (5)	(0'- 8') VACUUM/HAND CLEARED.
45	5							
40	10	S1	2/NM					(8'- 10') NO RECOVERY.
		S2	10/4.9	0.0				(10'- 15.9') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~30% gravel, fine to coarse, angular to subrounded, ~20% fines, non plastic; max. gravel size 3", dry, brown, red brick and concrete fragments, loose, FILL.
35	15							(15.9'- 20') SILTY SAND (SM); ~70% sand, fine to medium, ~20% fines, non plastic, ~10% gravel, fine to coarse, subangular to subrounded; max. gravel size 1.5", dry, light brown to orange-brown, loose.
30	20	S3	10/6.2	0.0				(20'- 22.9') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, fine to coarse, subangular to subrounded, ~10% fines, non plastic; max. gravel size 1.5", dry, tan-brown, loose.
25								(22.9'- 34.4') SILTY SAND (SM); ~70% sand, fine to medium, ~20% fines, non plastic, ~10% gravel, fine to

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NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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

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

ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB536

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	25							coarse, subangular to subrounded; max. gravel size 1.75", dry, light brown to orange-brown, slightly tight.
20	30	S4	10/6.8	0.0				
15	35							(34.4'- 34.9') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse, subangular to subrounded; max. gravel size 2.5", dry, light brown, loose. (34.9'- 48.2') SILT (ML); ~95% fines, non plastic, ~5% sand, fine; moist, light purple-brown, tight.
10	40	S5	10/10	0.0				
5	45							
0	50	S6	10/6.5	0.0			GPEC-SB536 (48-49)	(48.2'- 57.6') SILT WITH SAND (ML); ~70% fines, non plastic, ~20% sand, fine, ~10% gravel, fine to coarse, subrounded; max. gravel size 2.5", wet, light purple-brown to brown, loose.

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GPEC-SB536

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-10	55							(57.6'- 60') SILTY SAND WITH GRAVEL (SM); ~40% sand, fine to medium, ~30% gravel, fine to coarse, subangular to rounded, ~30% fines, non plastic; max. gravel size 3", wet, tan-brown, tight.
	60	S7	10/6.1	0.0				(60'- 64.4') SILTY SAND (SM); ~60% sand, fine, ~30% fines, non plastic, ~10% gravel, fine to coarse, subrounded to rounded; max. gravel size 1.5", wet, light brown, loose.
-15								
	65							(64.4'- 74.5') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, subangular to subrounded, ~10% fines, non plastic; max. gravel size 2.5", wet, light brown, loose.
-20								
	70	S8	10/6.9	0.0				
-25								
	75							(74.5'- 74.8') SILT (ML); ~90% fines, non plastic, ~10% sand, fine; wet, light brown, tight. (74.8'- 86.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to subrounded, ~5% fines, non plastic; max. gravel size 3", wet, light brown, loose.
-30								
	80	S9	10/6.8	0.0				

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GPEC-SB536

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
-35	85							(86.3'- 90') SILTY GRAVEL WITH SAND (GM); ~50% gravel, fine to coarse, angular to subrounded, ~30% sand, fine to medium, ~20% fines, non plastic; max. gravel size 3", wet, grayish light brown, tight.
-40	90	S10	10/6.6	0.0				(90'- 92.9') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium to coarse, ~20% gravel, fine to coarse, subangular to subrounded; max. gravel size 2", wet, light brown to tan, loose.
-45	95						GPEC-SB536 (94.8-95.8)	(92.9'- 93.7') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subangular to subrounded; max. gravel size 1", wet, orange-brown, loose. (93.7'- 97.9') CLAY WITH SAND AND GRAVEL (CL); ~60% fines, low plasticity, ~20% gravel, fine to coarse, angular to subrounded, ~20% sand, fine to coarse; max. gravel size 2", moist, gray, tight.
-50	100	S11	10/5.9	0.0				(97.9'- 102.9') ORGANIC CLAY (OL); ~100% fines, low to medium plasticity; moist, gray to black, contains lignite, tight.
-55	105							(102.9'- 110') CLAY (CL); ~100% fines, medium plasticity; moist, gray, tight.
-60	110							End of Boring at 110 feet. Grout to surface.

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BORING LOG
PAGE 1 of 4
GPEC-SB537

GROUND SURFACE ELEVATION (FT): 44.46 **LOCATION:** Area 8
NORTHING (FT): 688989 **EASTING (FT):** 649348 **TOTAL DEPTH (FT):** 110.0
DRILLED BY: ADT / Greg Rivera **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 4/8/2019 - 4/8/2019
DRILLING DETAILS: Sonic Coring / XL Max 170
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
40	0						GPEC-SB537 (0-1)	(0'- 8') VACUUM/HAND CLEARED.	
35	5	S1	2/1	0.0				(8'- 13.3') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine to medium, ~10% gravel, fine to coarse, subangular to subrounded, ~10% fines, non plastic; max. gravel size 2.5", dry, light brown, loose.	
	10	S2	10/4.1	0.0					
30	15							(13.3'- 20') SILTY SAND (SM); ~60% sand, fine, ~40% fines, non plastic; dry, light tan-brown, loose.	
25	20	S3	10/4.8	0.0				(20'- 34.6') SILTY SAND (SM); ~55% sand, fine, ~40% fines, non plastic, ~5% gravel, fine to coarse, subangular to subrounded; max. gravel size 2", dry, light tan-brown, loose.	

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BORING LOG

GPEC-SB537

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
20	25								
15	30	S4	10/4.7	0.0					
10	35							(34.6'- 40') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~60% sand, fine to medium, ~30% gravel, fine to coarse, angular to subrounded, ~10% fines, non plastic; max. gravel size 2", dry, light gray to tan, loose.	
5	40	S5	10/4.8	0.0				(40'- 41.8') CLAY WITH GRAVEL AND SAND (CL); ~70% fines, low plasticity, ~20% gravel, fine to coarse, subrounded, ~10% sand, fine; max. gravel size 2.5", moist, light brown, tight. (41.8'- 43.9') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~60% sand, fine to medium, ~30% gravel, fine to coarse, angular to subrounded, ~10% fines, non plastic; max. gravel size 3", dry, light brown, loose. (43.9'- 48.1') SILTY SAND (SM); ~60% sand, fine, ~40% fines, non plastic; moist, light brown, loose.	
0	45								
-5	50	S6	10/5	0.0				(48.1'- 50') BOULDERS AND COBBLES; drilled through rock. (50'- 52.5') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~60% sand, fine to medium, ~30% gravel, fine to coarse, subangular to subrounded, ~10% fines, non plastic; max. gravel size 2", dry, brown, loose. (52.5'- 53.5') CLAY WITH SAND AND GRAVEL (CL); ~60% fines, low plasticity, ~20% gravel, fine to coarse, subangular	

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BORING LOG
PAGE 3 of 4
GPEC-SB537

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-10	55						GPEC-SB537 (56-57)	to subrounded, ~20% sand, fine; max. gravel size 1.75", moist, brown, tight. (53.5'- 56.8') SILTY SAND (SM); ~60% sand, fine to medium, ~30% fines, non plastic, ~10% gravel, fine to coarse, subangular to subrounded; max. gravel size 3", dry, tan-brown, loose.	
-15	60	S7	10/5.2	0.0				(56.8'- 63.1') CLAYEY SAND (SC); ~75% sand, fine to medium, ~20% fines, low plasticity, ~5% gravel, fine; wet, light brown to gray, loose.	
-20	65							(63.1'- 66.1') WIDELY GRADED GRAVEL (GW); ~90% gravel, fine to coarse, subangular to rounded, ~10% sand, fine to coarse; max. gravel size 2.5", wet, light brown, loose. (66.1'- 67.4') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine; wet, tan-brown, loose. (67.4'- 69.4') WIDELY GRADED GRAVEL (GW); ~90% gravel, fine to coarse, subrounded to rounded, ~10% sand, fine to coarse; max. gravel size 2", wet, light brown, loose.	
-25	70	S8	10/3.2	0.0				(69.4'- 70') SILTY SAND (SM); ~50% sand, fine, ~40% fines, non plastic, ~10% gravel, fine to coarse, subangular to subrounded; max. gravel size 1.5", wet, light brown, slightly tight. (70'- 81.4') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded; max. gravel size 1", wet, light brown, loose.	
-30	75								
-35	80	S9	10/4.7	0.0				(81.4'- 85.7') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines, non plastic; wet, light brown, loose.	

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BORING LOG

GPEC-SB537

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-40	85							(85.7'- 87.3') SILTY SAND (SM); ~60% sand, fine, ~40% fines, non plastic; wet, light brown, slightly tight.	
								(87.3'- 88.9') SANDY SILT (MLS); ~70% fines, non plastic, ~30% sand, fine; moist, light brown, tight.	
-45	90	S10	10/4.7	0.0				(88.9'- 91.3') NARROWLY GRADED SAND (SP); ~100% sand, fine to medium; wet, light brown, loose.	
								(91.3'- 97.1') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, subangular to subrounded; max. gravel size 3", wet, light brown, loose.	
-50	95								
								(97.1'- 105.3') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines, non plastic; wet, light brown, loose.	
-55	100	S11	10/3.8	0.0					
-60	105							(105.3'- 106.7') SILTY SAND (SM); ~70% sand, fine to coarse, ~20% fines, non plastic, ~10% gravel, fine; wet, light brown, slightly tight. (106.7'- 109.6') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse, angular to subrounded; max. gravel size 2", wet, light brown, loose.	
-65	110						GPEC-SB537 (108.5-109.5)	(109.6'- 110') SANDY CLAY WITH GRAVEL (CL); ~50% fines, low plasticity, ~30% sand, fine to coarse, ~20% gravel, fine to coarse, angular to subrounded; max. gravel size 3", wet, gray to brown, tight. End of Boring at 110 feet. Monitoring Well GPEC-MW537 installed.	

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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

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BORING LOG
PAGE 1 of 5
GPEC-SB538

GROUND SURFACE ELEVATION (FT): 31.92 **LOCATION:** Area 8
NORTHING (FT): 689102 **EASTING (FT):** 649635 **TOTAL DEPTH (FT):** 140.0
DRILLED BY: ADT / Greg Rivera **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 4/8/2019 - 4/9/2019
DRILLING DETAILS: Sonic Coring / XL Max 170
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
30	0						GPEC-SB538 (5)	(0'- 8') VACUUM/HAND CLEARED.	
25	5								
		S1	2/1.3	0.0				(8'- 13.9') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% sand, fine to medium, ~20% gravel, fine to coarse, subangular to subrounded, ~10% fines, non plastic; max. gravel size 2.5", dry, light brown, loose.	
20	10	S2	10/3.6	0.0					
								(13.9'- 16.7') NARROWLY GRADED SAND (SP); ~100% sand, fine to medium; dry, light brown, loose.	
15	15							(16.7'- 27.1') SILTY SAND (SM); ~60% sand, fine, ~40% fines, non plastic; dry, light brown, loose.	
10	20	S3	10/3.5	0.0					

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GPEC-SB538

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5	25							(27.1'- 30') SANDY SILT (MLS); ~60% fines, non plastic, ~40% sand, fine; dry, light brown, loose.	
0	30	S4	10/6	0.0				(30'- 40') SILT WITH SAND (ML); ~75% fines, non plastic to low plasticity, ~25% sand, fine; moist, light purple-brown, slightly tight.	
-5	35								
-10	40	S5	10/4.5	0.0			GPEC-SB538 (42-43)	(40'- 43.1') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to medium, ~20% gravel, fine to coarse, angular to subangular, ~20% fines, non plastic; max. gravel size 1.5", dry, tan-brown, loose.	
								(43.1'- 44.8') SANDY SILT (MLS); ~60% fines, non plastic, ~40% sand, fine to medium; wet, light purple-brown, loose.	
-15	45							(44.8'- 47.8') SILT (ML); ~90% fines, non plastic to low plasticity, ~10% sand, fine; moist, light brown, tight.	
								(47.8'- 50') SILTY GRAVEL WITH SAND (GM); ~40% gravel, fine to coarse, angular to subrounded, ~40% sand, fine to coarse, ~20% fines, non plastic; max. gravel size 3", wet, brown, loose.	
-20	50	S6	10/3.3	0.0				(50'- 53.6') WIDELY GRADED GRAVEL (GW); ~90% gravel, fine to coarse, angular to subrounded, ~10% sand, fine to coarse; max. gravel size 2", wet, light brown, loose.	

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

ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB538

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	55							(53.6'- 58.5') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines, non plastic; wet, light brown, loose.	
-25									
	60	S7	10/5.4	0.0				(58.5'- 60') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subangular to subrounded; max. gravel size 1.5", wet, light brown, loose. (60'- 65.4') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, subangular to subrounded, ~35% sand, fine to coarse, ~5% fines, non plastic; max. gravel size 3", wet, light brown, loose.	
-30									
	65							(65.4'- 67.7') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine; wet, light brown, loose.	
-35									
	70	S8	10/6.1	0.0				(67.7'- 73.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, subangular to rounded; max. gravel size 2.5", wet, light brown, loose.	
-40									
	75							(73.3'- 77.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, subangular to subrounded; max. gravel size 3", wet, light brown, loose.	
-45									
	80	S9	10/6.6	0.0				(77.5'- 82.5') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~10% gravel, fine to coarse, subangular to subrounded; max. gravel size 1.5", wet, tan-brown, loose.	
-50								(82.5'- 85.3') WIDELY GRADED SAND (SW); ~95% sand,	

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (PPM)
JHS = JAR HEADSPACE PID READING (PPM)

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

GEI Consultants, Inc. P.C. 110 Walt Whitman Road Suite 204 Huntington Station, New York 11746	CLIENT: National Grid - Greenpoint PROJECT: Phase 3 Remedial Investigation CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-3.1302	BORING LOG PAGE 4 of 5	GPEC-SB538

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
								fine to coarse, ~5% gravel, fine; wet, light brown, loose.	
-55	85							(85.3'- 86.5') SILTY SAND (SM); ~60% sand, fine, ~40% fines, non plastic; wet, light brown, slightly tight. (86.5'- 88.7') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse; wet, tan-brown, loose.	
	90	S10	10/7.1	0.0				(88.7'- 90') CLAYEY SAND (SC); ~70% sand, fine to medium, ~20% fines, low plasticity, ~10% gravel, fine to coarse, angular to subangular; max. gravel size 1.5", wet, light brown to gray, slightly tight. (90'- 91.8') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines, non plastic; wet, light brown, loose. (91.8'- 94.7') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, fine, ~10% fines, non plastic; wet, light brown, loose.	
-60									
-65	95							(94.7'- 96.7') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines, non plastic; wet, light brown, loose. (96.4'- 97.2') SILTY SAND (SM); ~75% sand, fine to medium, ~25% fines, non plastic; wet, light brown, slightly tight. (97.2'- 106.9') CLAYEY SAND (SC); ~80% sand, fine to medium, ~20% fines, low plasticity; wet, light brown to gray, loose.	
-70	100	S11	10/6.6	0.0					
-75	105							(106.9'- 110') SILTY SAND (SM); ~70% sand, fine to coarse, ~20% fines, non plastic, ~10% gravel, fine; wet, tan-brown, tight.	
-80	110	S12	10/6	0.0				(110'- 114.9') CLAYEY SAND (SC); ~70% sand, fine to coarse, ~20% fines, low plasticity, ~10% gravel, fine to coarse, subangular to subrounded; max. gravel size 1", wet, light brown to gray, loose.	

NOTES:

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JHS = JAR HEADSPACE PID READING (PPM)

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Phase 3 Remedial Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG

GPEC-SB538

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-85	115						GPEC-SB538 (114-115)	(114.9'- 123.3') CLAY WITH SAND AND GRAVEL (CL); ~60% fines, low plasticity, ~20% gravel, fine to coarse, subangular to subrounded, ~20% sand, fine; max. gravel size 2.5", moist, gray to reddish brown, some boulders and cobbles, tight.	
	120	S13	10/7.3	0.0					
-90									
	125							(123.3'- 140') CLAYEY GRAVEL (CL); ~90% fines, low to medium plasticity, ~10% gravel, fine to coarse, angular to subrounded; max. gravel size 2", moist, greenish-gray, tight.	
-95									
	130	S14	10/7	0.0					
-100									
	135								
-105									
	140							End of Boring at 140 feet. Monitoring Well GPEC-MW538 installed.	

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NA = NOT APPLICABLE
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Q_P = POCKET PENETROMETER
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ppm = PARTS PER MILLION
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NLO = NAPHTHALENE LIKE ODOR
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ENVIRONMENTAL BORING LOG AREA 8 RI BORINGS.GPJ GEI TEMPLATE 11-7-13.GDT 8/9/19

BORING INFORMATION

NORTHING (ft): 688858.4 **EASTING (ft):** 649846.2
GROUND SURFACE EL. (ft): 25.4 **DATE START/END:** 10/11/2016
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** New England Boring Contractors
TOTAL DEPTH (ft): 102.0 **DRILLER NAME:** Mike St. John
LOGGED BY: M. Potros **RIG TYPE:** Mobile B-53 Truck Rig

BORING

GPEC-SB701

DRILLING INFORMATION

HAMMER TYPE: Safety Hammer - spooling winch **CASING I.D./O.D.:** 4.5 inch/ 4.75 inch **CORE BARREL TYPE:** NA
AUGER I.D./O.D.: NA / NA **DRILL ROD O.D.:** 2.5 inch **CORE BARREL I.D./O.D.:** NA / NA
DRILLING METHOD: Mud Rotary with Casing
WATER LEVEL DEPTHS (ft): ▼ 24.1 10/12/2016 8:00 am Allowed groundwater to recharge overnight before measuring.

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
						Vacuum excavated to 9'.		0- 3" Asphalt pavement. 3-11" Asphaltic Subbase. **FILL (CLASS 7) at ~1 ft / El. 24.4**
		G1	0.7 to 1.5	10/10		$DCP_{SB701-1}$@ D=1.6'; DPI=5		G1: SILT WITH SAND (ML); ~60% nonplastic, slow dilatancy fines, low dry strength; ~40% fine sand; brown, dry.
						$DCP_{SB701-2}$@ D=4.0'; DPI=2		
20	5					$DCP_{SB701-3}$@ D=6.7'; DPI=20		
						Advance Casing to 8.0'.		
		S1	8 to 10	24/22	7-7-8-6	$DCP_{SB701-4}$@ D=8.9'; DPI=15		S1: SILT WITH SAND (ML); ~80% nonplastic, slow dilatancy fines, low dry strength; ~20% fine sand; brown, dry.
						Advance Casing to 10.0'.		
	10	S2	10 to 12	24/12	9-11-12-14			S2: SILT WITH SAND (ML); ~65% nonplastic, slow dilatancy fines, low dry strength; ~25% fine sand; ~10% crushed gravel fragments up to 2"; brown, dry.
								GLACIAL OUTWASH (CLASS 3B) at ~13 ft / El. 12.4
						Advance Casing to 15.0'.		
10	15	S3	15 to 17	24/10	8-12-13-19			S3: SILTY SAND (SM); ~80% fine to medium sand; ~20% nonplastic to low plasticity, slow dilatancy fines, low dry strength; brown, dry.
						Advance Casing to 20.0'.		
	20	S4	20 to 22	24/0	28-26-31-32			S4: No Recovery.

NOTES: 2nd attempt at SB701. Refusal at 2.5 ft at 1st attempt. Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: CHI Eng|NG - GPEC LNG Vaporizer
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1610397

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG 1610397 CHI ENG- GPEC LNG VAPORIZER.GPJ GEI DATA TEMPLATE 2013.GDT 12/19/16

NORTHING (ft): 688858.4 **EASTING (ft):** 649846.2
GROUND SURFACE EL. (ft): 25.4 **DATE START/END:** 10/11/2016
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** New England Boring Contractors

BORING GPEC-SB701

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
						Advance Casing to 25.0'.		
0	25	S5	25 to 27	24/7	8-8-9-10			S5: NARROWLY GRADED SAND WITH GRAVEL (SP); ~70% medium to coarse sand, ~25% rounded to subangular gravel up to 1.5" fragments; <5% nonplastic fines; brown, wet.
						Advance Casing to 30.0'.		
	30	S6	30 to 32	24/4	13-8-12-5			S6: NARROWLY GRADED SAND WITH GRAVEL (SP); ~65% medium to coarse sand, ~30% subrounded to angular gravel up to 1.5" fragments; <5% nonplastic fines; brown, wet.
						Advance Casing to 35.0'.		
-10	35	S7	35 to 37	24/9	5-7-8-6			S7: NARROWLY GRADED GRAVEL WITH SAND (GP); ~85% 1/8" to 1/4" subangular gravel up to 0.5"; 15% mostly medium sand; brown, wet.
						Advance Casing to 40.0'.		
	40	S8	40 to 42	24/11	7-5-6-6			S8: NARROWLY GRADED SAND WITH GRAVEL (SP); ~75% medium to coarse sand, ~20% subrounded to subangular gravel up to 1.5" fragments; <5% nonplastic fines; brown, wet.
						Advance Casing to 45.0'.		
-20	45	S9	45 to 47	24/1	8-9-9-11			S9: NARROWLY GRADED SAND WITH GRAVEL (SP); Similar to S8.
						Advance Casing to 50.0'.		
	50	S10	50 to 52	24/10	8-9-10-11			S10: NARROWLY GRADED SAND WITH GRAVEL (SP); ~60% medium to coarse sand, ~35% subrounded to subangular gravel up to 2" fragments; <5% nonplastic fines; brown, wet.
						Advance Casing to 55.0'.		
	55							

NOTES: 2nd attempt at SB701. Refusal at 2.5 ft at 1st attempt.
Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: CHI Eng|NG - GPEC LNG Vaporizer
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1610397

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG 1610397 CHI ENG- GPEC LNG VAPORIZER.GPJ GEI DATA TEMPLATE 2013.GDT 12/19/16

NORTHING (ft): 688858.4 **EASTING (ft):** 649846.2
GROUND SURFACE EL. (ft): 25.4 **DATE START/END:** 10/11/2016
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** New England Boring Contractors

BORING GPEC-SB701

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
		S11	55 to 57	24/6	18-26-18-17			S11: NARROWLY GRADED SAND (SP); ~95% medium sand; <5% nonplastic fines; brown, wet.
						Advance Casing to 60.0'.		
	60	S12	60 to 62	24/8	16-16-15-16			S12: NARROWLY GRADED SAND (SP); Similar to S11.
						Advance Casing to 65.0'.		
-40	65	S13	65 to 67	24/5	12-13-20-24			S13: NARROWLY GRADED SAND (SP); Similar to S11.
						Advance Casing to 70.0'.		
	70	S14	70 to 72	24/14	22-24-24-41			S14: NARROWLY GRADED SAND (SP); ~95% fine to medium sand, medium sand @ 0-6" and fine to medium sand @ 6-14"; <5% nonplastic fines; brown, wet.
								MARINE CLAY (CLASS 4A) at ~73.5 ft / El. -48.1
						Advance Casing to 75.0'.		
-50	75	S15	75 to 77	24/19	28-44-52-63	Qv=4.3; Sv=0.9.		S15: LEAN CLAY (CL); low plasticity, no dilatancy fines, high dry strength, mottled black to gray, hard, dry. Gardiners Clay. LL=48, PI=28.
						Advance Casing to 80.0'.		
	80	S16	80 to 81.9	23/23	25-32-45-100/5	Qv=1.0, 4.0; Sv=0.2.		S16: LEAN CLAY (CL); low plasticity, no dilatancy fines, high dry strength, gray, hard, dry. Gardiners Clay.
						Advance Casing to 85.0'.		
-60	85	S17	85 to 86.3	16/3	23-40-100/4			S17: LEAN CLAY (CL); low plasticity, no dilatancy fines, high dry strength, mottled black to gray, hard, dry. Gardiners Clay. LL=31, PI=9.

NOTES: 2nd attempt at SB701. Refusal at 2.5 ft at 1st attempt.
Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: CHI Eng|NG - GPEC LNG Vaporizer
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1610397

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG 1610397 CHI ENG- GPEC LNG VAPORIZER.GPJ GEI DATA TEMPLATE 2013.GDT 12/19/16

NORTHING (ft): 688858.4 **EASTING (ft):** 649846.2
GROUND SURFACE EL. (ft): 25.4 **DATE START/END:** 10/11/2016
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** New England Boring Contractors

BORING GPEC-SB701

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
						Advance Casing to 90.0'.		
	90	S18	90 to 90.3	3/0	100/3			S18: LEAN CLAY (CL); Similar to S17.
						Advance Casing to 95.0'.		
-70	95	S19	95 to 96.2	14/14	39-55-100/2	Qv=0.7, 2.5; Sv=0.2.		S19: LEAN CLAY (CL); Similar to S17.
						Advance Casing to 100.0'.		
	100	S20	100 to 102	24/22	31-44-58-77			S20: LEAN CLAY (CL); Similar to S17.
								Bottom of boring at depth 102 ft. Backfilled with grout and cold patched to match existing surface.
-80	105							
	110							
-90	115							

NOTES: 2nd attempt at SB701. Refusal at 2.5 ft at 1st attempt.
Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: CHI Eng|NG - GPEC LNG Vaporizer
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1610397

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG 1610397 CHI ENG- GPEC LNG VAPORIZER.GPJ GEI DATA TEMPLATE 2013.GDT 12/19/16

BORING INFORMATION

NORTHING (ft): 688850.6 **EASTING (ft):** 649852.6
GROUND SURFACE EL. (ft): 25.3 **DATE START/END:** 10/12/2016
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** New England Boring Contractors
TOTAL DEPTH (ft): 62.0 **DRILLER NAME:** Mike St. John
LOGGED BY: M. Potros **RIG TYPE:** Mobile B-53 Truck Rig

BORING

GPEC-SB702

DRILLING INFORMATION

HAMMER TYPE: Safety Hammer - spooling winch **CASING I.D./O.D.:** 4.5 inch/ 4.75 inch **CORE BARREL TYPE:** NA
AUGER I.D./O.D.: NA / NA **DRILL ROD O.D.:** 2.5 inch **CORE BARREL I.D./O.D.:** NA / NA
DRILLING METHOD: Mud Rotary with Casing
WATER LEVEL DEPTHS (ft): ▼ 33.0 10/12/2016 2:10 pm Measured following mud rotary drilling.

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
		G1	0.5 to 1.5	12/12		Vacuum excavated to 8'.		0- 3" Asphalt pavement. 3-11" Asphaltic Subbase. **FILL (CLASS 7) at ~0.9 ft / El. 24.4** G1: SANDY SILT (ML); ~60% nonplastic, slow dilatancy fines, low dry strength; ~40% fine sand; brown, dry.
20	5					$DCP_{SB702-1}$@ D=1.7'; DPI=7 $DCP_{SB702-2}$@ D=4.5'; DPI=4 $DCP_{SB702-3}$@ D=5.6'; DPI=26 Advance Casing to 8.0'.		
		S1	8 to 10	24/10	6-9-14-11	Advance HSA to 10.0'.		S1: SILT WITH SAND (ML); ~80% nonplastic, slow dilatancy fines, low dry strength; ~20% fine sand; brown, dry.
	10	S2	10 to 12	24/18	14-15-16-20			S2: SANDY SILT (ML); ~65% nonplastic, slow dilatancy fines, low dry strength; ~25% fine sand; ~10% crushed gravel fragments up to 2"; brown, dry.
						Advance HSA to 15.0'.		**GLACIAL OUTWASH (CLASS 3B) at ~13.5 ft / El. 11.8**
10	15	S3	15 to 17	24/1	16-21-20-26			S3: NARROWLY GRADED GRAVEL WITH SAND (GP); ~70% subrounded to subangular gravel up to 1.5" fragments; ~25% medium to coarse sand, <5% nonplastic fines; brown, wet.
						Advance Casing to 20.0'.		
	20	S4	20 to 22	24/9	15-10-9-9			S4: NARROWLY GRADED GRAVEL WITH SAND (GP); 59.9% rounded to subangular gravel up to 1.5"; 37.5% fine to coarse sand; 2.6% nonplastic fines; brown, wet.

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: CHI Eng|NG - GPEC LNG Vaporizer
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1610397

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG 1610397 CHI ENG- GPEC LNG VAPORIZER.GPJ GEI DATA TEMPLATE 2013.GDT 12/19/16

NORTHING (ft): 688850.6 **EASTING (ft):** 649852.6
GROUND SURFACE EL. (ft): 25.3 **DATE START/END:** 10/12/2016
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** New England Boring Contractors

BORING GPEC-SB702

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
						Advance Casing to 25.0'.		
0	25	S5	25 to 27	24/6	7-8-10-11			S5: NARROWLY GRADED SAND WITH GRAVEL (SP); ~70% medium sand, ~25% rounded to subangular gravel up to 1.5" fragments; <5% nonplastic fines; brown, wet.
						Advance Casing to 30.0'.		
	30	S6	30 to 32	24/5	9-9-5-4			S6: NARROWLY GRADED SAND WITH GRAVEL (SP); ~70% fine to medium sand, ~25% subrounded to angular gravel up to 1.5" fragments; <5% nonplastic fines; brown, wet.
						Advance Casing to 35.0'.		
-10	35	S7	35 to 37	24/12	5-8-8-8			S7: NARROWLY GRADED SAND WITH GRAVEL (SP); 74.5% mostly fine to medium sand, 21.8% subrounded to angular gravel up to 1.5"; 3.7% nonplastic fines; brown, wet.
						Advance Casing to 40.0'.		
	40	S8	40 to 42	24/3	13-14-15-11			S8: NARROWLY GRADED GRAVEL WITH SAND (GP); ~70% subrounded to subangular gravel up to 1.5" fragments; ~25% medium to coarse sand, <5% nonplastic fines; brown, wet.
						Advance Casing to 45.0'.		
-20	45	S9	45 to 47	24/14	12-10-12-18			S9: NARROWLY GRADED SAND (SP); ~90% medium sand, ~5% subrounded to subangular gravel up to 1/4"; <5% nonplastic fines; brown, wet.
						Advance Casing to 50.0'.		
	50	S10	50 to 52	24/15	9-13-14-16			S10: NARROWLY GRADED SAND WITH GRAVEL (SP); ~70% medium sand, ~25% subrounded to subangular gravel up to 2"; <5% nonplastic fines; brown, wet.
						Advance Casing to 55.0'.		
	55							

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: CHI Eng|NG - GPEC LNG Vaporizer
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1610397

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG 1610397 CHI ENG- GPEC LNG VAPORIZER.GPJ GEI DATA TEMPLATE 2013.GDT 12/19/16

NORTHING (ft): 688850.6 **EASTING (ft):** 649852.6
GROUND SURFACE EL. (ft): 25.3 **DATE START/END:** 10/12/2016
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** New England Boring Contractors

BORING GPEC-SB702

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
		S11	55 to 57	24/17	12-15-18-21			S11: NARROWLY GRADED SAND WITH GRAVEL (SP); 81.8% mostly medium sand, 16.7% subrounded to angular gravel up to 1.5"; 1.5% nonplastic fines; brown, wet.
	60	S12	60 to 62	24/11	12-25-27-34	Advance Casing to 60.0'.		S12: NARROWLY GRADED SAND WITH GRAVEL (SP); Similar to S11.
-40	65							Bottom of boring at depth 62 ft. Backfilled with grout and cold patched to match existing surface.
-50	75							
-60	85							

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: CHI Eng|NG - GPEC LNG Vaporizer
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1610397

GEI Consultants

GEI WOBURN.STD 6-NORTH-EAST-GRAPHIC LOG 1610397 CHI ENG- GPEC LNG VAPORIZER.GPJ GEI DATA TEMPLATE 2013.GDT 12/19/16

BORING INFORMATION

NORTHING (ft): 688821.5 **EASTING (ft):** 649832.7
GROUND SURFACE EL. (ft): 24.1 **DATE START/END:** 10/12/2016
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** New England Boring Contractors
TOTAL DEPTH (ft): 32.0 **DRILLER NAME:** Mike St. John
LOGGED BY: M. Potros **RIG TYPE:** Mobile B-53 Truck Rig

BORING

GPEC-SB704

DRILLING INFORMATION

HAMMER TYPE: Safety Hammer - spooling winch **CASING I.D./O.D.:** NA/ NA **CORE BARREL TYPE:** NA
AUGER I.D./O.D.: 3.25 inch / 6 inch **DRILL ROD O.D.:** 2.5 inch **CORE BARREL I.D./O.D.:** NA / NA
DRILLING METHOD: Hollow Stem Auger
WATER LEVEL DEPTHS (ft): ▼ 23.6 10/16/2016 5:00 pm

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
								0- 3" Clean 3/4" Gravel. **FILL (CLASS 7) at ~0.3 ft / El. 23.8**
		G1	0.5 to 1.5	12/12		Vacuum excavated to 8.0'.		G1: SANDY SILT (ML); ~60% nonplastic, slow dilatancy fines, low dry strength; ~40% fine sand; brown, dry.
20	5					$DCP_{SB704-1}$@ D=3.2'; DPI=16		
						$DCP_{SB704-2}$@ D=5.9'; DPI=10		
						Advance HSA to 8.0'.		
		S1	8 to 10	24/21	41-10-9-10	Advance HSA to 10.0'.		S1(0-9"): SANDY SILT (ML); ~60% nonplastic, slow dilatancy fines, low dry strength; ~40% fine sand; brown, dry. S1(9-21"): SANDY SILT (ML); ~70% nonplastic, slow dilatancy fines, low dry strength; ~30% fine sand; brown, dry.
	10	S2	10 to 12	24/21	14-16-16-21			**GLACIAL OUTWASH (CLASS 3B) at ~10 ft / El. 14.1** S2: NARROWLY GRADED SAND (SP): ~95% fine sand, <5% nonplastic fines, brown dry.
10						Advance HSA to 15.0'.		
	15	S3	15 to 17	24/11	5-8-8-13			S3: NARROWLY GRADED SAND (SP): ~85% medium sand; ~10% rounded to subrounded gravel up to 0.5"; <5% nonplastic fines, brown dry.
						Advance HSA to 20.0'.		
	20	S4	20 to 22	24/5	6-20-16-6			S4: NARROWLY GRADED SAND WITH GRAVEL (SP); ~70% medium to coarse sand, ~25% rounded to subangular gravel up to 2" fragments; <5% low plasticity fines; brown, wet.

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: CHI Eng|NG - GPEC LNG Vaporizer
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1610397

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG 1610397 CHI ENG- GPEC LNG VAPORIZER.GPJ GEI DATA TEMPLATE 2013.GDT 12/19/16

NORTHING (ft): 688821.5 **EASTING (ft):** 649832.7
GROUND SURFACE EL. (ft): 24.1 **DATE START/END:** 10/12/2016
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** New England Boring Contractors

BORING GPEC-SB704

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
	25	S5	25 to 27	24/5	3-4-5-8	Advance HSA to 25.0'.		S5: NARROWLY GRADED SAND (SP); ~90% medium to coarse sand, ~5% rounded to subrounded gravel up to 0.25"; <5% nonplastic fines; brown, wet.
	30	S6	30 to 32	24/19	14-20-22-31	Advance HSA to 30.0'.		S6: NARROWLY GRADED SAND (SP); ~90% medium to coarse sand, ~5% rounded to subrounded gravel up to 0.25"; <5% nonplastic fines; brown, wet.
-10	35							Bottom of boring at depth 32 ft. Backfilled with grout and cold patched to match existing surface.
	40							
-20	45							
	50							
-30	55							

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: CHI Eng|NG - GPEC LNG Vaporizer
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1610397

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG 1610397 CHI ENG- GPEC LNG VAPORIZER.GPJ GEI DATA TEMPLATE 2013.GDT 12/19/16

BORING INFORMATION

NORTHING (ft): 688684.7 **EASTING (ft):** 649809.1
GROUND SURFACE EL. (ft): 16.5 **DATE START/END:** 10/13/2016
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** New England Boring Contractors
TOTAL DEPTH (ft): 30.0 **DRILLER NAME:** Mike St. John
LOGGED BY: M. Potros **RIG TYPE:** Mobile B-53 Truck Rig

BORING

GPEC-SB705

DRILLING INFORMATION

HAMMER TYPE: Safety Hammer - spooling winch **CASING I.D./O.D.:** NA/ NA **CORE BARREL TYPE:** NA
AUGER I.D./O.D.: 3.25 inch / 6 inch **DRILL ROD O.D.:** 2.5 inch **CORE BARREL I.D./O.D.:** NA / NA
DRILLING METHOD: Hollow Stem Auger
WATER LEVEL DEPTHS (ft): ▼ 19.1 10/13/2016 4:40 pm

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
						Vacuum excavated to 8.0'.		**FILL (CLASS 7) at ~0 ft / El. 16.5**
		G1	2 to 4	24/24				G1: SILTY SAND (SM); 80.0% mostly fine to medium sand; 14.0% nonplastic, slow dilatancy fines, low dry strength; 6.0% subrounded gravel up to 3/4"; brown, dry.
	5	G2	5 to 7	24/24				G2: SILTY SAND (SM); ~80% mostly fine to medium sand; ~20% nonplastic, slow dilatancy fines, low dry strength; brown, dry.
10						Advance HSA to 8.0'.		
		S1	8 to 10	24/18	7-8-8-9	Advance HSA to 10.0'.		S1: SILTY SAND (SM); ~80% mostly fine sand; ~20% nonplastic, slow dilatancy fines, low dry strength; brown, dry.
	10	S2	10 to 12	24/14	8-10-13-11			S2: SILTY SAND (SM); ~80% mostly fine sand; ~20% low plasticity, slow dilatancy fines, low dry strength; brown, dry.
						Advance HSA to 15.0'.		
	15	S3	15 to 15.3	4/0	100/4			S3: No Recovery.
0								**GLACIAL OUTWASH (CLASS 3B) at ~16 ft / El. 0.5**
						Advance HSA to 20.0'.		
	20	S4	20 to 22	24/14	10-9-9-9			S4: NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% medium to coarse sand, ~15% rounded to subangular gravel up to 3/4"; <5% low plasticity fines; brown, wet.

NOTES: No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: CHI Eng|NG - GPEC LNG Vaporizer
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1610397

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG 1610397 CHI ENG- GPEC LNG VAPORIZER.GPJ GEI DATA TEMPLATE 2013.GDT 12/19/16

NORTHING (ft): 688684.7 **EASTING (ft):** 649809.1
GROUND SURFACE EL. (ft): 16.5 **DATE START/END:** 10/13/2016
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** New England Boring Contractors

BORING GPEC-SB705

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
	25					Advance HSA to 25.0'.		
		S5	25 to 27	24/19	29-14-15-19			S5: NARROWLY GRADED SAND (SP); ~90% mostly medium to coarse sand, ~5% rounded to subrounded gravel up to 0.25"; <5% nonplastic fines; brown, wet.
-10								
		S6	28 to 30	24/17	13-16-16-17			S6: NARROWLY GRADED SAND (SP); ~90% mostly medium to coarse sand, ~5% subrounded to subangular gravel up to 1/4"; <5% nonplastic fines; brown, wet.
	30					Advance HSA to 30.0'.		Bottom of boring at depth 30 ft. Backfilled with grout.
	35							
-20								
	40							
	45							
-30								
	50							
	55							

NOTES: No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: CHI Eng|NG - GPEC LNG Vaporizer

CITY/STATE: Brooklyn, New York

GEI PROJECT NUMBER: 1610397

GEI Consultants

GEI WOBURN.STD 6-NORTH-EAST-GRAPHIC LOG 1610397 CHI ENG- GPEC LNG VAPORIZER.GPJ GEI DATA TEMPLATE 2013.GDT 12/19/16

BORING INFORMATION

NORTHING (ft): 688704.4 **EASTING (ft):** 649683.4
GROUND SURFACE EL. (ft): 23.8 **DATE START/END:** 10/13/2016
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** New England Boring Contractors
TOTAL DEPTH (ft): 30.0 **DRILLER NAME:** Mike St. John
LOGGED BY: M. Potros **RIG TYPE:** Mobile B-53 Truck Rig

BORING

GPEC-SB706

DRILLING INFORMATION

HAMMER TYPE: Safety Hammer - spooling winch **CASING I.D./O.D.:** NA/ NA **CORE BARREL TYPE:** NA
AUGER I.D./O.D.: 3.25 inch / 6 inch **DRILL ROD O.D.:** 2.5 inch **CORE BARREL I.D./O.D.:** NA / NA
DRILLING METHOD: Hollow Stem Auger
WATER LEVEL DEPTHS (ft): Not measured

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
						Vacuum excavated to 8.0'.		**FILL (CLASS 7) at ~0 ft / El. 23.8**
20	5	G1	2 to 4	24/24				G1: SILTY SAND (SM); ~70% mostly fine sand; ~30% nonplastic to low plasticity, slow dilatancy fines, low dry strength; brown, dry.
		G2	5 to 7	24/24				G2: NARROWLY GRADED GRAVEL WITH SILT AND SAND (GP-GM); 46.1% subrounded gravel up to 1.5"; 44.9% fine to medium sand; 9.0% low plasticity, slow dilatancy fines, low dry strength; brown, dry.
						Advance HSA to 8.0'.		
	10	S1	8 to 10	24/7	4-5-7-7	Advance HSA to 10.0'.		S1: SILTY SAND (SM); ~70% mostly fine sand; ~30% low plasticity, slow dilatancy fines, low dry strength; 2.5" angularly fragmented crushed stone at 3"; brown, dry.
		S2	10 to 12	24/16	8-7-7-6			S2: SILTY SAND (SM); ~60% mostly fine sand; ~30% low plasticity, slow dilatancy fines, low dry strength; ~10% subrounded gravel up to 1.5"; brown, dry.
10								**GLACIAL OUTWASH (CLASS 3B) at ~13.5 ft / El. 10.3**
	15	S3	15 to 17	24/12	3-3-4-6	Advance HSA to 15.0'.		S3: NARROWLY GRADED SAND (SP): ~95% mostly fine to medium sand; <5% nonplastic fines; brown, dry.
						Advance HSA to 20.0'.		
	20	S4	20 to 22	24/15	3-3-4-5			S4: NARROWLY GRADED SAND (SP); ~95% mostly fine to medium sand; <5% nonplastic fines; brown, wet.
0								

NOTES: No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: CHI Eng|NG - GPEC LNG Vaporizer
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1610397

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG 1610397 CHI ENG- GPEC LNG VAPORIZER.GPJ GEI DATA TEMPLATE 2013.GDT 12/19/16

NORTHING (ft): 688704.4 **EASTING (ft):** 649683.4
GROUND SURFACE EL. (ft): 23.8 **DATE START/END:** 10/13/2016
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** New England Boring Contractors

BORING GPEC-SB706

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
	25					Advance HSA to 25.0'.		
		S5	25 to 27	24/6	5-10-11-13			S5: NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% mostly fine to medium sand; ~15% subrounded to subangular gravel up to 1/4"; <5% nonplastic fines; brown, wet.
		S6	28 to 30	24/24	13-14-17-22	Advance HSA to 30.0'.		S6: NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% mostly fine to medium sand; ~15% subrounded to subangular gravel up to 3/4"; <5% nonplastic fines; brown, wet.
	30							Bottom of boring at depth 30 ft. Backfilled with grout.
-10	35							
	40							
-20	45							
	50							
-30	55							

NOTES: No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: CHI Eng|NG - GPEC LNG Vaporizer

CITY/STATE: Brooklyn, New York

GEI PROJECT NUMBER: 1610397

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG 1610397 CHI ENG- GPEC LNG VAPORIZER.GPJ GEI DATA TEMPLATE 2013.GDT 12/19/16

BORING INFORMATION

NORTHING (ft): 688706.5 **EASTING (ft):** 649439.2
GROUND SURFACE EL. (ft): 49.3 **DATE START/END:** 10/13/2016
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** New England Boring Contractors
TOTAL DEPTH (ft): 30.0 **DRILLER NAME:** Mike St. John
LOGGED BY: M. Potros **RIG TYPE:** Mobile B-53 Truck Rig

BORING

GPEC-SB708

DRILLING INFORMATION

HAMMER TYPE: Safety Hammer - spooling winch **CASING I.D./O.D.:** NA/ NA **CORE BARREL TYPE:** NA
AUGER I.D./O.D.: 3.25 inch / 6 inch **DRILL ROD O.D.:** 2.5 inch **CORE BARREL I.D./O.D.:** NA / NA
DRILLING METHOD: Hollow Stem Auger
WATER LEVEL DEPTHS (ft): Not measured

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
								0- 6.5" Clean 3/4" Gravel.
						Vacuum excavated to 8.0'.		**FILL (CLASS 7) at ~0.5 ft / El. 48.8**
		G1	0.7 to 2	16/16		$DCP_{SB708-1}$@ D=0.6'; DPI=12		G1: SILTY SAND (SM); ~70% mostly fine sand; ~30% nonplastic, slow dilatancy fines, low dry strength; brown, dry.
						$DCP_{SB708-2}$@ D=2.0'; DPI=24		
	5	G2	4 to 6	24/24		$DCP_{SB708-3}$@ D=4.6'; DPI=43		G2: SILTY SAND (SM); 83.3% mostly fine sand; 15.0% nonplastic, slow dilatancy fines, low dry strength; 1.7% subrounded gravel up to 3/8"; brown, dry.
						$DCP_{SB708-4}$@ D=6.5'; DPI=4		
40		S1	8 to 10	24/19	23-24-26-30	Advance HSA to 8.0'.		S1: SILTY SAND WITH GRAVEL (SM); ~55% mostly fine sand; ~30% nonplastic, slow dilatancy fines, low dry strength; ~15% angularly fragmented gravel up to 1.5"; brown, dry.
	10	S2	10 to 12	24/14	29-39-44-47	Advance HSA to 10.0'.		S2: SILTY SAND WITH GRAVEL (SM); ~60% mostly fine sand; ~25% nonplastic, slow dilatancy fines, low dry strength; ~15% angularly fragmented gravel up to 1.5"; brown with gray and black, dry.
								MORAINE DEPOSIT (CLASS 3A/3B) at ~13.5 ft / El. 35.8
						Advance HSA to 15.0'.		
	15	S3	15 to 17	24/21	57-48-27-25			S3: SILTY SAND WITH GRAVEL (SM); ~55% mostly fine sand; ~25% angularly fragmented and rounded gravel up to 1.5"; ~20% nonplastic, slow dilatancy fines, low dry strength; brown with multicolored gravel; dry.
								GLACIAL OUTWASH (CLASS 3B) at ~18.5 ft / El. 30.8
30						Advance HSA to 20.0'.		
	20	S4	20 to 22	24/21	10-10-16-22			S4: NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~65% mostly fine sand; ~25% angularly fragmented gravel up to 2.5"; ~10% nonplastic, slow dilatancy fines, low dry strength; brown, dry.

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: CHI Eng|NG - GPEC LNG Vaporizer
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1610397

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG 1610397 CHI ENG- GPEC LNG VAPORIZER.GPJ GEI DATA TEMPLATE 2013.GDT 12/19/16

NORTHING (ft): 688706.5 **EASTING (ft):** 649439.2
GROUND SURFACE EL. (ft): 49.3 **DATE START/END:** 10/13/2016
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** New England Boring Contractors

BORING GPEC-SB708

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
	25					Advance HSA to 25.0'.		
		S5	25 to 27	24/10	10-13-12-12			S5: NARROWLY GRADED SAND (SP); ~100% mostly fine sand; brown, dry.
		S6	28 to 30	24/7	14-21-23-28			S6: NARROWLY GRADED SAND WITH GRAVEL (SP); ~75% mostly fine sand; ~25% subangular crushed gravel up to 1.5"; brown, dry.
20	30					Advance HSA to 30.0'.		Bottom of boring at depth 30 ft. Backfilled with grout.
	35							
10	40							
	45							
0	50							
	55							

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: CHI Eng|NG - GPEC LNG Vaporizer
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1610397

GEI Consultants

GEI WOBURN.STD 6-NORTH-EAST-GRAPHIC LOG 1610397 CHI ENG- GPEC LNG VAPORIZER.GPJ GEI DATA TEMPLATE 2013.GDT 12/19/16

BORING INFORMATION

NORTHING (ft): 688768.6 **EASTING (ft):** 649292.8
GROUND SURFACE EL. (ft): 50.2 **DATE START/END:** 10/13/2016
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** New England Boring Contractors
TOTAL DEPTH (ft): 30.0 **DRILLER NAME:** Mike St. John
LOGGED BY: M. Potros **RIG TYPE:** Mobile B-53 Truck Rig

BORING

GPEC-SB709

DRILLING INFORMATION

HAMMER TYPE: Safety Hammer - spooling winch **CASING I.D./O.D.:** NA/ NA **CORE BARREL TYPE:** NA
AUGER I.D./O.D.: 3.25 inch / 6 inch **DRILL ROD O.D.:** 2.5 inch **CORE BARREL I.D./O.D.:** NA / NA
DRILLING METHOD: Hollow Stem Auger
WATER LEVEL DEPTHS (ft): Not measured

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
50						Vacuum excavated to 8.0'.		0- 4" Clean 3/4" Gravel. **FILL (CLASS 7) at ~0.3 ft / El. 49.9**
						$DCP_{SB709-1}$@ D=0.6'; DPI=16		
						$DCP_{SB709-2}$@ D=2.0'; DPI=27		
		G1	3 to 5	24/24				G1: SILTY SAND (SM); 80.4% mostly fine sand; 14.2% nonplastic, slow dilatancy fines, low dry strength; 5.4% subrounded gravel up to 3/4"; brown, dry.
	5							
						Advance HSA to 8.0'.		
		S1	8 to 10	24/11	4-6-6-9			S1: SILTY SAND (SM); ~80% mostly fine sand; ~15% nonplastic, slow dilatancy fines, low dry strength; ~5% angularly fragmented gravel up to 1/4"; brown, dry.
						Advance HSA to 10.0'.		
40	10	S2	10 to 12	24/15	8-13-15-17			**MORAINE DEPOSIT (CLASS 3A/3B) at ~10 ft / El. 40.2** S2: SILTY SAND (SM); 77.9% mostly fine sand; 15.7% nonplastic, slow dilatancy fines, low dry strength; 6.4% angularly fragmented gravel up to 3/4"; brown, dry.
								GLACIAL OUTWASH (CLASS 3B) at ~13.5 ft / El. 36.7
						Advance HSA to 15.0'.		
	15	S3	15 to 17	24/19	7-9-8-9			S3: NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% mostly fine sand; ~10% nonplastic to low plasticity fines; <5% subangular gravel up to 0.5"; brown with red tint; dry.
						Advance HSA to 20.0'.		
30	20	S4	20 to 22	24/22	7-8-8-11			S4: SILTY SAND (SM); ~60% mostly fine sand; ~40% nonplastic to low plasticity fines; reddish-brown; dry.

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: CHI Eng|NG - GPEC LNG Vaporizer
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1610397

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG 1610397 CHI ENG- GPEC LNG VAPORIZER.GPJ GEI DATA TEMPLATE 2013.GDT 12/19/16

NORTHING (ft): 688768.6 **EASTING (ft):** 649292.8
GROUND SURFACE EL. (ft): 50.2 **DATE START/END:** 10/13/2016
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** New England Boring Contractors

BORING GPEC-SB709

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
	25					Advance HSA to 25.0'.		
		S5	25 to 27	24/23	19-15-20-19			S5: SILT WITH SAND (ML); ~85% nonplastic, slow dilatancy, fines; ~15% fine sand; brown; dry.
		S6	28 to 30	24/15	22-27-25-30			S6: SILT WITH SAND (ML); ~85% nonplastic, slow dilatancy, fines; ~15% fine sand; brown; dry.
20	30					Advance HSA to 30.0'.		Bottom of boring at depth 30 ft. Backfilled with grout.
	35							
10	40							
	45							
0	50							
	55							

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: CHI Eng|NG - GPEC LNG Vaporizer
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1610397

GEI Consultants

GEI WOBURN.STD 6-NORTH-EAST-GRAPHIC LOG 1610397 CHI ENG- GPEC LNG VAPORIZER.GPJ GEI DATA TEMPLATE 2013.GDT 12/19/16

BORING INFORMATION

NORTHING (ft): 688440.3 **EASTING (ft):** 649805.4
GROUND SURFACE EL. (ft): 10.6 **DATE START/END:** 4/21/2017 - 4/24/2017
VERT./HORIZ. DATUMS: NAVD 88/NAD 83 **DRILLING COMPANY:** New England Boring
TOTAL DEPTH (ft): 61.0 **DRILLER NAME:** T. Roe
LOGGED BY: M. Hernandez-Cabal **RIG TYPE:** Mobile B-53 Truck

BORING

GPEC-SB801

DRILLING INFORMATION

HAMMER TYPE: Automatic **CASING I.D./O.D.:** 4 inch/ 5 inch **CORE BARREL TYPE:** NA
AUGER I.D./O.D.: NA / NA **DRILL ROD O.D.:** 2.5 inch **CORE BARREL I.D./O.D.:** NA / NA
DRILLING METHOD: Rollerbit Drilling with Casing
WATER LEVEL DEPTHS (ft): ▼ 7.6 4/21/2017

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
10						VacEx to 8'		0-7": CONCRETE with welded wire mesh reinforcing.
		G1	0.6 to 8	89		DCP01 @ D=0.6' ; DPI=17		**FILL (CLASS 7) at ~0.6 ft / El. 10** G1: SILTY SAND (SM); ~80% mostly medium to coarse sand; ~20% low plasticity fines; brown.
						DCP02 @ D=2.4' ; DPI=12		
	5					DCP03 @ D=4.6' ; DPI=19		
		S1	8 to 10	24/9	2-3-2-6			S1: SILTY SAND (SM); ~70% mostly medium to coarse sand; ~20% low plasticity fines; ~10% subangular gravel up to 1"; brown.
	10	S2	10 to 12	24/17	10-13-16-15			S2: SILTY SAND (SM); Similar to S1, except gravel is up to 1.5".
0						Gravel on drill return. Brown drill return throughout test boring.		
	15	S3	15 to 17	24/9	3-4-5-7			S3: SILTY SAND (SM); Similar to S1; brick fragments observed.
						Gravel and coarse sand on drill return		**GLACIAL OUTWASH SAND (CLASS 3B) at ~18.5 ft / El. -7.9**
	20	S4	20 to 22	24/5	4-5-5-6			S4: NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~80% mostly coarse sand; ~10% low plasticity fines; ~10% subangular gravel up to 1"; brown.
-10						Gravel on drill return		

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm.
Casing advanced to sampling depth and cleaned out using rollerbit drill before sampling.
No visible impacts, odors, or PID readings above background observed.

PROJECT NAME: NG-GPEC LNG Tanks Ice Shields
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1701736

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG LNG TANKS ICE SHIELDS BORING LOGS SB801 TO SB804.GPJ GEI DATA TEMPLATE 2013.GDT 6/28/17

NORTHING (ft): 688440.3 **EASTING (ft):** 649805.4

GROUND SURFACE EL. (ft): 10.6 **DATE START/END:** 4/21/2017 - 4/24/2017

VERT./HORIZ. DATUMS: NAVD 88/NAD 83 **DRILLING COMPANY:** New England Boring

BORING GPEC-SB801

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
	25	S5	25 to 27	24/0	3-4-5-7			S5: No recovery. 1.25" rock on sampler shoe.
		S6	27 to 29	24/16	5-6-8-13	Sample advanced through previous interval		S6: NARROWLY GRADED SAND (SP); 90.5% mostly medium to coarse sand, coarser towards top; 4.8% nonplastic fines; 4.7% subangular gravel up to 1"; brown. [GRAIN SIZE TEST PERFORMED]
	30	S7	30 to 32	24/0	7-7-8-10	Gravel and coarse sand on drill return		S7: No recovery. 2" rock in spoon.
-20		S8	32 to 34	24/20	7-11-14-10			S8: SILTY SAND (SM); ~80% mostly medium to coarse sand; ~20%low plasticity fines; brown.
	35	S9	35 to 37	24/0	4-4-7-9	Gravel and coarse sand on drill return		S9: No recovery. 1.5" rock in spoon.
		S10	37 to 39	24/0	9-11-13-17	Sample advanced through previous interval		S10: No recovery.
	40	S11	40 to 42	24/0	3-4-8-10	Gravel and coarse sand on drill return		S11: No recovery.
-30		S12	42 to 44	24/0	8-11-15-16	Sample advanced through previous interval		S12: No recovery.
	45	S13	45 to 47	24/0	5-7-9-14	Gravel and coarse sand on drill return		S13: No recovery. 1" round gravel in spoon.
		S14	47 to 49	24/14	11-15-13-20	Sample advanced through previous interval		S14: NARROWLY GRADED SAND WITH SILT (SP-SM); ~93.6% mostly medium to coarse sand, finer towards bottom; 6.4% nonplastic fines; brown. [GRAIN SIZE TEST PERFORMED]
	50	S15	50 to 52	24/0	4-5-8-13	Gravel on drill return		S15. No recovery.
-40		S16	52 to 54	24/0	8-13-16-21	Sample advanced through previous interval		S16: No recovery.
	55					Gravel on drill return		

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm.
Casing advanced to sampling depth and cleaned out using rollerbit drill before sampling.
No visible impacts, odors, or PID readings above background observed.

PROJECT NAME: NG-GPEC LNG Tanks Ice Shields

CITY/STATE: Brooklyn, New York

GEI PROJECT NUMBER: 1701736

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG LNG TANKS ICE SHIELDS BORING LOGS SB801 TO SB804.GPJ GEI DATA TEMPLATE 2013.GDT 6/28/17

NORTHING (ft): 688440.3 **EASTING (ft):** 649805.4

GROUND SURFACE EL. (ft): 10.6 **DATE START/END:** 4/21/2017 - 4/24/2017

VERT./HORIZ. DATUMS: NAVD 88/NAD 83 **DRILLING COMPANY:** New England Boring

BORING GPEC-SB801

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
		S17	55 to 57	24/4	8-9-11-14	Sample advanced through previous interval Gravel on drill return		S17: WIDELY GRADED GRAVEL (GW); 100% subangular gravel up to 2"; gray, brown, white, yellow. Possible soil wash material.
		S18	57 to 59	24/0	5-10-15-22	Sample advanced through previous interval Gravel on drill return		S18: No recovery; Soil wash material.
		S19	59 to 61	24/9	6-11-17-22			S19: SILTY SAND (SM); ~60% mostly medium to coarse sand; ~40% low to meidum plasticity, mostly silty fines; brown.
-50	60							
								Bottom of boring at depth 61 ft. Grouted to surface.
	65							
-60	70							
	75							
-70	80							
	85							

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm.
Casing advanced to sampling depth and cleaned out using rollerbit drill before sampling.
No visible impacts, odors, or PID readings above background observed.

PROJECT NAME: NG-GPEC LNG Tanks Ice Shields

CITY/STATE: Brooklyn, New York

GEI PROJECT NUMBER: 1701736

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG LNG TANKS ICE SHIELDS BORING LOGS SB801 TO SB804.GPJ GEI DATA TEMPLATE 2013.GDT 6/28/17

BORING INFORMATION

NORTHING (ft): 688398.3 **EASTING (ft):** 649860.2
GROUND SURFACE EL. (ft): 10.3 **DATE START/END:** 4/24/2017 - 4/25/2017
VERT./HORIZ. DATUMS: NAVD 88/NAD 83 **DRILLING COMPANY:** New England Boring
TOTAL DEPTH (ft): 62.0 **DRILLER NAME:** T. Roe
LOGGED BY: M. Hernandez-Cabal **RIG TYPE:** Mobile B-53 Truck

BORING

GPEC-SB802

DRILLING INFORMATION

HAMMER TYPE: Automatic **CASING I.D./O.D.:** 4 inch/ 5 inch **CORE BARREL TYPE:** NA
AUGER I.D./O.D.: NA / NA **DRILL ROD O.D.:** 2.5 inch **CORE BARREL I.D./O.D.:** NA / NA
DRILLING METHOD: Rollerbit Drilling with Casing
WATER LEVEL DEPTHS (ft): ▼ 7.7 4/21/2017

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
10						VacEx to 8'		0-8": CONCRETE with welded wire mesh reinforcing. **FILL (CLASS 7) at ~0.7 ft / El. 9.6**
		G1	0.8 to 8	86		DCP04 @ D=0.7' ; DPI=7 DCP05 @ D=2.5' ; DPI=17 DCP06 @ D=4.5' ; DPI=19		G1: SILTY SAND (SM); ~80% mostly medium to coarse sand; ~20% low plasticity fines; brown.
	5							
		S1	8 to 10	24/12	2-3-6-7	Gravel and concrete fragments on drill return. Brown drill resturn throughout test boring.		S1: SILTY SAND (SM); ~60% mostly medium to coarse sand; ~30% low plasticity fines; ~10% subangular gravel up to 1"; brown.
0	10	S2	10 to 12	24/19	6-7-9-12			S2: SILTY SAND (SM); Similar to S1; finer towards top of sample; one 1.5" rock on top of sample.
						Gravel on drill return		
	15	S3	15 to 17	24/6	15-19-20-21			S3: SILTY SAND WITH GRAVEL (SM); ~60% mostly medium to coarse sand; ~25% low plasticity fines; ~15% subangular gravel up to 0.75"; brown; one 1.5" rock on top of sample.
						Gravel on drill return		
-10	20	S4	20 to 22	24/9	9-14-17-18			S4: SILTY SAND WITH GRAVEL (SM); ~60% mostly medium to coarse sand; ~20% low plasticity fines; ~20% subangular gravel up to 1"; brown; rock fragment at 7".
						Gravel on drill return		**GLACIAL OUTWASH SAND (CLASS 3A) at ~23.5 ft / El. -13.2**

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm.
Casing advanced to sampling depth and cleaned out using rollerbit drill before sampling.
No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: NG-GPEC LNG Tanks Ice Shields
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1701736

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG LNG TANKS ICE SHIELDS BORING LOGS SB801 TO SB804.GPJ GEI DATA TEMPLATE 2013.GDT 6/28/17

NORTHING (ft): 688398.3 **EASTING (ft):** 649860.2
GROUND SURFACE EL. (ft): 10.3 **DATE START/END:** 4/24/2017 - 4/25/2017
VERT./HORIZ. DATUMS: NAVD 88/NAD 83 **DRILLING COMPANY:** New England Boring

BORING GPEC-SB802

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
	25	S5	25 to 27	24/9	3-6-10-13			S5: NARROWLY GRADED SAND (SP); 92% mostly medium to fine sand; 4.6% subangular gravel up to 0.5"; 3.4% nonplastic fines; brown. [GRAIN SIZE TEST PERFORMED]
						Gravel on drill return		
-20	30	S6	30 to 32	24/6	5-7-10-14			S6: NARROWLY GRADED SAND (SP); Similar to S5, except gravel is up to 1".
						Gravel on drill return		
	35	S7	35 to 37	24/3	4-5-10-14			S7: NARROWLY GRADED SAND (SP); Similar to S5.
		S8	37 to 39	24/24	11-12-13-18	PID=18.9 ppm		S8: NARROWLY GRADED SAND (SP);Similar to S5, except gravel is up to 1"; sand is finer towards bottom of sample.
						Gravel on drill return		
-30	40	S9	40 to 42	24/0	6-7-10-13			S9: No recovery. 1.75" rock in spoon.
		S10	42 to 44	24/24	11-12-19-21			S10: SILTY SAND (SM); ~60% mostly medium to coarse sand; ~40% low plasticity fines; brown; sand is finer towards bottom of sample; Mica noted on 0-12".
	45	S11	45 to 47	24/14	5-10-15-18	Gravel on drill return. Mica observed on return.		S11: NARROWLY GRADED SAND (SP); Similar to S5; except sand is finer towards bottom of sample; mica noted.
						Gravel on drill return		
-40	50	S12	50 to 52	24/0	4-8-12-13			S12: No recovery.
		S13	52 to 54	24/11	12-14-16-32			S13: SILTY SAND (SM); ~80% mostly coarse sand; ~20% low plasticity fines; ~10% subangular gravel up to 1"; brown; mica noted.
	55					Gravel on drill return		

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm.
Casing advanced to sampling depth and cleaned out using rollerbit drill before sampling.
No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: NG-GPEC LNG Tanks Ice Shields
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1701736

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG LNG TANKS ICE SHIELDS BORING LOGS SB801 TO SB804.GPJ GEI DATA TEMPLATE 2013.GDT 6/28/17

NORTHING (ft): 688398.3 **EASTING (ft):** 649860.2
GROUND SURFACE EL. (ft): 10.3 **DATE START/END:** 4/24/2017 - 4/25/2017
VERT./HORIZ. DATUMS: NAVD 88/NAD 83 **DRILLING COMPANY:** New England Boring

BORING GPEC-SB802

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
		S14	55 to 57	24/0	4-7-10-12			S14: No recovery.
		S15	57 to 59	24/17	8-9-12-16	Sample advanced through previous interval		S15: WIDELY GRADED SAND WITH SILT (SW-SM); 91.3% mostly medium to fine sand; 8.6% nonplastic fines; 0.1% subrounded gravel up to 1"; brown; mica noted. [GRAIN SIZE TEST PERFORMED]
-50	60	S16	60 to 62	24/12	6-10-13-16	Gravel on drill return		S16: SILTY SAND (SM); ~70% mostly medium to coarse sand; ~20% low plasticity fines; ~10% subrounded gravel up to 1"; brown; mica noted.
								Bottom of boring at depth 62 ft. Grouted to surface.
	65							
-60	70							
	75							
-70	80							
	85							

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm.
Casing advanced to sampling depth and cleaned out using rollerbit drill before sampling.
No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: NG-GPEC LNG Tanks Ice Shields
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1701736

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG LNG TANKS ICE SHIELDS BORING LOGS SB801 TO SB804.GPJ GEI DATA TEMPLATE 2013.GDT 6/28/17

BORING INFORMATION

NORTHING (ft): 688701.9 **EASTING (ft):** 650629.9
GROUND SURFACE EL. (ft): 10.3 **DATE START/END:** 4/18/2017 - 4/19/2017
VERT./HORIZ. DATUMS: NAVD 88/NAD 83 **DRILLING COMPANY:** New England Boring
TOTAL DEPTH (ft): 62.0 **DRILLER NAME:** T. Roe
LOGGED BY: M. Hernandez-Cabal **RIG TYPE:** Mobile B-53 Truck

BORING

GPEC-SB803

DRILLING INFORMATION

HAMMER TYPE: Automatic **CASING I.D./O.D.:** 4 inch/ 5 inch **CORE BARREL TYPE:** NA
AUGER I.D./O.D.: NA / NA **DRILL ROD O.D.:** 2.5 inch **CORE BARREL I.D./O.D.:** NA / NA
DRILLING METHOD: Rollerbit Drilling with Casing
WATER LEVEL DEPTHS (ft): ▽ 5.2 4/18/2017

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
10						VacEx to 6'		0-14" CONCRETE with welded wire mesh reinforcing.
								FILL (CLASS 7) at ~1.2 ft / El. 9.1
		G1	1.2 to 2.5	16		DCP07 @ D=1.3' ; DPI=11		G1: SILTY SAND (SM); ~60% mostly medium to coarse sand; ~30% low plasticity fines; ~10% subangular gravel up to 1"; dark brown; brick fragments observed.
		G2	2.5 to 4	18		DCP08 @ D=2.5' ; DPI=9		G2: SILTY SAND (SM); Similar to G1.
	5	G3	4 to 6	24		DCP09 @ D=4.1' ; DPI=4		G3: SILTY SAND (SM); Similar to G1.
		S1	6 to 8	24/16	10-12-9-11			S1: SILTY SAND (SM); ~60% mostly medium to coarse sand; ~30% low to medium plasticity fines; ~10% subrounded gravel up to 1"; brown and some black material; debris noted.
						Rocks in casing		
0	10	S2	10 to 12	24/0	2-1-2-1	Gravel and concrete fragments on drill return. Gray drill retun throughout the test boring.		S2: No recovery.
						Gravel on drill return		
	15	S3	15 to 17	24/0	4-1-0-1			S3: No recovery. One 2" gravel in spoon.
		S4	17 to 19	24/3	2-1-1-0			S4: SILTY SAND (SM); ~80% mostly coarse sand; ~20% low plasticity fines; brown.
						Gravel on drill return		
-10	20	S5	20 to 22	24/0	4-2-1-2			S5: No recovery. Subangular gravel pieces up to 0.75" in spoon.
		S6	22 to 24	24/12	2-2-2-2			S6: SILTY SAND (SM); 71.9% mostly medium to fine sand; 21.7% nonplastic fines; 6.4% subangular gravel up to 0.5"; brown. [GRAIN SIZE TEST PERFORMED]

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm.
Casing advanced to sampling depth and cleaned out using rollerbit drill before sampling.
No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: NG-GPEC LNG Tanks Ice Shields
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1701736

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG LNG TANKS ICE SHIELDS BORING LOGS SB801 TO SB804.GPJ GEI DATA TEMPLATE 2013.GDT 6/28/17

NORTHING (ft): 688701.9 **EASTING (ft):** 650629.9
GROUND SURFACE EL. (ft): 10.3 **DATE START/END:** 4/18/2017 - 4/19/2017
VERT./HORIZ. DATUMS: NAVD 88/NAD 83 **DRILLING COMPANY:** New England Boring

BORING GPEC-SB803

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
	25	S7	25 to 27	24/11	5-1-1-3	Gravel on drill return		S7: SILTY SAND (SM); ~70% mostly medium to coarse sand; ~20% low plasticity fines; ~10% subrounded gravel up to 1"; brown; 2" dark brown silty material from 0 to 2".
						Gravel and brick fragments on drill return		
-20	30	S8	30 to 32	24/14	5-2-1-2			S8(0-7"): SILTY SAND (SM); Similar to S6; dark gray. **GLACIAL OUTWASH CLAY (CLASS 4B) at ~30.6 ft / El. -20.3** S8(7-14"): FAT CLAY (CH); ~90% medium to high plasticity clayey fines, LL=50, PI=26; ~10% fine sand; one 1.5" gravel; black; 4.2% organic content.
						Gravel on drill return		
	35	S9	35 to 37	24/4	6-6-5-6			S9: LEAN CLAY (CL); ~90% medium plasticity clayey fines; ~10% subangular gravel up to 0.5"; gray.
						Gravel on drill return		
		S10	38 to 40	24/15	5-5-7-9			S10: LEAN CLAY (CL); 96.8% medium plasticity clayey fines; 3.2% mostly fine sand; gray. [GRAIN SIZE TEST PERFORMED]
-30	40	S11	40 to 42	24/4	3-4-3-5			S11: LEAN CLAY WITH SAND (CL); 92.5% medium plasticity clayey fines, LL=38, PI=17; 7.5% mostly fine sand; one 1.5" gravel; gray. [GRAIN SIZE TEST PERFORMED]
						Gravel on drill return. Mica observed on return.		
	45	S12	45 to 47	24/9	2-1-7-8			S12(0-5"): LEAN CLAY (CL); ~90% low to medium plasticity fines, LL=44, PI=22; ~10% fine sand; gray. **GLACIAL OUTWASH SAND (CLASS 3B) at ~46.1 ft / El. -35.8** S12(5-9"): SILTY SAND (SM); ~70% mostly medium to coarse sand; ~30% low plasticity fines; gray.
						Gravel on drill return		
-40	50	S13	50 to 52	24/5	6-5-4-4			S13: WIDELY GRADED SAND WITH GRAVEL (SW); ~80% mostly medium to coarse sand; ~20% subangular gravel up to 1.25"; gray. Possible soil wash material.
						Gravel on drill return		
	55							

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm.
Casing advanced to sampling depth and cleaned out using rollerbit drill before sampling.
No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: NG-GPEC LNG Tanks Ice Shields
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1701736

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG LNG TANKS ICE SHIELDS BORING LOGS SB801 TO SB804.GPJ GEI DATA TEMPLATE 2013.GDT 6/28/17

NORTHING (ft): 688701.9 **EASTING (ft):** 650629.9
GROUND SURFACE EL. (ft): 10.3 **DATE START/END:** 4/18/2017 - 4/19/2017
VERT./HORIZ. DATUMS: NAVD 88/NAD 83 **DRILLING COMPANY:** New England Boring

BORING GPEC-SB803

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
		S14	55 to 57	24/9	4-5-5-5	Gravel on drill return		S14: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% mostly fine to medium sand; ~15% subangular gravel up to 0.5"; ~10% low plasticity fines; gray with multicolored particles; mica noted.
		S15	58 to 60	24/5	6-4-6-6			S15: SILTY SAND (SM); ~60% mostly medium to coarse sand; ~30% low plasticity fines; ~10% subangular gravel up to 1/2"; gray.
-50	60	S16	60 to 62	24/21	7-6-7-7			S16: SILTY SAND (SM); ~80% mostly coarse sand; ~15% low plasticity fines; ~5% subrounded gravel up to 1.5"; gray.
								Bottom of boring at depth 62 ft. Grouted to surface.
	65							
-60	70							
	75							
-70	80							
	85							

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm.
Casing advanced to sampling depth and cleaned out using rollerbit drill before sampling.
No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: NG-GPEC LNG Tanks Ice Shields
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1701736

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG LNG TANKS ICE SHIELDS BORING LOGS SB801 TO SB804.GPJ GEI DATA TEMPLATE 2013.GDT 6/28/17

BORING INFORMATION

NORTHING (ft): 688774.0 **EASTING (ft):** 650664.9
GROUND SURFACE EL. (ft): 9.4 **DATE START/END:** 4/19/2017 - 4/21/2017
VERT./HORIZ. DATUMS: NAVD 88/NAD 83 **DRILLING COMPANY:** New England Boring
TOTAL DEPTH (ft): 60.0 **DRILLER NAME:** T. Roe
LOGGED BY: M. Hernandez-Cabal **RIG TYPE:** Mobile B-53 Truck

BORING

GPEC-SB804

DRILLING INFORMATION

HAMMER TYPE: Automatic **CASING I.D./O.D.:** 4 inch/ 5 inch **CORE BARREL TYPE:** NA
AUGER I.D./O.D.: NA / NA **DRILL ROD O.D.:** 2.5 inch **CORE BARREL I.D./O.D.:** NA / NA
DRILLING METHOD: Rollerbit Drilling with Casing
WATER LEVEL DEPTHS (ft): ▽ 5.7 4/19/2017

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
						VacEx to 8'		0-11": CONCRETE with welded wire mesh reinforcing.
								FILL (CLASS 7) at ~0.8 ft / El. 8.6
		G1	0.8 to 8	86		DCP10 @ D=0.8' ; DPI=6		G1: SILTY SAND WITH GRAVEL (SM); ~60% mostly fine to medium sand; ~25% low plasticity fines; ~15% subangular gravel up to 1"; dark gray; brick fragments observed.
	5					DCP11 @ D=2.5' ; DPI=5		
						DCP12 @ D=4' ; DPI=6		
0		S1	8 to 10	24/6	18-27-19-10			S1: Wood.
	10	S2	10 to 12	24/17	15-11-7-5	HSA to bypass wood Sample advanced through previous interval		S2: Wood.
						Gravel on drill return. Gray drill retun throughout the test boring.		
	15	S3	15 to 17	24/12	1/12"-2/12"			S3: SILTY SAND (SM); ~70% mostly medium to coarse sand; ~30% low plasticity fines; gray; finer towards bottom.
-10						Gravel on drill return		
	20	S4	20 to 22	24/0	6-5-2-2			S4: No recovery.
		S5	22 to 24	24/13	5-6-4-5			S5: SILTY SAND (SM); ~60% mostly medium to coarse sand; ~30% low plasticity fines; ~10% subrounded gravel up to 1"; brick fragments observed; gray; slight organic odor.

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm.
Casing advanced to sampling depth and cleaned out using rollerbit drill before sampling.
No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: NG-GPEC LNG Tanks Ice Shields
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1701736

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG LNG TANKS ICE SHIELDS BORING LOGS SB801 TO SB804.GPJ GEI DATA TEMPLATE 2013.GDT 6/28/17

NORTHING (ft): 688774.0 **EASTING (ft):** 650664.9
GROUND SURFACE EL. (ft): 9.4 **DATE START/END:** 4/19/2017 - 4/21/2017
VERT./HORIZ. DATUMS: NAVD 88/NAD 83 **DRILLING COMPANY:** New England Boring

BORING GPEC-SB804

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
	25	S6	25 to 27	24/8	8-7-5-2	Gravel and brick fragments on drill return		S6: SILTY SAND (SM); ~70% mostly medium to coarse sand; ~30% low plasticity fines; gray; one 1.5" subrounded gravel on top of sample.
-20						Gravel, brick fragments, wood, glass on drill return. Organic odor		
	30	S7	30 to 32	24/0	14-15-12-11			S7: No recovery.
		S8	32 to 34	24/19	9-11-11-5	PID=145 ppm Sample advanced through previous interval		S8: SILTY SAND WITH GRAVEL (SM); ~60% mostly medium to coarse sand; ~20% low plasticity fines; ~20% subrounded gravel up to 1"; brick fragments observed; gray; 1" rock fragment at 14"; 1.7% organic content.
								MARSH DEPOSITS (CLASS 6) at ~34.5 ft / El. -25.1
	35	S9	35 to 37	24/0	WOH/24"	Gravel and brick fragments on drill return. Organic odor.		S9: No recovery. Spoon covered in black material with organic odor.
		S10	37 to 39	24/24	WOH/18"-4	Sample advanced through previous interval		S10(0-16"): ORGANIC SOIL (OL/OH); soft organic material; low plasticity; black; wood observed; 7.2% organic content.
								GLACIAL OUTWASH CLAY (CLASS 4C) at ~38.3 ft / El. -28.9
-30		U1	39 to 39.8	9/9	P-U-S-H	Thin-walled tube sample at 39'.		S10 (16-24"): FAT CLAY (CH); ~90% medium to high plasticity, high dry strength clayey fines, LL=54, PI=31; ~10% fine sand; gray; varved.
	40	S11	40 to 42	24/24	1-3-4-6	Qp=0.5 tsf, 1 tsf; Sv= 0.25 tsf		U1: SANDY LEAN CLAY (CL); ~80% medium to hight plasticity clayey fines, LL=41, PI=19; ~20% fine to medium sand; no dilatancy; gray; varved; C_C=0.147, C_R=0.021 S11: LEAN CLAY WITH SAND (CL); 88.3% medium plasticity clayey fines, LL=30, PI=11; 10.9% mostly fine sand; 0.8% subangular gravel up to 1/4"; varved; gray with some black on top of sample. [GRAIN SIZE TEST PERFORMED]
						Gravel and brick fragments on drill return. Mica observed on return.		**GLACIAL OUTWASH SAND (CLASS 3A) at ~43.5 ft / El. -34.1**
	45	S12	45 to 47	24/13	8-17-25-26			S12: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); 74.5% mostly medium to fine sand; 17.6% subangular gravel up to 1"; 7.9% nonplastic fines; gray; slight organic odor. [GRAIN SIZE TEST PERFORMED]
						Gravel on drill return		**GLACIAL OUTWASH CLAY (CLASS 4C) at ~48.5 ft / El. -39.1**
-40	50	S13	50 to 52	24/24	3-1-2-7			S13: SANDY LEAN CLAY (CL); ~50% medium to high plasticity clayey fines, LL=40, PI=18; ~20% medium to coarse sand; ~20% low plasticity fines; ~10% subangular gravel up to 0.25"; slow dilatancy; gray; varved.
						Gravel on drill return		
	55							

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm.
Casing advanced to sampling depth and cleaned out using rollerbit drill before sampling.
No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: NG-GPEC LNG Tanks Ice Shields
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1701736

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG LNG TANKS ICE SHIELDS BORING LOGS SB801 TO SB804.GPJ GEI DATA TEMPLATE 2013.GDT 6/28/17

NORTHING (ft): 688774.0 **EASTING (ft):** 650664.9
GROUND SURFACE EL. (ft): 9.4 **DATE START/END:** 4/19/2017 - 4/21/2017
VERT./HORIZ. DATUMS: NAVD 88/NAD 83 **DRILLING COMPANY:** New England Boring

BORING GPEC-SB804

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Graphic Log	Soil and Rock Description
		S14	55 to 57	24/8	5-5-3-4			S14(0-4"): SILTY SAND (SM); ~70% mostly medium to coarse sand; ~30% low plasticity fines; gray. S14(4-8"): SANDY LEAN CLAY (CL); ~80% medium to high plasticity clayey fines; ~20% fine sand; no dilatancy; varved; gray.
						Gravel on drill return		
-50		S15	58 to 60	24/24	1-2-3-4			S15: FAT CLAY (CH); 97.7% medium to high plasticity clayey fines, LL=50, PI=27; 2.3% mostly fine sand; varved; gray. [GRAIN SIZE TEST PERFORMED]
	60							Bottom of boring at depth 60 ft. Grouted to surface.
	65							
-60	70							
	75							
-70	80							
	85							

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm.
Casing advanced to sampling depth and cleaned out using rollerbit drill before sampling.
No visual impacts, odors, or PID readings above background observed.

PROJECT NAME: NG-GPEC LNG Tanks Ice Shields
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 1701736

GEI Consultants

GEI WOBURN STD 6-NORTH-EAST-GRAPHIC LOG LNG TANKS ICE SHIELDS BORING LOGS SB801 TO SB804.GPJ GEI DATA TEMPLATE 2013.GDT 6/28/17

BORING INFORMATION

NORTHING (ft): 686810.5 **EASTING (ft):** 648951.4
GROUND SURFACE EL. (ft): 15.2 **DATE START/END:** 8/10/2018 - 8/15/2018
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** AARCO Environmental
TOTAL DEPTH (ft): 62.0 **DRILLER NAME:** T. Sieckel
LOGGED BY: A. Erb / G. Holmes **RIG TYPE:** Truck-mounted B-58 Mobile

BORING

GPEC-SB901

DRILLING INFORMATION

HAMMER TYPE: Automatic **CASING I.D./O.D.:** 4 inch/ 4.5 inch **CORE BARREL TYPE:** NA
AUGER I.D./O.D.: NA / NA **DRILL ROD O.D.:** NM **CORE BARREL I.D./O.D.:** NA / NA
DRILLING METHOD: Mud rotary with driven casing
WATER LEVEL DEPTHS (ft): Not measured

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split-Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PL = Plasticity Limit
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	DEPTH FT.	PEN/REC IN./IN.	BLOWS /6 in. or RQD	FIELD TEST DATA	GRAPHIC LOG	VISUAL IMPACTS	ODOR	REMARKS	MATERIAL DESCRIPTION
										Pre-cleared by VacEx on 8/10/2018. Air lance to 8'. 8/15/18 - Aarco drives casing down to 8' and clears out casing.	(0-1.5'): TOPSOIL. (1.5-8'): CONCRETE AND BRICK DEBRIS. **FILL (CLASS 7) at ~0 ft / El. 15.2**
		S1	8 to 10	24/8	2/12"-1-4						S1: FILL; Pulverized concrete with SP-SM material; Dark gray; clinkers, coal fragments; wet.
		S2	10 to 12	24/4	5-3-1-2					Drive 10' of casing down to 8' below grade. Add water and ez-mud. Rig chatter from 8 to 10'.	S2: FILL; Similar to S1.
		S3	15 to 17	24/4	WOH-WOH-2/12"						S3: SILTY SAND WITH GRAVEL (SM); ~40% silt; ~30% fine sand; ~30% gravel up to 1.25"; dark gray trace black staining mixed in; wet; wood and red brick fragments. Fill.
		S4	20 to 22	24/8	1-5-3-2	PID = 1.4 PID = 39.2 PID = 13.5					S4: SILTY SAND WITH GRAVEL (SM); Similar to S3; except no staining. Fill.
		S5	22 to 24	24/15	2-3-5-8				NLO		S5 (0-7"): SILTY SAND WITH GRAVEL (SM); Similar to S3; except slight NLO directly above Peat. **MARSH DEPOSITS (CLASS 6) at ~23 ft / El. -7.8** S5 (7-15"): PEAT (PT); Fibrous; brown; moist; strong organic like odor.

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm; PID reading units parts per million (ppm).
Consolidation test results: C_c =Compression Index; C_r =Recompression Index.

PROJECT NAME: National Grid - GPEC PIG Launcher
CITY/STATE: Brooklyn, NY
GEI PROJECT NUMBER: 1803127

GEI Consultants

GPEC_BORING LOG 1803127 - GPEC PIG LAUNCHER.GPJ GEI DATA TEMPLATE 2013.GDT 10/19/18

NORTHING (ft): 686810.5 **EASTING (ft):** 648951.4
GROUND SURFACE EL. (ft): 15.2 **DATE START/END:** 8/10/2018 - 8/15/2018
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** AARCO Environmental

BORING GPEC-SB901

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	DEPTH FT.	PEN/REC IN./IN.	BLOWS /6 in. or RQD	FIELD TEST DATA	GRAPHIC LOG	VISUAL IMPACTS	ODOR	REMARKS	MATERIAL DESCRIPTION
-10		U1	25 to 27	24/18	P-U-S-H	Qp = 0 tsf, 0 tsf.			OLO	Rollerbit to 25' to take undisturbed sample U1 with hydraulic piston sampler.	U1: PEAT (PT); 78.4% fines; 21.6% fine to medium sand; black. 55.3% organic content; PL=119, LL=358; C_c=2.198, C_r=0.145. [GRAIN SIZE TEST PERFORMED].
											GLACIAL OUTWASH UPPER SAND (CLASS 3B) at ~28.5 ft / El. -13.3
-15	-30	S6	30 to 32	24/12	7-8-11-10				OLO		S6: NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% fine to medium sand; ~10% nonplastic fines; gray; wet; OLO.
											GLACIAL OUTWASH CLAY (CLASS 4B) at ~33.5 ft / El. -18.3
-20	-35	S7	35 to 37	24/23	2-2-6-6	Qp = 1.0 tsf, 0.75 tsf, 1.0 tsf. Sv = 2.25 tsf.					S7: FAT CLAY (CH); ~100% fines; gray; moist. PL=22, LL=50.
		U2	37 to 39	24/19	P-U-S-H					Rollerbit to 37' to take undisturbed sample U1 with hydraulic piston sampler.	U2: FAT CLAY (CH); ~90% clayey fines; ~5% fine sand in silty sand seams; ~5% fine gravel; gray. PL=23, LL=50; C_c=0.198, C_r=0.026.
-25	-40	S8	40 to 42	24/18	6-6-9-9						S8 (0-7"): FAT CLAY (CH); 100% medium plasticity fines; gray; moist. S8 (7-18"): FAT CLAY WITH SAND (CH); 76.9% medium plasticity fines; 23.1% fine to medium sand in seams; gray; moist. [GRAIN SIZE TEST PERFORMED]
											GLACIAL OUTWASH LOWER SAND (CLASS 3B) at ~41.8 ft / El. -26.6
											S8 (16-18") SILTY SAND (SM); ~65% sand; ~35% silty fines.
-30	-45	S9	45 to 47	24/0	11-11-10-11						S9: NO RECOVERY.
		S10	47 to 49	24/19	13-12-14-18					Rig chatter from 47 to 50'.	S10: SILTY SAND WITH GRAVEL (SM); 60.7% mostly fine to medium sand; 22.2% nonplastic fines; 17.1% subangular fine gravel up to 1.5"; gravel primarily @15-19"; gray; wet. [GRAIN SIZE TEST PERFORMED]
-35	-50	S11	50 to 52	24/17	13-11-13-12						S11 (0-11"): SILTY SAND (SM); Similar to S10. S11 (11-17"): SILTY SAND WITH GRAVEL (SM); ~55% fine to medium sand; ~25% fine gravel; ~20% nonplastic fines; gray; wet.
										Rig chatter from 52 to 53'.	
-40	-55	S12	55 to 57	24/6	12-12-13-16						S12: SILTY SAND WITH GRAVEL (SM); Similar to S11 (11-17").

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm; PID reading units parts per million (ppm).
Consolidation test results: C_c =Compression Index; C_r =Recompression Index.

PROJECT NAME: National Grid - GPEC PIG Launcher
CITY/STATE: Brooklyn, NY
GEI PROJECT NUMBER: 1803127

GEI Consultants

NORTHING (ft): 686810.5 **EASTING (ft):** 648951.4
GROUND SURFACE EL. (ft): 15.2 **DATE START/END:** 8/10/2018 - 8/15/2018
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** AARCO Environmental

BORING GPEC-SB901

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	DEPTH FT.	PEN/REC IN./IN.	BLOWS /6 in. or RQD	FIELD TEST DATA	GRAPHIC LOG	VISUAL IMPACTS	ODOR	REMARKS	MATERIAL DESCRIPTION
-45	60	S13	60 to 62	24/12	14-12-16-26						S13: SILTY SAND WITH GRAVEL (SM); Similar to S11 (11-17").
											Bottom of boring at depth 62 ft. Backfilled with grout.
-50	65										
-55	70										
-60	75										
-65	80										
-70	85										
-75	90										

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm; PID reading units parts per million (ppm).
Consolidation test results: C_c =Compression Index; C_r =Recompression Index.

PROJECT NAME: National Grid - GPEC PIG Launcher
CITY/STATE: Brooklyn, NY
GEI PROJECT NUMBER: 1803127

GEI Consultants

GPEC_BORING LOG 1803127 - GPEC PIG LAUNCHER.GPJ GEI DATA TEMPLATE 2013.GDT 10/19/18

BORING INFORMATION

NORTHING (ft): 686822.8 **EASTING (ft):** 648962.4
GROUND SURFACE EL. (ft): 15.0 **DATE START/END:** 8/10/2018 - 8/16/2018
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** AARCO Environmental
TOTAL DEPTH (ft): 61.9 **DRILLER NAME:** T. Sieckel
LOGGED BY: A. Erb / G. Holmes **RIG TYPE:** Truck-mounted B-58 Mobile

BORING

GPEC-SB902

DRILLING INFORMATION

HAMMER TYPE: Automatic **CASING I.D./O.D.:** 4 inch/ 4.5 inch **CORE BARREL TYPE:** NA
AUGER I.D./O.D.: NA / NA **DRILL ROD O.D.:** NM **CORE BARREL I.D./O.D.:** NA / NA
DRILLING METHOD: Mud rotary with driven casing
WATER LEVEL DEPTHS (ft): ▽ 6.5 8/10/2018 Observed water level in pre-cleared hole.

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split-Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PL = Plasticity Limit
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	DEPTH FT.	PEN/REC IN./IN.	BLOWS /6 in. or RQD	FIELD TEST DATA	GRAPHIC LOG	VISUAL IMPACTS	ODOR	REMARKS	MATERIAL DESCRIPTION
										Pre-cleared by VacEx to 7.5' deep on 8/10/2018.	**FILL (CLASS 7) at ~0 ft / El. 15** (0-2'): TOPSOIL.
										8/16/18 - Aarco drives casing down to 8' and clears out casing.	(2-4'): FILL; Brick fragments with silty sand material.
											(4-8'): FILL; Concrete debris.
10	5	S1	8 to 10	24/4	WOH-WOH-WOH-WOH						S1: FILL; Pulverized concrete, coal, and brick fragments; black; wet. Voids.
5	10	S2	10 to 12	24/8	WOH-WOH-WOH-WOH					Drive 10' of casing down to 8' below grade. Add water and ez-mud.	S2: FILL; Similar to S1.
0	15	S3	15 to 17	24/21	WOH-WOH-WOH-1	PID = 2.4				Rig chatter ~18'.	S3: SILTY SAND (SM); ~60% sand; ~40% nonplastic to low plasticity fines; gray; wet.
-5	20	S4	20 to 22	24/9	3-1-1-4						S4: SILTY SAND (SM); Similar to S3; except brick, coal, concrete fragments and clinkers; brown. Fill.
											MARSH DEPOSITS (CLASS 6) at ~23.5 ft / El. -8.5

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm; PID reading units parts per million (ppm).
Consolidation test results: C_c =Compression Index; C_r =Recompression Index.

PROJECT NAME: National Grid - GPEC PIG Launcher
CITY/STATE: Brooklyn, NY
GEI PROJECT NUMBER: 1803127

GEI Consultants

NORTHING (ft): 686822.8 **EASTING (ft):** 648962.4
GROUND SURFACE EL. (ft): 15.0 **DATE START/END:** 8/10/2018 - 8/16/2018
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** AARCO Environmental

BORING GPEC-SB902

ELEV. FT.	DEPTH FT.	TYPE and NO.	DEPTH FT.	PEN/REC IN./IN.	BLOWS /6 in. or RQD	FIELD TEST DATA	GRAPHIC LOG	VISUAL IMPACTS	ODOR	REMARKS	MATERIAL DESCRIPTION
		S5	25 to 27	24/19	2-5-4-2	PID = 0.9 PID = 13.8 PID = 4.6 PID = 3.8			OLO OLO		S5 (0-9"): PEAT; fibrous material; black; wet. 30.3% organic content. **GLACIAL OUTWASH UPPER SAND (CLASS 3B) at ~26 ft / El. -11** S5 (9-19"): NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% fine to medium sand; ~10% nonplastic fines; gray; wet. Slight OLO.
-15	30	S6	30 to 32	24/13	6-5-7-8	PID = 44.5 PID = 15.4			OLO		S6: Similar to S5 (9-19"); except OLO.
											GLACIAL OUTWASH CLAY (CLASS 4B) at ~33.5 ft / El. -18.5
-20	35	S7	35 to 37	24/21	2-2-5-6	Qp = 0.75 tsf, 0.75 tsf, 2 tsf. Sv = 0.75 tsf.				Add more mud.	S7: FAT CLAY (CH); ~100% clayey fines; gray; moist. PL=24, LL=55.
		U1	37 to 39	24/15	P-U-S-H					Rollerbit to 37' to take undisturbed sample U1 with hydraulic piston sampler.	U1: FAT CLAY (CH). Similar to S7; except silty sand pockets. PL=23, LL=54; C_c=0.224, C_r=0.040.
-25	40	S8	40 to 42	24/18	6-7-9-13	Qp = 0.75 tsf, 0.25 tsf, 0.5 tsf, 0.75 tsf.					S8: LEAN CLAY (CL); Similar to S7. PL=22, LL=46.
										Add more ez mud.	**GLACIAL OUTWASH LOWER SAND (CLASS 3B) at ~43.5 ft / El. -28.5**
-30	45	S9	45 to 45.8	10/5	46-50/4"					Rig chatter near 45'. Rig chatter and add ez-mud.	S9: SILTY GRAVEL WITH SAND (GM); ~55% subangular gravel up to 0.75"; ~30% fine to medium sand; ~15% nonplastic fines; gray; wet.
-35	50	S10	50 to 52	24/12	8-10-9-12					Rig chatter around 52'.	S10: NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% fine to medium sand; ~20% fine subangular gravel up to 0.75"; ~10% nonplastic fines. Brownish gray; wet.
-40	55	S11	55 to 57	24/5	14-14-16-14					Add ez mud.	S11: NARROWLY GRADED GRAVEL WITH SAND (GP); ~65% subangular gravel up to 1"; ~30% fine to medium sand; ~5% nonplastic fines; gray; wet.

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm; PID reading units parts per million (ppm).
Consolidation test results: C_c =Compression Index; C_r =Recompression Index.

PROJECT NAME: National Grid - GPEC PIG Launcher
CITY/STATE: Brooklyn, NY
GEI PROJECT NUMBER: 1803127

GEI Consultants

NORTHING (ft): 686822.8 **EASTING (ft):** 648962.4
GROUND SURFACE EL. (ft): 15.0 **DATE START/END:** 8/10/2018 - 8/16/2018
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** AARCO Environmental

BORING GPEC-SB902

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	DEPTH FT.	PEN/REC IN./IN.	BLOWS /6 in. or RQD	FIELD TEST DATA	GRAPHIC LOG	VISUAL IMPACTS	ODOR	REMARKS	MATERIAL DESCRIPTION
-45	60	S12	60 to 61.9	23/22	14-16-20-50/5"						S12: SILTY SAND WITH GRAVEL (SM); ~45% fine to medium sand; ~40% fine subangular gravel; ~15% nonplastic fines; brownish gray; wet.
											Bottom of boring at depth 61.9 ft. Backfilled with grout.
-50	65										
-55	70										
-60	75										
-65	80										
-70	85										
-75	90										

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm; PID reading units parts per million (ppm).
Consolidation test results: C_c =Compression Index; C_r =Recompression Index.

PROJECT NAME: National Grid - GPEC PIG Launcher
CITY/STATE: Brooklyn, NY
GEI PROJECT NUMBER: 1803127

GEI Consultants

BORING INFORMATION

NORTHING (ft): 686854.8 **EASTING (ft):** 648951.9
GROUND SURFACE EL. (ft): 15.6 **DATE START/END:** 8/10/2018 - 8/14/2018
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** AARCO Environmental
TOTAL DEPTH (ft): 62.0 **DRILLER NAME:** T. Sieckel
LOGGED BY: A. Erb / G. Holmes **RIG TYPE:** Truck-mounted B-58 Mobile

BORING

GPEC-SB903

DRILLING INFORMATION

HAMMER TYPE: Automatic **CASING I.D./O.D.:** 4 inch/ 4.5 inch **CORE BARREL TYPE:** NA
AUGER I.D./O.D.: NA / NA **DRILL ROD O.D.:** NM **CORE BARREL I.D./O.D.:** NA / NA
DRILLING METHOD: Mud rotary with driven casing
WATER LEVEL DEPTHS (ft): ▽ 7.0 8/10/2018 Observed water level in pre-cleared hole.

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split-Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PL = Plasticity Limit
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	DEPTH FT.	PEN/REC IN./IN.	BLOWS /6 in. or RQD	FIELD TEST DATA	GRAPHIC LOG	VISUAL IMPACTS	ODOR	REMARKS	MATERIAL DESCRIPTION
											FILL (CLASS 7) at ~0 ft / El. 15.6
15										Pre-cleared by VacEx to 7.5' deep on 8/10/2018.	(0-2'): TOPSOIL.
										8/14/18 - Aarco begins sampling at 8'.	(2-4'): FILL; brick fragments with silty sand material.
		DCP03	4 to 4.8	10		DPI=16					(4-8'): FILL; Concrete debris.
10	5										
		S1	8 to 10	24/18	43-24-13-15	PID = 0.9			NLO		S1: FILL; pulverized concrete and red/white brick fragments, coal fragments throughout; trace black staining; slight NLO; wet.
5	10	S2	10 to 12	24/24	18-9-19-12	PID = 5.6 PID = 3.2			NLO	Drive 10' of casing down to 8' below grade. Add water and ez-mud.	S2: FILL; Similar to S1; except with gravel; dark brown @0-14"; stained black, sheen; NLO @14-19"; some black staining mixed in with brown @19-24"; wet.
0	15	S3	15 to 17	24/22	WOH-2/12"-1	PID = 9.8 PID = 45.3 PID = 306.8 PID = 16.9			OLO		S3: SILTY CLAY (CL/ML); ~100% low plasticity fines; white and gray; moist / wet; clay lenses; silt pockets @0-13"; dark gray-brown with some peat @0-4"; gray and white @4-22"; strong OLO.
-5	20	S4	20 to 22	24/22	WOH-WOH-1-1	PID = 89.3 PID = 69.6 PID = 223.7 PID = 91.7			OLO NLO NLO		S4 (0-19"): SILTY CLAY (CL/ML); Similar to S3; except wet; gray to white; strong OLO. S4 (12-19"): SILTY CLAY (CL/ML); Similar to S3; except wet; strong NLO @17-19". **MARSH DEPOSITS (CLASS 6) at ~21.5 ft / El. -5.9** S4 (19-22"): PEAT (PT); Fibrous material; stained black; strong NLO; wet. 29.0% organic content.

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm; PID reading units parts per million (ppm).
Consolidation test results: C_c =Compression Index; C_r =Recompression Index.

PROJECT NAME: National Grid - GPEC PIG Launcher
CITY/STATE: Brooklyn, NY
GEI PROJECT NUMBER: 1803127

GEI Consultants

NORTHING (ft): 686854.8 **EASTING (ft):** 648951.9
GROUND SURFACE EL. (ft): 15.6 **DATE START/END:** 8/10/2018 - 8/14/2018
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** AARCO Environmental

BORING GPEC-SB903

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	DEPTH FT.	PEN/REC IN./IN.	BLOWS /6 in. or RQD	FIELD TEST DATA	GRAPHIC LOG	VISUAL IMPACTS	ODOR	REMARKS	MATERIAL DESCRIPTION
-10	30	S5	25 to 27	24/17	WOH-2-4-11	PID = 359.0 PID = 321.4 PID = 50.7 PID = 8.4			OLO OLO OLO	Add more ez mud.	S5 (0-12"): PEAT (PT); Similar to S4 (19"-22"). [MOISTURE CONTENT AND ORGANIC CONTENT TESTS PERFORMED]. S5 (12-14"): CLAYEY SAND (SC); ~60% mostly fine to medium sand; ~35% low plasticity, high dry strength, clayey fines; ~5% fine gravel; gray; OLO. **GLACIAL OUTWASH UPPER SAND (CLASS 3B) at ~26.6 ft / El. -11** S5 (14-17"): WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand; ~10% nonplastic fines; gray; OLO; wet.
-15	35	S6	30 to 32	24/16	5-5-5-6	PID = 16.9 PID = 14.7 PID = 13.3 PID = 2.7			OLO OLO		S6 (0-1"): FAT CLAY (CH); low to medium plasticity fines; OLO; gray. S6 (1-16"): SILTY SAND (SM); ~85% fine to medium sand; ~15% nonplastic fines; gray; OLO; wet.
-20	40	S7	35 to 37	24/18	6-1-6-6	PID = 39.5 PID = 59.5 PID = 45.8 PID = 10.6 Qp = 0.5 tsf, 0.5 tsf.			OLO OLO		S7 (0-4"): SILTY SAND (SM); Similar to S6 (1-16"). **GLACIAL OUTWASH CLAY (CLASS 4B) at ~35.4 ft / El. -19.8** S7 (4-18"): FAT CLAY (CH); ~100% medium plasticity fines; brown / gray; slight OLO; moist.
		U1	37 to 39	24/15	P-U-S-H					Rollerbit to 37' to take undisturbed sample U1 with hydraulic piston sampler.	U1: FAT CLAY (CH); Similar to S7 (4-18"). PL=23, LL=54; C_c=0.086, C_r=0.013.
-25	45	S8	40 to 42	24/24	WOH-5-8-8	PID = 5.4 PID = 4.8 PID = 0 PID = 2.2			NLO		S8 (0-18"): FAT CLAY (CH); Similar to S7 (4-18"); except brown and silty sand lenses @15-18". **GLACIAL OUTWASH LOWER SAND (CLASS 3B) at ~41.5 ft / El. -25.9** S8 (18-24"): SILTY SAND (SM); ~85% fine to medium sand; ~15% nonplastic fines; dark gray; slight NLO; wet.
-30	50	S9	45 to 47	24/11	7-7-10-7	PID = 18.6 PID = 6.8 PID = 9.1 PID = 5.9			NLO	Rig chatter from 43 to 44'. Rig chatter down to 50'.	S9: SILTY SAND (SM); ~80% fine to medium sand; ~20% low to medium plasticity fines; light brown @0-15", dark brown and gray @15-18", gray @18-24"; slight NLO; wet.
-35	55	S10	50 to 52	24/9	16-10-13-17	PID = 1.0				Add ez mud.	S10: SILTY SAND WITH GRAVEL (SM); ~40% fine to medium sand; ~30% subangular gravel up to 1"; ~30% nonplastic to low plasticity fines; brown / gray; white seams of clay; wet.
-40	60	S11	55 to 57	24/4	5-3-7-23	PID = 1.1			OLO	Add ez mud.	S11: SILTY SAND WITH GRAVEL (SM); Similar to S10; except slight OLO.

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm; PID reading units parts per million (ppm).
Consolidation test results: C_c =Compression Index; C_r =Recompression Index.

PROJECT NAME: National Grid - GPEC PIG Launcher
CITY/STATE: Brooklyn, NY
GEI PROJECT NUMBER: 1803127

GEI Consultants

NORTHING (ft): 686854.8 **EASTING (ft):** 648951.9
GROUND SURFACE EL. (ft): 15.6 **DATE START/END:** 8/10/2018 - 8/14/2018
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** AARCO Environmental

BORING GPEC-SB903

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	DEPTH FT.	PEN/REC IN./IN.	BLOWS /6 in. or RQD	FIELD TEST DATA	GRAPHIC LOG	VISUAL IMPACTS	ODOR	REMARKS	MATERIAL DESCRIPTION
-45	60	S12	60 to 62	24/10	17-35-18-13						S12: SILTY SAND WITH GRAVEL (SM); ~45% fine to medium sand; ~40% fine subangular gravel; ~15% nonplastic fines; brownish gray; wet.
											Bottom of boring at depth 62 ft. Backfilled with grout.
-50	65										
-55	70										
-60	75										
-65	80										
-70	85										
	90										

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm; PID reading units parts per million (ppm).
Consolidation test results: C_c =Compression Index; C_r =Recompression Index.

PROJECT NAME: National Grid - GPEC PIG Launcher
CITY/STATE: Brooklyn, NY
GEI PROJECT NUMBER: 1803127

GEI Consultants

GPEC_BORING LOG 1803127 - GPEC PIG LAUNCHER.GPJ GEI DATA TEMPLATE 2013.GDT 10/19/18

BORING INFORMATION

NORTHING (ft): 686892.5 **EASTING (ft):** 648939.5
GROUND SURFACE EL. (ft): 16.2 **DATE START/END:** 8/10/2018 - 8/13/2018
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** AARCO Environmental
TOTAL DEPTH (ft): 62.0 **DRILLER NAME:** T. Sieckel
LOGGED BY: A. Erb / G. Holmes **RIG TYPE:** Truck-mounted B-58 Mobile

BORING

GPEC-SB904

DRILLING INFORMATION

HAMMER TYPE: Automatic **CASING I.D./O.D.:** 4 inch/ 4.5 inch **CORE BARREL TYPE:** NA
AUGER I.D./O.D.: NA / NA **DRILL ROD O.D.:** NM **CORE BARREL I.D./O.D.:** NA / NA
DRILLING METHOD: Mud rotary with driven casing
WATER LEVEL DEPTHS (ft): ▽ 7.0 8/10/2018 Observed water level in pre-cleared hole.

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split-Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PL = Plasticity Limit
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	DEPTH FT.	PEN/REC IN./IN.	BLOWS /6 in. or RQD	FIELD TEST DATA	GRAPHIC LOG	VISUAL IMPACTS	ODOR	REMARKS	MATERIAL DESCRIPTION
										Pre-cleared by VacEx to 7.5' deep on 8/10/2018.	TOPSOIL. SILTY SAND (SM); brown; dry. Roots, brick fragments. FILL.
										8/13/18 - Aarco begins sampling at 8'.	FILL; bricks with silty sand.
		DCP01	3 to 4.5	18		DPI=12					FILL; Concrete debris.
		DCP02	5 to 5.2	2		DPI=5					
		S1	8 to 10	24/24	30-21-20-20	PID = 5.4			NLO		S1 (0-8"): FILL; brick and rock fragments; black; moist. S1 (8-15"): SILTY SAND WITH GRAVEL (SM); ~55% fine to medium sand; ~30% fine gravel. ~15% nonplastic fines; brown; moist. Clay / silt seams. S1 (15-24"): FILL; Similar to S1 (0-8"); except with gravel; stained black; NLO.
		S2	10 to 12	24/24	6-10-17-11	PID = 3.0 PID = 5.9 PID = 7.1 PID = 5.8			NLO	Drive 10 ft of casing down to 8' below grade. Add water and ez-mud.	S2 (0-16"): NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% fine to medium sand; ~10% nonplastic fines; wet; stained black; NLO. S2 (16-24"): NARROWLY GRADED SAND WITH SILT (SP-SM); ~75% fine to medium sand; ~15% fine gravel; ~10% nonplastic fines; wet; stained black; trace sheen; NLO. Fill.
		S3	15 to 17	24/5	5-3-5-1	PID = 0.7 PID = 1.0			NLO	Drive 5' of additional casing to maintain borehole seal for return water.	S3: NARROWLY GRADED SAND WITH SILT (SP-SM); Similar to S2 (0-16"); except NLO; stained black.
		S4	20 to 22	24/24	WOH-1/18"	PID = 309.7 PID = 156.1 PID = 54.8 PID = 40.9			NLO SLO OLO		S4 (0-6"): SILTY CLAY (CL/ML); ~100% nonplastic to low plasticity fines; gray; wet; white ash; some black staining; NLO and strong SLO. Fill. **MARSH DEPOSITS (CLASS 6) at ~20.5 ft / El. -4.3** S4 (6-24"): PEAT (PT); mostly Silty Clay but fibrous organics present; OLO. Meadow Mat.

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm; PID reading units parts per million (ppm).
Consolidation test results: C_c =Compression Index; C_r =Recompression Index.

PROJECT NAME: National Grid - GPEC PIG Launcher
CITY/STATE: Brooklyn, NY
GEI PROJECT NUMBER: 1803127

GEI Consultants

NORTHING (ft): 686892.5 **EASTING (ft):** 648939.5
GROUND SURFACE EL. (ft): 16.2 **DATE START/END:** 8/10/2018 - 8/13/2018
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** AARCO Environmental

BORING GPEC-SB904

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	DEPTH FT.	PEN/REC IN./IN.	BLOWS /6 in. or RQD	FIELD TEST DATA	GRAPHIC LOG	VISUAL IMPACTS	ODOR	REMARKS	MATERIAL DESCRIPTION
-10		S5	25 to 27	24/24	2-2-3-6	PID = 216.9 PID = 364.1 PID = 110.4 PID = 91.1 Qp = 1 tsf, 0.75 tsf, .25 tsf, 2.5 tsf			OLO	Add more ez mud.	S5: PEAT (PT); Fibrous, wooden; dark gray with some black staining; wet; stiff @18-24". 55.7% organic content; PL=144, LL=428.
											GLACIAL OUTWASH UPPER SAND (CLASS 3B) at ~28.5 ft / El. -12.3
-15	-30	S6	30 to 32	24/16	6-7-8-8	PID = 91.1 PID = 14.7 PID = 3.9			NLO		S6: SILTY SAND (SM); ~80% mostly fine to medium sand; ~15% nonplastic to low plasticity silty fines; <5% fine gravel; gray; wet; slight NLO.
-20	-35	S7	35 to 37	24/17	7-8-9-12	PID = 1.0 Qp = 1 tsf, 0.65 tsf			OLO		S7: SILTY SAND (SM); ~85% fine to medium sand; ~15% nonplastic fines; gray; wet; OLO.
											GLACIAL OUTWASH CLAY (CLASS 4B) at ~38.5 ft / El. -22.3
-25	-40	S8	40 to 42	24/20	1-7-15-15	PID = 261.4 PID = 17.1			OLO NLO		S8 (0-13"): FAT CLAY (CH); ~100% clayey fines; gray; moist; OLO. PL=23, LL=54. **GLACIAL OUTWASH LOWER SAND (CLASS 3B) at ~41.3 ft / El. -25.1** S8 (13-20"): SILTY SAND (SM); ~85% fine to medium sand; ~15% nonplastic fines; gray; wet; NAPL Coating @17" with strong NLO; slight NLO @13-17" and @17-20".
-30	-45	S9	45 to 46	12/9	12-50/6"					Rig chatter from 48 to 48.5'.	S9: SILTY SAND WITH GRAVEL (SM); ~50% sand; ~30% subangular gravel up to 0.5"; ~20% nonplastic fines; gray @0-7", tan brown @7-9"; wet.
-35	-50	S10	50 to 52	24/21	15-23-27-24					Add more ez mud.	S10: SILTY SAND SAND WITH GRAVEL (SM); Similar to S9.
-40	-55	S11	55 to 57	24/15	8-7-8-10					Rollerbit down to 55'. Return water came back black and had an organic odor. Rods become clogged.	S11: SILTY SAND WITH GRAVEL (SM); Similar to S9; except ~15% fines.

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm; PID reading units parts per million (ppm).
Consolidation test results: C_c =Compression Index; C_r =Recompression Index.

PROJECT NAME: National Grid - GPEC PIG Launcher
CITY/STATE: Brooklyn, NY
GEI PROJECT NUMBER: 1803127

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NORTHING (ft): 686892.5 **EASTING (ft):** 648939.5
GROUND SURFACE EL. (ft): 16.2 **DATE START/END:** 8/10/2018 - 8/13/2018
VERT./HORIZ. DATUMS: NAVD88/NAD83 NY Zone 3101 **DRILLING COMPANY:** AARCO Environmental

BORING GPEC-SB904

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	DEPTH FT.	PEN/REC IN./IN.	BLOWS /6 in. or RQD	FIELD TEST DATA	GRAPHIC LOG	VISUAL IMPACTS	ODOR	REMARKS	MATERIAL DESCRIPTION
										Rig chatter around 59'.	
-45	60	S12	60 to 62	24/0	7-3-9-4						S12: NO RECOVERY.
											Bottom of boring at depth 62 ft. Backfilled with grout.
-50	65										
-55	70										
-60	75										
-65	80										
-70	85										
	90										

NOTES: Dynamic Cone Penetrometer (DCP) Test.
DCP_{Index} (DPI) provided above in mm/blow over test interval.
Background PID = 0.0 ppm; PID reading units parts per million (ppm).
Consolidation test results: C_c =Compression Index; C_r =Recompression Index.

PROJECT NAME: National Grid - GPEC PIG Launcher
CITY/STATE: Brooklyn, NY
GEI PROJECT NUMBER: 1803127

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GPEC_BORING LOG 1803127 - GPEC PIG LAUNCHER.GPJ GEI DATA TEMPLATE 2013.GDT 10/19/18

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GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

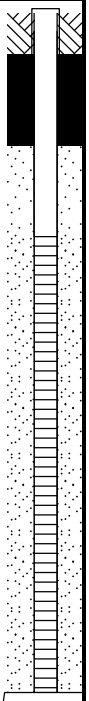
CLIENT: National Grid - Greenpoint
PROJECT: Ph. 3 RI Additional Investigations
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180

BORING LOG
PAGE 1 of 1
GPEC-GT01S

GROUND SURFACE ELEVATION (FT): 11.46 **LOCATION:** Area 4
NORTHING (FT): 687038 **EASTING (FT):** 649697 **TOTAL DEPTH (FT):** 15.0
DRILLED BY: Cascade Drilling / R. Gerard-Maillet **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 1/30/2017 - 1/30/2017
DRILLING DETAILS: Sonic Coring / TerraSonic TSI 150CC
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
10	0						NLO	(0'- 8') VACUUM/ HAND CLEARED; moderate naphthalene-like odor, stained.
5	5							
		S1	2/NM					(8'- 10') NO RECOVERY.
0	10	S2	5/2.2	0.0				(10'- 12.7') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, angular to subangular, ~15% fines, low plasticity; max. gravel size 2.5", wet, brown, red brick fragments, FILL.
				1.0				(12.7'- 15') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, angular to subangular, ~15% fines, low plasticity; max. gravel size 2.5", wet, brown, red brick fragments, black ash, appears like orange spraypaint (fall in?), FILL, black staining, faint burnt odor.
				2.0				
	15							End of Boring at 15 feet.
								Monitoring well installed

WELL DETAILS



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Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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IN. = INCHES
FT. = FEET

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

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

ENVIRONMENTAL BORING LOG JANUARY 2017 GREENPOINT BORINGS LCM.GPJ GEI TEMPLATE 11-7-13.GDT 7/29/19

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Ph. 3 RI Additional Investigations
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180

BORING LOG
PAGE 1 of 7
GPEC-GT5D

GROUND SURFACE ELEVATION (FT): 12.22 **LOCATION:** Area 4
NORTHING (FT): 687307 **EASTING (FT):** 650421 **TOTAL DEPTH (FT):** 177.0
DRILLED BY: Cascade Drilling / M. Osterberg **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: A. Adegbayi **DATE START / END:** 1/26/2017 - 1/27/2017
DRILLING DETAILS: Sonic Coring / ProSonic T7500
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: 0-8 FT BGS vacuum / hand-cleared prior to boring advancement.

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	S1	7/6.7	9.1				(0'- 7') SILTY SAND (SM); ~60% sand, fine to coarse, angular, ~20% gravel, coarse, angular, ~20% fines, non plastic; max. gravel size 5", slight petroleum-like odor, brown and black, cobbles, red brick fragments, FILL, trace of black staining.	
				35.8					
10				12.1					
				15.9					
				25.1			PLO		
	5			17.1					
				17.5					
				13.4					
5		S2	10/10	674.0				(7'- 9.1') SILTY SAND (SM); ~60% sand, fine to coarse, angular, ~20% gravel, coarse, angular, ~20% fines, non plastic; max. gravel size 5", slight petroleum-like odor, brown and black, cobbles, red brick fragments, FILL, trace of black staining.	
				135.0			PLO		
	10							(9.1'- 12') PEAT (PT); moderate organic-like odor, moist, meadow mat, root fibers.	
				477.0			OLO		
0				70.5				(12'- 27') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% gravel, fine; moderate petroleum-like odor, moist, light brown.	
				126.1					
				137.9					
	15			70.5					
				100.9					
-5		S3	10/10	37.0			PLO		
	20			45.0					
-10				46.0					

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CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
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GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
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CLIENT: National Grid - Greenpoint
PROJECT: Ph. 3 RI Additional Investigations
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180

BORING LOG

GPEC-GT5D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	25			39.1			PLO		
-15		S4	10/10	11.0				(27'- 29.5') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% gravel, fine; slight petroleum-like odor, moist, light brown.	
				4.7			PLO		
	30			0.0				(29.5'- 47') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subrounded, ~20% gravel, fine to coarse, subrounded; max. gravel size 4", wet, gray to brown.	
-20				0.0					
				0.0					
	35			0.0					
				0.0					
-25		S5	10/10	0.0					
	40								
-30				0.0					
	45								
-35		S6	10/10	0.0				(47'- 57') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subrounded, ~20% gravel, fine to coarse, subrounded; max. gravel size 4", wet, gray to brown, ~6" thick lense of gray/brown fine sand at middle of sample.	
	50								
-40				0.0					

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ENVIRONMENTAL BORING LOG JANUARY 2017 GREENPOINT BORINGS LCM.GPJ GEI TEMPLATE 11-7-13.GDT 7/29/19

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BORING LOG

GPEC-GT5D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-45	55	S7	10/10	0.0				(57'- 67') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subrounded, ~20% gravel, fine to coarse, subrounded; max. gravel size 4", wet, gray to brown.	
-55	65	S8	10/10	0.0				(67'- 77') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subrounded, ~20% gravel, fine to coarse, subrounded; max. gravel size 4", wet, light brown.	
-65	75	S9	10/10	0.0				(77'- 87') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subrounded, ~20% gravel, fine to coarse, subrounded; max. gravel size 4", wet, gray to brown.	
-70	80								
-50	60								
-60	70								

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110 Walt Whitman Road
Suite 204
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BORING LOG

GPEC-GT5D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	85								
-75		S10	10/10	0.0				(87'- 97') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subrounded, ~20% gravel, fine to coarse, subrounded; max. gravel size 4", wet, gray to brown, ~6" thick lense of very fine sand at middle of sample.	
	90								
-80									
	95								
-85		S11	10/10	0.0				(97'- 129.5') SILTY SAND (SM); ~60% sand, fine to medium, ~25% fines, non plastic, ~15% gravel, coarse, subrounded; max. gravel size 4", wet, light brown to tan.	
	100								
-90									
	105								
-95		S12	10/10	0.0					
	110								
-100									

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ENVIRONMENTAL BORING LOG JANUARY 2017 GREENPOINT BORINGS LCM.GPJ GEI TEMPLATE 11-7-13.GDT 7/29/19

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BORING LOG

GPEC-GT5D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-105	115	S13	10/10	0.0					
-110	120								
-115	125	S14	10/8.3	0.0					
-120	130							(129.5'- 137') FAT CLAY (CH); ~100% fines, low plasticity; moist, gray.	
-125	135	S15	10/8.3	0.0				(137'- 142.6') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines, non plastic; gray to dark gray.	
	140			0.0					

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BORING LOG
PAGE 6 of 7
GPEC-GT5D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
130	145			0.0				(142.6'- 147') CLAYEY SAND (SC); red.	
				0.0					
135	150	S16	10/10	0.0				(147'- 152') SILT (ML); ~95% fines, non plastic, ~5% sand, fine; red and green, stiff.	
140	155			0.0				(152'- 177') SILT (ML); ~100% fines, non plastic; moist, green.	
145	160	S17	10/10	0.0					
150	165								
155	170	S18	10/10	0.0					

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ENVIRONMENTAL BORING LOG JANUARY 2017 GREENPOINT BORINGS LCM.GPJ GEI TEMPLATE 11-7-13.GDT 7/29/19

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BORING LOG

GPEC-GT5D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-160									
	175							End of Boring at 177 feet. Monitoring well installed	

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ENVIRONMENTAL BORING LOG JANUARY 2017 GREENPOINT BORINGS LCM.GPJ GEI TEMPLATE 11-7-13.GDT 7/29/19

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BORING LOG
PAGE 1 of 2
GPEC-GT5I

GROUND SURFACE ELEVATION (FT): 12.26 **LOCATION:** Area 4
NORTHING (FT): 687298 **EASTING (FT):** 650424 **TOTAL DEPTH (FT):** 40.0
DRILLED BY: Cascade Drilling / R. Gerard-Maillet **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 1/25/2017 - 1/25/2017
DRILLING DETAILS: Sonic Coring / TerraSonic TSI 150CC
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0						PLO	(0'- 8') VACUUM/ HAND CLEARED; moderate petroleum-like odor.	
5	5								
		S1	2/NM					(8'- 10') NO RECOVERY, too soft.	
0	10	S2	10/8.4	0.2 1.0 2.0 28.0 41.0			PLO	(10'- 13.5') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, angular to subrounded, ~20% fines, low plasticity; max. gravel size 3", slight petroleum-like odor, wet, brown, cobbles up to 4", trace black staining in bottom 7" of sample.	
-5	15			8.0 7.1 12.5 3.5 7.0 21.0 328.0 8.0 7.5			PLO	(13.5'- 20') SILTY SAND (SM); ~70% sand, fine to medium, ~30% fines, non plastic to low plasticity; moderate petroleum-like odor, moist to wet, light brown, trace roots.	
-10	20	S3	10/7.2	8.5 3.0 40.0 25.0 21.0 12.5 8.5 41.0			PLO	(20'- 24') SILTY SAND (SM); ~70% sand, fine to medium, ~30% fines, non plastic to low plasticity; moderate petroleum-like odor, moist to wet, light brown, trace roots.	

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JHS = JAR HEADSPACE PID READING (PPM)

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S_V = TORVANE PEAK

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

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PLO = PETROLEUM LIKE ODOR
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ENVIRONMENTAL BORING LOG JANUARY 2017 GREENPOINT BORINGS LCM.GPJ GEI TEMPLATE 11-7-13.GDT 7/29/19

GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Ph. 3 RI Additional Investigations
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180

BORING LOG
PAGE 2 of 2
GPEC-GT5I

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	25			27.0 3.5			PLO	(24'- 25.1') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 3", moderate petroleum-like odor, wet, brown.	
							PLO	(25.1'- 27.7') SILTY SAND (SM); ~60% sand, fine to medium, ~40% fines, low plasticity; moderate petroleum-like odor, wet, brown.	
-15				2.5			PLO	(27.7'- 30') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 3", slight petroleum-like odor, wet, gray to brown.	
	30	S4	10/7.7	2.0				(30'- 40') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 3", slight petroleum-like odor, wet, gray to brown, some cobbles up to 4.5".	
-20				1.5 0.5 0.0 11.0					
	35			10.0 3.5			PLO		
-25				1.5 0.0					
	40							End of Boring at 40 feet. Monitoring well installed	

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BORING LOG
PAGE 1 of 3
GPEC-MW1D

GROUND SURFACE ELEVATION (FT): 7.38 **LOCATION:** Area 1
NORTHING (FT): 687802 **EASTING (FT):** 651249 **TOTAL DEPTH (FT):** 70.0
DRILLED BY: Cascade Drilling / M. Osterberg **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: A. Adegbayi **DATE START / END:** 1/18/2017 - 1/18/2017
DRILLING DETAILS: Sonic Coring / ProSonic T7500
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
5	0							(0'- 7') VACUUM/ HAND CLEARED TO 8 FT BGS.	
0	5	S1	10/6.7	0.0				(7'- 17') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~30% fines, non plastic, ~15% gravel, coarse, subrounded; max. gravel size 5", wet, brown, concrete fragments, wood fragments, trace root fibers, FILL.	
-5	10			0.0					
-10	15			0.0					
-15	20	S2	10/5	0.0				(17'- 27') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~70% gravel, coarse to fine, angular to subangular, ~20% sand, fine to coarse, ~10% fines, non plastic; max. gravel size 3.5", brown, trace sheen.	

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BORING LOG
PAGE 2 of 3
GPEC-MW1D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	25								
-20		S3	10/5.8	0.0				(27'- 37') SILTY SAND (SM); ~60% sand, fine to medium, ~30% fines, non plastic, ~10% gravel, coarse; moderate organic-like odor, black, trace meadowmat at bottom of sleeve.	
	30								
-25							OLO		
	35								
-30		S4	10/7.5					(37'- 47') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, coarse, angular, ~5% fines, non plastic; max. gravel size 4", wet, gray, trace sheen.	
	40								
-35									
	45								
-40		S5	10/8.3	31.2				(47'- 53') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, coarse, angular, ~5% fines, non plastic; max. gravel size 4", wet, gray, NAPL blebs.	
				120.4					
				86.9					
	50			97.2					
				49.5					
-45				68.9					
				0.0				(53'- 57') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90%	

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BORING LOG

GPEC-MW1D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	55							sand, medium to fine, ~10% fines, non plastic; gray.	
-50		S6	10/10					(57'- 62') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, medium to fine, ~10% fines, non plastic; moist, gray.	
	60								
-55				3.5				(62'- 67') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, medium to fine, ~10% fines, non plastic; gray, NAPL blebs at 68 ft BGS.	
	65								
-60								(67'- 70') Driller overdrilled by 3 ft to 70 ft BGS.	
	70							End of Boring at 70 feet. Monitoring well installed	

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BORING LOG
PAGE 1 of 2
GPEC-MW332I

GROUND SURFACE ELEVATION (FT): 13.86 **LOCATION:** Area 5
NORTHING (FT): 686987 **EASTING (FT):** 649441 **TOTAL DEPTH (FT):** 45.0
DRILLED BY: Cascade Drilling / R. Gerard-Maillet **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 1/24/2017 - 1/24/2017
DRILLING DETAILS: Sonic Coring / TerraSonic TSI 150CC
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0						NLO	(0'- 8') VACUUM/ HAND CLEARED; moderate naphthalene-like odor, staining.	
5	5	S1	2/NM					(8'- 10') NO RECOVERY.	
0	10	S2	5/NM					(10'- 15') NO RECOVERY.	
-5	15	S3	5/4.6	0.0			PLO	(15'- 17.4') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, subangular to angular, ~15% fines, low plasticity; max. gravel size 2.5", moderate petroleum-like odor, wet, red brick fragments, wood fragments, FILL, loose.	
				5.0			NLO	(17.4'- 20') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, subangular to angular, ~15% fines, low plasticity; max. gravel size 2.5", moderate naphthalene-like odor, wet, red brick fragments, wood fragments, cinders, white ash, FILL, sheen and staining, loose.	
	20	S4	5/3.7	13.0			NLO	(20'- 21.6') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, subangular to angular, ~15% fines, low plasticity; max. gravel size 2.5", strong naphthalene-like odor, wet, red brick fragments, wood fragments, cinders, white ash, FILL, saturated with NAPL, loose.	
				81.0					
				64.0					
				44.0			NLO		
				21.0				(21.6'- 23.2') SANDY LEAN CLAY WITH GRAVEL (SC); ~50% fines, low plasticity, ~30% sand, fine to coarse, ~20% gravel, fine to coarse, angular to subangular; max. gravel size 2", strong	
				17.0			OLO		

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BORING LOG
PAGE 2 of 2
GPEC-MW332I

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	25			22.0			OLO	naphthalene-like odor, stained black. (23.2'- 25') PEAT (PT); strong organic-like odor, moist, brown, meadow mat, leaf fragments, roots.	
-15	30	S5	5/NM					(25'- 30') NO RECOVERY.	
		S6	5/3.4	16.0 33.0 6.0 3.5			OLO	(30'- 35') PEAT (PT); moderate organic-like odor, moist, brown, meadow mat, leaf fragments, roots.	
-20	35	S7	5/5	0.0				(35'- 45') CLAY WITH SAND (CL); ~85% fines, medium plasticity, ~15% sand, fine to medium; slight organic-like odor, wet, gray.	
-25	40	S8	5/5	0.0			OLO		
-30	45							End of Boring at 45 feet. Monitoring well installed	

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BORING LOG
PAGE 1 of 4
GPEC-MW401

GROUND SURFACE ELEVATION (FT): 30.02 **LOCATION:** Area 9
NORTHING (FT): 688086 **EASTING (FT):** 649002 **TOTAL DEPTH (FT):** 100.0
DRILLED BY: Cascade Drilling / M. Osterberg **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: A. Adegbayi **DATE START / END:** 1/30/2017 - 1/30/2017
DRILLING DETAILS: Sonic Coring / ProSonic T7500
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: 0-8 FT BGS vacuum / hand cleared prior to boring advancement.

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
25	0	S1	7/6.7	0.0			(0'- 7') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, coarse, angular, ~15% fines, non plastic; max. gravel size 3", moist, reddish brown.	
	5			0.0				
20	10	S2	7/5	0.0			(7'- 14') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, coarse, angular, ~15% fines, non plastic; max. gravel size 3", moist, reddish brown, bottom 3-ft of sample void due to cobble/rock jamming sleeve.	
				0.0				
15	15	S3	5/5	0.0			(14'- 27') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, coarse, angular, ~15% fines, non plastic; max. gravel size 3", moist, reddish brown.	
10	20	S4	8/5	0.0				

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BORING LOG

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GPEC-MW401

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
5	25							
		S5	10/8.3	0.0			(27'- 47') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subrounded, ~20% gravel, coarse, subrounded; max. gravel size 3", wet, brown.	
0	30							
-5	35							
		S6	10/8.3	0.0				
-10	40							
-15	45							
		S7	10/4.2	0.0			(47'- 57') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, fine to medium, subrounded, ~20% gravel, coarse, subrounded; max. gravel size 3", wet, brown.	
-20	50							

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BORING LOG

GPEC-MW401

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-25	55							
		S8	10/10	0.0			(57'- 67') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, coarse, subrounded, ~20% gravel, coarse, subrounded; max. gravel size 3", wet, brown.	
-30	60							
-35	65							
		S9	10/10	0.0			(67'- 83') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% gravel, fine; wet, reddish brown.	
-40	70							
-45	75							
		S10	10/8.3	0.0				
-50	80							

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BORING LOG
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GPEC-MW401

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-55	85			0.0			(83'- 86') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to medium, ~10% fines, non plastic; gray.	
		S11	13/13	0.0			(86'- 100') SILT WITH SAND (ML); ~85% fines, low plasticity, ~15% sand, fine; moist, gray.	
-60	90							
-65	95							
	100						End of Boring at 100 feet. Monitoring well installed	

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ENVIRONMENTAL BORING LOG JANUARY 2017 GREENPOINT BORINGS LCM.GPJ GEI TEMPLATE 11-7-13.GDT 7/29/19

GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Ph. 3 RI Additional Investigations
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180

BORING LOG
PAGE 1 of 4
GPEC-MW402

GROUND SURFACE ELEVATION (FT): 13.50 **LOCATION:** Area 7
NORTHING (FT): 688085 **EASTING (FT):** 650301 **TOTAL DEPTH (FT):** 100.0
DRILLED BY: Cascade Drilling / R. Gerard-Maillet **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 1/31/2017 - 1/31/2017
DRILLING DETAILS: Sonic Coring / TerraSonic TSI 150CC
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0						(0'- 8') VACUUM/ HAND CLEARED.	
5	5	S1	2/NM				(8'- 10') NO RECOVERY.	
0	10	S2	10/7	0.0			(10'- 11.5') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% gravel, fine to coarse, angular to subrounded, ~15% fines, non plastic; max. gravel size 3", wet, brown, porcelain fragments, loose, FILL. (11.5'- 16.4') SILT WITH SAND (ML); ~70% fines, low plasticity, ~20% sand, fine, ~10% gravel, fine to coarse, subrounded; max. gravel size 1", wet, brown and tan, tight.	
-5	15							
-10	20	S3	10/10	0.0			(16.4'- 32.5') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; wet, brown, loose.	

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Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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

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BORING LOG

GPEC-MW402

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-15	25							
	30	S4	10/10	0.0			(32.5'- 40') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded to subangular, ~15% fines, non plastic; max. gravel size 2", wet, brown, somewhat loose.	
-20	35							
-25	40	S5	10/9.4	0.0			(40'- 50') SILTY SAND (SM); ~80% sand, fine to coarse, ~20% fines, non plastic; wet, brown, somewhat loose.	
-30	45							
-35	50	S6	10/6.9	0.0			(50'- 65.7') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, rounded to subrounded, ~5% fines, non plastic; max. gravel size 3", wet, brown, some rounded cobbles up to 5", loose.	

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BORING LOG
PAGE 3 of 4
GPEC-MW402

ELEV. FT.	DEPTH FT.	SAMPLE INFO TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-45	55							
	60	S7	10/8.9	0.0				
-50	65						(65.7'- 67.8') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~30% fines, non plastic, ~20% gravel, fine to coarse, subrounded to aubangular; max. gravel size 1.5", wet, brown, loose.	
-55							(67.8'- 70') SILT WITH SAND AND GRAVEL (ML); ~60% fines, low plasticity, ~20% gravel, fine to coarse, subangular to subrounded, ~20% sand, fine to medium; max. gravel size 1", wet, brown with purple, large single piece of cobble/boulder, somewhat loose.	
	70	S8	10/8.8	0.0			(70'- 75.2') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 0.75", wet, brown, loose.	
-60	75						(75.2'- 80') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to medium, ~20% gravel, fine to coarse, subrounded to subangular, ~20% fines, non plastic; max. gravel size 3", wet, brown, loose.	
-65	80	S9	10/10	0.0			(80'- 90') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded to subangular, ~15% fines, non plastic; max. gravel size 3", wet, brown, loose.	

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BORING LOG

GPEC-MW402

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-70	85							
-75	90	S10	10/10	0.0			(90'- 100') SILTY SAND (SM); ~80% sand, fine to coarse, ~15% fines, non plastic, ~5% gravel, fine; wet, brown, loose.	
-80	95							
-85	100						End of Boring at 100 feet. Monitoring well installed	

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BORING LOG
PAGE 1 of 4
GPEC-MW4D

GROUND SURFACE ELEVATION (FT): 6.07 **LOCATION:** Area 2
NORTHING (FT): 688535 **EASTING (FT):** 650952 **TOTAL DEPTH (FT):** 100.0
DRILLED BY: Cascade Drilling / M. Osterberg **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: D. Sharpe **DATE START / END:** 1/31/2017 - 1/31/2017
DRILLING DETAILS: Sonic Coring / ProSonic T7500
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
6	0							(0'- 7') VACUUM / HAND CLEARED TO 8 FT BGS; FILL.	
0	5								
-5	10	S1	10/8	0.0				(7'- 27') SANDY SILT WITH GRAVEL (MLS); ~50% fines, non plastic, ~30% sand, fine to coarse, ~20% gravel, fine to coarse; max. gravel size 3", very wet, red brown, FILL.	
-10	15	S2	10/8	0.0					
-15	20								

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BORING LOG

GPEC-MW4D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-20	25								
		S3	10/NM	0.0				(27'- 30.3') SILT WITH SAND AND GRAVEL (ML); ~60% fines, non plastic, ~20% gravel, ~20% sand, fine to coarse; red brown, FILL.	
-25	30							(30.3'- 33.7') SILT WITH SAND (ML); ~70% fines, non plastic, ~20% sand, fine to coarse, ~10% gravel; red brown and gray, FILL.	
-30	35						NLO	(33.7'- 37') SANDY SILT (MLS); ~60% fines, non plastic, ~35% sand, medium to coarse, ~5% gravel, fine to coarse; max. gravel size 3", slight naphthalene-like odor, red brown to gray, some brick fragments, FILL.	
		S4	10/8	0.0				(37'- 47') SILTY LEAN CLAY WITH SAND (CL); ~85% fines, low plasticity, ~15% sand, fine to coarse; moderate naphthalene-like odor, gray, black staining from 37-39'.	
-35	40								
							NLO		
-40	45								
		S5	10/8	0.0				(47'- 57') SILTY LEAN CLAY WITH SAND (CL); ~75% fines, low plasticity, ~25% sand, fine to coarse; red and gray.	
-45	50								

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BORING LOG
PAGE 3 of 4
GPEC-MW4D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-50	55								
		S6	10/8	0.0				(57'- 87') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine to coarse; max. gravel size 1", wet, red brown and gray.	
-55	60								
-60	65	S7	10/8	0.0					
-65	70								
-70	75	S8	10/8	0.0					
-75	80								

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BORING LOG
PAGE 4 of 4
GPEC-MW4D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-80	85								
		S9	13/8	0.0				(87'- 98.5') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse.	
-85	90								
-90	95								
	100							(98.5'- 100') SILTY SAND (SM); ~75% sand, fine to medium, ~20% fines, non plastic, ~5% gravel, fine to medium; max. gravel size 0.5".	

End of Boring at 100 feet.
Monitoring well installed

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BORING LOG
PAGE 1 of 7
GPEC-MW5D2

GROUND SURFACE ELEVATION (FT): 6.81 **LOCATION:** Area 2
NORTHING (FT): 688970 **EASTING (FT):** 650767 **TOTAL DEPTH (FT):** 190.0
DRILLED BY: Cascade Drilling / M. Osterberg **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: A. Adegbayi **DATE START / END:** 1/19/2017 - 1/20/2017
DRILLING DETAILS: Sonic Coring / ProSonic T7500
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
5	0						PLO	(0'- 7') VACUUM / HAND CLEARED TO 8 FT BGS; moderate petroleum-like odor, stained.	
0	5								
		S1	10/6.7	31.2 29.2 45.8 39.6 25.4 10.9 11.1 6.5 4.8			PLO	(7'- 17') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, coarse, angular to subrounded, ~10% fines, non plastic; max. gravel size 4", slight petroleum-like odor, wet, greenish brown, trace sheen, wood fragments, FILL.	
-5	10								
-10	15	S2	10/NM	0.0			PLO	(17'- 27') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, coarse, angular to subangular, ~10% fines, non plastic; max. gravel size 4", slight petroleum-like odor, wet, greenish brown, trace sheen, wood fragments, FILL.	
-15	20			0.0					

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BORING LOG
PAGE 2 of 7
GPEC-MW5D2

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	25						PLO		
-20		S3	10/8.3	0.0				(27'- 32') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, coarse, angular to subangular, ~10% fines, non plastic; max. gravel size 4", slight petroleum-like odor, wet, tan, trace sheen, wood fragments, FILL.	
	30						PLO		
-25								(32'- 36') SILT (ML); ~100% fines, non plastic; trace peat.	
	35								
-30							OLO	(36'- 37') SILT WITH SAND (ML); ~85% fines, non plastic, ~15% sand; moderate organic-like odor, moist, gray.	
		S4	10/10	0.0				(37'- 77') NARROWLY GRADED SAND (SP); ~85% sand, fine to medium, ~10% gravel, coarse, ~5% fines, non plastic; max. gravel size 1", wet.	
	40								
-35									
	45								
-40		S5	10/10	0.0					
	50								
-45									

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BORING LOG

GPEC-MW5D2

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-50	55								
		S6	10/NM	0.0					
-55	60								
	65								
-60		S7	10/10	0.0					
	70								
-65									
	75								
-70		S8	10/10	0.0				(77'- 87') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subrounded, ~20% gravel, coarse; max. gravel size 4", moist.	
	80								
-75									

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OLO = ORGANIC LIKE ODOR
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ENVIRONMENTAL BORING LOG JANUARY 2017 GREENPOINT BORINGS LCM.GPJ GEI TEMPLATE 11-7-13.GDT 8/5/19

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT:	National Grid - Greenpoint
PROJECT:	Ph. 3 RI Additional Investigations
CITY/STATE:	Brooklyn, New York
GEI PROJECT NUMBER:	125180

BORING LOG

GPEC-MW5D2

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-80	85								
		S9	10/10	0.0				(87'- 102') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% gravel, coarse, ~20% fines, non plastic; max. gravel size 3", moist, brown.	
-85	90								
-90	95								
		S10	10/10	0.0					
-95	100							(102'- 109.5') SILT WITH SAND AND GRAVEL (ML); ~50% fines, non plastic, ~25% gravel, fine to coarse, ~25% sand, fine to medium; max. gravel size 1", wet, tan.	
-100	105	S11	10/8.3	0.0					
-105	110							(109.5'- 114') WIDELY GRADED GRAVEL WITH SAND (GW); ~70% gravel, coarse, angular, ~25% sand, fine to coarse, angular, ~5% fines, non plastic; max. gravel size 5", dry.	

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S_V = TORVANE PEAK

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BORING LOG
PAGE 5 of 7
GPEC-MW5D2

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-110	115							(114'- 122') SILT WITH SAND (ML); ~80% fines, non plastic, ~20% sand, fine; moist, greenish, firm, stiff.	
		S12	10/10	0.0					
-115	120							(122'- 127') SILT (ML); ~100% fines, non plastic; moist, reddish brown to gray, firm, stiff.	
-120	125	S13	10/6.7	0.0				(127'- 130.8') WIDELY GRADED SAND AND GRAVEL (SW); ~70% sand, coarse to fine, angular, ~20% gravel, fine to coarse, ~10% fines, non plastic; dry, brown.	
-125	130							(130.8'- 137') SILT (ML); ~95% fines, low plasticity, ~5% sand, fine; moist, green, stiff.	
-130	135	S14	10/8.3	0.0				(137'- 187') SILT (ML); ~95% fines, low plasticity, ~5% sand, fine; moist, light green.	
	140								

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BORING LOG

GPEC-MW5D2

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
140	145								
		S15	10/10	0.0					
145	150								
150	155	S16	10/8.3	0.0					
155	160								
160	165	S17	10/8.3	0.0					
	170								

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BORING LOG
PAGE 7 of 7
GPEC-MW5D2

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
165	175								
170	180	S18	10/10	0.0					
175	185	S19	3/3	0.0				(187'- 190') GRAVELLY SILT (ML); top of weathered bedrock (gray gneiss) at sample bottom.	
180	190							End of Boring at 190 feet. Monitoring well installed	

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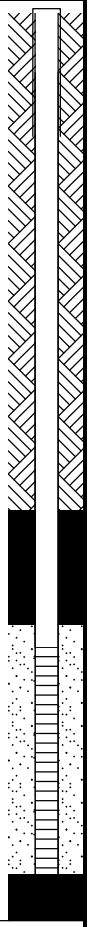
BORING LOG
PAGE 1 of 1
GPEC-SIS-102I

GROUND SURFACE ELEVATION (FT): 11.99 **LOCATION:** Maspeth Avenue
NORTHING (FT): 687056 **EASTING (FT):** 649882 **TOTAL DEPTH (FT):** 20.0
DRILLED BY: Cascade Drilling / E. Moraitis **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 2/15/2017 - 2/15/2017
DRILLING DETAILS: Geoprobe / GeoProbe 7822 DT
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
10	0							(0'- 7') VACUUM/ HAND CLEARED.
5	5							
5		S1	3/1.2	0.0				(7'- 9.4') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, low plasticity, ~20% gravel, fine to coarse, angular to subangular; max. gravel size 1.5", wet, brown, red brick fragments, FILL.
	10	S2	5/NM				OLO	(9.4'- 10') SILTY SAND (SM); ~70% sand, fine to coarse, ~30% fines, low plasticity; moderate organic-like odor, wet, gray to black, shell fragments, trace roots. (10'- 15') NO RECOVERY.
0								
	15	S3	5/0.8	0.0			OLO	(15'- 20') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% gravel, fine to coarse, angular to subangular, ~15% fines, non plastic; max. gravel size 0.75", moderate organic-like odor, wet, brown, shell fragments.
-5								
	20							End of Boring at 20 feet. Monitoring well installed

WELL DETAILS



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BORING LOG
PAGE 1 of 1
GPEC-SIS-104I

GROUND SURFACE ELEVATION (FT): 11.86 **LOCATION:** Maspeth Avenue
NORTHING (FT): 687250 **EASTING (FT):** 650436 **TOTAL DEPTH (FT):** 22.0
DRILLED BY: Cascade Drilling / E. Moraitis **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 2/13/2017 - 2/13/2017
DRILLING DETAILS: Geoprobe / GeoProbe 7822 DT
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0							(0'- 7') VACUUM/ HAND CLEARED.	
5	5	S1	3/0.9	1.5 2.6 4.9			PLO	(7'- 10') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded to subangular, ~15% fines, non plastic; max. gravel size 0.75", slight petroleum-like odor, dry, brown.	
0	10	S2	5/3.1	7.5 8.8 11.1			PLO	(10'- 15') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; moderate petroleum-like odor, wet, gray, trace black staining.	
-5	15	S3	5/4.8	14.7 14.2 13.5 11.1 10.8			PLO	(15'- 20') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; moderate petroleum-like odor, wet, gray, trace sheen and black staining.	
-10	20	S4	2/2	12.4 13.1 11.8			PLO	(20'- 22') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded to subangular; max. gravel size 0.75", moderate petroleum-like odor, wet, gray, sheen. End of Boring at 22 feet. Monitoring well installed	

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BORING LOG
PAGE 1 of 5
GPE-MW2D2

GROUND SURFACE ELEVATION (FT): 7.52 **LOCATION:** Area 8
NORTHING (FT): 689367 **EASTING (FT):** 650596 **TOTAL DEPTH (FT):** 137.0
DRILLED BY: Cascade Drilling / M. Osterberg **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: C. Morris **DATE START / END:** 1/24/2017 - 1/24/2017
DRILLING DETAILS: Sonic Coring / ProSonic T7500
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
5	0							(0'- 7') VACUUM / HAND CLEARED TO 8 FT BGS.	
0	5	S1	10/8	0.0				(7'- 17') 17 SM SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% fines, non plastic, ~15% gravel, fine to coarse, angular to aubangular; max. gravel size 3", gray, loose.	
-5	10			0.0					
-10	15	S2	10/NM					(17'- 27') NO RECOVERY, very loose.	
-15	20								

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BORING LOG

GPE-MW2D2

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	25								
-20		S3	10/8.3	0.0				(27'- 34.2') SILTY SAND (SM); ~70% sand, fine to coarse, ~20% fines, non plastic, ~10% gravel, fine to coarse, angular/subangular; max. gravel size 4", light brown, loose, soft.	
	30								
-25									
	35						OLO	(34.2'- 35') SILTY SAND (SM); ~70% sand, fine to coarse, ~20% fines, non plastic, ~10% gravel, fine to coarse, angular/subangular; max. gravel size 4", light brown, with some large, rounded cobbles max. size 5", loose, soft.	
							OLO	(35'- 36') SILTY SAND (SM); ~60% sand, fine to medium, ~30% fines, low plasticity, ~10% gravel, fine; moderate organic-like odor, gray black.	
-30		S4	10/10	0.0			PLO	(36'- 37') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine; moderate organic-like odor, gray, small lenses (<1") of light brown silty clay. (37'- 41') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine; slight petroleum-like odor, gray.	
	40						PLO	(41'- 42.5') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines, non plastic; slight petroleum-like odor, gray.	
-35								(42.5'- 47') WIDELY GRADED SAND (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines, non plastic; max. gravel size 3", slight petroleum-like odor, light brown, odor stops at 46'.	
	45						PLO		
-40		S5	10/6.7	0.0				(47'- 57') WIDELY GRADED SAND (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines, non plastic; max. gravel size 3", light brown, several large cobbles max. size 5" from 56.5 to 57'.	
	50								
-45									

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BORING LOG
PAGE 3 of 5
GPE-MW2D2

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	55								
-50		S6	10/10	0.0				(57'- 65') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~10% gravel, fine; light brown.	
	60								
-55									
	65							(65'- 67') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines, non plastic; max. gravel size 2", light brown.	
-60		S7	10/10	0.0				(67'- 67.5') COBBLE, 3"x6". (67.5'- 68') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~10% gravel, fine; light brown. (68'- 68.7') LEAN CLAY (CL); ~100% fines, low to medium plasticity; brown and gray. (68.7'- 77') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines, non plastic; max. gravel size 2", light brown.	
	70								
-65									
	75								
-70		S8	10/10	0.0				(77'- 83') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse; max. gravel size 2", light brown.	
	80								
-75									

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BORING LOG
PAGE 4 of 5
GPE-MW2D2

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	85							(83'- 86.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines, non plastic; max. gravel size 2", light brown.
-80		S9	10/9.2	0.0				(86.5'- 87') GRAVELLY SILT (ML); ~50% fines, low plasticity, ~40% gravel, coarse, ~10% sand, fine to medium; cobbles max. size 5", dense, firm. (87'- 91.3') SILT WITH SAND (ML); ~90% fines, low plasticity, ~10% sand, fine; greenish gray (87-89.5') and gray, (89.5-91'), dense, firm.
	90							
-85								(91.3'- 101') LEAN CLAY (CL); ~100% fines, low to medium plasticity; dry, dark gray, dense, firm, interbedded lenses of green silt.
	95							
-90		S10	10/10	0.0				
	100							(101'- 103') SILT (ML); ~100% fines, low plasticity; gray, firm.
-95								(103'- 103.5') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~10% gravel, fine. (103.5'- 107') SILT (ML); ~100% fines, low plasticity; gray, firm.
	105							
-100		S11	10/10	0.0				(107'- 110') SILT (ML); ~90% fines, low plasticity, ~10% sand, fine.
	110							(110'- 111.5') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines, non plastic; gray. (111.5'- 117') LEAN CLAY (CL); ~100% fines, low to medium

WELL DETAILS

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S_V = TORVANE PEAK

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

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GEI Consultants

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110 Walt Whitman Road
Suite 204
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New York 11746

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PROJECT: Ph. 3 RI Additional Investigations
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180

BORING LOG
PAGE 5 of 5
GPE-MW2D2

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	115							plasticity; dry, light gray, with red/brown/black interbedded layers, dense, firm.	
-110		S12	20/20	0.0				(117'- 131') SILT (ML); ~90% fines, low plasticity, ~10% sand, fine; dry, green and gray, green with red banding from 123 to 125', dense, firm.	
	120								
-115									
	125								
-120									
	130							(131'- 133') SILT WITH SAND (ML); ~80% fines, low plasticity, ~15% sand, fine, ~5% gravel, fine; dry, green, dense.	
-125								(133'- 137') LEAN CLAY (CL); ~100% fines, low to medium plasticity; dry, light green, dense.	
	135								
								End of Boring at 137 feet. Monitoring well installed	

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ENVIRONMENTAL BORING LOG JANUARY 2017 GREENPOINT BORINGS LCM.GPJ GEI TEMPLATE 11-7-13.GDT 7/29/19

GEI Consultants, Inc. P.C. 110 Walt Whitman Road Suite 204 Huntington Station, New York 11746	CLIENT: National Grid - Greenpoint PROJECT: Ph. 3 RI Additional Investigations CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180	BORING LOG PAGE 1 of 6 MW-2D

GROUND SURFACE ELEVATION (FT): 57.02 LOCATION: Area 6
NORTHING (FT): 688812 EASTING (FT): 648804 TOTAL DEPTH (FT): 150.0
DRILLED BY: Cascade Drilling / R. Gerard-Maillet DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes DATE START / END: 1/26/2017 - 1/27/2017
DRILLING DETAILS: Sonic Coring / TerraSonic TSI 150CC
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: 0-8 FT BGS vacuum / hand cleared prior to boring advancement.

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
55	0	S1	10/6.1	0.0			(0'- 10') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, angular to subrounded, ~15% fines, low plasticity; max. gravel size 2.5", light brown, trace roots, FILL, wet from 43".	
50	5							
45	10	S2	10/6	0.0			(10'- 15.6') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, angular to subrounded, ~15% fines, low plasticity; max. gravel size 2.5", wet, light brown, trace roots, red brick fragments, FILL, tight.	
40	15						(15.6'- 18.8') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to subrounded; max. gravel size 2.75", moist, light brown to tan, loose.	
35	20	S3	10/2.2	0.0			(18.8'- 20') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% fines, non plastic, ~15% gravel, fine to coarse, subrounded to subangular; max. gravel size 1.5", moist, brown, tight. (20'- 21.5') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% fines, non plastic, ~15% gravel, fine to coarse, subrounded to subangular; max. gravel size 1.5", wet, brown, tight. (21.5'- 25') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 2.5", wet, light brown, loose.	

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BORING LOG

MW-2D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
30	25						(25'- 32.4') SILTY SAND (SM); ~80% sand, fine to medium, ~20% fines, non plastic; moist, brown to tan, loose.	
25	30	S4	10/8.3	0.0			(32.4'- 34.9') SILT WITH SAND (ML); ~80% fines, low plasticity, ~20% sand, fine; wet, tan to reddish brown, tight.	
20	35						(34.9'- 36.6') NARROWLY GRADED SAND (SP); ~100% sand, medium to coarse; wet, brown to orange, loose.	
15	40	S5	10/2	0.0			(36.6'- 45') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to medium, ~25% fines, low plasticity, ~15% gravel, fine to coarse, subrounded to subangular; max. gravel size 2", wet, light brown, cobbles up to 4", some oxidation.	
10	45						(45'- 51.9') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to medium, subrounded to subangular, ~5% fines, non plastic; max. gravel size 1", wet, light brown to orange, loose.	
5	50	S6	10/6.3	0.0			(51.9'- 64.9') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 2", wet, light brown, loose.	

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BORING LOG

MW-2D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
0	55							
-5	60	S7	10/8.5	0.0				
-10	65						(64.9'- 70') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; wet, light brown, loose.	
-15	70	S8	10/4.5	0.0			(70'- 72.8') NARROWLY GRADED SAND WITH GRAVEL (SP); ~60% sand, medium to coarse, ~40% gravel, fine to coarse, subrounded to subangular; max. gravel size 2.5", wet, brown, loose.	
-20	75						(72.8'- 80') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 1.5", wet, brown, loose.	
-25	80	S9	10/8.4	0.0			(80'- 81.5') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; wet, light brown, loose.	
							(81.5'- 90') NARROWLY GRADED SAND WITH GRAVEL (SP); ~75% sand, medium to coarse, ~25% gravel, fine to coarse, subrounded to	

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MW-2D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	85						subangular; max. gravel size 2.5", wet, light brown, cobbles up to 4", loose.	
-30	90	S10	10/8.9	0.0			(90'- 105') NARROWLY GRADED SAND WITH GRAVEL (SP); ~75% sand, medium to coarse, ~25% gravel, fine to coarse, subrounded to subangular; max. gravel size 2.5", wet, light brown, cobbles up to 4", loose.	
-35								
	95							
-40								
	100	S11	10/2.2	0.0				
-45								
	105						(105'- 110') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines, low plasticity; max. gravel size 2.25", wet, brown to orange, loose.	
-50								
	110	S12	10/10	0.0			(110'- 118.6') SILTY SAND (SM); ~80% sand, fine to coarse, ~20% fines, low plasticity; wet, brown to orange, loose.	
-55								

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ENVIRONMENTAL BORING LOG JANUARY 2017 GREENPOINT BORINGS LCM.GPJ GEI TEMPLATE 11-7-13.GDT 7/29/19

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BORING LOG

MW-2D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-60	115							
	120	S13	10/10	0.0			(118.6'- 120') SILTY SAND (SM); ~60% sand, fine to medium, ~40% fines, non plastic to low plasticity; moist, gray, tight. (120'- 141') FAT CLAY (CH); ~100% fines, medium plasticity; moist, gray, tight.	
-65								
	125							
-70								
	130	S14	10/10	0.0				
-75								
	135							
-80								
	140	S15	10/10	0.0			(141'- 144') SILTY SAND (SM); ~85% sand, fine to coarse, ~15% fines,	

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BORING LOG

MW-2D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
							non plastic; wet, brown, loose.	
-90	145						(144'- 150') FAT CLAY WITH GRAVEL (CH); ~80% fines, medium plasticity, ~20% gravel, fine to coarse, subrounded; max. gravel size 1", moist, light gray and red, very tight.	
	150						End of Boring at 150 feet. Monitoring well installed	

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BORING LOG
PAGE 1 of 2
GPEC-MW403

GROUND SURFACE ELEVATION (FT): 7.91 **LOCATION:** Area 1
NORTHING (FT): 687736 **EASTING (FT):** 651255 **TOTAL DEPTH (FT):** 50.0
DRILLED BY: Cascade Drilling / Jon Weeks **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 2/28/2017 - 2/28/2017
DRILLING DETAILS: Sonic Coring / TerraSonic TSI 150CC
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: 0-8 FT BGS vacuum / hand cleared prior to boring advancement.

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
5	0	S1	5/0.9	0.0				(0'- 5') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, angular to subangular, ~5% fines, non plastic; max. gravel size 2", dry, brown, red brick fragments, wood fragments, FILL, loose.	
0	5	S2	5/1.3	0.0				(5'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, angular to subangular, ~5% fines, non plastic; max. gravel size 2", dry, brown, red brick fragments, wood fragments, FILL, loose, wet at sample bottom.	
-5	10	S3	10/6	0.0			OLO	(10'- 20') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~35% fines, low plasticity, ~15% gravel, fine to coarse, angular to subrounded; max. gravel size 3", slight organic-like odor, wet, brown to black, wood fragments, FILL, moderately loose.	
-10	15								
-15	20	S4	4/4	0.0				(20'- 24') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, medium to coarse, ~40% gravel, fine to coarse, angular to subrounded; max. gravel size 3.5", wet, black, cobbles >4.5", red brick fragments, wood fragments, FILL, loose.	

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BORING LOG
PAGE 2 of 2
GPEC-MW403

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	25	S5	6/4.9	0.0			NLO	(24'- 26.1') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, medium to coarse, ~40% gravel, fine to coarse, angular to subrounded; max. gravel size 3.5", moderate naphthalene-like odor, wet, black, cobbles >4.5", red brick fragments, wood fragments, FILL, loose.	
-20							OLO	(26.1'- 29.4') PEAT (PT); strong organic-like odor, reddish brown, meadow mat, fibrous, roots, leaves, tight.	
	30	S6	10/7.6	0.0				(29.4'- 30') SILTY SAND (SM); ~70% sand, fine to medium, ~30% fines, low plasticity; wet, gray, loose.	
-25							OLO	(30'- 35.2') SILTY SAND (SM); ~70% sand, fine to medium, ~30% fines, low plasticity; slight organic-like odor, wet, gray to black, loose.	
	35							(35.2'- 50') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; wet, gray, loose.	
-30									
	40	S7	10/5.5	0.0					
-35									
	45								
-40									
	50							End of Boring at 50 feet. Monitoring well installed	

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BORING LOG
PAGE 1 of 3
GPEC-MW404

GROUND SURFACE ELEVATION (FT): 8.49 **LOCATION:** Area 1
NORTHING (FT): 687857 **EASTING (FT):** 651232 **TOTAL DEPTH (FT):** 55.0
DRILLED BY: Cascade Drilling / Jon Weeks **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 2/27/2017 - 2/27/2017
DRILLING DETAILS: Sonic Coring / TerraSonic TSI 150CC
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: 0-8 FT BGS vacuum / hand cleared prior to boring advancement.

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
5	0	S1	5/1.1	0.0				(0'- 10') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, angular to subrounded, ~15% fines, non plastic; max. gravel size 2.5", moist, dark brown, red brick fragments, FILL, loose.	
0	5	S2	5/1.1	0.0					
-5	10	S3	5/3.1	0.0				(10'- 26.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subangular to subrounded, ~5% fines, non plastic; max. gravel size 2", moderate organic-like odor, dark brown to gray, red brick fragments, cobbles >4.5", FILL, loose.	
-10	15	S4	5/1.4	0.0			OLO		
-15	20	S5	10/5.6	0.0					

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ENVIRONMENTAL BORING LOG JANUARY 2017 GREENPOINT BORINGS LCM.GPJ GEI TEMPLATE 11-7-13.GDT 8/14/19

GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Ph. 3 RI Additional Investigations
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180

BORING LOG

GPEC-MW404

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	25						OLO		
-20								(26.3'- 40') SILT WITH SAND AND GRAVEL (ML); ~70% fines, non plastic to low plasticity, ~20% gravel, fine to coarse, subangular to subrounded, ~10% sand, fine; max. gravel size 3", slight organic-like odor, moist, gray, moderately loose.	
	30	S6	10/1	0.0					
-25							OLO		
	35								
-30									
	40	S7	5/NM	0.0				(40'- 45') NO RECOVERY.	
-35									
	45	S8	10/6.4	0.0				(45'- 55') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse, subangular to subrounded; max. gravel size 2", wet, gray to brown, loose.	
-40									
	50								

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S_V = TORVANE PEAK

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BORING LOG

GPEC-MW404

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	55							End of Boring at 55 feet. Monitoring well installed	

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BORING LOG
PAGE 1 of 3
GPEC-MW405

GROUND SURFACE ELEVATION (FT): 8.58 **LOCATION:** Area 1
NORTHING (FT): 687955 **EASTING (FT):** 651191 **TOTAL DEPTH (FT):** 70.0
DRILLED BY: Cascade Drilling / Jon Weeks **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 2/27/2017 - 2/28/2017
DRILLING DETAILS: Sonic Coring / TerraSonic TSI 150CC
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: 0-8 FT BGS vacuum / hand cleared prior to boring advancement.

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
5	0	S1	5/1.2	0.0				(0'- 5') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded to subangular, ~20% fines, non plastic; max. gravel size 2", dry, brown, red brick fragments, debris, FILL, loose.	
0	5	S2	5/2.1	0.0				(5'- 10') SILTY SAND WITH GRAVEL (SW-SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded to subangular, ~20% fines, non plastic; max. gravel size 2", wet, brown, red brick fragments, debris, FILL, loose.	
-5	10	S3	5/NM					(10'- 15') NO RECOVERY.	
-10	15	S4	5/1.6	0.0				(15'- 20') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, angular to subrounded, ~10% fines, non plastic; max. gravel size 3", wet, brown, red brick fragments, glass, wood, mica, FILL, loose.	
-15	20	S5	5/1.5	0.0				(20'- 28.1') WIDELY GRADED GRAVEL (GW); ~90% gravel, fine to coarse, angular to subrounded, ~10% sand, fine to coarse; max. gravel size 3", wet, gray to brown, red brick fragments, wood, FILL, loose.	

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BORING LOG
PAGE 2 of 3
GPEC-MW405

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	25	S6	5/2.3	0.0					
-20	30	S7	10/7.5	0.0			NLO	(28.1'- 30') GRAVELLY SILT (ML); ~60% fines, non plastic to low plasticity, ~30% gravel, fine to coarse, angular to subangular, ~10% sand, fine to medium; max. gravel size 3", slight naphthalene-like odor, brown to gray, sheen.	
							NLO	(30'- 30.9') GRAVELLY SILT (ML); ~60% fines, non plastic to low plasticity, ~30% gravel, fine to coarse, angular to subangular, ~10% sand, fine to medium; max. gravel size 3", slight naphthalene-like odor, brown to gray, NAPL blebs and globs.	
-25				4.3			NLO	(30.9'- 35.6') ORGANIC CLAY (OL); ~100% fines, low plasticity; moderate naphthalene-like odor, wet, roots, wood fragments, NAPL blebs and globs in top 8", stained black, tight.	
	35			1.5			OLO	(35.6'- 38') PEAT (PT); moderate organic-like odor, brown, meadow mat, fibrous, roots.	
-30				0.0			NLO	(38'- 38.6') WIDELY GRADED GRAVEL WITH SAND (GW); ~70% gravel, fine to coarse, angular to subangular, ~30% sand, fine to coarse; max. gravel size 3", slight naphthalene-like odor, stained black, sheen.	
	40	S8	10/5.25	0.8				(38.6'- 40') LEAN CLAY (CL); ~90% fines, low plasticity, ~10% sand, fine; moist, gray, tight.	
-35				0.6			NLO	(40'- 44') SILTY SAND (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, angular to subrounded, ~15% fines, low plasticity; max. gravel size 3", moderate naphthalene-like odor, wet, stained black, NAPL blebs and globs, loose.	
	45			0.8				(44'- 59.2') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded; max. gravel size 3", slight naphthalene-like odor, wet, light brown to gray, loose.	
-40				0.5					
				0.0			NLO		
	50	S9	10/7.75	13.2					
				8.7					
				14.6					

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BORING LOG

GPEC-MW405

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	55			12.1					
				6.8			NLO		
				4.6					
-50				3.1					
	60			3.0				(59.2'- 70') SILTY SAND (SM); ~60% sand, fine to medium, ~40% fines, non plastic to low plasticity; wet, light brown to gray, moderately loose.	
		S10	10/4.9	0.0					
-55									
	65								
-60									
	70							End of Boring at 70 feet. Monitoring well installed	

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BORING LOG
PAGE 1 of 3
GPEC-MW406

GROUND SURFACE ELEVATION (FT): 7.44 **LOCATION:** Area 2
NORTHING (FT): 688048 **EASTING (FT):** 651161 **TOTAL DEPTH (FT):** 70.0
DRILLED BY: Cascade Drilling / Jon Weeks **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: D. Sharpe **DATE START / END:** 3/2/2017 - 3/3/2017
DRILLING DETAILS: Sonic Coring / TerraSonic TSI 150CC
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: 0-8 FT BGS vacuum / hand cleared prior to boring advancement.

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
5	0	S1	10/3.7	0.0				(0'- 4.5') Gravel FILL.	
0	5							(4.5'- 8.2') SANDY SILT (ML); ~60% fines, non plastic, ~40% sand, fine to coarse; wet, brown.	
								(8.2'- 10') SANDY SILT (ML); ~60% fines, non plastic, ~40% sand, fine to coarse; wet, dark brown.	
-5	10	S2	10/2.8	0.5				(10'- 14.5') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, non plastic, ~5% gravel, fine to coarse; max. gravel size 1.5", moderate naphthalene-like odor, black staining, NAPL blebs, and sheen.	
				1.3			NLO		
				1.7					
-10	15			5.6				(14.5'- 20') SANDY SILT WITH GRAVEL (ML); ~40% fines, non plastic, ~30% gravel, fine to coarse, ~30% sand, fine to coarse; max. gravel size 3", moderate naphthalene-like odor, black staining, NAPL blebs, and sheen.	
				7.9			NLO		
-15	20	S3	10/2.3	0.6				(20'- 30') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~25% gravel, fine to coarse, ~25% fines, non plastic; max. gravel size 2.5", moderate naphthalene-like odor, wet, gray to black staining.	
				0.7			NLO		

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BORING LOG

GPEC-MW406

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-20	25			0.7			NLO		
	30	S4	10/2.2	0.4				(30'- 40') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, non plastic, ~20% gravel, fine to coarse; max. gravel size 3", slight naphthalene-like odor, black staining, chunk of wood at sample bottom.	
-25				0.5					
	35			0.5			NLO		
-30				0.4					
	40	S5	10/6.7	4.4				(40'- 50') SANDY SILT (ML); ~50% fines, non plastic, ~45% sand, fine to medium, ~5% gravel, fine to coarse; max. gravel size 1", moderate naphthalene-like odor, black staining, NAPL blebs, and sheen, wood chunks at sample top.	
-35				1.9					
				1.0					
	45			5.4			NLO		
-40				5.7					
				7.9					
	50	S6	10/3	0.5				(50'- 55.3') SANDY SILT (ML); ~50% fines, non plastic, ~45% sand, fine to coarse, ~5% gravel, fine to coarse; max. gravel size 1", slight naphthalene-like odor, gray to black staining.	
-45							NLO		

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BORING LOG
PAGE 3 of 3
GPEC-MW406

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	55			0.5			NLO		
-50				0.5				(55.3'- 60') SILTY GRAVEL WITH SAND (GM); ~50% gravel, fine to coarse, ~30% fines, non plastic, ~20% sand, fine to coarse; max. gravel size 2", gray to black.	
	60	S7	10/1.7	0.0				(60'- 70') SILTY SAND (SM); ~50% sand, fine to coarse, ~50% fines, non plastic; slight naphthalene-like odor, wet, gray to black.	
-55									
	65						NLO		
-60									
	70							End of Boring at 70 feet. Monitoring well installed	

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BORING LOG
PAGE 1 of 3
GPEC-MW407

GROUND SURFACE ELEVATION (FT): 7.26 **LOCATION:** Area 2
NORTHING (FT): 688153 **EASTING (FT):** 651129 **TOTAL DEPTH (FT):** 80.0
DRILLED BY: Cascade Drilling / Jon Weeks **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 3/1/2017 - 3/2/2017
DRILLING DETAILS: Sonic Coring / TerraSonic TSI 150CC
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: 0-8 FT BGS vacuum / hand cleared prior to boring advancement.

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
5	0	S1	10/1.3	0.0				(0'- 10') SILTY SAND WITH GRAVEL (SM); ~40% sand, fine to coarse, ~30% gravel, fine to coarse, subrounded to angular, ~30% fines, low plasticity; max. gravel size 3", wet, brown, red brick fragments, concrete fragments, FILL, loose.	
0	5								
-5	10	S2	10/2.5	0.0				(10'- 20') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~30% fines, low plasticity, ~20% gravel, fine to coarse, angular to subrounded; max. gravel size 3", wet, brown to gray, red brick fragments, concrete fragments, wood pieces, cobbles up to 4.5", FILL, loose.	
-10	15								
-15	20	S3	10/3.2	0.0				(20'- 25.8') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; wet, gray, trace wood fragments, FILL, loose.	

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BORING LOG
PAGE 2 of 3
GPEC-MW407

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-20	25							(25.8'- 30') NARROWLY GRADED GRAVEL (GP); ~90% gravel, coarse, angular to subrounded, ~10% sand, fine to coarse; max. gravel size 3", wet, gray, trace sheen, loose.	
	30	S4	10/7.9	0.3				(30'- 34.7') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subangular to subrounded, ~5% fines, non plastic; max. gravel size 3", slight naphthalene-like odor, wet, gray, trace sheen, loose.	
-25				0.6					
				1.7			NLO		
				3.6					
				4.7					
	35			9.9				(34.7'- 37.5') SANDY SILT WITH GRAVEL (MLS); ~50% fines, low plasticity, ~30% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded to subangular; max. gravel size 1.5", strong naphthalene-like odor, wet, black, NAPL-coated, moderately loose.	
-30				1.3			NLO		
				1.2					
				1.0			NLO	(37.5'- 38.5') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, angular to subrounded, ~15% fines, non plastic to low plasticity; max. gravel size 2", slight naphthalene-like odor, wet, brown, shell fragments, loose.	
							NLO	(38.5'- 40') SILTY SAND (SM); ~85% sand, fine to coarse, ~15% fines, non plastic; slight naphthalene-like odor, wet, black, loose.	
	40	S5	10/8	1.9				(40'- 65.6') SILTY SAND (SM); ~85% sand, fine to coarse, ~15% fines, non plastic; slight naphthalene-like odor, wet, black, trace sheen, loose.	
-35				2.1					
				2.3					
				2.0					
	45			2.8					
				0.8			NLO		
-40				1.0					
				0.6					
	50	S6	10/8.1	1.1					
-45				2.3					
				2.7					

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IN. = INCHES
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ENVIRONMENTAL BORING LOG JANUARY 2017 GREENPOINT BORINGS LCM.GPJ GEI TEMPLATE 11-7-13.GDT 8/14/19

GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Ph. 3 RI Additional Investigations
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180

BORING LOG
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GPEC-MW407

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	55			2.6					
				2.1					
-50				1.1					
				0.8					
				0.9			NLO		
	60	S7	10/9.6	1.1					
				1.6					
-55				1.1					
				1.2					
				1.9					
	65			2.8					
				3.8				(65.6'- 68.6') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse, subrounded to subangular; max. gravel size 3", moderate naphthalene-like odor, wet, black, NAPL-coated from 81-99", loose.	
-60				16.9			NLO		
				16.0			NLO	(68.6'- 69.7') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine; moderate naphthalene-like odor, wet, gray, NAPL-coated from 106-112", loose.	
	70	S8	10/2.8	0.7			NLO	(69.7'- 70') SANDY SILT (MLS); non plastic to low plasticity, ~70% gravel, ~30% sand, fine to medium; slight naphthalene-like odor, wet, tight.	
-65								(70'- 80') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; slight naphthalene-like odor, wet, gray to brown, loose.	
				0.6					
	75						NLO		
-70				0.5					
	80							End of Boring at 80 feet. Monitoring well installed	

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BORING LOG

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GPEC-MW408

GROUND SURFACE ELEVATION (FT): 6.93 **LOCATION:** Area 2
NORTHING (FT): 688218 **EASTING (FT):** 651101 **TOTAL DEPTH (FT):** 50.0
DRILLED BY: Cascade Drilling / Jon Weeks **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: D. Sharpe **DATE START / END:** 3/2/2017 - 3/2/2017
DRILLING DETAILS: Sonic Coring / TerraSonic TSI 150CC
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: 0-8 FT BGS vacuum / hand cleared prior to boring advancement.

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
5	0	S1	10/2.8	0.0				(0'- 10') SILTY GRAVEL WITH SAND (GM); ~55% gravel, fine to coarse, ~30% sand, fine to coarse, ~15% fines, non plastic; max. gravel size 2", dry, black to brown, FILL, wet at sample bottom.	
0	5								
-5	10	S2	5/3.8	0.0				(10'- 10.7') SILTY GRAVEL WITH SAND (GM); ~55% gravel, fine to coarse, ~30% sand, fine to coarse, ~15% fines, non plastic; max. gravel size 2", wet, black to brown, FILL. (10.7'- 15') SILT WITH SAND AND GRAVEL (ML); ~70% fines, non plastic, ~15% gravel, fine to coarse, ~15% sand, fine to medium; max. gravel size 3", wet, brown.	
-10	15	S3	5/3.9	0.0				(15'- 17.1') WIDELY GRADED SAND (GW); ~95% gravel, fine to coarse, ~5% fines, non plastic; max. gravel size 2", wet. (17.1'- 20') SILTY GRAVEL (GM); ~50% gravel, coarse, ~40% fines, non plastic, ~10% sand, fine to coarse; max. gravel size 5", wet, brown, cobbles.	
-15	20	S4	10/3.2	0.0				(20'- 30') SILTY GRAVEL WITH SAND (GM); ~50% gravel, coarse, ~30% fines, non plastic, ~20% sand, fine to coarse; max. gravel size 5", wet, dark brown, cobbles.	

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Suite 204
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BORING LOG
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GPEC-MW408

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	25								
-20									
	30	S5	10/5.5	0.0				(30'- 36.1') SILTY GRAVEL (GM); ~50% gravel, coarse, ~40% fines, non plastic, ~10% sand, fine to coarse; max. gravel size 4", wet, cobbles, black staining.	
-25				0.1					
				0.2					
				0.6					
	35			1.0					
				0.5				(36.1'- 40') SILTY SAND (SM); ~50% sand, fine to coarse, ~40% fines, non plastic, ~10% gravel, fine to medium; max. gravel size 0.5", moderate naphthalene-like odor, wet.	
-30				0.3			NLO		
				0.2					
	40	S6	10/8.6	0.6				(40'- 50') SILTY SAND (SM); ~70% sand, fine to coarse, ~30% fines, non plastic; slight naphthalene-like odor, wet, black staining.	
				0.7					
-35				1.2					
				1.8					
	45			1.0			NLO		
				0.7					
-40				0.4					
				0.4					
	50							End of Boring at 50 feet. Monitoring well installed	

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BORING LOG
PAGE 1 of 3
GPEC-MW409

GROUND SURFACE ELEVATION (FT): 6.90 **LOCATION:** Area 2
NORTHING (FT): 688274 **EASTING (FT):** 651085 **TOTAL DEPTH (FT):** 80.0
DRILLED BY: Cascade Drilling / R. Gerard-Maillet **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 3/8/2017 - 3/8/2017
DRILLING DETAILS: Sonic Coring / TerraSonic TSI 150CC
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
5	0							(0'- 8') VACUUM/HAND CLEARED.	
0	5								
-5	10	S1	2/NM					(8'- 10') NO RECOVERY.	
-10	15	S2	10/3.8	0.0				(10'- 15.1') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~30% fines, non plastic to low plasticity, ~20% gravel, fine to coarse, subrounded to subangular; max. gravel size 3", wet, brown to reddish brown, red brick fragments, wood chips, FILL, black ash/staining in bottom 4", tight.	
-15	20	S3	10/3.3	0.0 2.1				(15.1'- 20') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~70% gravel, fine to coarse, angular to subangular, ~20% sand, fine to coarse, ~10% fines, non plastic to low plasticity; max. gravel size 3.5", wet, gray, cobbles up to 4.5", red brick fragments, FILL, loose. (20'- 25.4') SILTY SAND (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, angular to subangular, ~15% fines, non plastic; max. gravel size 2", wet, gray to brown, red brick fragments, asphalt pieces, FILL, loose.	

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BORING LOG
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GPEC-MW409

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	25			1.4					
-20				3.4			NLO	(25.4'- 30') WIDELY GRADED GRAVEL (GW); ~90% gravel, fine to coarse, angular to subangular, ~10% sand, fine to coarse; max. gravel size 3.5", slight naphthalene-like odor, wet, gray to brown, cobbles up to 4.5", red brick fragments, concrete pieces, wood chips, FILL, NAPL blebs.	
	30	S4	10/3.8	76.0					
				380.0					
-25				710.0					
				990.0					
				1140.0			NLO	(30'- 36.9') WIDELY GRADED GRAVEL (GW); ~90% gravel, fine to coarse, angular to subangular, ~10% sand, fine to coarse; max. gravel size 3.5", strong naphthalene-like odor, wet, black, red brick fragments, concrete pieces, wood chips, FILL, saturated with NAPL.	
				840.0					
	35			911.0					
				117.0					
-30				168.0					
				84.0					
				71.0			NLO	(36.9'- 40') SANDY SILT WITH GRAVEL (ML); ~50% fines, non plastic to low plasticity, ~30% sand, fine to medium, ~20% gravel, fine to coarse, subrounded to subangular; max. gravel size 2.5", moderate naphthalene-like odor, wet, trace roots/organics, NAPL coated in top 6", black staining, moderately tight.	
				92.0					
	40	S5	10/10	86.0					
				87.0					
-35				14.0					
				18.0			NLO	(40'- 45.7') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 2.5", slight naphthalene-like odor, wet, gray to brown, loose.	
				12.0					
	45			14.0					
				24.0					
-40				27.0				(45.7'- 47.8') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse, subrounded to subangular; max. gravel size 2.5", wet, brown, loose.	
				34.0					
				44.0				(47.8'- 50') SILTY SAND (SM); ~70% sand, fine to coarse, ~30% fines, non plastic; wet, brown, moderately loose.	
				17.1					
	50	S6	10/4.8	44.0					
				19.4			NLO	(50'- 53.7') SILTY SAND (SM); ~70% sand, fine to coarse, ~30% fines, non plastic; slight naphthalene-like odor, wet, gray to brown, moderately loose.	
-45				33.0					

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BORING LOG
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GPEC-MW409

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	55			14.4				(53.7'- 58.7') SILTY SAND (SM); ~70% sand, fine to coarse, ~30% fines, non plastic; wet, brown, moderately loose.	
				4.0					
-50				4.0					
				2.2					
				1.7					
	60			1.5				(58.7'- 60') SILTY SAND (SM); ~85% sand, fine to coarse, ~15% fines, non plastic; wet, brown, loose.	
		S7	10/5.8	0.0				(60'- 70') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded to subangular; max. gravel size 3", wet, brown, loose.	
-55									
	65								
-60									
	70	S8	10/NM					(70'- 80') NO RECOVERY.	
-65									
	75								
-70									
	80							End of Boring at 80 feet. Monitoring well installed	

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BORING LOG
PAGE 1 of 3
GPEC-MW410

GROUND SURFACE ELEVATION (FT): 6.46 **LOCATION:** Area 2
NORTHING (FT): 688321 **EASTING (FT):** 651068 **TOTAL DEPTH (FT):** 55.0
DRILLED BY: Cascade Drilling / Jon Weeks **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 3/1/2017 - 3/1/2017
DRILLING DETAILS: Sonic Coring / TerraSonic TSI 150CC
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: 0-8 FT BGS vacuum / hand cleared prior to boring advancement.

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC FT./FT.	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
5	0	S1	10/1.3	0.0				(0'- 10') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% sand, fine to medium, ~40% gravel, fine to coarse, angular to subangular, ~10% fines, low plasticity; max. gravel size 1.5", wet, brown to black, red brick fragments, porcelain fragments, trace asphalt, FILL, loose.	
0	5								
-5	10	S2	10/2.5	0.0				(10'- 20') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% sand, fine to medium, ~40% gravel, fine to coarse, angular to subangular, ~10% fines, low plasticity; max. gravel size 1.5", wet, brown to gray, red brick fragments, porcelain fragments, trace asphalt, FILL, loose.	
-10	15								
-15	20	S3	10/1.8	0.5			NLO	(20'- 30') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% sand, fine to medium, ~40% gravel, fine to coarse, angular to subangular, ~10% fines, low plasticity; max. gravel size 1.5", moderate naphthalene-like odor, wet, red brick fragments, porcelain fragments, trace asphalt, FILL, sheen and black staining, loose.	

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BORING LOG
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GPEC-MW410

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-20	25						NLO		
-25	30	S4	10/6.2	3.0			NLO	(30'- 31.5') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% sand, fine to medium, ~40% gravel, fine to coarse, angular to subangular, ~10% fines, low plasticity; max. gravel size 1.5", moderate naphthalene-like odor, wet, brown to black, red brick fragments, porcelain fragments, trace asphalt, FILL, NAPL blebs, loose.	
				1.3			NLO		
				0.6			NLO	(31.5'- 32.8') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded to subangular, ~15% fines, low plasticity; max. gravel size 2", moderate naphthalene-like odor, black, NAPL-coated, loose.	
-30	35			0.7			NLO		
				1.4				(32.8'- 35.1') SILT WITH SAND (ML); ~70% fines, low plasticity, ~20% sand, fine, ~10% gravel, fine to coarse, subrounded to subangular; max. gravel size 1", moderate naphthalene-like odor, wet, black, shell fragments, wood chips, sheen and black staining, tight.	
				3.8					
				0.4				(35.1'- 40') SILT (ML); ~90% fines, low plasticity, ~10% sand, fine; moist, gray, shell fragments, wood chips, tight.	
-35	40			0.0					
		S5	10/9.3	0.0			NLO	(40'- 43.7') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to medium, subangular to subrounded, ~5% fines, non plastic; max. gravel size 0.75", slight naphthalene-like odor, wet, gray to brown, loose.	
-40	45							(43.7'- 50') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 2", wet, brown to tan, loose.	
	50	S6	5/3.8	0.0				(50'- 52.1') SANDY SILT (MLS); ~60% fines, non plastic to low plasticity, ~40% sand, fine; wet, light brown, loose.	
-45								(52.1'- 55') SILTY SAND (SM); ~70% sand, fine to medium, ~30% fines, non plastic to low plasticity; wet, light brown, loose.	

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NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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

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

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

ENVIRONMENTAL BORING LOG JANUARY 2017 GREENPOINT BORINGS LCM.GPJ GEI TEMPLATE 11-7-13.GDT 8/14/19

GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Ph. 3 RI Additional Investigations
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180

BORING LOG

GPEC-MW410

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	55							End of Boring at 55 feet. Monitoring well installed	

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BORING LOG
PAGE 1 of 2
GPEC-RW409

GROUND SURFACE ELEVATION (FT): 6.71 **LOCATION:** Area 2
NORTHING (FT): 688281 **EASTING (FT):** 651080 **TOTAL DEPTH (FT):** 50.0
DRILLED BY: Cascade Drilling / R. Gerard-Maillet **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 3/6/2017 - 3/6/2017
DRILLING DETAILS: Sonic Coring / TerraSonic TSI 150CC
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
5	0							(0'- 8') VACUUM/HAND CLEARED.
0	5							
	10	S1	2/NM					(8'- 10') NO RECOVERY.
-5		S2	10/1.1	0.0			NLO	(10'- 20') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, low plasticity, ~20% gravel, fine to coarse, angular to subrounded; max. gravel size 1.5", slight naphthalene-like odor, wet, dark brown, red brick fragments, porcelain fragments, wood chips, FILL, trace sheen, loose.
-10	15							
	20	S3	10/2.3	26.3 34.7 41.8			NLO	(20'- 25.2') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, low plasticity, ~20% gravel, fine to coarse, angular to subrounded; max. gravel size 1.5", moderate naphthalene-like odor, wet, dark brown, red brick fragments, porcelain fragments, wood chips, FILL, trace black staining, loose.
-15								

WELL DETAILS

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BORING LOG
PAGE 2 of 2
GPEC-RW409

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	25			26.7			NLO		
				84.4				(25.2'- 30') SANDY SILT WITH GRAVEL (MLS); ~50% fines, low plasticity, ~30% sand, fine to coarse, ~20% gravel, fine to coarse, angular to subangular; max. gravel size 3", moderate naphthalene-like odor, wet, gray, red brick fragments, FILL, some black staining, tight.	
-20				114.5			NLO		
				111.9					
	30	S4	10/6.7	322.8				(30'- 35.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, angular to subangular; max. gravel size 3", strong naphthalene-like odor, saturated with NAPL, loose.	
				301.9					
-25				348.3					
				208.8			NLO		
				167.2					
				902.5					
	35			924.1					
				1511.0			NLO	(35.5'- 36.6') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, angular to subangular, ~15% fines, low plasticity; max. gravel size 2", strong naphthalene-like odor, saturated with NAPL, tight.	
-30				294.3				(36.6'- 38.9') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, angular to subangular, ~15% fines, low plasticity; max. gravel size 2", strong naphthalene-like odor, stained black and NAPL-coated, tight.	
				262.1			NLO		
				103.0					
				103.4				(38.9'- 40') SILT WITH SAND (ML); ~70% fines, non plastic to low plasticity, ~20% sand, fine to medium, ~10% gravel, fine to coarse, subrounded; max. gravel size 1", wet, gray, tight.	
	40	S5	10/9.7	114.0				(40'- 43.3') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded to subangular; max. gravel size 1", moderate naphthalene-like odor, wet, gray to brown, some black staining, loose.	
				151.8					
-35				909.7			NLO		
				118.9					
				244.4				(43.3'- 47.2') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded to subangular; max. gravel size 1", moderate naphthalene-like odor, wet, brown, loose.	
				128.4					
	45			153.5			NLO		
				94.9					
-40				76.1					
				54.8			NLO	(47.2'- 48.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse, subrounded to subangular; max. gravel size 3", slight naphthalene-like odor, wet, brown, loose.	
				61.5					
				21.8				(48.5'- 50') SILTY SAND (SM); ~70% sand, fine to medium, ~30% fines, non plastic; wet, brown, loose.	
	50							End of Boring at 50 feet. Recovery well installed.	

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GEI Consultants

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BORING LOG
PAGE 1 of 2
GPEC-SB414

GROUND SURFACE ELEVATION (FT): 6.87 **LOCATION:** Area 2
NORTHING (FT): 688260 **EASTING (FT):** 651087 **TOTAL DEPTH (FT):** 50.0
DRILLED BY: Cascade Drilling / R. Gerard-Maillet **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 3/10/2017 - 3/10/2017
DRILLING DETAILS: Sonic Coring / TerraSonic TSI 150CC
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: 0-8 FT BGS vacuum / hand cleared prior to boring advancement.

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0							(0'- 8') VACUUM/HAND CLEARED.
5								
	5							
0								
		S1	2/NM					(8'- 10') NO RECOVERY.
	10	S2	10/2.9	0.0				(10'- 20') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to medium, ~20% gravel, fine to coarse, angular to subrounded, ~20% fines, non plastic to low plasticity; max. gravel size 3.5", wet, brown, red brick fragments, wood chips, concrete and tile pieces, FILL, loose.
-5								
	15							
-10								
	20	S3	10/4.2	0.0				(20'- 23.8') SILTY SAND (SM); ~70% sand, fine to medium, ~30% fines, non plastic; wet, brown, coal fragments, FILL, loose.
-15								

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ENVIRONMENTAL BORING LOG JANUARY 2017 GREENPOINT BORINGS LCM.GPJ GEI TEMPLATE 11-7-13.GDT 8/28/19

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110 Walt Whitman Road
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BORING LOG
PAGE 2 of 2
GPEC-SB414

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	25							(23.8'- 28') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~70% gravel, fine to coarse, angular to subangular, ~20% sand, fine to coarse, ~10% fines, low plasticity; max. gravel size 3", wet, brown, loose.
-20								
							OLO	(28'- 30') SILT WITH SAND AND GRAVEL (ML); ~60% fines, low plasticity, ~20% gravel, fine to coarse, angular to subangular, ~20% sand, fine to medium; max. gravel size 3", slight organic-like odor, black, wood fragments.
	30	S4	10/4.6	6.5				(30'- 32.7') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, fine to medium, ~20% gravel, fine to coarse; strong naphthalene-like odor, wet, stained black with sheen, loose.
-25				11.4			NLO	
				15.1				
				15.6				(32.7'- 35.5') GRAVELLY SILT (ML); ~70% fines, low plasticity, ~20% gravel, fine to coarse, angular to subrounded, ~10% sand, fine to coarse; max. gravel size 3", strong naphthalene-like odor, wet, black, NAPL-coated, moderately loose.
				19.4			NLO	
	35			10.3				
				7.4				(35.5'- 40') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium to coarse, ~20% gravel, fine to coarse, angular to subrounded; max. gravel size 2", moderate naphthalene-like odor, wet, black to gray, staining, trace sheen, loose.
-30				8.6				
				5.2			NLO	
				3.9				
	40	S5	10/8.3	6.1				(40'- 43.2') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 2", slight naphthalene-like odor, wet, gray to brown, loose.
-35				3.4			NLO	
				5.5				
				2.4				(43.2'- 47.6') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 2", wet, brown, loose.
	45			1.1				
-40				0.7				
				0.4				(47.6'- 50') SILTY SAND (SM); ~70% sand, fine to medium, ~30% fines, non plastic; wet, brown, moderately loose.
				0.0				
	50							End of Boring at 50 feet. Grout to surface.

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BORING LOG
PAGE 1 of 2
GPEC-SB415

GROUND SURFACE ELEVATION (FT): 7.02 **LOCATION:** Area 2
NORTHING (FT): 688252 **EASTING (FT):** 651058 **TOTAL DEPTH (FT):** 50.0
DRILLED BY: Cascade Drilling / R. Gerard-Maillet **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 3/9/2017 - 3/9/2017
DRILLING DETAILS: Sonic Coring / TerraSonic TSI 150CC
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: 0-8 FT BGS vacuum / hand cleared prior to boring advancement.

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
5	0							(0'- 8') VACUUM/HAND CLEARED.
0	5							
	10	S1	2/NM					(8'- 10') NO RECOVERY.
-5		S2	10/3.8	0.0				(10'- 20') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, angular to subrounded, ~20% fines, non plastic to low plasticity; max. gravel size 3", wet, brown, red brick fragments, concrete pieces, large ~10" chunk of wood at sample bottom, FILL, loose.
-10	15							
-15	20	S3	10/6.9	0.0				(20'- 28') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, angular to subrounded, ~20% fines, non plastic to low plasticity; max. gravel size 3", wet, brown, red brick fragments, concrete pieces, trace coal fragments, FILL, loose.

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BORING LOG

GPEC-SB415

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
-20	25							
							OLO	(28'- 30') SILT (ML); ~80% fines, non plastic to low plasticity, ~10% gravel, fine to coarse, subrounded to subangular, ~10% sand, fine; max. gravel size 3", slight organic-like odor, wet, brown to reddish brown, tight.
-25	30	S4	10/8.7	7.1				(30'- 33.5') ORGANIC CLAY WITH SAND AND GRAVEL (OL); ~70% fines, low to medium plasticity, ~15% gravel, fine to coarse, angular to subrounded, ~15% sand, fine to medium; max. gravel size 3.5", moderate naphthalene-like odor, wet, organics, roots, fibrous, black to gray staining, NAPL blebs and sheen, tight.
				12.6				
				32.7			NLO	
				3.9				
				5.4				
	35			2.3			NLO	(33.5'- 35.6') CLAYEY SAND (SC); ~80% sand, fine to coarse, ~20% fines, low to medium plasticity; moderate naphthalene-like odor, wet, stained black, loose.
				4.8				
-30				1.0				(35.6'- 38.7') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 1", moderate naphthalene-like odor, wet, gray to brown, stained black in top 12", loose.
				2.3				
				2.9			NLO	
				2.0				
				1.0				
	40						NLO	(38.7'- 40') NARROWLY GRADED SAND WITH GRAVEL (SP); ~70% sand, medium to coarse, ~30% gravel, fine to coarse, subrounded to subangular; slight naphthalene-like odor, wet, yellowish brown, loose.
		S5	10/10	3.5				(40'- 42.8') NARROWLY GRADED SAND WITH GRAVEL (SW); ~70% sand, medium to coarse, ~30% gravel, fine to coarse, subrounded to subangular; slight naphthalene-like odor, wet, gray to brown, loose.
-35				1.0			NLO	
				1.1				(42.8'- 46.25') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 2.5", wet, brown, loose.
	45			0.8				
-40				0.6				(46.25'- 47.8') SILTY SAND (SM); ~70% sand, fine to medium, ~30% fines, non plastic; wet, brown, moderately loose.
				0.4				(47.8'- 50') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; wet, brown, loose.
	50							End of Boring at 50 feet. Grout to surface.

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GEI PROJECT NUMBER: 125180

BORING LOG
PAGE 1 of 2
GPEC-SB416

GROUND SURFACE ELEVATION (FT): 7.12 **LOCATION:** Area 2
NORTHING (FT): 688271 **EASTING (FT):** 651052 **TOTAL DEPTH (FT):** 50.0
DRILLED BY: Cascade Drilling / R. Gerard-Maillet **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 3/9/2017 - 3/9/2017
DRILLING DETAILS: Sonic Coring / TerraSonic TSI 150CC
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: 0-8 FT BGS vacuum / hand cleared prior to boring advancement.

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
5	0							(0'- 8') VACUUM/HAND CLEARED.
0	5							
	10	S1	2/NM					(8'- 10') NO RECOVERY.
-5		S2	10/2.7	0.0				(10'- 20') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% sand, fine to medium, ~20% gravel, fine to coarse, angular to subrounded, ~10% fines, non plastic; max. gravel size 1.75", dry, brown, red brick fragments, asphalt pieces, concrete pieces, FILL, loose.
-10	15							
	20	S3	10/3.3	0.0				(20'- 24.9') SILTY SAND (SM); ~70% sand, fine to medium, ~25% fines, non plastic, ~5% gravel, fine; wet, brown, FILL, loose.
-15								

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JHS = JAR HEADSPACE PID READING (PPM)

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Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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

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ENVIRONMENTAL BORING LOG JANUARY 2017 GREENPOINT BORINGS LCM.GPJ GEI TEMPLATE 11-7-13.GDT 8/14/19

GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: Ph. 3 RI Additional Investigations
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180

BORING LOG
PAGE 2 of 2
GPEC-SB416

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	25							(24.9'- 30') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded to angular, ~15% fines, non plastic to low plasticity; max. gravel size 3.5", wet, brown, red brick fragments, concrete pieces, FILL, loose.
-20								
	30	S4	10/7.7	3.3				(30'- 37') ORGANIC CLAY (OL); ~90% fines, low to medium plasticity, ~10% sand, fine; moderate naphthalene-like odor, wet, organics and roots, black staining, NAPL blebs, tight.
				8.1				
-25				14.5				
				44.1				
				19.4			NLO	
				16.8				
	35			63.5				
				52.0				
				23.2				
-30				14.0				(37'- 39.5') NARROWLY GRADED SAND WITH GRAVEL (SP); ~75% sand, medium to coarse, ~25% gravel, fine to coarse, subrounded to subangular; max. gravel size 3", moderate naphthalene-like odor, wet, NAPL blebs, black staining, loose.
				8.9			NLO	
				9.2				
	40						NLO	(39.5'- 40') NARROWLY GRADED SAND WITH GRAVEL (SP); ~75% sand, medium to coarse, ~25% gravel, fine to coarse, subrounded to subangular; max. gravel size 3", slight naphthalene-like odor, wet, gray, trace black staining, loose.
		S5	10/10	3.3				(40'- 44.7') NARROWLY GRADED SAND (SP); ~100% sand, medium to coarse; moderate naphthalene-like odor, wet, gray, loose.
				8.3				
-35				9.9			NLO	
				5.4				
				6.1				
	45			5.2			NLO	(44.7'- 45.5') NARROWLY GRADED SAND WITH GRAVEL (SP); ~60% sand, medium to coarse, ~40% gravel, fine to coarse, subrounded to subangular; max. gravel size 2", moderate naphthalene-like odor, wet, gray, loose.
				2.4				(45.5'- 48.9') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded to subangular, ~5% fines, non plastic; max. gravel size 2", wet, brown, loose.
-40				1.8				
				1.7				
				1.8				(48.9'- 50') SILTY SAND (SM); non plastic, ~70% sand, fine to medium, ~30% gravel; wet, brown, loose.
				1.4				
	50							End of Boring at 50 feet.
								Grout to surface.

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BORING LOG
PAGE 1 of 2
GPEC-SB417

GROUND SURFACE ELEVATION (FT): 6.60 **LOCATION:** Area 2
NORTHING (FT): 688303 **EASTING (FT):** 651073 **TOTAL DEPTH (FT):** 50.0
DRILLED BY: Cascade Drilling / R. Gerard-Maillet **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: G. Holmes **DATE START / END:** 3/9/2017 - 3/9/2017
DRILLING DETAILS: Sonic Coring / TerraSonic TSI 150CC
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: 0-8 FT BGS vacuum / hand cleared prior to boring advancement.

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
5	0							(0'- 8') VACUUM/HAND CLEARED.
0	5							
	10	S1	10/NM					(8'- 10') NO RECOVERY.
-5		S2	10/1.9	0.0				(10'- 13') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to medium, ~25% fines, non plastic to low plasticity, ~15% gravel, fine to coarse, angular to subrounded; max. gravel size 3", wet, brown, red brick fragments, concrete pieces, coal fragments, tile pieces, FILL, loose.
-10	15							(13'- 23.7') WIDELY GRADED GRAVEL WITH SAND (GW); ~85% gravel, fine to coarse, angular to subrounded, ~15% sand, fine to coarse; max. gravel size 3", wet, brown, red brick fragments, tile pieces, FILL, loose.
-15	20	S3	10/6.1	0.0				

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ENVIRONMENTAL BORING LOG JANUARY 2017 GREENPOINT BORINGS LCM.GPJ GEI TEMPLATE 11-7-13.GDT 8/14/19

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BORING LOG
PAGE 2 of 2
GPEC-SB417

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	25							(23.7'- 27') SILTY GRAVEL (GM); ~60% gravel, fine to coarse, angular to subangular, ~40% fines, low plasticity; max. gravel size 3.5", wet, red brick fragments, coal, black ash, FILL, black staining, tight.
-20				0.4				
				0.8			NLO	(27'- 30') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~70% gravel, fine to coarse, angular to subrounded, ~20% sand, fine to medium, ~10% fines, non plastic; max. gravel size 3.5", slight naphthalene-like odor, wet, red brick fragments, coal, black ash, FILL, black staining, trace sheen, loose.
				1.0				
	30			1.8				
		S4	10/3.1	10.0				(30'- 34.9') SILT WITH GRAVEL (ML); ~80% fines, low plasticity, ~20% gravel, fine to coarse, angular to subrounded; max. gravel size 3", moderate naphthalene-like odor, wet, black, wood chunks, red brick fragments, FILL, NAPL coating, blebs, tight.
-25				6.8				
				8.9			NLO	
				6.6				
				2.1				
	35			3.4			NLO	(34.9'- 36.8') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium to coarse, ~20% gravel, fine to coarse, subrounded to subangular; max. gravel size 2", moderate naphthalene-like odor, wet, black, loose.
-30				1.7				(36.8'- 40') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines, non plastic; slight naphthalene-like odor, wet, brown, loose.
				1.4			NLO	
				1.1				
	40	S5	10/5.7	1.7				(40'- 42.8') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; slight naphthalene-like odor, wet, gray to brown, loose.
-35				1.0			NLO	
								(42.8'- 46.8') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines, non plastic; wet, brown, loose.
				0.7				
	45							
-40				0.4				(46.8'- 50') SILTY SAND (SM); ~60% sand, fine to medium, ~40% fines, non plastic; wet, brown, moderately tight.
				0.0				
	50							End of Boring at 50 feet. Grout to surface.

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ENVIRONMENTAL BORING LOG JANUARY 2017 GREENPOINT BORINGS LCM.GPJ GEI TEMPLATE 11-7-13.GDT 8/14/19

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: 093260-1-1101

BORING LOG
PAGE 1 of 4
GPEC-GT01 (MW)

GROUND SURFACE ELEVATION (FT): 14.79 **LOCATION:** Maspeth Ave. and Varick Ave.
NORTHING (FT): 687047 **EASTING (FT):** 649699 **TOTAL DEPTH (FT):** 62.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 8/21/2009 - 8/24/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
15	0	G1	96/96	NA	PID= 0.0 PID= 7.5				Env. Sample ID= GPEC-GT-1 (8)	Note: 0'- 8': HAND CLEARED.
10	5	S1	24/16	4-4-7-8	PID= 20.9			TLO		S1 (8'- 10') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% gravel, fine to coarse, angular, ~15% fines; max. size 1.5", moderate tar-like odor, wet, black to brown, occasional brick fragments. Stained. FILL.
5	10	S2	24/12	5-9-8-9	PID= 1.0			TLO		S2 (10'- 12') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, rounded to angular, ~20% fines; max. size 1.5", moderate tar-like odor, wet,

WELL DETAILS

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S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT_7/6/11

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Glastonbury, CT 06033
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BORING LOG
PAGE 2 of 4
GPEC-GT01 (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
										black to brown, stained. FILL.	
		S3	24/4	8-8-9-7	PID= 3.8			TLO		S3 (12'- 14') SILTY SAND WITH GRAVEL (SM); ~60% sand, ~20% gravel, ~20% fines; max. size 1.5", moderate tar-like odor, wet, black to brown, stained. FILL.	
0	15	S4	24/0	4-3-2-1	PID= NA					S4 (14'- 16') NO RECOVERY.	
		S5	24/10	1-2-1-3	PID= 1.0					S5 (16'- 18') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~25% fines, ~20% gravel, fine to coarse, subangular; max. size 1.25", wet, brown, FILL.	
		S6	24/14	2-2-3-1	PID= 1.0					S6 (18'- 20') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~25% fines, ~20% gravel, fine to coarse, subangular; max. size 1.25", wet, brown, trace organics. FILL.	
-5	20	S7	24/16	1-2-1-2	PID= 1.6			SLO		S7 (20'- 22') PEAT (PT); ~90% peat, ~10% fines, strong sulfur-like odor, moist.	
		S8	24/8	2-4-3-4	PID= 2.9			SLO		S8 (22'- 24') PEAT (PT); ~80% peat, ~20% fines, strong sulfur-like odor, moist.	
-10	25	S9	24/12	4-2-4-5	PID= 1.1			SLO		S9 (24'- 26') ORGANIC SOIL (OL/OH); ~75% fines; ~25% organic fines, strong sulfur-like odor, moist, reddish brown to black.	
-15											

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

GEI Consultants

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

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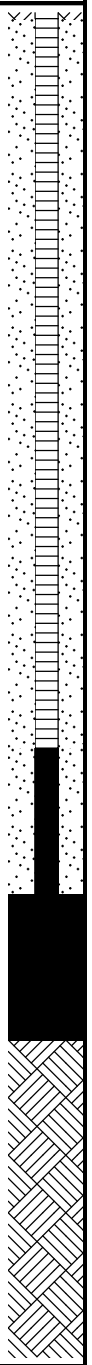
BORING LOG

PAGE 3 of 4

GPEC-GT01 (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	30	S10	24/19	4-3-3-3	PID= 0.9 Q_P= 1.024, 0.819, 0.512 S_V= 0.205, 0.205, 0.205			SLO		S10 (30'- 32') SILT (ML); ~95% fines, medium plasticity, low dry strength, low toughness; ~5% organic fines, strong sulfur-like odor, moist, greenish gray, heterogenous.
-20	35	S11/ U1	24/0	P-U-S-H	PID= NA					S11/U1 (35'- 37') NO RECOVERY; Shelby tube sample.
		S12	24/24	4-6-4-5	PID= 0.8				Env. Sample ID= GPEC-GT-1 (37-39)	S12 (37'- 39') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% fines, rapid dilatancy, ~15% gravel, fine to coarse, subrounded to subangular; max. size 1", moist to wet, gray, silt content increases with depth. Sample becomes finer with depth.
-25	40	S13	24/16	7-7-8-6	PID= 0.4 Q_P= 0.768, 0.768, 0.512 S_V= 0.082, 0.102, 0.102					S13 (40'- 42') SILT WITH SAND (ML); ~80% fines, medium plasticity, slow dilatancy, low toughness, ~20% sand, fine; wet, gray.
-30	45	S14	24/20	7-7-6-6	PID= 0.5 Q_P= 0.512, 0.410, 0.410 S_V= 0.102, 0.102, 0.102					S14 (45'- 47') LEAN CLAY WITH SAND (CL); ~85% fines, medium plasticity, slow dilatancy, medium toughness, ~15% sand, fine; wet, gray.
		S15/ U2	24/24	P-U-S-H	PID= NA					S15/U2 (47'- 49') SILT (ML); Shelby tube sample (set overnight).

WELL DETAILS



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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG
PAGE 4 of 4
GPEC-GT01 (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-35	50	S16	24/24	2-3-3-5	PID= 0.0 S_V= 0.051					S16 (50'- 52') LEAN CLAY WITH SAND (CL); ~85% fines, medium plasticity, low toughness, ~15% sand, fine; wet, gray, soil too soft for penetrometer measurements.	
-40	55	S17	24/24	5-5-5-8	PID= 1.2 Q_P= 1.280 S_V= 2.867					S17 (55'- 57') LEAN CLAY WITH SAND (CL); ~85% fines, medium plasticity, medium toughness, ~15% sand, fine; wet, gray.	
-45	60	S18	24/24	5-5-5-8	PID= 0.0 Q_P= 1.536 S_V= 1.536				Env. Sample ID= GPEC-GT-1 (60-62)	S18 (60'- 62') LEAN CLAY WITH SAND (CL); ~85% fines, medium plasticity, medium toughness, ~15% sand, fine; wet, gray.	
										End of Boring at 62 feet. Monitoring well installed upon completion. Screened 30'- 40'.	

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG
PAGE 1 of 1
GPEC-GT02 (CPT)

GROUND SURFACE ELEVATION (FT): 15.01 **LOCATION:** Maspeth Ave.
NORTHING (FT): 687112 **EASTING (FT):** 649887 **TOTAL DEPTH (FT):** 8.0
DRILLED BY: ConeTec / AC/DB **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: **DATE START / END:** 10/8/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT): ▽ 5.50 8/4/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96	PID= 0.4			Note: 0'- 8': HAND CLEARED. G1A (0'- 0.3') Crushed rock and gravel. FILL. G1B (0.3'- 8') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~25% gravel, fine to coarse, ~20% fines; moist, brown to light brown.
10 ▽	5			PID= 0.0		Env. Sample ID= GPEC-GT-2 (5-6)	
							Note: Soil was not logged past the hand cleared depth of 8'. Cone Penetrometer Test performed 8'- 93.9'. End of Boring at 8 feet.

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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
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 1 of 3
GPEC-GT03 (MW)

GROUND SURFACE ELEVATION (FT): 16.39 **LOCATION:** Near Maspeth Ave.
NORTHING (FT): 687178 **EASTING (FT):** 650076 **TOTAL DEPTH (FT):** 52.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 8/4/2009 - 8/13/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 3.50 8/4/2009
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC FT./FT.	BLOWS (/6 IN.)	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
15	0	G1	8/8	NA	0.0				GPEC-GT-3 (3-4)	Note: 0'- 8': HAND CLEARED. G1A (0'- 0.4') Crushed rock and gravel. FILL. G1B (0.3'- 8') SILTY SAND WITH GRAVEL (SM); ~45% sand, fine to coarse, ~35% gravel, fine to coarse, ~20% fines; dark brown, brick fragments, cobbles, slag. FILL.	
10	5										
5	10	S1	2/0.8	1-1-1-1	NM			NLO	GPEC-GT-3 (8-10)	S1 (8'- 10') SILTY SAND (SM); ~60% sand, fine to coarse, ~30% fines, ~10% gravel, fine to coarse, subangular; max. gravel size 1.5", strong naphthalene-like odor, wet, gray to light brown, NAPL-coated grains.	
	10	S2	2/1.3	1/12"-1/12"	NM			NLO		S2 (10'- 12') GRAVELLY SILT WITH SAND (ML); ~50% fines, ~30% gravel, fine to coarse, subangular, ~20% sand, fine to coarse; strong naphthalene-like odor, wet, light brown, blebs and stringers.	
		S3	2/0.3	1/12"-1-1	NM			NLO		S3 (12'- 14') SANDY SILT WITH GRAVEL (ML); ~50% fines, ~30% sand, fine to coarse, ~20% gravel, fine; strong naphthalene-like odor, gray to light brown, blebs and stringers.	
		S4	2/0.6	1/24"	NM					S4A (14'- 14.6') SANDY SILT WITH GRAVEL (ML); ~50% fines, ~30% sand, fine to coarse, ~20% gravel, fine; wet, light brown, blebs and stringers.	
0	15	S5	2/0.4	2-3-5-1	NM			PLO		S4B (14.6'- 15.4') FAT CLAY WITH SAND (CH); ~75% fines, medium to high, high toughness, ~20% sand, fine, ~5% gravel, fine; wet, gray.	
		S6	2/0.4	2-4-5-5	NM			PLO		S4C (15.4'- 16') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse,	
	20	S7	2/2	2-2-1-1	0.0 Q_p=0.256						

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03_14_2015 (LCM) - DEPTH,ELEV,NOTES CHANGES ONLY.GPJ GEI TEMPLATE 11-7-13.GDT 10/4/18

GEI Consultants

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110 Walt Whitman Road
Suite 204
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CLIENT: National Grid
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GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 2 of 3
GPEC-GT03 (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC FT./FT.	BLOWS (/6 IN.)	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
					S_v=0.051					~30% gravel, fine to coarse, ~20% fines; wet, light brown. S5 (16'- 18') SILTY SAND WITH GRAVEL (SM); ~45% fines, ~30% sand, fine to coarse, ~25% gravel, fine to coarse, subangular; moderate petroleum-like odor, wet, light brown. S6 (18'- 20') SANDY SILT WITH GRAVEL (ML); ~55% fines, ~30% sand, fine to coarse, ~15% gravel, fine to coarse, subangular; slight petroleum-like odor, wet, light brown. S7 (20'- 22') ELASTIC SILT (MH); ~95% fines, high plasticity, no dilatancy, medium toughness, ~5% gravel; homogeneous, wet, gray, shell fragments. S8A (25'- 25.8') ELASTIC SILT (MH); ~100% fines, high plasticity, no dilatancy, medium toughness; homogeneous, wet, gray, shell fragments. S8B (25.8'- 27') PEAT (PT); ~80% plant mass/organic fines, ~20% fines, moderate sulfur-like odor, brown to dark brown. S9/U1 (27'- 29') Shelby tube sample. S10 (30'- 32') SILT (ML); ~100% fines, medium plasticity, no dilatancy, medium toughness; slight sulfur-like odor, wet, olive - gray, some organics and shell fragments. S11 (35'- 37') SILTY SAND (SM); ~75% sand, fine to medium, ~20% fines, ~5% gravel, fine, subrounded; max. gravel size 0.25", wet, brown. S12 (40'- 42') SANDY ELASTIC SILT (MH); ~60% fines, medium plasticity, slow dilatancy, medium toughness, ~40% sand, fine; wet, brown to gray brown, coarsens upward to less silt near top of sample. S13 (45'- 47') ELASTIC SILT WITH SAND (MH); ~85% fines, medium plasticity, slow dilatancy, medium toughness, ~15% sand, fine; wet, olive gray. S14 (50'- 52') FAT CLAY WITH SAND (CH); ~85% fines, high plasticity, no dilatancy, medium toughness, ~15% sand, fine; wet, olive brown.	
	25	S8	2/2	2-3-5-5	0.0						
-10					0.0			SLO			
		S9/ U1	2/2	P-U-S-H	NA						
	30	S10	2/1.8	2-3-4-4	0.0 Q_p=1.024, 1.024, 1.024			SLO			
-15					S_v=0.077, 1.229, 0.123						
	35	S11	2/1	8-12-10-11	18.0						
-20											
	40	S12	2/1.2	5-9-9-10	1.6 Q_p=2.048, 1.280, 1.280 S_v=0.184, 0.184, 0.184						
-25											
	45	S13	2/1.5	4-5-8-7	0.0						
-30											
	50	S14	2/0.8	3-4-5-5	0.0 Q_p= 0.512, 1.024,				GPEC-GT-3 (50-52)		
-35											

ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_GEI-OTHERS 03_14_2015 (LCM) - DEPTH,ELEV,NOTES CHANGES ONLY.GPJ GEI TEMPLATE 11-7-13.GDT 10/4/18

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BORING LOG

GPEC-GT03 (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC FT./FT.	BLOWS (/6 IN.)	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
					1.024 S_V=0.154, 0.128					End of Boring at 52 feet. Monitoring well installed upon completion. Screened 2'- 17'.	

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_GEI-OTHERS 03_14_2015 (LCM) - DEPTH,ELEV,NOTES CHANGES ONLY.GPJ GEI TEMPLATE 11-7-13.GDT 10/4/18

GEI Consultants

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

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CITY/STATE: Brooklyn, New York
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BORING LOG

GPEC-GT03 (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	50	S14	24/10	3-4-5-5	PID= 0.0 Q_P= 0.512, 1.024, 1.024 S_V= 0.154, 0.128				Env. Sample ID= GPEC-GT-3 (50-52)	S14 (50'- 52') FAT CLAY WITH SAND (CH); ~85% fines, high plasticity, no dilatancy, medium toughness, ~15% sand, fine; wet, olive brown.	
-35										End of Boring at 52 feet. Monitoring well installed upon completion. Screened 2'- 17'.	

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GPEC_ENVIRONMENTAL BORING LOG GREENPOINT BORINGS.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 7/6/11

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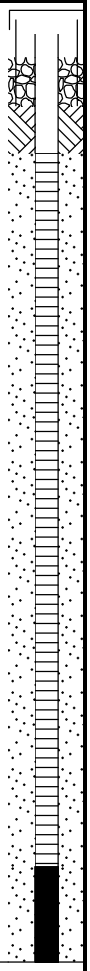
BORING LOG
PAGE 1 of 1
GPEC-GT04S (MW)

GROUND SURFACE ELEVATION (FT): 13.97 **LOCATION:** Near Maspeth Ave.
NORTHING (FT): 687255 **EASTING (FT):** 650292 **TOTAL DEPTH (FT):** 20.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 8/10/2009 - 8/10/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 7.50 8/5/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
10	0	G1	108/108						Note: 0'- 9': HAND CLEARED. G1A (0'- 0.5') ASPHALT and gravel road pack. G1B (0.5'- 3') SILTY GRAVEL WITH SAND (GM); ~65% gravel, fine to coarse, angular, ~20% sand, fine to coarse, ~15% fines; moist, dark brown, some cobbles. FILL.
				PID= 3.0				Env. Sample ID= GPEC-GT-4S (4-5)	G1C (3'- 9') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, ~20% fines; strong petroleum-like odor, moist, dark brown, some cobbles. Sheen and staining. FILL.
5	5						PLO		
▽				PID= 80.6				Env. Sample ID= GPEC-GT-4S (8-9)	
	10								Soil was not logged past the hand cleared depth of 9' due to proximity to GPEC-GT-4D(MW).
0	15								
-5	20								End of Boring at 20 feet. Monitoring well installed upon completion. Screened 3'- 18'.

WELL DETAILS



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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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455 Winding Brook Road
Glastonbury, CT 06033
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BORING LOG
PAGE 1 of 5
GPEC-GT04D (MW)

GROUND SURFACE ELEVATION (FT): 15.81 **LOCATION:** Near Maspeth Ave.
NORTHING (FT): 687258 **EASTING (FT):** 650302 **TOTAL DEPTH (FT):** 72.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 8/5/2009 - 8/10/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 7.50 8/5/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0	G1	108/96	NA					Note: 0'- 9': HAND CLEARED. G1A (0'- 0.5') ASPHALT and gravel road pack. G1B (0.5'- 3') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~70% gravel, fine to coarse, angular, ~20% sand, fine to coarse, ~10% fines; moist, dark brown, some cobbles and slag. FILL.
15					PID= 26.3		PLO	Env. Sample ID= GPEC-GT-4D (3-4)	G1C (3'- 4') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% gravel, fine to coarse, ~15% fines; moderate petroleum-like odor, moist, dark brown, some cobbles, brick fragments, and slag. FILL.
	5								G1D (4'- 8') WIDELY GRADED GRAVEL (GW); ~85% gravel, fine to coarse, ~10% sand, fine to coarse, ~5% fines; strong petroleum-like odor, layer of cobbles and brick fragments. FILL.
10							PLO		
		S1	24/2	9-6-2-4	PID= 80.6 PID= 22.4			Env. Sample ID= GPEC-GT-4D (8-9)	S1 (8'- 10') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to coarse, ~25% gravel, fine to coarse, ~25% fines; strong petroleum-like odor, gray, concrete fragment in sampler tip. FILL.
							PLO		
	10	S2	24/6	1-1-1-1	PID= 76.1				S2 (10'- 12') CLAYEY SAND WITH GRAVEL (SC); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines; strong petroleum-like odor, dark gray, FILL.
5							PLO		
		S3	24/16	1-1-2-4	PID= 26.9				S3 (12'- 14') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine to coarse, ~10% gravel, fine, ~10% fines; strong petroleum-like odor, gray, FILL.
							PLO		
		S4	24/4	1-0-0-0	PID= 16.7				S4 (14'- 16') WIDELY GRADED SAND WITH SILT

WELL DETAILS

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT_7/6/11

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455 Winding Brook Road
Glastonbury, CT 06033
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BORING LOG
PAGE 2 of 5
GPEC-GT04D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15						PLO		(SW-SM); ~85% sand, fine to coarse, ~10% fines, ~5% gravel, fine; moderate petroleum-like odor, wet, gray - brown.	
0							PLO			
		S5	24/14	1-1-3-7	PID= 22.0		PLO		S5 (16'- 18') SILTY SAND (SM); ~80% sand, fine to coarse, ~15% fines, ~5% gravel, fine to coarse; moderate petroleum-like odor, wet, brown to black.	
		S6	24/24	2-3-4-4	PID= 7.6		PLO		S6 (18'- 20') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine, ~10% fines; moderate petroleum-like odor, brown to black.	
	20	S7	24/22	8-10-11-10	PID= 5.0		PLO		S7 (20'- 22') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, ~10% fines; slight petroleum-like odor, wet, gray - brown.	
-5		S8	24/18	2-4-8-9	PID= 11.4		SLO		S8 (22'- 24') ORGANIC SOIL (OL/OH); ~70% fines, low plasticity; ~30% peat, strong sulfur-like odor, moist, brown.	
		S9	24/10	9-7-8-10	PID= 2.4		SLO		S9 (24'- 26') ORGANIC SOIL (OL/OH); ~65% fines, low plasticity; ~25% organics, ~10% sand, fine, moderate sulfur-like odor, moist, brown.	
	25	U1	30/27	P-U-S-H	PID= NA				U1 (1) (26'- 27.6') PEAT (PT).	
-10		S10	24/24	1-1-3-6	PID= 2.4 Q_P= 0.256 S_V= 0.082		SLO		U1 (2) (27.6'- 28') ORGANIC SOIL (OL); ~65% fines; ~25% organics, ~10% sand, fine. S10 (28'- 30') LEAN CLAY WITH SAND (CL); ~85% fines, low plasticity, ~15% sand, fine; moderate sulfur-like odor, moist, gray, trace roots. Sand seams.	
	30									
-15										

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BORING LOG
PAGE 3 of 5
GPEC-GT04D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-20	35	S11	24/20	3-6-5-7	PID= 1.1		SLO		S11 (35'- 37') CLAYEY SAND (SC); 55% sand, fine, 45% fines, moderate sulfur-like odor, gray to reddish brown, intermittent layers of sand and clayey fines but sand dominated.	
-25	40	S12	24/18	4-5-6-9	PID= 1.1				S12 (40'- 42') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded, ~10% fines; max. size 1", wet, orange brown, clay seam at 41.5'.	
-30	45	S13	24/24	6-9-13-19	PID= 1.5			(45') Driller experiences running sands.	S13 (45'- 47') NARROWLY GRADED SAND (SP); ~95% sand, medium, ~5% fines; wet, orange - gray brown, sample becomes coarser with depth.	
-35	50	S14	24/16	13-20-25-28	PID= 1.3				S14 (50'- 52') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, subangular to subrounded, ~5% fines; wet, orange - gray brown, sample becomes coarser with depth.	

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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
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

GEI Consultants

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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: 093260-1-1101

BORING LOG

GPEC-GT04D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-40	55	S15	24/8	9-15-17-19	PID= 1.3				S15 (55'- 57') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, angular to subangular, ~5% fines; wet, orange brown, iron oxidation.	
-45	60	S16	24/14	9-16-15-20	PID= 1.6				S16 (60'- 62') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, angular to subangular, ~5% gravel, fine, angular to subangular, ~5% fines; wet, red brown to gray, thin silt seam. Iron oxidation.	
-50	65	S17	24/14	6-8-12-12	PID= 1.1			(65') Some chatter associated with cobbles.	S17 (65'- 67') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, angular to subrounded, ~10% fines, ~5% gravel, fine, subangular to subrounded; wet, gray.	

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BORING LOG

GPEC-GT04D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-55	70	S18	24/2	14-12-9-10	PID= 0.8				S18 (70'- 72') SILTY SAND (SM); ~75% sand, fine to coarse, ~20% fines, ~5% gravel, fine; wet, gray.	

End of Boring at 72 feet.
Monitoring well installed upon completion. Screened 54'- 69'.

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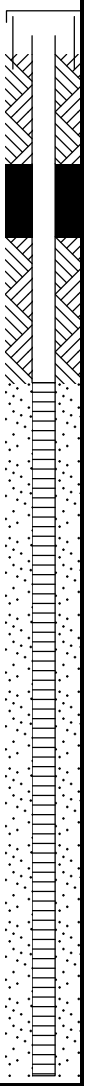
BORING LOG
PAGE 1 of 4
GPEC-GT05 (MW)

GROUND SURFACE ELEVATION (FT): 15.73 **LOCATION:** Near Maspeth Ave.
NORTHING (FT): 687293 **EASTING (FT):** 650421 **TOTAL DEPTH (FT):** 52.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 8/4/2009 - 8/11/2009
DRILLING DETAILS: Hollow Stem Auger / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 14.00 8/11/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
15	0	G1	96/96	NA	PID= 60.6			PLO		Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') ORGANIC SOIL (OL/OH); plant material. G1B (0.5'- 2') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~30% gravel, fine to coarse, ~15% fines; dark brown. G1C (2'- 3') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~30% gravel, fine to coarse, ~15% fines; strong petroleum-like odor, dark brown. G1D (3'- 7') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~30% gravel, fine to coarse, ~15% fines; dark brown.
10	5				PID= 151			PLO	Env. Sample ID= GPEC-GT-5 (7-8)	G1E (7'- 8') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~30% gravel, fine to coarse, ~15% fines; strong petroleum-like odor, moist, dark brown, some sheen and staining.
5	10	S1	24/12	2-5-4-3	PID= 1072			PLO		S1 (8'- 10') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to coarse, ~20% fines, ~15% gravel, fine to coarse, subrounded; max. size 1", moderate petroleum-like odor, wet, gray brown to black, some organics. Stained.
		S2	24/14	3-2-2-3	PID= >9999			PLO		S2 (10'- 12') SANDY ORGANIC SOIL (OL/OH); ~50% fines, low plasticity, ~40% sand, fine to medium, ~10% gravel, fine; moderate petroleum-like odor, wet to moist, brown to black, stained.
		S3	24/10	2-2-3-3	PID= >9999					S3 (12'- 14') SILTY SAND (SM); ~65% sand, fine, ~35% fines; moist, light brown, some organics.
▽		S4	24/16	2-2-4-5	PID= >9999					S4 (14'- 16') SILTY SAND (SM); ~75% sand,

WELL DETAILS



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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT 7/6/11

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455 Winding Brook Road
Glastonbury, CT 06033
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BORING LOG
PAGE 2 of 4
GPEC-GT05 (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15							PLO PLO		fine to medium, ~25% fines; strong petroleum-like odor, wet, light brown to gray brown, staining. Color changes from tan to gray at 6" from bottom. Believed to be associated with odor.	
0		S5	24/16	3-2-5-5	PID= >9999			PLO	Env. Sample ID= GPEC-GT-5 (16-18)	S5 (16'- 18') SILTY SAND (SM); ~80% sand, fine to medium, ~20% fines; strong petroleum-like odor, wet, gray / brown, sheen.	
		S6	24/20	5-5-18-12	PID= >9999			PLO		S6 (18'- 20') SILTY SAND (SM); ~75% sand, fine to medium, ~20% fines, ~5% gravel, coarse, subrounded; max. size 1.25", strong petroleum-like odor, wet, gray brown to brown, gravel towards bottom of sample. Staining.	
	20	S7	24/10	4-8-9-7	PID= >9999				(20'- 22') Driller experiences running sands.	S7 (20'- 22') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, subangular, ~10% fines; max. size 1.25", wet, gray / brown, sheen.	
-5		S8	24/24	2-5-5-6	PID= 2766			PLO	(22'- 24') Driller experiences running sands. Env. Sample ID= GPEC-GT-5 (23-24)	S8 (22'- 24') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded, ~5% fines; max. size 2", strong petroleum-like odor, gray / brown.	
	25										
-10									(28') Drilling experiences difficulty drilling likely due to coarse gravel.		
	30	S9	24/10	6-9-5-4	PID= 126			PLO	Env. Sample ID= GPEC-GT-5 (30-32)	S9 (30'- 32') WIDELY GRADED GRAVEL WITH SAND (GW); ~65% gravel, fine to coarse, subrounded, ~30% sand, fine to coarse, ~5% fines; max. size 1.5", slight petroleum-like odor, wet, gray.	
-15											

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BORING LOG
PAGE 3 of 4
GPEC-GT05 (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	35	S10	24/10	1-2-1-3	PID= 7.4			PLO		S10 (35'- 37') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; slight petroleum-like odor, wet, gray, sample becomes coarser with depth, may be wash as coarser sands appear "clean".	
-20											
	40	S11	24/24	15-11-6-5	PID= 14.1					S11 (40'- 42') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, angular, ~20% gravel, fine to coarse, subangular to rounded, ~5% fines; max. size 1", wet, gray.	
-25											
	45	S12	24/24	2-2-2-5	PID= 22.1			PLO		S12 (45'- 47') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, angular, ~15% gravel, fine to coarse, subrounded, ~5% fines; max. size 0.75", slight petroleum-like odor, wet, gray, less gravel near bottom.	
-30											
	50	S13	24/12	1-1-1-1	PID= 13.4				Env. Sample ID= GPEC-GT-5 (50-52)	S13 (50'- 52') WIDELY GRADED SAND (SW); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, gray.	
-35											

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BORING LOG

GPEC-GT05 (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
										End of Boring at 52 feet. Monitoring well installed upon completion. Screened 5'- 20'.	

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BORING LOG

PAGE 1 of 1

GPEC-GT06 (CPT)

GROUND SURFACE ELEVATION (FT): 15.93
LOCATION: Southwest of Transportation Building
NORTHING (FT): 687347 **EASTING (FT):** 650560
TOTAL DEPTH (FT): 8.0
DRILLED BY: ConeTec / AC/DB
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY:
DATE START / END: 10/12/2009
DRILLING DETAILS: Cone Penetration Test
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
15	0	G1	96/96	PID= 10.0		NLO		Note: 0'- 8': HAND CLEARED. G1A (0'- 0.3') ASPHALT and road pack. G1B (0.3'- 8') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, ~10% fines; slight naphthalene-like odor, moist, brown, some brick fragments and cobbles. FILL.
10	5			PID= 7.3				Note: Soil was not logged past the hand cleared depth of 8'. Cone Penetrometer Test performed 8'- 91.7'. End of Boring at 8 feet.

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG
PAGE 1 of 4
GPEC-GT07D (MW)

GROUND SURFACE ELEVATION (FT): 16.13 **LOCATION:** South of Transportation Building
NORTHING (FT): 687412 **EASTING (FT):** 650763 **TOTAL DEPTH (FT):** 52.0
DRILLED BY: Summit Drilling **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: **DATE START / END:** 8/27/2009 - 8/27/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	G1	96/96	NA					Note: 0'- 8': HAND CLEARED.	
15										
	5									
10										
		S1	24/16	1-2-1-1	PID= 0.3 PID= 0.2 PID= 0.2			Env. Sample ID= GPEC-GT-7 (8-10)	S1A (8'- 8.6') SILTY SAND (SM); ~75% sand, fine to coarse, ~20% fines, ~5% gravel, fine, subangular; wet, dark brown. S1B (8.6'- 9.4') SILTY SAND (SM); ~70% sand, fine to medium, ~30% fines; wet, light brown. S1C (9.4'- 10') SILTY SAND (SM); ~80% sand, fine to coarse, ~20% fines; wet, brown.	
	10	S2	24/7	1-1-2-5	PID= 0.3				S2 (10'- 12') SILTY SAND (SM); ~85% sand, fine to coarse, ~15% fines; wet, orange brown.	
5		S3	24/13	3-5-5-8	PID= 0.2 PID= 0.2				S3 (12'- 14') SILTY SAND (SM); ~85% sand, fine to coarse, ~15% fines; saturated, orange brown.	
		S4	24/9	1-5-6-9	PID= 0.2				S4 (14'- 16') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, rounded, ~5% fines; saturated,	
	15									

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BORING LOG
PAGE 2 of 4
GPEC-GT07D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15								brown.	
0		S5	24/16	12-12-8-8	PID= 0.2 PID= 0.3				S5 (16'- 18') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, rounded, ~15% fines; wet, brown and orange brown.	
		S6	24/23	82-21-12-23	PID= 0.3 PID= 0.2 PID= 0.2 PID= 0.3		OLO		S6 (18'- 20') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded to rounded, ~5% fines; slight organic-like odor, wet, brown.	
	20	S7	24/0	21-12-6-8	PID= NA				S7 (20'- 22') NO RECOVERY.	
-5		S8	24/5	9-5-4-7	PID= 0.8 PID= 0.4		PLO		S8 (22'- 24') SILTY SAND (SM); ~60% sand, fine to medium, ~40% fines, non plastic; slight petroleum-like odor, wet, black.	
		S9	24/0	8-9-8-9	PID= NA				S9 (24'- 26') NO RECOVERY.	
	25									
-10		S10	24/0	7-10-10-12	PID= NA				S10 (26'- 28') NO RECOVERY.	
		S11	24/9	8-9-9-10	PID= 0.6		PLO		S11 (28'- 30') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; slight petroleum-like odor, wet, black.	
	30	S12	24/10	5-6-7-7	PID= 0.6 PID= 0.5				S12 (30'- 32') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, dark gray.	
-15		S13	24/9	3-5-7-8	PID= 0.7 PID= 0.5				S13 (32'- 34') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, angular, ~5% fines; wet, dark brown.	

NOTES:

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

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
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SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR
SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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: 093260-1-1101

BORING LOG

GPEC-GT07D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	35	S14	24/0	7-10-10-11	PID= NA				S14 (35'- 37') NO RECOVERY.	
-20										
	40	S15	24/0	17-21-18-18	PID= NA				S15 (40'- 42') NO RECOVERY.	
-25										
	45	S16	24/10	14-14-12-15	PID= 0.5 PID= 0.5				S16 (45'- 47') WIDELY GRADED SAND (SM); 97% sand, fine to coarse, 3% fines, wet, dark gray / black.	
-30										
	50	S17	24/16	14-15-18-20	PID= 0.5 PID= 0.5 PID= 0.5			Env. Sample ID= GPEC-GT-7 (50-52)	S17 (50'- 52') SILTY SAND (SM); ~80% sand, fine, ~20% fines; wet, gray brown.	
-35										

NOTES:

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG

GPEC-GT07D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
									End of Boring at 52 feet. Monitoring well installed upon completion. Screened 30'- 45'.	

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
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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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

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BORING LOG
PAGE 1 of 4
GPEC-GT08

GROUND SURFACE ELEVATION (FT): 13.97 **LOCATION:** Southeast of Transportation Building
NORTHING (FT): 687503 **EASTING (FT):** 650951 **TOTAL DEPTH (FT):** 57.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 8/5/2009 - 8/25/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 7.50 8/5/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
10	0	G1	108/108	NA					Note: 0'- 9': HAND CLEARED. G1A (0'- 1') ASPHALT and crushed gravel for road pack. G1B (1'- 4') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~30% gravel, fine to coarse, ~15% fines; moist, brown, brick, slag, cobbles, glass. FILL.
					PID= 2.5				G1C (4'- 5') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~30% gravel, fine to coarse, ~15% fines; moist, brown, FILL. G1D (5'- 7') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~30% gravel, fine to coarse, ~15% fines; moist, brown, FILL.
5	5								G1E (7'- 7.5') WOOD.
▽					PID= 7.5		SLO	Env. Sample ID= GPEC-GT-8 (7.5-9)	G1F (7.5'- 9') SILTY GRAVEL WITH SAND (GM); ~55% gravel, fine to coarse, angular, ~30% fines, ~15% sand, fine to coarse; moderate sulfur-like odor, wet, gray, wood fragments. FILL.
5		S1	12/3	WOH-5	PID= 0.5		OLO		S1 (9'- 10') SILTY SAND (SM); ~70% sand, fine to coarse, ~20% fines, ~10% gravel, fine; moderate organic-like odor, wet, gray.
	10	S2	24/0	5-2-2-1	PID= NA				S2 (10'- 12') NO RECOVERY.
		S3	24/0	1-3-3-5	PID= NA		OLO		S3 (12'- 14') NO RECOVERY; slop in sampler, strong organic-like odor.
0		S4	24/22	3-2-3-4	PID= 48		OLO	Env. Sample ID= GPEC-GT-8 (14-16)	S4 (14'- 16') SILT WITH SAND (ML); ~80% fines, ~15% sand, ~5% gravel, fine; strong organic-like odor, green, some peat at bottom 6" Piece of wood fragments.
	15								

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NA = NOT APPLICABLE
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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT 7/6/11

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455 Winding Brook Road
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BORING LOG
PAGE 2 of 4
GPEC-GT08

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	15						OLO		
		S5	24/24	12-4-2-3	PID= 30				S5 (16'- 18') SANDY SILT (ML); ~65% fines, ~35% sand; green, wood fragments throughout sample.
		S6	24/24	5-9-9-9	PID= 24				S6A (18'- 19.5') SANDY SILT (ML); ~65% fines, ~35% sand; green, wood fragments throughout sample.
-5									S6B (19.5'- 20') PEAT (PT); ~100% peat, black / brown.
	20	S7	24/22	2-3-3-5	PID= NM		OLO		S7 (20'- 22') PEAT (PT); ~100% peat, strong organic-like odor, brown.
		S8	24/6	1-3-2-4	PID= NM		OLO		S8 (22'- 24') PEAT (PT); ~100% peat, strong organic-like odor, brown.
-10		S9	24/17	3-5-8-11	PID= 7.0 PID= 3.0				S9A (24'- 24.4') PEAT (PT); ~100% peat, brown. S9B (24.4'- 25.9') SILT WITH SAND (ML); ~80% fines, low plasticity, ~15% sand, ~5% gravel, fine; moist, gray.
	25				PID= 27				S9C (25.9'- 26') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; moist, gray.
-15									
	30	S10	24/24	9-11-13-21	PID= 7				S10 (30'- 32') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; moist, gray.
		U1	24/0	P-U-S-H	PID= NA				U1 (33'- 35') Shelby tube sample attempted. Not consolidated

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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455 Winding Brook Road
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GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 3 of 4
GPEC-GT08

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
									enough for sample.
-20	35	S11	24/24	7-6-5-6	PID= 0.4				S11 (35'- 37') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; gray.
-25	40	S12	24/24	11-9-13-9	PID= 0.7				S12A (40'- 40.6') LEAN CLAY WITH SAND (CL); ~85% fines, low plasticity, ~15% sand, fine; wet, gray. S12B (40.6'- 41.8') SILTY SAND (SM); ~85% sand, ~15% fines; wet, gray.
									S12C (41.8'- 42') SILT WITH SAND (ML); ~85% fines, low plasticity, ~15% sand, fine; wet, gray.
-30	45	S13	24/16	3-4-4-6	PID= 1.8			Env. Sample ID= GPEC-GT-8 (45-47)	S13A (45'- 46') NARROWLY GRADED SAND (SP); ~95% sand, ~5% gravel; wet, gray.
									S13B (46'- 47') SILTY SAND (SM); ~80% sand, ~15% fines, ~5% gravel, fine; gray.
-35	50	S14	24/14	5-9-8-9	PID= 0.8				S14 (50'- 52') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; wet, gray.

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NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG

GPEC-GT08

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-40	55	S15	24/14	6-8-8-6	PID= 0.6			Env. Sample ID= GPEC-GT-8 (55-57)	S15 (55'- 57') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, medium, ~10% fines; wet, gray.

End of Boring at 57 feet.

NOTES:

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S_V = TORVANE PEAK IN TSF

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BORING LOG
PAGE 1 of 1
GPEC-GT09 (CPT)

GROUND SURFACE ELEVATION (FT): 13.67 **LOCATION:** Southwest of Accommodations Building
NORTHING (FT): 687597 **EASTING (FT):** 651182 **TOTAL DEPTH (FT):** 9.0
DRILLED BY: ConeTec / AC/DB **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: **DATE START / END:** 10/19/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0	G1	108/108				Note: 0'- 9': HAND CLEARED.
10				PID= 0.0			
	5						
5				PID= 0.0		Env. Sample ID= GPEC-GT-9 (8-9)	

Note: Soil was not logged in this borehole. Cone Penetrometer Test performed 9'- 61.7'.
End of Boring at 9 feet.

NOTES:

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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
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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG
PAGE 1 of 2
GPEC-GT10S (MW)

GROUND SURFACE ELEVATION (FT): 13.27 **LOCATION:** Between Accommodations Building and Saltwater Pump House
NORTHING (FT): 687626 **EASTING (FT):** 651251 **TOTAL DEPTH (FT):** 20.0
DRILLED BY: Summit Drilling **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: K. Kucher **DATE START / END:** 8/31/2009 - 8/31/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0							
5	5							
	10	S1	24/4	2-2-3-2	PID= NM		S1 (10'- 12') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, subrounded to subangular, ~5% fines; max. size 1", thin layer (2-2.5") of organics.	
0								
	15							

NOTES:

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PLO = PETROLEUM LIKE ODOR
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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG

GPEC-GT10S (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15							
-5		S2	24/5	3-4-4-4	PID= NM		S2 (18'- 20') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, ~5% gravel, subrounded; max. size 0.5", wet, brown, organics 2-3".	
	20						End of Boring at 20 feet. Monitoring well installed upon completion. Screened 5'- 20'.	

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG
PAGE 1 of 7
GPEC-GT10D (MW)

GROUND SURFACE ELEVATION (FT): 11.74 **LOCATION:** Southeast of Accommodations Building
NORTHING (FT): 687649 **EASTING (FT):** 651322 **TOTAL DEPTH (FT):** 121.9
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 8/14/2009 - 8/19/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	G1	96/96	NA	PID= 0.0					Note: 0'- 8': HAND CLEARED.	
10											
	5										
5		S1	24/12	1-1-3-1	PID= 0.1				Env. Sample ID= GPEC-GT-10D (8-10)	S1 (8'- 10') SILTY SAND (SM); ~60% sand, fine to coarse, ~30% fines, ~10% gravel, fine to coarse, subrounded; max. size 1.5", wet, brown, brick fragments. Silt clasts. FILL.	
	10	S2	24/6	1-1-1-8	PID= NM					S2 (10'- 12') SANDY SILT WITH GRAVEL (ML); ~50% fines, ~30% sand, fine to coarse, ~20% gravel, fine to coarse, subangular; layered, max. size 1.5", wet, reddish brown to black, stained. Brick fragments. FILL.	
0		S3	24/8	1-2-1-8	PID= NM					S3 (12'- 14') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, ~20% gravel, fine to coarse, subangular; layered, max. size 1", wet, reddish brown to black, stained. Brick fragments. FILL.	
		S4	24/0	4-5-5-7	PID= NA					S4 (14'- 16') NO RECOVERY; wash in spoon.	
	15										

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S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

GEI Consultants

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

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
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GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 2 of 7
GPEC-GT10D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15										
		S5	24/8	11-12-16-8	PID= NM					S5 (16'- 18') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~70% gravel, fine to coarse, angular to subangular, ~20% sand, fine to coarse, ~10% fines; max. size 2", wet, red black to brown, crushed brick. FILL.	
-5		S6	24/8	8-7-11-7	PID= NM					S6 (18'- 20') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~15% fines; max. size 1.5", wet, brown to black, brick fragments. FILL.	
	20	S7	24/0	6-3-3-5	PID= NA					S7 (20'- 22') NO RECOVERY; wash in spoon.	
-10		S8	24/5	6-8-9-9	PID= NM					S8 (22'- 24') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% gravel, fine to coarse, ~15% fines; wet, brown to black, brick fragments and glass. Stained. Some sheen. FILL.	
	25	S9	24/11	3-2-4-4	PID= NM					S9 (24'- 26') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine, rounded, ~5% fines; max. size 0.5", wet, brown to black, staining occurs ~1" from spoon tip. FILL.	
-15		S10	24/10	8-10-10-10	PID= NM					S10A (26'- 27.8') NARROWLY GRADED SAND WITH SILT (SP-SM); 89% sand, fine to medium, 8% fines, 3% gravel, fine, subrounded, max. size 0.5", wet, brown, FILL.	
		S11	24/14	10-13-21-21	PID= NM Q_P= 2.816, 1.792, 2.048 S_V= 0.481, 0.563, 0.563					S10B (27.8'- 28') GRAVELLY SILT WITH SAND (ML); ~55% fines, ~30% gravel, fine to coarse, subangular, ~15% sand, medium to coarse; max. size 1", moist, gray, FILL. S11 (28'- 30') SILT WITH SAND (ML); ~85% fines, low plasticity, high dry strength, slow dilatancy, low toughness, ~15% sand, fine to medium; moist, gray to light brown, FILL.	
	30	S12/ U1	24/19	P-U-S-H	PID= NA					S12/U1 (30'- 32') SILT (ML).	
-20											

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BORING LOG

GPEC-GT10D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	35	S13	24/14	12-8-9-9	PID= NM					S13 (35'- 37') SILTY SAND (SM); ~85% sand, fine, ~15% fines, rapid dilatancy; layered, wet, gray - brown, some layering and seams.	
-25											
	40	S14	24/11	7-8-9-11	PID= NM					S14 (40'- 42') NARROWLY GRADED SAND WITH SILT (SP-SM); layered, 91% sand, mostly fine, 9% fines, wet, gray - brown.	
-30											
	45	S15	24/16	4-4-5-7	PID= NM				Env. Sample ID= GPEC-GT-10D (45-47)	S15 (45'- 47') SILTY SAND (SM); ~80% sand, fine, ~20% fines, rapid dilatancy; wet, gray - brown.	
-35											
	50	S16	24/12	6-10-10-11	PID= NM				(50') Some drilling chatter.	S16 (50'- 52') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, ~5% gravel, fine, subangular; layered, max. size 0.25", wet, gray - brown.	
-40											

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BORING LOG
PAGE 4 of 7
GPEC-GT10D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	55	S17	24/5	7-7-8-6	PID= NM			NLO		S17 (55'- 57') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine, subrounded, ~10% fines; max. size 0.5", slight naphthalene-like odor, wet, gray - brown, coarse gravel in wash in spoon above sampler.	
-45											
	60	S18	24/4	8-11-11-13	PID= NM					S18 (60'- 62') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, subrounded, ~5% fines; max. size 0.75", wet, gray - brown, coarse gravel in wash in spoon above sampler.	
-50											
	65	S19	24/8	11-8-11-12	PID= NM					S19 (65'- 67') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, subrounded, ~5% fines; max. size 0.5", wet, gray - brown, coarse gravel in wash in spoon above sampler.	
-55											
	70				PID= 0.8						

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BORING LOG

GPEC-GT10D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-60		S20	24/8	7-15-18-13						S20 (70'- 72') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, subangular to angular, ~5% fines; max. size 0.25", wet, gray.	
	75	S21	24/12	11-11-10-13	PID= 0.3			NLO		S21 (75'- 77') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, subangular to angular, ~5% fines; max. size 0.25", slight naphthalene-like odor, wet, gray.	
-65											
	80	S22	24/10	13-11-14-15	PID= 1.2					S22 (80'- 82') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, subangular to angular, ~5% fines; max. size 0.25", wet, gray, contained 0.25" thick silt seam 3" from top of sample.	
-70											
	85	S23	24/4	18-12-13-15	PID= 3.2					S23 (85'- 87') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); 71% sand, fine to coarse, 21% gravel, fine to coarse, subrounded, 8% fines, max. size 0.75", wet, brown - gray.	
-75											

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BORING LOG
PAGE 6 of 7
GPEC-GT10D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	90	S24	24/18	31-67-75-63	PID= 1.2 PID= 0.9					S24A (90'- 90.9') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, subrounded, ~5% fines; max. size 0.25", wet, gray. S24B (90.9'- 92') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~75% gravel, fine to coarse, rounded to angular, ~15% sand, fine to coarse, ~10% fines; max. size 2", wet.	
-80											
	95	S25	24/9	27-69-70-76	PID= 0.4				(95'- 100') Some chatter.	S25 (95'- 97') SILTY SAND WITH GRAVEL (SM); 51% sand, fine to coarse, 35% gravel, fine to coarse, subrounded, 14% fines, max. size 2", wet, gray, driller notes likelihood of cobbles and gravel while sampling.	
-85											
	100	S26	24/6	27-20-32-39	PID= 1.0				(100') Strong chatter, possibly due to cobble "fall-in."	S26 (100'- 102') SILTY SAND (SM); ~75% sand, fine to medium, ~20% fines, ~5% gravel, fine, rounded; max. size 0.4", wet, gray, 0.5" of clayey material in spoon tip.	
-90											
	105	S27	24/4	41-40-44-41	PID= 0.9					S27 (105'- 107') CLAYEY SAND WITH GRAVEL (SC); 39% sand, fine to coarse, 12% gravel, fine to coarse, rounded, 49% fines, max. size 1", moist, gray, driller attributes high blow counts and low recovery to gravel/cobble "fall-in".	
-95											

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG

GPEC-GT10D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	110	S28	4/4	100/4"	PID= 1.1					S28 (110'- 110.3') SILTY SAND (SM); ~80% sand, fine, ~15% fines, ~5% gravel, fine, subangular; max. size 0.25", wet, greenish gray, some clay seams in top 1".	
-100											
	115	S29	24/10	30-36-39-47	PID= 1.1					S29 (115'- 117') SILTY SAND (SM); ~80% sand, fine, ~15% fines, ~5% gravel, fine, subangular; max. size 0.25", wet, greenish gray.	
-105											
	120	S30	23/9	43-60-75-100/5"	PID= 0.3				Env. Sample ID= GPEC-GT-10D (120-121.9) (121'- 121.9') Hammer bouncing last 10".	S30 (120'- 121.9') SILTY SAND (SM); ~80% sand, fine, ~15% fines, ~5% gravel, fine, subangular; max. size 0.25", wet, greenish gray.	
-110										End of Boring at 121.9 feet. Monitoring well installed upon completion. Screened 43'- 58'.	

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BORING LOG
PAGE 1 of 1
GPEC-GT11 (CPT)

GROUND SURFACE ELEVATION (FT): 7.00
LOCATION: Between Accommodations Building and Saltwater Pump House
NORTHING (FT): 687652 **EASTING (FT):** 651336
TOTAL DEPTH (FT): 8.0
DRILLED BY: ConeTec / AC/DB
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer
DATE START / END: 10/12/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: Ground surface elevation estimated from ground contours.
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO TYPE and NO.	SAMPLE INFO PEN/REC IN./IN.	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96			Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') ASPHALT and crushed rock pack. G1B (0.5'- 2') NARROWLY GRADED SAND WITH GRAVEL (SP); ~50% gravel, fine to coarse, ~50% sand, fine to medium; moist, brown, FILL.
5					(2'- 3') Brick or concrete "wall" to the south side of the hole.	G1C (2'- 5') WIDELY GRADED GRAVEL WITH SAND (GW); trace silty fines, max. size 8", moist, brown, with cobbles and brick fragments. FILL.
	5				(6') Refusal. Hole moved 1.5' north and 1.5' west.	G1D (5'- 8') WIDELY GRADED GRAVEL WITH SAND (GW); trace silty fines, max. size 8", moist, brown, with cobbles and brick fragments. FILL.
0						
						Note: Soil was not logged past the hand cleared depth of 8'. Cone Penetrometer Test performed 8'- 17.2'. End of Boring at 8 feet.

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BORING LOG
PAGE 1 of 1
GPEC-GT13 (CPT)

GROUND SURFACE ELEVATION (FT): 15.17 **LOCATION:** Southeast of Stores Building
NORTHING (FT): 687861 **EASTING (FT):** 651166 **TOTAL DEPTH (FT):** 8.0
DRILLED BY: ConeTec / AC/DB **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 10/14/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO TYPE and NO.	SAMPLE INFO PEN/REC IN./IN.	STRATA	SOIL / BEDROCK DESCRIPTION
15	0	G1	96/96		Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') ASPHALT and crushed road pack. G1B (0.5'- 3') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, coarse, ~10% fines; moist, brown, some cobbles. FILL.
10	5				Note: Soil was not logged past the hand cleared depth of 8'. Cone Penetrometer Test performed 8'- 90.7'. End of Boring at 8 feet.

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BORING LOG
PAGE 1 of 1
GPEC-GT15 (CPT)

GROUND SURFACE ELEVATION (FT): 10.06 **LOCATION:** Near bulkhead between Mooring Bitts 13 & 14
NORTHING (FT): 688155 **EASTING (FT):** 651119 **TOTAL DEPTH (FT):** 8.0
DRILLED BY: ConeTec / AC/DB **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 10/14/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT): ▽ 8.50 10/7/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO TYPE and NO.	SAMPLE INFO PEN/REC IN./IN.	STRATA	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96		Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') Crushed gravel road pack. G1B (0.5'- 8') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~55% sand, fine to coarse, ~35% gravel, fine to coarse, ~10% fines; moist, brown, FILL.
5	5				
▽					Note: Soil was not logged past the hand cleared depth of 8'. Cone Penetrometer Test performed 8'- 90.9'. End of Boring at 8 feet.

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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
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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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
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BORING LOG
PAGE 1 of 1
GPEC-GT17 (CPT)

GROUND SURFACE ELEVATION (FT): 5.50 **LOCATION:** West of Mooring Bitt 20
NORTHING (FT): 688550 **EASTING (FT):** 650967 **TOTAL DEPTH (FT):** 8.0
DRILLED BY: ConeTec / AC/DB **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 10/13/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: Ground surface elevation estimated from ground contours.
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	SOIL / BEDROCK DESCRIPTION
5	0	G1	96/96		Note: 0'- 8': HAND CLEARED. G1 (0'- 8') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); brown to dark brown, some cobbles. FILL.
0	5				Note: Soil was not logged past the hand cleared depth of 8'. Cone Penetrometer Test performed 8'- 27.9'. End of Boring at 8 feet.

NOTES:

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NA = NOT APPLICABLE
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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

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BORING LOG
PAGE 1 of 1
GPEC-GT19 (CPT)

GROUND SURFACE ELEVATION (FT): 9.94 **LOCATION:** West of Mooring Bitt 29
NORTHING (FT): 688978 **EASTING (FT):** 650776 **TOTAL DEPTH (FT):** 8.0
DRILLED BY: ConeTec / AC/DB **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 10/14/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	ODOR	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96			Note: 0'- 8': HAND CLEARED. G1 (0'- 8') SILTY SAND WITH GRAVEL (SM); slight tar-like odor, light brown, FILL.
5	5				TLO	
						Note: Soil was not logged past the hand cleared depth of 8'. Cone Penetrometer Test performed 8'- 76.1'. End of Boring at 8 feet.

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

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BORING LOG
PAGE 1 of 1
GPEC-GT21 (CPT)

GROUND SURFACE ELEVATION (FT): 9.69 **LOCATION:** West of Mooring Bitts 33 and 34
NORTHING (FT): 689228 **EASTING (FT):** 650718 **TOTAL DEPTH (FT):** 8.0
DRILLED BY: ConeTec / AC/DB **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 10/14/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96			Air knife to 3' bgs, coal tar odor.	Note: 0'- 8': HAND CLEARED. G1 (0'- 8') WIDELY GRADED SAND WITH SILT (SW-SM); slight tar-like odor, dark brown, a little gravel. FILL.
5	5				TLO		
							Note: Soil was not logged past the hand cleared depth of 8'. Cone Penetrometer Test performed 8'- 76.1'. End of Boring at 8 feet.

NOTES:

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TSF = TONS PER SQUARE FOOT

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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

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

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BORING LOG
PAGE 1 of 1
GPEC-GT23 (CPT)

GROUND SURFACE ELEVATION (FT): 13.75 **LOCATION:** Between Stores Building and Accommodations Building
NORTHING (FT): 687769 **EASTING (FT):** 651129 **TOTAL DEPTH (FT):** 8.0
DRILLED BY: ConeTec / AC/DB **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 10/19/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT): ▽ 2.50 10/1/1979 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96			Note: 0'- 8': HAND CLEARED. (0'- 0.5') ASPHALT and crushed road pack.
▽					Env. Sample ID= GPEC-GT-23 (3-4)	
10						
	5					
						Note: Soil was not logged in this borehole. Cone Penetrometer Test performed 8'- 73.8'. End of Boring at 8 feet.

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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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NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
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BORING LOG

GPEC-GT24 (CPT)

GROUND SURFACE ELEVATION (FT): 14.99 **LOCATION:** East of Generator Area, near Varick Ave.
NORTHING (FT): 687293 **EASTING (FT):** 649811 **TOTAL DEPTH (FT):** 8.0
DRILLED BY: ConeTec / AC/DB **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: **DATE START / END:** 10/8/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96		Note: 0'- 8': HAND CLEARED.
10	5				
					Note: Soil was not logged in this borehole. Cone Penetrometer Test performed 8'- 100.2'. End of Boring at 8 feet.

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NA = NOT APPLICABLE
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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

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BORING LOG

GPEC-GT25 (CPT)

GROUND SURFACE ELEVATION (FT): 16.11
LOCATION: Between Varick Ave. and CRG Unit Area
NORTHING (FT): 687446 **EASTING (FT):** 649645
TOTAL DEPTH (FT): 8.0
DRILLED BY: ConeTec / AC/DB
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY:
DATE START / END: 10/12/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96		Note: 0'- 8': HAND CLEARED.
15					
	5				
10					
					Note: Soil was not logged in this borehole. Cone Penetrometer Test performed 8'- 68.2'. End of Boring at 8 feet.

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BORING LOG
PAGE 1 of 1
GPEC-GT26 (CPT)

GROUND SURFACE ELEVATION (FT): 9.23 **LOCATION:** West of Mooring Bitts 18 & 19
NORTHING (FT): 688439 **EASTING (FT):** 650976 **TOTAL DEPTH (FT):** 8.0
DRILLED BY: ConeTec / AC/DB **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 10/13/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO TYPE and NO.	SAMPLE INFO PEN/REC IN./IN.	STRATA	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96		Note: 0'- 8': HAND CLEARED. G1 (0'- 8') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); brick and glass fragments. FILL.
5	5				
					Note: Soil was not logged past the hand cleared depth of 8'. Cone Penetrometer Test performed 8'- 98.4'. End of Boring at 8 feet.

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FT. = FEET
TSF = TONS PER SQUARE FOOT

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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

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

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BORING LOG

PAGE 1 of 1

GPEC-MR-01

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM				(0'- 6') NARROWLY GRADED SAND WITH SILT (SP-SM); ~70% sand, fine to medium, ~20% fines, ~10% gravel; max. size 0.5", moist, brown and gray, FILL.
5	5		6/NM	PID= 0.0		Env. Sample ID= GPEC-MR-01	
							End of Boring at 6 feet. Backfilled.

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

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

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

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

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG
PAGE 1 of 1
GPEC-MR-02

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM				(0'- 6') NARROWLY GRADED SAND (SP); ~80% sand, medium, ~15% gravel, ~5% fines; max. size 0.75", dry, brown, FILL.
			6/NM	PID= 0.0		Env. Sample ID= GPEC-MR-02	
5	5						End of Boring at 6 feet. Backfilled.

NOTES:

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S_V = TORVANE PEAK IN TSF

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FT. = FEET
TSF = TONS PER SQUARE FOOT

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PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
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OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR
SeLO= SEWAGE LIKE ODOR

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG
PAGE 1 of 1
GPEC-MR-03

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM					(0'- 6') SILTY SAND (SM); ~70% sand, fine to coarse, ~20% fines, non plastic, ~10% gravel; max. size 0.5", moderate petroleum-like odor, gray black, 8" thick concrete slab at 3' bgs. FILL.
5	5		6/NM	PID= 0.0		PLO	Env. Sample ID= GPEC-MR-03	
								End of Boring at 6 feet. Backfilled.

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

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BORING LOG

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GPEC-MR-04

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM				(0'- 6') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, ~5% fines; max. size 0.75", dry, brown, cobbles at surface. FILL.
			6/NM	PID= 0.0		Env. Sample ID= GPEC-MR-04	
5	5						End of Boring at 6 feet. Backfilled.

NOTES:

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NM = NOT MEASURED
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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
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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: 093260-1-1101

BORING LOG
PAGE 1 of 1
GPEC-MR-05

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM					(0'- 6') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, medium to coarse, ~20% gravel, ~5% fines; max. size 2", moderate petroleum-like odor, moist, gray brown, FILL.
			6/NM	PID= 3.2		PLO	Env. Sample ID= GPEC-MR-05	
5	5							End of Boring at 6 feet. Refusal at 3 feet. Backfilled.

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.GPJ_ATLANTIC.GEI.DATA TEMPLATE.GDT 7/6/11

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

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
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GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
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GPEC-MR-06

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM			PLO		(0'- 6') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to medium, ~20% gravel, ~5% fines; max. size 2", slight petroleum-like odor, dry, dark black brown, FILL.
			6/NM	PID= 0.8			Env. Sample ID= GPEC-MR-06	
5	5							End of Boring at 6 feet. Backfilled.

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
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI.DATA TEMPLATE.GDT 7/6/11

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GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
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GPEC-MR-07

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM				(0'- 6') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse sand, ~20% gravel, ~10% fines, non plastic; very moist, gray, FILL.
			6/NM	PID= 0.0		Env. Sample ID= GPEC-MR-07	
5	5						End of Boring at 6 feet. Backfilled.

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.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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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: 093260-1-1101

BORING LOG

PAGE 1 of 1

GPEC-MR-08

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM				(0'- 2.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, medium to coarse, ~15% gravel, ~5% fines; max. size 2", dry, brown, FILL.
			6/NM	PID= 0.2		Env. Sample ID= GPEC-MR-08	
5	5						End of Boring at 6 feet. Refusal at 2.5 feet. Backfilled.

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.GPJ_ATLANTIC.GEI.DATA TEMPLATE.GDT_7/6/11

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(860) 368-5300

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PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 1 of 1
GPEC-MR-09

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM				(0'- 6') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, ~5% fines; max. size 2", dry, dark brown, FILL.
			6/NM	PID= 0.1		Env. Sample ID= GPEC-MR-09	
5	5						End of Boring at 6 feet. Backfilled.

NOTES:

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

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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.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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(860) 368-5300

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PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 1 of 1
GPEC-MR-10

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM				(0'- 6') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, ~35% sand, fine to coarse, ~5% fines; max. size 2", moist, dark brown, FILL.
			6/NM	PID= 0.0		Env. Sample ID= GPEC-MR-10	
5	5						End of Boring at 6 feet. Backfilled.

NOTES:

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

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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.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 1 of 1
GPEC-MR-11

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2011
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM					(0'- 6') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse sand, ~15% gravel, ~10% fines; max. size 1", slight petroleum-like odor, dry, dark brown, wood and debris, plastic. FILL.
			6/NM	PID= 19.3			Env. Sample ID= GPEC-MR-11	
5	5					PLO		
								End of Boring at 6 feet. Backfilled.

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
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT 7/6/11

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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 1 of 1
GPEC-MR-12

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM				(0'- 6') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~30% gravel, ~20% fines, non plastic; max. size 1", wet, brown gray, FILL.
			6/NM	PID= 0.0		Env. Sample ID= GPEC-MR-12	
5	5						End of Boring at 6 feet. Backfilled.

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.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 1 of 1
GPEC-MR-13

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM				(0'- 6') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, medium to coarse, ~10% gravel, ~5% fines, non plastic; max. size 1", dry, brown, FILL.
			6/NM	PID= 10.0		Env. Sample ID= GPEC-MR-13	
5	5						End of Boring at 6 feet. Backfilled.

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
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT 7/6/11

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GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 1 of 1
GPEC-MW-01R

GROUND SURFACE ELEVATION (FT): 11.70 **LOCATION:** Northeast of Accommodations Building, West of Mooring Bitt 8
NORTHING (FT): 687779 **EASTING (FT):** 651237 **TOTAL DEPTH (FT):** 65.0
DRILLED BY: Boart Longyear / Dell Cunningham **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K. Kucher, R. Marshall **DATE START / END:** 5/24/2010 - 5/25/2010
DRILLING DETAILS: Roto-Sonic Drilling / Mini Sonic Bredel 40 SPX / Casing: 7.625 in. ID / Casing: 8 in. OD
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0		60/NM	2 min		GPEC-MW-01R over-drilled through GPEC-MW-01 that had been damaged. No samples collected.	
5	5		60/NM	2 min			
0	10		60/NM	5 min			
-5	15		60/NM	2 min			
-10	20		60/NM	2 min			
-15	25		60/NM	2 min			
-20	30		60/NM	6 min			
-25	35		60/NM	1 min			
-30	40		60/NM	1 min			
-35	45		60/NM	1 min			
-40	50		60/NM	3 min			
-45	55		60/NM	2 min			
-50	60		60/NM	NM			
	65					End of Boring at 65 feet. Monitoring well installed. Screened 50'- 60'.	

NOTES:

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IN. = INCHES
FT. = FEET
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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
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT_7/6/11

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CLIENT: National Grid
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GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 1 of 1
GPEC-SB01

GROUND SURFACE ELEVATION (FT): 11.42 **LOCATION:**
NORTHING (FT): 687779 **EASTING (FT):** 651237 **TOTAL DEPTH (FT):** 19.3
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 4/1/2009 - 4/1/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 6.50 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96	NA	PID= 0.4					Note: 0'- 8': HAND CLEARED. G1A (0'- 1') ASPHALT and reinforced concrete. G1B (1'- 6.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, subrounded, ~15% gravel, fine to coarse, ~5% fines; ~5% cobbles, slight petroleum-like odor, moist, reddish brown, brick, and concrete. FILL.
10								PLO		
	5									
▽ 5					PID= 1.0				Env. Sample ID= GPEC-SB-1 (7.5-8)	G1C (6.5'- 8') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, subrounded, ~15% gravel, fine to coarse, ~5% fines; ~5% cobbles, wet, brown, brick, and concrete. FILL.
		S1	24/9	9-1-1-1	PID= 26.8					S1 (8'- 10') WIDELY GRADED SAND (SW); ~85% sand, fine to medium, ~10% gravel, fine, ~5% fines; wet, brown, timber and concrete. FILL.
	10	S2	24/9	9-7-2-6	PID= 26.5					S2 (10'- 12') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, ~5% fines; wet, brown, brick fragments. FILL.
0		S3	24/14	2-2-5-5	PID= 7.5					S3 (12'- 14') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; wet, brown, brick, tile, concrete fragments. FILL.
		S4	24/1	30-7-4-5	PID= 42.5					S4 (14'- 16') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; wet, brown, brick, tile, concrete fragments. Sheen. FILL.
	15									
-5		S5	24/13	9-4-20-21	PID= 26.1			PLO		S5 (16'- 18') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, ~5% fines; slight petroleum-like odor, wet, brown, brick fragments. Trace petroleum sheen.
		S6	16/15	6-4-50/3"	PID= 4.8			PLO		S6 (18'- 19.3') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, ~10% fines; slight petroleum-like odor, wet, brown, brick fragments. Trace petroleum sheen. End of Boring at 19.3 feet. Auger refusal at 19.5 ft bgs, steel or rock. Bentonite hole plug and backfill with asphalt patch at surface. Offset 1 foot and continued drilling. (GPEC-MW-01/SB-01B(MW))

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NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT 7/6/11

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: 093260-1-1101

BORING LOG
PAGE 1 of 6
GPEC-SB01B/MW-01

GROUND SURFACE ELEVATION (FT): 11.65 **LOCATION:** Northeast of Accommodations Building, West of Mooring Bitt 8
NORTHING (FT): 687779 **EASTING (FT):** 651237 **TOTAL DEPTH (FT):** 99.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 4/8/2009 - 4/10/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 6.50 ; from GPEC-SB-01
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0									Note: 0'- 19.3' logged in GPEC-SB-01.	
5	5										
0	10										
	15										

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BORING LOG

GPEC-SB01B/MW-01

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15										
-5											
	20	S1	24/6	6-22-11-9	PID= 30.3					S1 (20'- 22') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% sand, fine to medium, ~20% gravel, fine to coarse, rounded, ~10% fines; max. size 2", moist to wet, brown, FILL.	
-10		S2	24/7	7-5-6-6	PID= 6.0					S2 (22'- 24') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% sand, fine to medium, ~20% gravel, fine to coarse, rounded, ~10% fines; max. size 2", wet, brown, FILL.	
	25	S3	24/16	3-8-24-52	PID= 70.5			TLO		S3 (24'- 26') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subangular, ~5% fines; max. size 2", slight tar-like odor, wet, black, stained. Sheen. FILL.	
-15		S4	24/24	3-6-18-24	PID= 12.6					S4 (26'- 28') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, subangular, ~5% fines; max. size 1.5", wet, black, brick tile fragments. FILL.	
		S5	24/24	13-11-4-8	PID= 14.1			TLO		S5 (28'- 30') NARROWLY GRADED SAND (SP); ~95% sand, medium to coarse, angular, ~5% gravel, fine; moderate tar-like odor, wet, gray, brick tile fragments. Sheen. FILL.	
	30	S6	24/10	4-5-7-9	PID= 4.1					S6 (30'- 32') ORGANIC SOIL WITH SAND (OL/OH); ~50% organic silt, ~25% organic roots, ~25% sand, fine, moist, dark brown.	
-20		S7	24/3	8-13-17-20	PID= 11.2					S7 (32'- 34') ORGANIC SOIL WITH SAND (OL/OH); ~50% organic silt, ~25% organic roots, ~25% sand, fine, saturated, dark brown.	

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BORING LOG
PAGE 3 of 6
GPEC-SB01B/MW-01

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	35	S8	24/1	8-10-12-12	PID= 4.0					S8 (34'- 36') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine; wet, gray.	
-25		S9	24/14	8-10-14-13	PID= 1.2					S9 (36'- 38') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine, subangular; wet, gray.	
		S10	24/16	10-11-14-21	PID= 1.1					S10 (38'- 40') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subangular, ~10% gravel, fine, subangular; wet, gray.	
	40	S11	24/1	6-10-9-7	PID= 2.0					S11 (40'- 42') WIDELY GRADED GRAVEL (GW); ~100% gravel, fine to coarse, subangular; max. size 1.25".	
-30		S12	24/8	6-7-10-13	PID= 3.0					S12 (42'- 44') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse; max. size 2", wet, gray.	
	45	S13	24/8	8-10-11-15	PID= 0.5				(44') Cobbles causing rough drilling.	S13 (44'- 46') WIDELY GRADED SAND (SW); ~90% sand, medium to coarse, ~10% gravel, fine to coarse, angular; max. size 1", wet, gray.	
-35		S14	24/16	6-11-18-22	PID= 1.0					S14 (46'- 48') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to medium, ~20% gravel, fine to coarse, subangular; max. size 1.75", wet, gray.	
		S15	24/24	19-30-26-22	PID= 0.9					S15 (48'- 50') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to medium, ~20% gravel, fine to coarse, subangular; max. size 2", wet, gray.	
	50	S16	24/0	40-30-34-39	PID= NA				S16: 3" spoon used.	S16 (50'- 52') NO RECOVERY.	
-40											

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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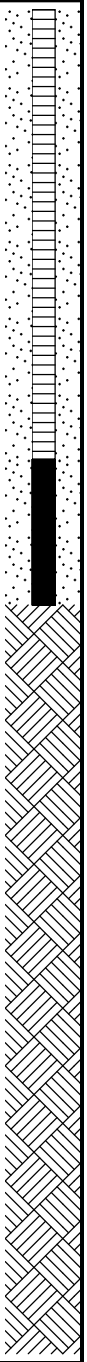
BORING LOG

GPEC-SB01B/MW-01

ELEV. FT.	DEPTH FT.	TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		S17	24/23	6-14-17-22	PID= 256			TLO	Env. Sample ID= GPEC-SB-1B (52-54)	S17 (52'- 54') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, subrounded, ~15% gravel, fine to coarse, subrounded; max. size 1.5", strong tar-like odor, wet, gray brown, fine sand at bottom of sample. Tar saturated.
	55	S18	24/10	36-38-34-43	PID= 31.8			TLO	S18: 3" spoon used.	S18 (54'- 56') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; moderate tar-like odor, wet to moist, gray.
-45		S19	24/1	6-8-13-11	PID= 34.0					S19 (56'- 58') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine; gray.
		S20	24/22	7-5-8-16	PID= 22.8			TLO		S20 (58'- 60') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~5% fines; layered, strong tar-like odor, wet, gray brown, sheen.
	60	S21	24/4	10-9-13-13	PID= 9.9			TLO		S21 (60'- 62') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, fine to medium, ~20% gravel, fine, subangular; moderate tar-like odor, wet, gray.
-50		S22	24/23	4-9-14-0	PID= 5.3					S22 (62'- 64') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, subangular, ~15% gravel, fine; wet, gray brown.
		S23	24/2	11-9-10-15	PID= 4.6				S23: 3" spoon used.	S23 (64'- 66') WIDELY GRADED GRAVEL (GW); ~100% gravel; max. size 2.5", wet.
	65	S24	24/18	5-7-10-13	PID= 32.3					S24 (66'- 68') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, subrounded, ~35% gravel, fine to coarse, subrounded; max. size 2", wet, black gray.
-55		S25	24/20	5-6-15-24	PID= 7.6					S25 (68'- 70') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, medium to coarse, subrounded, ~35% gravel, fine to coarse, subrounded; max. size 2", wet, dark gray.
	70				PID= NA					

WELL DETAILS



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BORING LOG
PAGE 5 of 6
GPEC-SB01B/MW-01

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
		S26	24/0	10-12-16-30						S26 (70'- 72') NO RECOVERY.	
-60		S27	24/14	12-16-16-16	PID= 9.5					S27 (72'- 74') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium to coarse, ~20% gravel, fine to coarse, subrounded; max. size 1", wet, gray brown.	
	75	S28	24/12	12-20-26-37	PID= 9.3			TLO	S28: 3" spoon used.	S28 (74'- 76') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium to coarse, subrounded, ~15% gravel, fine to coarse; max. size 1", slight tar-like odor, wet, brown.	
-65		S29	24/22	6-14-13-17	PID= 3.7			TLO		S29 (76'- 78') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium to coarse, subrounded, ~15% gravel, fine to coarse; max. size 1", slight tar-like odor, wet, brown.	
		S30	24/18	7-15-22-29	PID= 4.6			TLO	(78') Dificult drilling.	S30 (78'- 80') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium to coarse, subrounded, ~15% gravel, fine to coarse; max. size 1", slight tar-like odor, wet, brown.	
	80	S31	24/12	12-19-22-24	PID= 4.2			TLO		S31 (80'- 82') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium to coarse, ~15% gravel, fine to coarse; slight tar-like odor, wet, gray, 1" gravel seam.	
-70		S32	24/21	8-23-39-52	PID= 8.2 PID= 2.3					S32A (82'- 83') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium, ~15% gravel, fine to coarse; max. size 1", wet, brown to dark gray. S32B (83'- 84') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, fine, ~15% gravel, fine to coarse; max. size 1", wet, brown to dark gray.	
	85	S33	24/9	24-31-32-47	PID= 5.6				S33: 3" spoon used.	S33 (84'- 86') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, fine to medium, ~20% gravel, fine to coarse, subrounded; wet, gray brown.	
-75		S34	24/20	30-20-20-21	PID= 6.3 PID= 6.6					S34A (86'- 87') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, fine to medium, ~20% gravel, fine to coarse, subrounded; wet, gray. S34B (87'- 88') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse; wet, dark gray.	
		S35	24/24	18-16-19-47	PID= 5.7			TLO	(88') Trace		

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BORING LOG

PAGE 6 of 6

GPEC-SB01B/MW-01

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
									tar/sheen in drilling mud.	S35 (88'- 90') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, subrounded, ~15% gravel, fine to coarse, subrounded; slight tar-like odor, wet, gray brown, trace sheen.	
	90	S36	24/8	51-38-26-21	PID= 2.1			TLO		S36 (90'- 92') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded; max. size 1.5", slight tar-like odor, wet, dark gray.	
-80		S37	24/24	18-29-61-55	PID= 2.0			TLO		S37 (92'- 94') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse; max. size 1.5", wet, gray.	
	95	S38	24/11	35-45-61-46	PID= 2.0				S38: 3" spoon used.	S38 (94'- 96') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium to coarse, ~15% gravel, fine to coarse, subrounded; max. size 2", wet, gray.	
-85		S39	24/13	19-47-70-73	PID= 1.7					S39 (96'- 98') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium to coarse, ~15% gravel, fine to coarse, subrounded; max. size 2", wet, gray.	
		S40	12/12	68-100/6"	PID= 1.7				Env. Sample ID= GPEC-SB-1B (98-100)	S40 (98'- 99') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse; layered, max. size 1.25", wet, dark gray.	
										End of Boring at 99 feet.	
										Monitoring well installed upon completion.	
										Screened 43'- 58'.	

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BORING LOG
PAGE 1 of 6
GPEC-SB02/MW-02

GROUND SURFACE ELEVATION (FT): 11.34 **LOCATION:** South of LNG Dock House, Between Mooring Bitts 12 &13
NORTHING (FT): 688036 **EASTING (FT):** 651144 **TOTAL DEPTH (FT):** 100.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 4/1/2009 - 4/7/2009
DRILLING DETAILS: Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 6.50 4/1/2009 ;
GENERAL NOTE:
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ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0	G1	96/96	NA	PID= 1.7					Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') ASPHALT. G1B (0.5'- 5.5') WIDELY GRADED GRAVEL WITH SAND (GW); ~50% gravel, fine to coarse, subrounded, ~45% sand, fine to coarse, ~5% fines; moist, dark brown, some brick or concrete cobbles (6" diameter).	
	5				PID= 0.6					G1C (5.5'- 8') WIDELY GRADED SAND (SW); ~90% sand, fine to medium, ~5% gravel, fine, subrounded, ~5% fines; wet, brown.	
▽ 5		S1	24/9.5	WOH/12"-1-1	PID= 0.3					S1 (8'- 10') SILTY SAND (SM); ~80% sand, fine to medium, ~15% fines, ~5% gravel; moist, red brown.	
0	10	S2	24/9.5	2-2-3-2	PID= 2.2				Env. Sample ID= GPEC-SB-2 (10-12)	S2 (10'- 12') SILTY SAND (SM); ~75% sand, fine to medium, ~15% fines, ~10% gravel; moist, red brown.	
		S3	24/22	1-2-4-6	PID= 0.0					S3 (12'- 14') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, ~10% fines; wet, dark brown.	
	15	S4	24/0	2-1-2-1	PID= NA					S4 (14'- 16') NO RECOVERY.	

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT_7/6/11

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

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PROJECT: Greenpoint Energy Center
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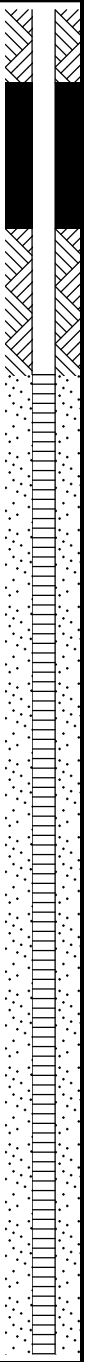
GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 2 of 6
GPEC-SB02/MW-02

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	15									
-5		S5	8/8	4-50/2"	PID= 0.5				(17') Steel plate encountered. Driller able to penetrate.	S5 (16'- 16.7') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, ~10% fines; wet, dark brown.
		S6	8/8	6-50/2"	PID= 0.3					S6 (18'- 18.7') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine to medium, ~10% gravel, coarse, ~10% fines; brown, 2" layer of black.
	20	S7	1/0	50/1"	PID= NA					S7 (20'- 20.1') NO RECOVERY.
-10		S8	24/15	18-13-9-9	PID= 0.5					S8 (22'- 24') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, ~5% fines; wet, brick fragments. FILL.
	25	S9	24/4	3-4-11-9	PID= 1.3			PLO		S9 (24'- 26') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, ~5% fines; moderate petroleum-like odor, wet, brick fragments. Sheen. FILL.
-15		S10	24/4	WOH/12"-1-2	PID= 1.5			TLO		S10 (26'- 28') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse; slight tar-like odor, wet, brick fragments, tile. Angular. Super saturated. Sheen. FILL.
		S11	24/12	4-1-4-5	PID= 41			TLO		S11 (28'- 30') ELASTIC SILT WITH SAND (MH); ~80% fines, ~10% gravel, coarse, subangular, ~10% sand, fine to coarse; max. size 2", moderate tar-like odor, moist, black, sheen.
	30	S12	24/14	2-12-4-9	PID= 50			TLO	Env. Sample ID= GPEC-SB-2 (30-32)	S12A (30'- 30.9') SILTY GRAVEL (GM); moderate tar-like odor, wet, black, sheen. Blebs and globs. FILL.
-20					PID= 12.6					S12B (30.9'- 32') LEAN CLAY (CL); medium plasticity, no dilatancy; moist, dark gray, shell fragments.
		S13	24/18	12-12-11-13	PID= 20.3			TLO		S13 (32'- 34') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, angular, ~20% gravel, fine to coarse, angular; max. size 1", moderate tar-like odor, wet,

WELL DETAILS



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BORING LOG

PAGE 3 of 6

GPEC-SB02/MW-02

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
										black, sheen. Staining. FILL.
		S14	24/20	4-7-6-6	PID= 20.3			TLO		S14A (34'- 35') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse; moderate tar-like odor, wet, dark gray, tile, brick fragments. Sheen. FILL.
	35				PID= 2.3					S14B (35'- 36') NARROWLY GRADED SAND (SP); ~100% sand, fine to medium; gray brown.
-25		S15	24/24	2-6-6-7	PID= 21.1			TLO		S15A (36'- 37') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, subangular, ~15% gravel, fine, subangular; moderate tar-like odor, wet, dark gray.
					PID= 3.8					S15B (37'- 38') NARROWLY GRADED SAND (SP); ~100% sand, fine; wet, gray.
		S16	24/16	5-3-5-11	PID= 13.8			TLO		S16 (38'- 40') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% gravel, fine to coarse, subangular; max. size 1", moderate tar-like odor, wet, dark gray.
	40	S17	24/4	18-21-13-12	PID= 1.7					S17 (40'- 42') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse; wet.
-30		S18	24/7	9-23-8-11	PID= 1.7			TLO		S18 (42'- 44') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium to coarse, ~15% gravel, fine to coarse, subrounded; slight tar-like odor.
		S19	24/4.5	24-14-11-11	PID= 3.2			TLO		S19 (44'- 46') WIDELY GRADED GRAVEL WITH SAND (GW); ~70% gravel, fine to coarse, ~30% sand, medium to coarse; slight tar-like odor, subrounded grains.
	45									
-35		S20	24/10	12-14-13-10	PID= 2.4			TLO	(46') Rough drilling.	S20 (46'- 48') WIDELY GRADED GRAVEL WITH SAND (GW); ~80% gravel, fine to coarse, subangular, ~20% sand, medium to coarse; slight tar-like odor, sheen.
		S21	24/0	23-18-12-15	PID= NA				(48') Loss of drilling mud.	S21 (48'- 50') NO RECOVERY; gravel wash, wet.
	50	S22	24/6	8-13-11-11	PID= 1.5			TLO	(50'- 52') Drilling mud loss continues.	S22 (50'- 52') WIDELY GRADED GRAVEL WITH SAND (GW); ~80% gravel, fine to coarse, subangular, ~20% sand, medium to coarse; slight tar-like odor, wet.
-40										

WELL DETAILS

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BORING LOG
PAGE 4 of 6
GPEC-SB02/MW-02

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
		S23	24/10	7-10-12-16	PID= 2.6			TLO	(52'- 54') Drilling mud loss continues.	S23 (52'- 54') WIDELY GRADED GRAVEL WITH SAND (GW); ~85% gravel, fine to coarse, subangular, ~15% sand, fine to coarse; max. size 1.75", slight tar-like odor, wet, gray, multicolored.	
	55	S24	24/8	6-5-10-11	PID= 1.6			TLO	(54'- 56') Drilling mud loss continues.	S24 (54'- 56') WIDELY GRADED GRAVEL WITH SAND (GW); ~85% gravel, fine to coarse, subangular, ~15% sand, fine to coarse; max. size 1.75", slight tar-like odor, wet, gray, multicolored.	
-45		S25	24/12	16-23-22-22	PID= 1.6 PID= 1.2				(56'- 58') Drilling mud loss continues.	S25 (56'- 58') NARROWLY GRADED SAND WITH GRAVEL (SP); ~70% sand, fine to medium, ~30% gravel, fine, subangular; max. size 0.25", clean sand with gravel seam.	
		S26	24/0	NM	PID= NA				(58') Driller experiencing gravel collapsing into the hole.	S26 (58'- 60') NO RECOVERY.	
	60	S27	24/8	8-16-15-14	PID= 0.4					S27 (60'- 62') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~10% gravel, fine to coarse, subrounded; moist to wet, gray black.	
-50		S28	24/20	17-15-17-12	PID= 0.3 PID= 0.2				(62') Difficult drilling.	S28A (62'- 62.8') NARROWLY GRADED SAND (SP); ~100% sand, fine to medium; wet, gray. S28B (62.8'- 64') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium, ~20% gravel, fine to coarse, rounded; max. size 2", wet, black.	
		S29	24/18	10-13-16-20	PID= 0.6					S29A (64'- 66') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, fine to medium, ~20% gravel, fine to coarse, rounded; layered, wet, gray black, black sand due to mineralogy. Gravel: chert, basalt.	
	65	S30	24/20	15-24-25-23	PID= 0.3 PID= 0.3				(66') Drill chatter and difficult drilling.	S30A (66'- 67') NARROWLY GRADED SAND (SP); ~100% sand, fine to medium; wet, tan. S30B (67'- 68') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, rounded, ~20% gravel, fine to coarse, rounded; max. size 1.5", wet, black.	
-55		S31	24/4	10-14-29-10	PID= 1.4				(68') Driller reports drilling mud loss and cobbles.	S31 (68'- 70') NARROWLY GRADED SAND WITH GRAVEL (SP); ~75% sand, medium, ~25% gravel, fine to coarse, rounded; wet, black gray.	
	70				PID= 0.8						

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BORING LOG
PAGE 5 of 6
GPEC-SB02/MW-02

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-60		S32	24/2	7-10-13-8						S32 (70'- 72') WIDELY GRADED GRAVEL (GW); ~100% gravel, fine to coarse, subrounded; probable drilling wash. Granite and Basalt.	
		S33	24/20	9-13-12-8	PID= 4.0 PID= 2.0				(72'- 74') Some drilling mud loss	S33A (72'- 72.8') NARROWLY GRADED SAND (SP); ~100% sand, medium to coarse, subangular; wet, tan. S33B (72.8'- 74') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, medium to coarse, subangular, ~20% gravel, fine to coarse, subangular; max. size 1.5", wet, black gray.	
	75	S34	24/6	7-17-18-24	PID= 4.5			TLO		S34 (74'- 76') NARROWLY GRADED SAND WITH GRAVEL (SP); ~75% sand, medium to coarse, subangular, ~25% gravel, fine to coarse; max. size 1", moderate tar-like odor, wet, gray.	
-65		S35	24/18	14-29-33-36	PID= 9.3 PID= 3.2			TLO		S35A (76'- 77.8') NARROWLY GRADED SAND (SP); ~95% sand, medium to coarse, subangular, ~5% gravel, fine, subangular; moderate tar-like odor, gray, blebs of sheen.	
		S36	24/19	17-20-38-32	PID= 2.9 PID= 3.9			TLO		S35B (77.8'- 78') WIDELY GRADED GRAVEL WITH SAND (GW); ~75% gravel, fine to coarse, subangular, ~25% sand, medium to coarse, subangular; max. size 2", moderate tar-like odor, wet, dark gray, blebs of sheen. S36A (78'- 79') NARROWLY GRADED SAND (SP); ~100% sand, medium; layered, wet, gray.	
	80	S37	24/10	18-28-30-30	PID= 3.2 PID= 8.3				(80'- 82') Drilling mud loss (~1/2 tub).	S36B (79'- 80') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, subrounded, ~40% sand, fine to coarse, subrounded; layered, max. size 2", wet, gray. S37A (80'- 81') NARROWLY GRADED SAND (SP); ~100% sand, medium; layered, wet, gray.	
-70		S38	24/23	31-44-55-41	PID= 1.5 PID= 2.7					S37B (81'- 82') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, subrounded, ~40% sand, fine to coarse, subrounded; layered, max. size 2", wet, gray. S38A (82'- 83') NARROWLY GRADED SAND (SP); ~100% sand, medium to coarse; layered, wet, gray.	
		S39	24/16	25-54-57-55	PID= 2.9 PID= 0.7			TLO		S38B (83'- 84') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, subrounded, ~40% sand, fine to coarse, subrounded; layered, max. size 3", wet, gray. S39A (84'- 84.5') WIDELY GRADED GRAVEL (GW); ~90% gravel, fine to coarse, subangular, ~10% sand; layered, max. size 1.5", wet, gray.	
	85										
-75		S40	24/19	31-33-36-38	PID= 4.2 PID= 0.6						
		S41	24/14	22-30-44-22	PID= 3.7				(88'- 90') Drilling	S39B (84.5'- 86') NARROWLY GRADED	

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BORING LOG
PAGE 6 of 6
GPEC-SB02/MW-02

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					PID= 0.7				mud loss (~100 gal).	SAND (SP); ~95% sand, fine to medium, ~5% gravel, fine; layered, slight tar-like odor, wet, gray.	
	90	S42	24/0	40-55-52-37	PID= NA				S42: 3" spoon used.	S40A (86'- 87') WIDELY GRADED GRAVEL (GW); ~90% gravel, fine to coarse, ~10% sand, fine to medium; layered, wet.	
-80										S40B (87'- 88') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% gravel, fine; layered, gray.	
		S43	24/16	17-26-25-28	PID= 0.3					S41A (88'- 88.6') WIDELY GRADED GRAVEL (GW); ~90% gravel, fine to medium, subangular, ~10% sand, coarse; layered, wet, gray.	
					PID= 0.4					S41B (88.6'- 90') NARROWLY GRADED SAND (SP); ~85% sand, fine to medium, ~10% gravel, fine, ~5% fines; layered, gray.	
		S44	24/13	20-61-49-65	PID= 0.5				S44: 3" spoon used.	S42 (90'- 92') NO RECOVERY.	
	95				PID= 0.3					S43A (92'- 93.3') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine, ~10% gravel, fine, ~10% fines; layered, wet.	
										S43B (93.3'- 94') CLAYEY SAND (SC); ~65% sand, fine, ~25% fines, medium plasticity, ~10% gravel, fine; layered.	
-85		S45	24/12	37-45-76-41	PID= NM					S44A (94'- 95') CLAYEY SAND (SC); ~75% sand, fine, ~15% fines, medium plasticity, ~10% gravel, fine; layered, wet, gray.	
										S44B (95'- 96') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine, ~10% gravel, fine, ~10% fines; layered, wet, gravel wash at top.	
		S46	24/14	16-36-35-52	PID= NM					S45A (96'- 97') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine, ~10% gravel, fine, ~10% fines; layered, wet.	
										S45B (97'- 98') CLAYEY SAND (SC); ~80% sand, fine, ~10% gravel, fine, ~10% fines, medium plasticity; layered, wet, gray, environmental sample taken.	
	100									S46 (98'- 100') ELASTIC SILT WITH SAND (MH); ~80% fines, low plasticity, medium dry strength, low toughness, ~20% sand, medium; layered, moist.	
										End of Boring at 100 feet.	
										Monitoring well installed upon completion.	
										Screened 20'- 35'.	

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BORING LOG
PAGE 1 of 3
GPEC-SB03S/MW-03S

GROUND SURFACE ELEVATION (FT): 10.60 **LOCATION:** West of Mooring Bitt 16, South of Fence
NORTHING (FT): 688289 **EASTING (FT):** 651055 **TOTAL DEPTH (FT):** 42.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 4/22/2003 - 4/23/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

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	5										
5											
		S1	24/0	WOH/12"-WOH/12"	PID= NA					S1 (8'- 10') NO RECOVERY.	
	10	S2	24/17	2-2-2-8	PID= NM					S2 (10'- 12') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, ~5% gravel, fine; layered, max. size 0.5", dark brown and tan, layers of dark brown thin silty layers and tan sands. Sheen present. FILL.	
0											
	15										

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S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 7/6/11

GEI Consultants

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

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
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BORING LOG

GPEC-SB03S/MW-03S

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-5	15										
-10	20										
-15	25										
-20	30								(31') Obstruction hit. Driller was able to break through.		

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GPEC-SB03S/MW-03S

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	35	S3	24/20	3-3-6-8	PID= NM					S3A (34'- 35.2') SILTY GRAVEL WITH SAND (GM); ~60% gravel, fine to coarse, angular, ~25% fines, ~15% sand, fine to coarse; max. size 1", black staining. FILL.	
-25								TLO		S3B (35.2'- 36') ELASTIC SILT WITH GRAVEL (MH); ~80% fines, ~15% gravel, fine, ~5% sand, fine; moderate tar-like odor, black, FILL.	
		S4	24/24	5-5-9-8	PID= NM			TLO		S4 (36'- 38') SILTY GRAVEL WITH SAND (GM); ~60% gravel, fine to coarse, ~25% fines, ~15% sand, fine to coarse; max. size 1", moderate tar-like odor, black stains. FILL.	
		S5	24/6	4-2-2-10	PID= NM			TLO		S5 (38'- 40') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to medium, ~25% gravel, fine, angular, ~15% fines; moderate tar-like odor, black stains. FILL.	
	40	S6	24/20	7-10-13-12	PID= NM					S6A (40'- 41.4') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine, ~5% fines.	
-30								TLO		S6B (41.4'- 42') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; moderate tar-like odor, gray to light brown, black stained seams.	
										End of Boring at 42 feet.	
										Monitoring well installed upon completion.	
										Screened 25'- 40'.	

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BORING LOG
PAGE 1 of 7
GPEC-SB03/MW-03D

GROUND SURFACE ELEVATION (FT): 10.56 **LOCATION:** West of Mooring Bitt 16, South of Fence
NORTHING (FT): 688301 **EASTING (FT):** 651051 **TOTAL DEPTH (FT):** 115.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 4/14/2009 - 4/17/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 8.00 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0	G1	96/96	NA						Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') Large stone, brick fragments. G1B (0.5'- 3') WIDELY GRADED GRAVEL WITH SAND (GW); ~70% gravel, fine to coarse, ~25% sand, fine to coarse, ~5% fines; max. size 10", brown, brick, cobbles, fireblock.	
									Env. Sample ID= GPEC-SB-3 (3-4)	G1C (3'- 4') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse; black, cinder material. G1D (4'- 6') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse; black, cinder material.	
5	5										
									Env. Sample ID= GPEC-SB-3 (7-8)	G1E (6'- 8') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine to coarse, ~5% fines; moist to wet, brown.	
		S1	24/16	2-2-2-2	PID= 0.5					S1A (8'- 9') SILTY SAND (SM); ~80% sand, fine, ~15% fines, ~5% gravel, fine; wet, dark brown.	
					PID= 1.7					S1B (9'- 10') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, fine to medium, ~15% gravel, fine, ~5% fines; wet, brown.	
0	10	S2	24/12	7-2-2-WOH	PID= 0.3					S2 (10'- 12') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine, ~10% fines; wet, tan brown.	
		S3	24/8	2-1-8-10	PID= 0.4					S3 (12'- 14') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine to medium, ~15% gravel, fine to coarse, ~10% fines; max. size 0.5", wet, brown, FILL.	
	15	S4	24/4	4-4-5-4	PID= 0.4					S4 (14'- 16') WIDELY GRADED GRAVEL WITH SAND (GW); ~65% gravel, fine to coarse, ~30% sand, fine to coarse, ~5% fines;	

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BORING LOG
PAGE 2 of 7
GPEC-SB03/MW-03D

ELEV. FT.	DEPTH FT.	TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15									max. size 1", wet, dark brown, FILL.	
-5		S5	24/16	2-5-4-10	PID= 0.4					S5 (16'- 18') NARROWLY GRADED SAND (SP); ~85% sand, fine to medium, ~10% gravel, fine to coarse, ~5% fines; wet, brown, FILL.	
		S6	24/16	26-18-15-11	PID= 0.3				S6: 3" spoon used.	S6 (18'- 20') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines; layered, max. size 1", red brown tan, FILL.	
	20	S7	24/9	6-6-3-6	PID= 0.4					S7 (20'- 22') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; max. size 1", wet, brown, brick fragments. FILL.	
-10		S8	24/15	5-4-8-7	PID= 0.4					S8 (22'- 24') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, ~5% fines; max. size 1.5", wet, dark brown, brick fragments. FILL.	
		S9	24/11	5-2-3-3	PID= 3.6					S9 (24'- 26') NARROWLY GRADED SAND (SP); ~85% sand, fine to medium, ~10% gravel, fine, ~5% fines; moist to wet, brown, FILL.	
	25	S10	24/21	4-0-2-9	PID= 70.3			PLO		S10 (26'- 28') SILTY SAND (SM); ~70% sand, fine, ~25% fines, low plasticity, slow dilatancy, low toughness, ~5% gravel, fine; strong petroleum-like odor, moist, brown black, sheen.	
-15		S11	3/3	100/3"	PID= 70.3			PLO		S11 (28'- 28.3') SILTY SAND (SM); ~70% sand, fine, ~25% fines, low plasticity, slow dilatancy, low toughness, ~5% gravel, fine; strong petroleum-like odor, moist, black, sheen.	
	30	S12	24/11	3-3-6-9	PID= 12.1			TLO		S12 (30'- 32') ELASTIC SILT WITH SAND (MH); ~85% fines, low plasticity, no dilatancy, low toughness, ~15% sand, fine; strong tar-like odor, wet, black.	
-20		S13	24/24	10-26-24-34	PID= 20.3			TLO		S13A (32'- 33') ELASTIC SILT (MH); ~90% fines, low plasticity, ~10% sand, fine; strong tar-like odor, wet, black.	
					PID= 36.4					S13B (33'- 34') NARROWLY GRADED SAND	

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BORING LOG

GPEC-SB03/MW-03D

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								TLO		WITH GRAVEL (SP); ~85% sand, fine to medium, ~15% gravel, fine; strong tar-like odor, moist to wet, black, tar-like texture.	
	35	S14	24/16	2-4-3-3	PID= 55.0			TLO	S14: 3" spoon used. Env. Sample ID= GPEC-SB-3 (34-36) (34') Tar in drilling mud.	S14 (34'- 36') ELASTIC SILT WITH GRAVEL (MH); ~75% fines, ~15% gravel, coarse, rounded, ~10% sand, fine to medium; max. size 3", strong tar-like odor.	
-25		S15	24/2	0-0-9-9	PID= 42.7			TLO		S15 (36'- 38') ELASTIC SILT WITH GRAVEL (MH); ~75% fines, ~15% gravel, rounded, ~10% sand, fine to medium; strong tar-like odor.	
		S16	24/18	5-9-13-10	PID= 9.4			TLO		S16 (38'- 40') WIDELY GRADED SAND WITH GRAVEL (SW); strong tar-like odor, wet, black.	
	40	S17	24/0	4-8-9-13	PID= NA					S17 (40'- 42') NO RECOVERY.	
-30		S18	24/22	8-9-13-10	PID= 81.9			TLO		S18A (42'- 43') WIDELY GRADED SAND (SW); strong tar-like odor, wet, brown.	
					PID= 4.3				(43') Tar in drilling mud.	S18B (43'- 44') WIDELY GRADED SAND (SW); gray.	
	45	S19	24/18	6-16-14-13	PID= 0.0			TLO	S19: 3" spoon used.	S19 (44'- 46') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% gravel, fine; moderate tar-like odor, moist, light brown.	
-35		S20	24/16	8-10-11-15	PID= 0.7					S20 (46'- 48') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine to coarse; moist, light brown.	
		S21	24/22	12-19-21-36	PID= 6.2					S21 (48'- 50') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine to coarse; moist, light brown.	
	50	S22	24/13	9-15-12-12	PID= 17.6					S22 (50'- 52') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium to coarse, ~15% gravel, fine to coarse, angular; light brown.	
-40											

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		S23	24/10	15-17-15-21	PID= 4.1				Env. Sample ID= GPEC-SB-3 (52-54)	S23 (52'- 54') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium to coarse, ~20% gravel, fine to coarse, angular; light brown.	
		S24	24/16	11-21-24-27	PID= 3.9				S24: 3" spoon used.	S24 (54'- 56') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% gravel, fine; light brown.	
-45	55	S25	24/0	11-15-24-16	PID= NA					S25 (56'- 58') NO RECOVERY.	
		S26	24/12	8-10-12-11	PID= 1.2					S26 (58'- 60') NARROWLY GRADED SAND (SP); ~90% sand, medium to coarse, ~10% gravel, fine to coarse, angular; orange brown.	
-50	60	S27	24/10	6-12-16-13	PID= 6.0					S27 (60'- 62') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse; wet, light brown.	
		S28	24/15	11-17-14-18	PID= 0.0					S28 (62'- 64') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine; wet, light brown.	
-55	65	S29	24/9.5	18-16-27-30	PID= 5.2			TLO	S29: 3" spoon used.	S29 (64'- 66') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded; max. size 3", slight tar-like odor, wet, brown.	
		S30	24/14	14-16-20-18	PID= 2.0			TLO		S30 (66'- 68') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded; slight tar-like odor, wet, brown.	
		S31	24/17	22-30-34-39	PID= 0.5			TLO		S31 (68'- 70') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded; slight tar-like odor, wet, brown.	
	70				PID= 3.6						

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-60		S32	24/9	12-14-17-15				TLO		S32 (70'- 72') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse; slight tar-like odor, wet, brown.	
		S33	24/4	20-24-18-21	PID= 19.6					S33 (72'- 74') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse, subrounded; wet, blackish brown.	
		S34	24/8	39-26-18-18	PID= 5.2				S34: 3" spoon used.	S34 (74'- 76') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, ~40% sand, fine to coarse, subrounded; max. size 3", wet, brown.	
	75										
-65		S35	24/24	16-18-23-10	PID= 22.6					S35A (76'- 77.3') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, subangular, ~5% gravel, fine, subrounded; wet, black brown.	
					PID= 12.9			TLO		S35B (77.3'- 78') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse; max. size 1", slight tar-like odor, wet, tan.	
		S36	24/21	7-14-14-24	PID= 15.9					S36A (78'- 79.3') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, subangular, ~5% gravel, fine, subrounded; wet, black brown, sheen.	
					PID= 4.7					S36B (79.3'- 80') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse; max. size 1", wet, brown.	
	80										
-70		S37	24/9	30-22-26-29	PID= 17.3					S37 (80'- 82') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine; wet, brown.	
		S38	24/15	12-26-25-22	PID= 74.2			TLO		S38A (82'- 83.2') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, angular; layered, moderate tar-like odor, dark brown, stained.	
					PID= 26					S38B (83.2'- 84') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse; layered, brown.	
		S39	24/8	47-54-54-41	PID= 14.7				S39: 3" spoon used.	S39A (84'- 85.3') NARROWLY GRADED SAND WITH GRAVEL (SP); layered.	
	85									S39B (85.3'- 86') WIDELY GRADED GRAVEL (GW); layered, max. size 1", gravel, fine to coarse, subangular.	
-75		S40	24/13	15-14-20-31	PID= 27.8			TLO	(86') Tar-like residue observed in drilling mud.	S40A (86'- 87') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded; max. size 1", moderate tar-like odor, wet, dark brown.	
					PID= 6.3					S40B (87'- 88') NARROWLY GRADED SAND (SP); ~95% sand, medium, ~5% gravel, fine;	
		S41	24/24	36-29-39-33	PID= 30			TLO			

NOTES:

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

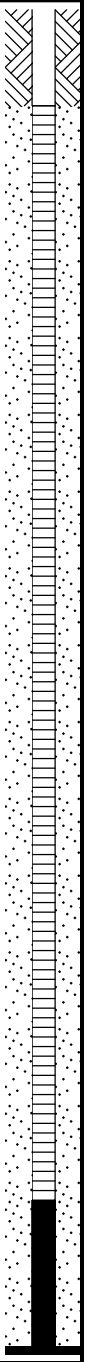
GEI Consultants, Inc.
455 Winding Brook Road
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 6 of 7
GPEC-SB03/MW-03D

ELEV. FT.	DEPTH FT.	TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
					PID= 5.6					wet, tan.
	90	S42	24/6.5	13-26-27-20	PID= 13			TLO		S41A (88'- 89.2') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subangular; layered, max. size 1", moderate tar-like odor, wet, dark brown, stained seams. S41B (89.2'- 90') NARROWLY GRADED SAND (SP); ~95% sand, medium to coarse, subrounded, ~5% gravel, fine; layered, wet, tan.
-80		S43	24/15	12-21-28-26	PID= 5.3					S42 (90'- 92') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, subrounded, ~5% gravel, fine; slight tar-like odor, wet, tan / brown.
					PID= 32.6			TLO		S43A (92'- 93.3') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% gravel, fine; layered, wet, gray brown, sample becomes coarser with depth. S43B (93.3'- 94') WIDELY GRADED GRAVEL (GW); layered, max. size 1", slight tar-like odor, gravel, subangular.
	95	S44	24/13	54-52-60-57	PID= 115			TLO	S44: 3" spoon used.	S44 (94'- 96') NARROWLY GRADED SAND (SP); moderate tar-like odor, wet, gray, sand, medium to coarse. Tar seams present. Staining. Environmental and geotechnical samples taken.
-85		S45	24/24	26-53-55-61	PID= 22.3			TLO		S45A (96'- 97') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, subrounded, ~5% fines; slight tar-like odor, wet, blackish brown, stains. Sheen. Tar coated grains.
					PID= 2.6					S45B (97'- 98') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~10% fines, non plastic; moist, greenish gray, TILL.
		S46	24/11	51-48-81-72	PID= 4.1					S46 (98'- 100') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subrounded, ~15% gravel, fine to coarse, ~5% fines; max. size 1.25", wet, gray brown, no odor observed.
	100	S47	12/7	100/6"-100/6"	PID= 19.1			TLO	(100') Tar observed in drilling mud. Cobble may be obstructing sampling.	S47 (100'- 101') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, subangular, ~5% fines; strong tar-like odor, wet, gray, possible wash material.
-90		S48	23/12	64-90-96-100/5"	PID= 389			TLO	S48: 3" spoon used. Env. Sample ID= GPEC-SB-3 (102-104) (102') Some chatter. Tar observed in drilling mud.	S48 (102'- 103.9') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, fine to medium, ~15% gravel, fine to coarse, subrounded, ~5% fines; strong tar-like odor, wet, gray brown, tar coated/saturated grains.
	105	S49	22/0	52-56-86-100/4"	PID= NA				(104') Lost spoon down hole (threads separated). Attempted to drill out spoon.	S49 (104'- 105.8') NO RECOVERY.
-95		S50	23/14	43-54-56-100/5"	PID= 211					S50A (106'- 106.6') CLAYEY SAND WITH GRAVEL (SC); ~65% sand, fine to coarse, ~20% fines, ~15% gravel; possible wash
					PID= 34.3					

WELL DETAILS



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BORING LOG

GPEC-SB03/MW-03D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
										material.	
		S51	18/18	35-100/6"-131/6"	PID= 193 PID= 118					S50B (106.6'- 107.9') LEAN CLAY (CL); ~95% fines, high dry strength, medium toughness, ~5% gravel; moist, gray. S51A (108'- 109') CLAYEY SAND (SC); ~75% sand, fine to coarse, subrounded, ~15% fines, low plasticity, slow dilatancy, ~10% gravel, fine; moist to wet, gray. S51B (109'- 109.5') GRAVELLY LEAN CLAY WITH SAND (CL); ~55% fines, medium plasticity, ~30% gravel, fine to coarse, subangular, ~15% sand, fine to coarse; layered, moist to wet, gray.	
-100	110	S52	24/12	25-63-46-59	PID= 8.5				Env. Sample ID= GPEC-SB-3 (110-112)	S52 (110'- 112') LEAN CLAY (CL); ~90% fines, high dry strength, high toughness, ~5% gravel, ~5% sand; moist, gray.	
		S53	17/0	45-79-100/5"	PID= NA					S53 (112'- 113.4') NO RECOVERY.	
		S54	12/3	56-100/6"	PID= 3.9					S54 (114'- 115') SILTY SAND (SM); ~80% sand, fine, ~15% fines, ~5% gravel, fine, subangular; moist, gray, black seams.	
	115									End of Boring at 115 feet. Monitoring well installed upon completion. Screened 90'- 105'.	

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BORING LOG
PAGE 1 of 3
GPEC-SB04

GROUND SURFACE ELEVATION (FT): 9.78 **LOCATION:**
NORTHING (FT): 688533 **EASTING (FT):** 650941 **TOTAL DEPTH (FT):** 36.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 4/27/2009 - 4/28/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 5.50 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0									Note: 0'- 8': HAND CLEARED.
		G1	12/12	NA	PID= 0.0					G1 (3'- 4') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, subangular to subrounded, ~10% fines, medium plasticity, ~5% gravel, fine to medium, subangular; moist, brown, FILL.
5	5									
▽		G2	6/6	NA	PID= 0.0				Env. Sample ID= GPEC-SB-4 (5.5-6)	G2 (5.5'- 6') SILTY SAND (SM); ~75% sand, fine, ~15% fines, ~10% gravel, fine to medium, subangular; wet, light brown, FILL.
		S1	24/10	9-4-4-6	PID= 1.0 PID= 6.2				Env. Sample ID= GPEC-SB-4 (8-10)	S1A (8'- 9.2') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, ~10% fines; dry, brown, FILL. S1B (9.2'- 10') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, ~15% fines; wet, black, stained. FILL.
0	10	S2	24/12	3-2-4-25	PID= 0.5					S2 (10'- 12') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, ~10% fines; max. size 1", wet, brown, FILL.
		S3	24/13	3-4-6-8	PID= 0.3					S3 (12'- 14') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, ~5% fines; brown.
		S4	6/6	100/6"	PID= 0.9					S4 (14'- 14.5') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% sand, fine, ~20% gravel, fine to coarse, ~10% fines; max. size 1", wet,
-5	15									

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BORING LOG
PAGE 2 of 3
GPEC-SB04

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	15									gray brown.
		S5	24/12	13-6-9-7	PID= 0.4					S5 (16'- 18') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to medium, ~15% gravel, fine to coarse, ~5% fines; wet, brown.
		S6	24/4	4-10-10-8	PID= 0.4					S6 (18'- 20') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~60% gravel, fine to coarse, angular, ~30% sand, fine to coarse, ~10% fines; wet.
-10	20	S7	24/6	14-8-9-4	PID= 0.7					S7 (20'- 22') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular, ~15% gravel, fine to coarse, ~5% fines; wet, brown.
		S8	24/14	17-24-42-22	PID= 0.3					S8 (22'- 24') WIDELY GRADED GRAVEL WITH SAND (GW); ~55% gravel, fine to coarse, angular, ~40% sand, fine to coarse, angular, ~5% fines; reddish gray black, brick, concrete, crushed stone fragments. FILL.
-15	25	S9	24/18	4-3-8-9	PID= 0.4 PID= 1.1					S9A (24'- 25') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; brown. S9B (25'- 26') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, angular, ~15% gravel, fine to coarse, ~5% fines; max. size 1.25", wet, dark brown, brick fragments. FILL.
		S10	24/24	20-24-28-35	PID= 0.5 PID= 0.9					S10A (26'- 27') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; wet, brown. S10B (27'- 28') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, angular, ~15% gravel, fine to coarse, ~10% fines; dry, dark brown, brick fragments. FILL.
		S11	24/13	15-13-20-30	PID= 0.8					S11 (28'- 30') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, angular, ~15% gravel, fine to coarse, ~5% fines; moist to wet, brown.
-20	30	S12	10/6	21-100/4"	PID= 91.3			CrLO	(31'- 32.5') Driller reports 18" of steel scrap.	S12 (30'- 30.8') SILTY SAND (SM); ~75% sand, fine to medium, ~25% fines; slight creosote-like odor, moist, brown to black, stained.
		S13	24/24	21-22-27-53	PID= 11.5			TLO		S13 (32'- 34') SILT (ML); ~90% fines, ~10% gravel, angular; max. size 1.5", moderate tar-like odor, wet, black, rock fragments in tip. Stained.

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BORING LOG

GPEC-SB04

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-25	35	S14	24/6	4-35-15-11	PID= 62.6			TLO		S14 (34'- 36') SILTY GRAVEL (GM); ~65% gravel, fine to coarse, angular, ~35% fines; max. size 1.5", moderate tar-like odor, wet, black, rock fragments. Stained.
										End of Boring at 36 feet. Refusal at 36 feet. Boring moved to GPEC-SB-04B.

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BORING LOG
PAGE 1 of 1
GPEC-SB04B

GROUND SURFACE ELEVATION (FT): 9.78 **LOCATION:**
NORTHING (FT): 688533 **EASTING (FT):** 650941 **TOTAL DEPTH (FT):** 34.5
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 4/28/2009 - 4/28/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
5	0									
0	5									
-5	10									
-10	15									
-15	20									
-20	25									
	30	S15	6/6	100/6"	PID= NM			TLO	Env. Sample ID= GPEC-SB-4B (34-36)	S15 (34'- 34.5') SILT WITH GRAVEL (ML); ~85% fines, ~15% gravel, fine to coarse, angular; moderate tar-like odor, moist, black.

End of Boring at 34.5 feet.
Refusal at 34.5 feet.
Boring moved to GPEC-MW-04/SB-04C (MW).

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BORING LOG
PAGE 1 of 7
GPEC-SB04C/MW-04

GROUND SURFACE ELEVATION (FT): 9.78 **LOCATION:** West of Mooring Bitt 20, South of LNG Tank 1 Fence
NORTHING (FT): 688533 **EASTING (FT):** 650941 **TOTAL DEPTH (FT):** 115.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 4/28/2009 - 5/1/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 10.00 4/27/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0									
5	5									
▽ 0	10									

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BORING LOG

GPEC-SB04C/MW-04

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-5	15									
-10	20									
-15	25									

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BORING LOG

GPEC-SB04C/MW-04

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-20	30									
-25	35	S16	24/18	4-7-6-8	PID= 3.8 PID= 3.6 Q_P= 1.024, 0.768, 0.512 S_V= 0.358, 0.358		TLO		S16A (35'- 35.4') SILTY SAND (SM); ~85% sand, fine to medium, ~15% fines; moderate tar-like odor, orange brown, some treated wood debris. S16B (35.4'- 37') LEAN CLAY (CL); ~95% fines, high plasticity, high dry strength, medium toughness, ~5% sand, fine; moist, gray, borderline fat clay.	
		S17	24/24	7-8-7-11	PID= 0.0 Q_P= 1.024, 1.024, 0.768 S_V= 0.410, 0.461, 0.512				S17 (37'- 39') FAT CLAY (CH); ~95% fines, high plasticity, high toughness, ~5% sand, fine; moist, gray, intermittent sand seams.	
-30	40	S18	24/0	P-U-S-H	PID= NA				S18 (39'- 41') NO RECOVERY; Shelby tube sample.	
		S19	24/0	7-8-10-9	PID= NA				S19 (41'- 43') NO RECOVERY.	
		S20	10/10	18-100/4"	PID= 0.0				S20 (43'- 43.8') FAT CLAY (CH); ~95% fines, high plasticity, high toughness, ~5% sand, fine; layered, moist, gray, thin bonds with clay of sand and silt.	
-35	45	S21	24/16	5-13-36-33	PID= 9.0				S21 (45'- 47') SANDY ELASTIC SILT WITH GRAVEL (MH); ~70% fines, low plasticity, slow dilatancy, ~15% gravel, fine to coarse, angular, ~15% sand; gray, timber/wood debris. Gravel at bottom of sample.	
		S22	24/22	14-17-22-5	PID= 0.8				S22 (47'- 49') WIDELY GRADED SAND WITH CLAY AND GRAVEL (SW-SC); ~70% sand, fine to	

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

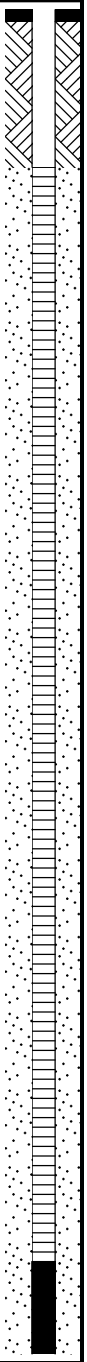
GEI Consultants, Inc.
455 Winding Brook Road
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 4 of 7
GPEC-SB04C/MW-04

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
									coarse, ~20% gravel, fine to coarse, angular, ~10% fines; wet, brown, timber. Clay seams or clasts.
-40	50	S23	24/14	9-21-26-26	PID= 0.4 PID= 0.4				S23A (49'- 50.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine to coarse, subangular, ~5% fines; gray. S23B (50.3'- 51') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, ~5% gravel, fine; brown.
		S24	24/24	14-27-36-42	PID= 1.6 PID= 0.3				S24A (51'- 52.4') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded, ~5% fines; gray. S24B (52.4'- 53') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; brown.
-45	55	S25	24/24	15-19-28-44	PID= 0.0 PID= 0.0				S25A (53'- 54') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded, ~5% fines; wet, brown. S25B (54'- 55') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; moist, brown.
		S26	24/0	0-0-9-21	PID= NA				S26 (55'- 57') NO RECOVERY; drilling mud and gravel wash in spoon.
		S27	24/0	25-34-27-26	PID= NA				S27 (57'- 59') NO RECOVERY; drilling mud and gravel wash in spoon.
-50	60	S28	24/10	5-12-17-26	PID= 0.1			Env. Sample ID= GPEC-SB-4C (59-61)	S28 (59'- 61') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; max. size 0.75", gray brown.
		S29	24/24	7-15-27-35	PID= 0.2				S29 (61'- 63') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; gray brown, spoon extremely full, sides are splitting at the seam.
		S30	24/10	12-16-24-26	PID= 0.9				S30 (63'- 65') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; gray brown.
-55	65	S31	24/24	7-9-9-9	PID= 0.2				S31 (65'- 67') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subangular, ~5% gravel, fine, subrounded, ~5% fines; thin (1") layer of gray silt in middle of the sample.

WELL DETAILS



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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG

GPEC-SB04C/MW-04

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
		S32	24/22	14-17-29-27	PID= 0.2				S32 (67'- 69') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subangular, ~5% gravel, fine, subrounded, ~5% fines; sediment seems to get slightly finer towards bottom of sample.	
-60	70	S33	24/10	6-14-18-13	PID= 0.1				S33 (69'- 71') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subangular, ~5% gravel, fine, subrounded, ~5% fines; max. size 0.75", brown.	
		S34	24/17	11-12-18-16	PID= 0.2				S34 (71'- 73') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subangular, ~5% gravel, fine, ~5% fines; gray brown, sample becomes finer with depth.	
		S35	24/24	13-19-32-36	PID= 0.1				S35 (73'- 75') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; brown, sample becomes finer with depth.	
-65	75	S36	24/10	10-12-18-12	PID= 0.0				S36 (75'- 77') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; gray brown, borderline narrowly graded. Finer than previous samples.	
		S37	24/14	5-3-9-14	PID= 0.2				S37 (77'- 79') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, subangular, ~5% fines; max. size 0.75", gray brown.	
-70	80	S38	24/13	14-14-12-10	PID= 0.0				S38 (79'- 81') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; gray brown, gravel in tip.	
		S39	24/12	12-17-16-12	PID= 0.2				S39 (81'- 83') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subangular, ~5% gravel, fine, rounded, ~5% fines; max. size 0.75", gray brown, no odor detected.	
		S40	24/17	12-11-18-26	PID= 0.4				S40 (83'- 85') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subangular, ~5% gravel, fine, subrounded, ~5% fines; gray brown, orange silt clast present.	

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PAGE 6 of 7
GPEC-SB04C/MW-04

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	85	S41	24/10	9-12-10-10	PID= 0.1				S41 (85'- 87') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, subangular, ~10% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", gray brown.	
		S42	24/14	12-13-18-25	PID= 0.4				S42 (87'- 89') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, subangular, ~10% gravel, fine to coarse, subangular, ~5% fines; max. size 1.5", gray brown.	
-80		S43	24/10	22-32-14-15	PID= 1.0				S43 (89'- 91') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; gray brown.	
	90	S44	24/15	23-26-16-16	PID= 0.5				S44 (91'- 93') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, ~5% fines; max. size 1", gray brown, sample becomes finer with depth.	
		S45	24/11	8-4-6-10	PID= 0.2				S45 (93'- 95') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subangular, ~5% gravel, fine to coarse, subangular, ~5% fines; max. size 2".	
-85		S46	24/5	24-29-23-12	PID= 3.4				S46 (95'- 97') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, subangular, ~20% gravel, fine to coarse, subangular, ~5% fines; max. size 2", gray brown, maximum gravel size found in spoon trap/tip.	
	95	S47	24/12	12-16-23-29	PID= 0.5 PID= 6.1				S47A (97'- 98') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wet. S47B (98'- 99') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, gray.	
-90		S48	24/15	36-43-17-18	PID= 0.3 PID= 0.0				S48A (99'- 100') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; orange brown. S48B (100'- 101') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to medium, ~15% gravel, ~10% fines; gray.	
	100	S49	24/24	7-12-45-55	PID= 0.1 PID= 0.0				S49A (101'- 102.3') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subangular, ~5% gravel, fine, subangular, ~5% fines; orange brown. S49B (102.3'- 102.9') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse,	

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		S50	24/24	29-21-75-51	PID= 0.0 PID= 0.2				subangular, ~10% fines, ~5% gravel, fine, subangular; gray. S49C (102.9'- 103') SANDY LEAN CLAY (CL); ~60% fines, medium plasticity, ~40% sand, fine to medium; moist.	
-95	105	S51	24/16	30-24-33-25	PID= 0.0				S50A (103'- 104.3') SILTY SAND (SM); ~80% sand, fine to coarse, ~15% fines, ~5% gravel, fine; gray. S50B (104.3'- 105') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; orange brown. S51 (105'- 107') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~10% fines; gray brown.	
		S52	24/12	25-11-40-83	PID= 0.6				S52 (107'- 109') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subangular to subrounded, ~5% fines; max. size 2", wet, gray.	
-100	110	S53	19/15	70-89-79-74/1"	PID= 0.0				S53 (109'- 110.6') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, subrounded, ~5% fines; wet, gray.	
		S54	19/19	15-19-61-100/1"	PID= 0.0				S54 (111'- 112.6') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", wet, gray brown.	
		S55	24/20	55-71-90-99	PID= 0.0			Env. Sample ID= GPEC-SB-4C (113-115)	S55 (113'- 115') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to medium, ~15% gravel, fine to coarse, subangular, ~5% fines; max. size 1.5", wet, gray, environmental sample taken.	
-105	115								End of Boring at 115 feet. Monitoring well installed upon completion. Screened 50'- 65'.	

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BORING LOG
PAGE 1 of 3
GPEC-SB05S/MW-05S

GROUND SURFACE ELEVATION (FT): 10.16 **LOCATION:** West of Mooring Bitt 29, North of LNG Tank 1 Fence
NORTHING (FT): 688982 **EASTING (FT):** 650750 **TOTAL DEPTH (FT):** 40.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 5/8/2009 - 5/11/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0										
5	5										
0	10										

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-5	15										
-10	20										
-15	25										

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-20	30	S1	24/24	5-10-11-10	PID= 5.5			TLO		S1 (30'- 32') SILTY SAND (SM); ~80% sand, fine, ~20% fines; strong tar-like odor, wet, black / brown, interbedded. Stained. Tar-like texture.	
		S2	24/16	2-2-2-3	PID= 33.4			TLO	Env. Sample ID= GPEC-SB-5S (32-34)	S2 (32'- 34') SILTY SAND (SM); ~80% sand, fine, ~20% fines; strong tar-like odor, wet, gray.	
-25	35	S3	24/24	13-17-21-29	PID= 2.2			TLO		S3A (34'- 35.3') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; strong tar-like odor, moist, dark gray.	
					PID= 0.3			TLO		S3B (35.3'- 36') SILTY SAND (SM); ~85% sand, fine, ~15% fines; slight tar-like odor, moist, gray brown.	
		S4	24/21	12-14-13-12	PID= 22			TLO		S4A (36'- 37') CLAYEY SAND (SC); ~60% sand, fine, ~40% fines; moderate tar-like odor, wet, black, stained.	
					PID= 8.3			TLO		S4B (37'- 38') NARROWLY GRADED SAND (SP); moderate tar-like odor, moist, orange brown.	
		S5/S6	24/13	8-11-13-16	PID= 16.1			TLO		S5/S6 (38'- 40') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, ~10% fines; moderate tar-like odor, gray brown, tar-like texture. Black staining.	
	40									End of Boring at 40 feet. Monitoring well installed upon completion. Screened 28'- 38'.	

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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: 093260-1-1101

BORING LOG
PAGE 1 of 6
GPEC-SB05C/MW-05D

GROUND SURFACE ELEVATION (FT): 10.50 **LOCATION:** West of Mooring Bitt 29, North of LNG Tank 1 Fence
NORTHING (FT): 688967 **EASTING (FT):** 650756 **TOTAL DEPTH (FT):** 100.9
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 5/5/2009 - 5/7/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 1.00 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
10	0	G1	96/96	NA	PID= 0.8					Note: 0'- 8': HAND CLEARED. G1A (0'- 1') WIDELY GRADED GRAVEL WITH SAND (GW); ~65% gravel, fine to coarse, subangular, ~30% sand, fine to coarse, ~5% fines; wet, brown, surficial water. FILL.
▽					PID= 1.0				Env. Sample ID= GPEC-SB-5C (3-4)	G1B (3'- 4') SANDY SILT WITH GRAVEL (ML); ~50% fines, ~30% sand, fine, ~20% gravel, fine to coarse; max. size 1.5", wet, dark brown, FILL.
5	5									(6- 8') Significant amount of large rocks.
		S1	24/6	7-5-0-0	PID= 34.8			TLO	Env. Sample ID= GPEC-SB-5C (8-10)	S1 (8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine to coarse, subangular, ~5% fines; max. size 1", strong tar-like odor, wet, black, stained. FILL.
0	10	S2	24/10	0-3-2-3	PID= 4.8			TLO		S2 (10'- 12') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subangular, ~5% fines; max. size 1", moderate tar-like odor, wet,

WELL DETAILS

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PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
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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
Q_P = POCKET PENETROMETER IN TSF
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BORING LOG

GPEC-SB05C/MW-05D

ELEV. FT.	DEPTH FT.	TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
										dark gray.	
		S3	24/16	5-4-5-3	PID= 15.1			TLO	(12') Running sands in augers.	S3 (12'- 14') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~5% fines; max. size 1", strong tar-like odor, wet, black, stained. Sheen.	
-5	15	S4	24/14	10-14-9-5	PID= 3.0			TLO		S4 (14'- 16') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, subangular, ~30% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.25", slight tar-like odor, wet, dark gray, stained.	
		S5	24/16	2-5-9-6	PID= 4.2			TLO		S5 (16'- 18') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~35% gravel, fine to coarse, subrounded, ~5% fines; slight tar-like odor, wet, gray, staining.	
		S6	24/22	5-12-26-17	PID= 2.3			TLO	(18') Running sands in augers.	S6 (18'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular, ~15% gravel, fine, ~5% fines; slight tar-like odor, wet, brown.	
-10	20	S7	24/14	8-2-3-2	PID= 5.8			TLO		S7A (20'- 21') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subangular, ~5% gravel, fine, ~5% fines; slight tar-like odor, wet, brown.	
					PID= 18.2			TLO		S7B (21'- 22') LEAN CLAY (CL); ~95% fines, ~5% sand, fine; moderate tar-like odor, moist, black.	
		S8	24/23	1-1-2-8	PID= 10.5			TLO		S8A (22'- 22.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, medium, ~5% fines; moderate tar-like odor, brown.	
					PID= 6.2			TLO		S8B (22.5'- 23') LEAN CLAY (CL); ~95% fines, ~5% sand, fine; moderate tar-like odor, moist, black.	
					PID= 11.4			TLO		S8C (23'- 24') SANDY LEAN CLAY (CL); ~50% sand, fine, ~50% fines; moderate tar-like odor, moist, orange black.	
-15	25	S9	24/17	1-1-3-1	PID= 1.9					S9A (24'- 25') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; wet, dark brown.	
					PID= 20.0					S9B (25'- 26') LEAN CLAY (CL); ~95% fines, ~5% sand, fine; moist, blackish brown, organics.	
		S10	24/16	3-3-4-5	PID= 5.3					S10 (26'- 28') LEAN CLAY WITH SAND (CL); ~85% fines, medium plasticity, ~15% sand, fine; brownish black, sand seams.	
		S11	24/16	6-9-9-12	PID= 2.5					S11 (28'- 30') CLAYEY SAND (SC); ~50% sand, fine, ~40% fines, low plasticity, ~10% gravel, fine; blackish brown, sand and clay seams.	

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BORING LOG
PAGE 3 of 6
GPEC-SB05C/MW-05D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-20	30	S12	24/17	2-2-7-5	PID= 16.2			TLO		S12 (30'- 32') LEAN CLAY WITH SAND (CL); ~85% fines, medium plasticity, medium toughness, ~15% sand, fine; moderate tar-like odor, black to brown, stained. Thin tar seam 11" from top of sample.	
		S13	24/24	4-10-17-21	PID= 16.5 PID= 0.7			TLO		S13A (32'- 33.3') LEAN CLAY (CL); ~95% fines, low toughness, ~5% sand, fine; strong tar-like odor, black to brown, stained. Tar present. S13B (33.3'- 34') CLAYEY SAND (SC); ~65% sand, fine, ~35% fines, medium plasticity, low toughness; blackish brown, some staining.	
-25	35	S14	24/18	P-U-S-H	PID= NA					S14 (34'- 36') Shelby tube sample.	
		S15	24/8	2-3-3-5	PID= NM					S15 (36'- 38') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, ~5% fines; wet, brown, some silt seams.	
		S16	24/14	1-3-7-6	PID= NM					S16 (38'- 40') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, angular, ~10% gravel, fine, subangular, ~5% fines; wet, brown.	
-30	40	S17	24/0	6-7-7-8	PID= NA					S17 (40'- 42') NO RECOVERY; some sand wash.	
		S18	24/0	8-9-11-10	PID= NA					S18 (42'- 44') NO RECOVERY.	
-35	45	S19	24/14	6-7-9-10	PID= NM					S19 (44'- 46') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, subangular, ~5% fines; gray brown, borderline widely graded sand.	
		S20	24/18	5-7-10-7	PID= NM					S20 (46'- 48') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; wet, brown, sample becomes coarser with depth.	
		S21	24/22	7-10-18-	PID= NM					S21 (48'- 50') WIDELY GRADED SAND (SW);	

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BORING LOG

PAGE 4 of 6

GPEC-SB05C/MW-05D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
				12						~85% sand, fine to coarse, ~10% gravel, fine, subangular, ~5% fines; wet, gray brown.	
-40	50	S22	24/9	8-6-7-9	PID= 2.2				Env. Sample ID= GPEC-SB-5C (50-52)	S22 (50'- 52') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; wet, gray brown.	
		S23	24/13	6-7-9-9	PID= 0.3					S23 (52'- 54') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subrounded, ~15% gravel, fine, subrounded, ~5% fines; wet, brown, no odor or staining observed.	
-45	55	S24	24/15	8-8-9-11	PID= 1.4					S24 (54'- 56') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, subangular, ~5% fines; wet, gray, sample becomes coarser with depth.	
		S25	24/11	10-12-13-11	PID= 0.2					S25 (56'- 58') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; wet, orange brown, borderline narrowly graded sand.	
-50	60	S26	24/17	9-9-13-5	PID= 0.2					S26 (58'- 60') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, subrounded, ~5% fines; max. size 0.6", wet, orange brown, gradational.	
		S27	24/8	11-9-9-13	PID= 1.9					S27 (60'- 62') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~35% gravel, fine to coarse, subangular, ~5% fines; max. size 1", wet, orange brown.	
		S28	24/9	11-9-8-7	PID= 1.0					S28 (62'- 64') WIDELY GRADED SAND WITH GRAVEL (SW); ~55% sand, medium to coarse, ~40% gravel, fine to coarse, subangular, ~5% fines; max. size 1", wet, orange brown.	
-55	65	S29	24/9	8-10-14-10	PID= 0.9					S29 (64'- 66') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, angular, ~10% gravel, fine, subrounded, ~5% fines; wet, light brown, silt seam 7" from top of sample.	
		S30	24/10	9-7-13-15	PID= 1.4					S30 (66'- 68') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine,	

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BORING LOG
PAGE 5 of 6
GPEC-SB05C/MW-05D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
										~5% fines; wet, light brown, gradational. Coarsens upward from fine sand to gravel at top of sample.	
		S31	24/7	10-13-16-22	PID= 5.3			TLO		S31 (68'- 70') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular, ~15% gravel, fine, subangular, ~5% fines; slight tar-like odor, light brown, gradational. Stained.	
-60	70	S32	24/8	15-10-9-15	PID= 1.1					S32 (70'- 72') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, medium to coarse, subangular to subrounded, ~15% gravel, fine to coarse, subangular, ~5% fines; wet, gray brown.	
		S33	24/11	13-13-11-12	PID= 1.0					S33 (72'- 74') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subangular to subrounded, ~5% gravel, fine, subangular, ~5% fines; wet, light brown.	
-65	75	S34	24/11	8-8-12-17	PID= 0.9					S34 (74'- 76') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", gray brown, silt seam 9", gravel seam 4" from top. Some organics. Blebs of staining.	
		S35	24/15	12-17-14-8	PID= 3.3 PID= 0.7				Env. Sample ID= GPEC-SB-5C (76-78)	S35A (76'- 77.5') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; wet, orange brown, silt seam 3" from top. Seam of staining 0.5" below silt. S35B (77.5'- 78') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~65% gravel, fine to coarse, angular to subangular, ~25% sand, fine to medium, ~10% fines; max. size 2", green.	
		S36	24/24	8-8-9-23	PID= 1.9			TLO		S36 (78'- 80') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, angular to subangular, ~15% gravel, fine to coarse, subangular to subrounded, ~5% fines; max. size 1", moderate tar-like odor, gray brown, gradational. 0.5" thick seam of black-brown staining 9" from top. Stained.	
-70	80	S37	24/5	12-11-10-12	PID= 0.5					S37 (80'- 82') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine, subrounded, ~10% fines; wet, greenish brown.	
		S38	24/8	6-10-24-19	PID= 0.6					S38 (82'- 84') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% sand, fine to medium, ~20% gravel, fine to coarse, subangular to subrounded, ~10% fines; max. size 1.5", wet, greenish gray.	
	85	S39	24/11	21-29-37-42	PID= 0.5					S39 (84'- 86') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine to coarse, ~5% fines; max.	

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BORING LOG

PAGE 6 of 6

GPEC-SB05C/MW-05D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-75										size 1.5", wet, brown, silt seams present. Some yellow-brown oxidized sediment.	
		S40	5/0	100/5"	PID= NA			TLO	(86') Hitting boulders or other very hard material.	S40 (86'- 86.4') NO RECOVERY; gravel mud wash, moderate tar-like odor.	
		S41	24/NM	NA	PID= NA					S41 (88'- 90') Boulders present. Sample skipped.	
	90	S42	7/0	60-100/1"	PID= NA					S42 (90'- 90.6') NO RECOVERY; some granite gravel wash. Granite gravel probable cause of refusal.	
-80											
		S43	4/3	100/4"	PID= 0.5					S43 (92'- 92.3') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~65% sand, fine, ~25% gravel, fine to coarse, subrounded, ~10% fines; wet, gray.	
	95								(96'- 100.9') Tough drilling. Significant chatter. Likely cobbles present. Extremely dense material.		
-85											
	100	S44	11/11	50-100/5"	PID= NM				Env. Sample ID= GPEC-SB-5D (100-102)	S44 (100'- 100.9') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular, ~15% gravel, fine to coarse, subangular, ~5% fines; wet, gray.	
-90										End of Boring at 100.9 feet. Monitoring well installed upon completion. Screened 65'- 80'.	

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BORING LOG
PAGE 1 of 3
GPEC-SB06/MW-06

GROUND SURFACE ELEVATION (FT): 16.01 **LOCATION:** Beside Stores Building on Northwest Side
NORTHING (FT): 687871 **EASTING (FT):** 650800 **TOTAL DEPTH (FT):** 50.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 4/23/2009 - 4/24/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 11.00 4/23/2009 ;
GENERAL NOTE:
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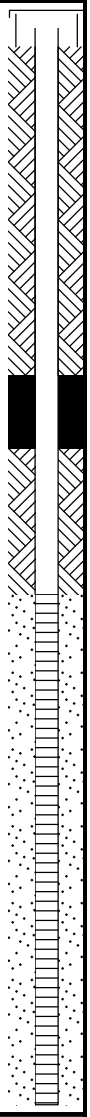
ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96	NA					Note: 0'- 8': HAND CLEARED. G1A (0'- 1') ASPHALT.
15									G1B (1'- 4') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to medium, ~25% gravel, fine to coarse, subangular to subrounded, ~5% fines; max. size 2.5", moist, brown, some silt clods or clasts.
					PID= 0.6			Env. Sample ID= GPEC-SB-6 (3-4)	
	5								G1C (4'- 8') WIDELY GRADED SAND WITH GRAVEL (SW); ~55% sand, fine to coarse, subrounded, ~40% gravel, fine to coarse, subrounded, ~5% fines; max. size 2.5", slight petroleum-like odor, brown, some plant roots, glass. Poorly sorted. Large gravel. Silt clods. FILL.
10							PLO		
					PID= 0.3				
		S1	24/1	8-13-13-12	PID= 0.3				S1 (8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~50% sand, fine to coarse, ~45% gravel, coarse, ~5% fines; max. size 2", dry, brown.
	10	S2	24/3	14-11-7-5	PID= 0.0			Env. Sample ID= GPEC-SB-6 (10-12)	S2 (10'- 12') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine, subrounded, ~5% fines; max. size 1", wet, brown.
▽ 5		S3	24/5	5-6-WOH/6"-WOH/6"	PID= 0.0				S3 (12'- 14') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine, ~5% fines; max. size 1", wet, brown.
		S4	24/15	5-6-4-7	PID= 1.6				S4 (14'- 16') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, subrounded, ~5% fines; gray brown.
	15								

WELL DETAILS



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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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: 093260-1-1101

BORING LOG
PAGE 2 of 3
GPEC-SB06/MW-06

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15									
0		S5	24/20	11-8-4-4	PID= 0.7				S5 (16'- 18') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine to coarse, subangular, ~5% fines; max. size 2", brown.	
		S6	24/14	WOH/6"-WOH/6"-3-4	PID= 0.2				S6 (18'- 20') NARROWLY GRADED SAND (SP); ~85% sand, medium to coarse, ~10% gravel, fine, ~5% fines; max. size 1", orange brown.	
	20	S7	24/8	2-2-4-6	PID= 0.0			Env. Sample ID= GPEC-SB-6 (20-22)	S7 (20'- 22') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; brown.	
-5		S8	24/18	6-8-11-18	PID= 0.0 PID= 0.0				S8A (22'- 22.9') NARROWLY GRADED SAND (SP); ~95% sand, medium to coarse, ~5% fines; orange brown. S8B (22.9'- 24') SILTY SAND (SM); ~80% sand, fine, ~20% fines, low plasticity; brown, breaks apart easily.	
		S9	24/9	2-2-3-6	PID= 0.0				S9 (24'- 26') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; brown.	
	25									
-10		S10	24/13	5-7-8-5	PID= 0.2				S10 (26'- 28') NARROWLY GRADED SAND (SP); ~90% sand, fine, ~5% gravel, fine, ~5% fines; light brown.	
		S11	24/20	4-4-4-7	PID= 0.1				S11 (28'- 30') NARROWLY GRADED SAND (SP); ~90% sand, medium to coarse, ~5% gravel, fine to coarse, ~5% fines; max. size 1", orange brown.	
	30	S12	24/3	10-6-7-12	PID= 0.2				S12 (30'- 32') NARROWLY GRADED SAND (SP); ~90% sand, medium to coarse, ~5% gravel, fine, ~5% fines; max. size 1", orange brown.	
-15		S13	24/14	7-11-18-23	PID= 0.7				S13A (32'- 33.3') NARROWLY GRADED SAND (SP); ~90% sand, medium to coarse, ~5% gravel, fine, ~5% fines; brown.	

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BORING LOG
PAGE 3 of 3
GPEC-SB06/MW-06

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
					PID= 0.4				S13B (33.3'- 34') WIDELY GRADED GRAVEL WITH SAND (GW); ~75% gravel, ~20% sand, ~5% fines; max. size 1.25".	
		S14	24/20	6-5-7-7	PID= 2.0 PID= 0.7				S14A (34'- 34.5') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~5% gravel, fine, ~5% fines; wet, brown. S14B (34.5'- 36') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine, ~10% fines, ~5% gravel; wet, brown.	
-20	35	S15	24/24	2-4-6-7	PID= 2.0 PID= 0.9				S15A (36'- 36.3') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~5% gravel, fine, ~5% fines; layered, wet, brown. S15B (36.3'- 38') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine, ~10% fines, ~5% gravel; layered, wet, brown.	
		S16	24/20	3-8-7-17	PID= 1.9 PID= 0.5				S16A (38'- 38.5') NARROWLY GRADED SAND (SP); ~90% sand, medium, subangular, ~5% gravel, fine, angular, ~5% fines; layered, wet, brown, slightly more gravel than in previous samples. S16B (38.5'- 40') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine, ~10% fines, ~5% gravel; layered, wet, brown, sample becomes slightly finer with depth.	
-25	40	S17	24/24	2-3-3-6	PID= 0.7				S17 (40'- 42') NARROWLY GRADED SAND (SP); ~90% sand, fine, ~5% gravel, ~5% fines; brown.	
		S18	24/19	1-1-4-7	PID= 0.5				S18 (42'- 44') NARROWLY GRADED SAND (SP); ~90% sand, fine, ~5% gravel, ~5% fines; brown.	
		S19	24/16	8-11-13-15	PID= 0.5 PID= 0.6 PID= 0.5				S19A (44'- 44.25') NARROWLY GRADED SAND (SP); ~90% sand, medium, subangular, ~5% gravel, fine, ~5% fines; layered. S19B (44.25'- 45.5') NARROWLY GRADED SAND (SP); ~90% sand, fine, ~5% gravel, ~5% fines; layered, brown.	
-30	45	S20	24/0	0-5-6-7	PID= NA				S19C (45.5'- 46') NARROWLY GRADED SAND (SP); ~90% sand, medium, subangular, ~5% gravel, fine, ~5% fines; layered. S20 (46'- 48') NO RECOVERY.	
		S21	24/20	11-7-12-12	PID= 0.3			Env. Sample ID= GPEC-SB-6 (48-50)	S21A (48'- 49.9') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subrounded, ~5% gravel, fine, ~5% fines; wet, brown.	
	50				PID= 0.7				S21B (49.9'- 50') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; moist, gray. End of Boring at 50 feet. Monitoring well installed upon completion. Screened 8'- 23'.	

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GEI Consultants, Inc.
455 Winding Brook Road
Glastonbury, CT 06033
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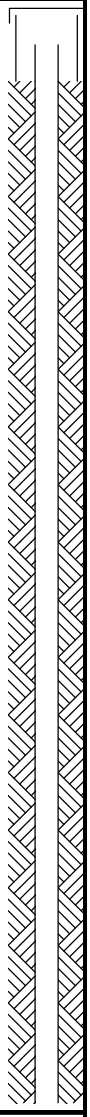
BORING LOG
PAGE 1 of 7
GPEC-SB07/MW-07

GROUND SURFACE ELEVATION (FT): 11.03 **LOCATION:** North of Stores Building, Far West of Mooring Bitt 15
NORTHING (FT): 688126 **EASTING (FT):** 650778 **TOTAL DEPTH (FT):** 114.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 5/21/2009 - 5/26/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 5.00 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0								Note: 0'- 7': HAND CLEARED.
10									
		G1	12/12	NA	PID= 31		PLO	Env. Sample ID= GPEC-SB-7 (3-4)	G1 (3'- 4') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to medium, ~20% gravel, fine to coarse, subangular, ~5% fines; max. size 2", slight petroleum-like odor, moist, dark brown.
	5								
5								Env. Sample ID= GPEC-SB-7 (7-8)	
		S1	24/8	1-2-2-2	PID= 0.0			Env. Sample ID= GPEC-SB-7 (8-10)	S1 (8'- 10') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, subangular, ~10% fines; wet, brown, FILL.
	10	S2	24/10	4-0-0-0	PID= 2.0				S2 (10'- 12') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, ~10% fines; wet, dark brown, FILL.
0		S3	24/20	1-0-0-0	PID= 0.1				S3A (12'- 13.4') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wet, brown to dark gray.
					PID= 0.1		SLO		S3B (13.4'- 14') PEAT (PT); low plasticity; ~80% organics, ~20% fines, slight sulfur-like odor, moist, light brown, some gray discoloration at bottom, with no odor and no sheen.
		S4	24/0	P-U-S-H	PID= NA				S4 (14'- 16') NO RECOVERY; Shelby tube sample.
	15								

WELL DETAILS



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BORING LOG

GPEC-SB07/MW-07

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15									
-5		S5	24/9	2-3-3-5	PID= 0.7				S5 (16'- 18') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded, ~10% fines; max. size 1", wet, brown.	
		S6	24/14	12-13-17-17	PID= 0.7		SLO		S6A (18'- 18.9') CLAYEY SAND (SC); ~80% sand, fine to medium, ~20% fines; slight sulfur-like odor, moist to wet, gray.	
					PID= 0.1		SLO		S6B (18.9'- 20') LEAN CLAY (CL); ~90% fines, ~10% sand, fine; slight sulfur-like odor, moist, gray.	
	20	S7	24/14	P-U-S-H	PID= NA Q_P= 1.280, 1.536, 2.048 S_V= 0.410, 0.461, 0.614				S7 (20'- 22') Shelby tube sample.	
-10		S8	24/14	7-10-18-17	PID= 0.1				S8 (22'- 24') FAT CLAY WITH SAND (CH); ~85% fines, medium plasticity, medium toughness, ~15% sand, fine to medium; laminated, moist to dry, olive gray.	
		S9	24/18	7-10-8-9	PID= 0.1				S9 (24'- 26') CLAYEY SAND (SC); medium plasticity, low toughness; wet, gray brown, interbedded.	
	25									
-15		S10	24/10	4-8-12-12	PID= 0.0				S10 (26'- 28') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, subrounded, ~5% fines; gray brown.	
		S11	24/6	5-6-6-5	PID= 0.0				S11 (28'- 30') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; reddish brown.	
	30	S12	24/5	6-4-6-8	PID= 0.2				S12 (30'- 32') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, orange brown.	
-20		S13	24/12	4-8-9-9	PID= 0.2				S13 (32'- 34') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, brown red yellow black, iron deposit. Discoloration.	

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BORING LOG
PAGE 3 of 7
GPEC-SB07/MW-07

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	35	S14	24/14	6-7-10-9	PID= 0.1				S14 (34'- 36') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, brown red yellow black, iron deposit. Discoloration.	
-25		S15	24/13	7-5-6-8	PID= 0.1		TLO		S15 (36'- 38') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; slight tar-like odor, wet, brown.	
		S16	24/22	8-7-10-8	PID= 0.1		TLO		S16 (38'- 40') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; slight tar-like odor, wet, brown.	
	40	S17	24/10	2-2-4-5	PID= 0.0				S17 (40'- 42') NARROWLY GRADED SAND (SP); ~95% sand, medium, ~5% fines; wet, gray brown.	
-30		S18	24/12	4-6-7-12	PID= 0.1				S18 (42'- 44') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", wet, brown.	
		S19	24/14	5-7-8-5	PID= 0.1		NLO		S19 (44'- 46') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~5% gravel, fine, ~5% fines; slight naphthalene-like odor, wet, brown.	
	45									
-35		S20	24/17	9-13-16-13	PID= 0.1				S20 (46'- 48') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, subrounded, ~20% gravel, ~5% fines; wet, brown.	
		S21	24/24	11-7-10-12	PID= 0.2 PID= 0.1				S21A (48'- 49') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, ~5% fines; brown. S21B (49'- 50') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~5% gravel, fine, ~5% fines; wet, brown.	
	50	S22	24/0	3-4-6-8	PID= NA				S22 (50'- 52') NO RECOVERY; ~2" of wash.	
-40										

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BORING LOG
PAGE 4 of 7
GPEC-SB07/MW-07

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		S23	24/12	6-9-11-10	PID= 0.1				S23 (52'- 54') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, brown.	
	55	S24	24/6	16-16-14-13	PID= 0.1				S24 (54'- 56') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, brown.	
-45		S25	24/4	15-16-20-19	PID= 0.1				S25 (56'- 58') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, coarse, ~5% fines; wet, brown.	
		S26	24/0	8-9-10-15	PID= NA				S26 (58'- 60') NO RECOVERY.	
	60	S27	24/9	8-10-11-11	PID= 0.1				S27 (60'- 62') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, brown.	
-50		S28	24/15	9-11-11-16	PID= 0.1				S28 (62'- 64') NARROWLY GRADED SAND (SP); ~85% sand, fine to medium, ~10% gravel, fine to coarse, ~5% fines; wet, brown.	
	65	S29	24/9	15-14-18-19	PID= 0.1				S29 (64'- 66') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, subrounded, ~35% sand, fine to coarse, ~5% fines; max. size 1.5", wet, brown.	
-55		S30	24/13	16-16-18-20	PID= 0.2				S30 (66'- 68') WIDELY GRADED GRAVEL WITH SAND (GW); ~55% gravel, fine to coarse, angular to subangular, ~40% sand, fine to coarse, ~5% fines; layered, max. size 2", wet, brown, some iron coated grains.	
		S31	24/10	5-13-13-15	PID= 0.1				S31 (68'- 70') NARROWLY GRADED SAND WITH GRAVEL (SP); ~60% sand, medium to coarse, ~35% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", wet, brown.	
	70				PID= 0.1					

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 7/6/11

GEI Consultants, Inc.
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BORING LOG
PAGE 5 of 7
GPEC-SB07/MW-07

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-60		S32	24/10	15-11-12-16					S32 (70'- 72') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, subrounded, ~5% fines; wet, brown.	
		S33	24/14	12-14-16-17	PID= 0.1				S33 (72'- 74') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, subangular, ~5% fines; wet, brown, gradational. Sample becomes coarser with depth.	
		S34	24/0	28-14-16-21	PID= NA				S34 (74'- 76') NO RECOVERY; wet wash.	
	75									
-65		S35	24/9	12-17-11-13	PID= 0.1				S35 (76'- 78') NARROWLY GRADED SAND (SP); ~85% sand, fine to medium, ~10% gravel, fine, subangular, ~5% fines; max. size 0.5", wet, brown.	
		S36	24/0	9-8-11-13	PID= NA				S36 (78'- 80') NO RECOVERY; wet wash.	
	80	S37	24/9	15-8-9-8	PID= 0.1				S37 (80'- 82') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, brown.	
-70		S38	24/4	9-17-13-11	PID= 0.1				S38 (82'- 84') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, brown.	
		S39	24/9	23-15-14-12	PID= 0.1				S39 (84'- 86') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, subangular, ~5% fines; wet, orange brown.	
	85									
-75		S40	24/17	12-14-20-18	PID= 0.2 PID= 0.2				S40A (86'- 87') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, subangular, ~5% fines; wet, gray brown. S40B (87'- 88') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, brown.	
		S41	24/24	10-13-13-21	PID= 0.1			Env. Sample ID= GPEC-SB-7	S41 (88'- 90') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15%	

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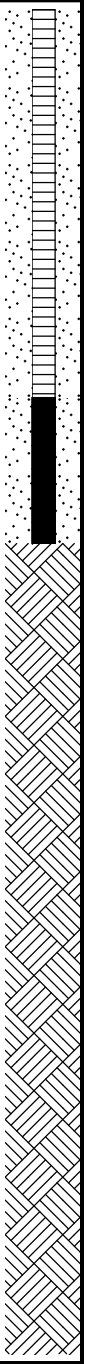
								(88-90)	gravel, fine, ~5% fines; wet, brown.
	90	S42	24/4	20-13-12-15	PID= 0.5			(90') Some drill chatter.	S42 (90'- 92') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subangular, ~5% fines; slight naphthalene-like odor, wet, brown.
-80							NLO		
		S43	24/20	15-15-20-40	PID= 0.1		NLO		S43 (92'- 94') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subangular, ~5% fines; slight naphthalene-like odor, wet, brown, dark gray discoloration 4-5" from spoon tip. Red iron stain 2-4" from spoon tip.
		S44	24/1	17-27-26-73	PID= 0.0				S44 (94'- 96') CLAYEY GRAVEL WITH SAND (GC); ~40% fines, medium plasticity, ~35% gravel, fine to coarse, ~25% sand, fine to medium; wet, dark gray.
	95								
-85		S45	6/6	100/6"	PID= 0.1				S45 (96'- 96.5') SANDY FAT CLAY (CH); ~55% fines, high plasticity, high toughness, ~35% sand, fine to medium, ~10% gravel, fine; wet, dark brown to dark gray.
		S46	24/15	23-36-30-56	PID= 0.1			(98') Some drill chatter.	S46 (98'- 100') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subangular, ~5% fines; max. size 1.5", wet, brown.
	100	S47	24/10	23-46-31-26	PID= 0.1				S47 (100'- 102') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to coarse, ~30% fines, ~20% gravel, fine to coarse; wet, brown to dark gray.
-90		S48	24/8	33-41-51-62	PID= 0.1		CLO		S48 (102'- 104') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, ~5% fines; moderate chemical-like odor, wet, brown.
		S49	24/16	15-23-36-36	PID= 0.1				S49 (104'- 106') FAT CLAY WITH SAND (CH); ~80% fines, high plasticity, slow dilatancy, high toughness, ~20% sand, fine to medium; moist, gray to dark gray.
	105								
-95		S50	24/24	39-49-54-76	PID= 0.1				S50 (106'- 108') FAT CLAY WITH SAND (CH); ~75% fines, ~15% sand, fine to medium, ~10% gravel, fine; moist, green to gray, thin layer of dark

WELL DETAILS



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BORING LOG

GPEC-SB07/MW-07

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									material with no associated odor.	
		S51	24/20	46-56-74-100/6"	PID= 0.0				S51 (108'- 110') ELASTIC SILT WITH SAND (MH); ~85% fines, low plasticity, ~10% sand, fine to medium, ~5% gravel, fine; dry to moist, gray green.	
	110	S52	24/17	14-30-40-35	PID= 0.0				S52 (110'- 112') ELASTIC SILT (MH); medium plasticity, high toughness; dry to moist, gray green to gray brown, interbedded layers of silty and clayey fines.	
-100		S53	24/10	16-47-75-73	PID= 0.1			Env. Sample ID= GPEC-SB-7 (112-114)	S53 (112'- 114') ELASTIC SILT (MH); medium plasticity, high toughness; dry to moist, gray green to gray brown, interbedded layers of silty and clayey fines.	
									End of Boring at 114 feet. Monitoring well installed upon completion. Screened 79'- 94'.	

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BORING LOG
PAGE 1 of 5
GPEC-SB08/MW-08

GROUND SURFACE ELEVATION (FT): 9.40 **LOCATION:** Southeast of LNG Tank 1 Area, Along East Edge of Access Road
NORTHING (FT): 688452 **EASTING (FT):** 650559 **TOTAL DEPTH (FT):** 80.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 5/14/2009 - 5/15/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

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10	0									Note: 0'- 8': HAND CLEARED.	
		G1	12/12	NA	PID= NM					G1 (3'- 4') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to medium, ~30% gravel, fine to coarse, subrounded, ~15% fines; max. size 3", wet, gray brown, silt in clasts, balls, or free form. FILL.	
5	5										
		S1	24/18	3-4-4-5	PID= 0.0 PID= 3.7			TLO TLO		S1A (8'- 8.5') SILTY SAND (SM); ~75% sand, fine to medium, ~20% fines, ~5% gravel, fine; strong tar-like odor, moist, black, stained. S1B (8.5'- 10') SANDY ELASTIC SILT (MH); ~65% fines, ~30% sand, fine; ~5% organics, strong tar-like odor, wet, black, stained.	
0	10	S2	24/24	5-5-6-6	PID= 2.5 PID= 0.1			TLO	Env. Sample ID= GPEC-SB-8 (10-12)	S2A (10'- 11') SILTY SAND (SM); ~80% sand, fine, ~15% fines, ~5% gravel, fine; strong tar-like odor, black, stained. S2B (11'- 12') ORGANIC SOIL (OL/OH);	

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GPEC-SB08/MW-08

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										~85% fines, medium plasticity, medium toughness; ~15% organics, some peat.	
		S3	24/24	5-5-1-3	PID= 4.2			TLO		S3A (12'- 13.7') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine, ~15% gravel, fine to coarse, ~15% fines; moderate tar-like odor, black, stained.	
					PID= 0.1					S3B (13.7'- 14') ORGANIC SOIL (OL/OH); ~85% fines, medium plasticity, medium toughness; ~15% organics.	
-5	15	S4	24/16	3-3-5-5	PID= 0.0			TLO		S4 (14'- 16') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; slight tar-like odor, brown to gray.	
		S5	24/24	6-6-7-9	PID= 0.1					S5 (16'- 18') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines, rapid dilatancy; wet, gray.	
		S6	24/24	7-10-13-15	PID= 0.0					S6A (18'- 19.2') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines, rapid dilatancy; layered, wet, gray.	
-10					PID= 0.0					S6B (19.2'- 20') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; layered, brown gray black, interbedded layers of fine and coarse sand. Black staining at layer boundaries-no odor.	
	20	S7	24/13	2-2-2-3	PID= 0.0			TLO		S7 (20'- 22') WIDELY GRADED SAND (SW); ~85% sand, fine to medium, ~10% gravel, fine to coarse, ~5% fines; slight tar-like odor, wet, dark brown.	
		S8	24/4	9-10-10-16	PID= 0.0			TLO		S8 (22'- 24') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; moderate tar-like odor, wet, brown.	
-15		S9	24/5	7-8-7-9	PID= 0.0					S9 (24'- 26') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, gray brown.	
	25	S10	24/24	10-11-11-17	PID= 0.0					S10A (26'- 27') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, gray brown.	
					PID= 0.1					S10B (27'- 28') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded to subangular, ~5% fines; wet, orange brown.	
		S11	24/18	4-4-9-16	PID= 0.0					S11A (28'- 29.3') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; brown.	
-20					PID= 0.0					S11B (29.3'- 30') WIDELY GRADED SAND WITH CLAY (SW-SC); ~85% sand, fine to	

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	30	S12	24/2	14-22-22-12	PID= 0.4					coarse, ~10% fines, ~5% gravel, fine; orange brown. S12 (30'- 32') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% sand, fine to coarse, ~40% gravel, coarse, ~10% fines; wet, orange brown.	
		S13	24/2	18-15-20-21	PID= 0.0					S13 (32'- 34') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~35% gravel, coarse, ~5% fines; wet, orange brown.	
-25	35	S14	24/4	14-16-13-11	PID= 2.4					S14 (34'- 36') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~35% gravel, fine to coarse, ~5% fines; wet, orange brown.	
		S15	24/6	17-16-21-15	PID= 0.0					S15 (36'- 38') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, orange brown.	
-30	40	S16	24/24	16-20-28-25	PID= 0.0					S16 (38'- 40') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, orange brown.	
		S17	24/4	15-10-13-14	PID= 0.2					S17 (40'- 42') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, orange brown.	
		S18	24/10	11-13-12-15	PID= 0.0					S18 (42'- 44') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, orange brown.	
-35	45	S19	24/10	8-7-10-12	PID= 0.1					S19 (44'- 46') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, angular to subangular, ~5% fines; wet, orange brown.	
		S20	24/18	8-10-12-13	PID= 0.1					S20 (46'- 48') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium to coarse, ~15% gravel, fine to coarse, angular to subangular, ~5% fines; max. size 1", wet, orange brown.	
		S21	24/20	9-11-9-9	PID= 0.4					S21 (48'- 50') WIDELY GRADED SAND (SW);	

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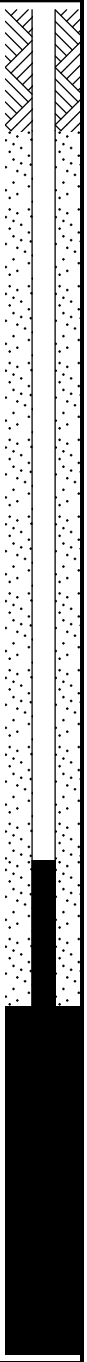
										~85% sand, fine to coarse, angular, ~10% gravel, fine, subangular, ~5% fines; max. size 0.5", wet, orange brown.
-40	50	S22	24/0	8-10-9-11	PID= NA					S22 (50'- 52') NO RECOVERY; wet spoon.
		S23	24/15	9-10-15-8	PID= 0.0					S23 (52'- 54') NARROWLY GRADED SAND (SP); ~85% sand, medium to coarse, subrounded, ~10% gravel, coarse, rounded, ~5% fines; max. size 1.5", wet, light brown.
-45	55	S24	24/14	6-8-6-7	PID= 0.1			NLO	Env. Sample ID= GPEC-SB-8 (54-56)	S24 (54'- 56') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium, subangular, ~15% gravel, fine to coarse, subangular, ~5% fines; max. size 1", slight naphthalene-like odor, wet, orange brown.
		S25	24/16	6-6-7-5	PID= 0.1			NLO		S25 (56'- 58') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium, subangular, ~15% gravel, fine to coarse, ~5% fines; max. size 1", slight naphthalene-like odor, wet, orange brown.
-50	60	S26	24/24	11-17-18-29	PID= 0.2			NLO		S26 (58'- 60') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; max. size 2", slight naphthalene-like odor, wet, light brown.
		S27	24/4	21-13-10-10	PID= 0.1			NLO	(60'- 62')) Driller reports mud loss.	S27 (60'- 62') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, coarse, ~5% fines; max. size 1", slight naphthalene-like odor, wet, light brown.
		S28	24/8	25-29-20-18	PID= 0.4					S28 (62'- 64') NARROWLY GRADED SAND WITH GRAVEL (SP); ~70% sand, medium coarse, ~25% gravel, fine to coarse, ~5% fines; wet, light brown.
-55	65	S29	24/0	15-6-14-13	PID= NA				(64-66") Rough drilling, likely cobbles. Drilling mud loss.	S29 (64'- 66') NO RECOVERY.
		S30	24/10	23-12-16-21	PID= 0.1				(66'- 68') Drilling mud loss	S30 (66'- 68') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand,

WELL DETAILS



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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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: 093260-1-1101

BORING LOG

GPEC-SB08/MW-08

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
									continues.	fine to coarse, ~20% gravel, fine, ~10% fines.	
		S31	24/16	12-10-10-8	PID= 0.7				(68'- 70') Drilling mud loss continues.	S31 (68'- 70') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; max. size 2", wet, brown.	
-60	70	S32	24/0	11-10-17-26	PID= NA					S32 (70'- 72') NO RECOVERY; large piece of gravel stuck in spoon tip.	
		S33	24/12	14-15-34-36	PID= 2.3					S33 (72'- 74') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wet, brown.	
-65	75	S34	24/4	27-26-47-31	PID= 0.4					S34 (74'- 76') WIDELY GRADED SAND WITH GRAVEL (SW); ~55% sand, fine to coarse, ~40% gravel, fine to coarse, ~5% fines; max. size 1.5", thin seam of red-brown silty fines 1.5" from bottom. Thin seam of mottled sand 1" from top/stain.	
		S35	24/10	44-48-53-42	PID= 0.1 PID= 0.1			NLO	(76') Significant loss of drilling mud. Likely pushing obstruction.	S35A (76'- 77') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to medium, ~15% gravel, fine, ~15% fines; reddish brown, sediment towards top of spoon, nothing in bottom. S35B (77'- 78') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine, ~5% fines; slight naphthalene-like odor, brown.	
-70	80	S36	24/10	29-32-50-52	PID= 0.1			MLO	Env. Sample ID= GPEC-SB-8 (78-80)	S36 (78'- 80') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, subangular, ~10% fines; moderate musty-like odor, wet, reddish brown, interbedded layers of fine sand with silty fines and medium-coarse sand with gravel. End of Boring at 80 feet. Monitoring well installed upon completion. Screened 50'- 60'.	

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Glastonbury, CT 06033
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BORING LOG
PAGE 1 of 4
GPEC-SB09/MW-09

GROUND SURFACE ELEVATION (FT): 20.11 **LOCATION:** West of Storage Building that is West of LNG Tank 1
NORTHING (FT): 688506 **EASTING (FT):** 650269 **TOTAL DEPTH (FT):** 64.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 5/12/2009 - 5/13/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 14.00 5/12/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
20	0	G1	96/96	NA	PID= 0.2				Note: 0'- 8': HAND CLEARED. G1A (0- 0.3') CRUSHED GRAVEL. G1B (0.3'- 1') ORGANIC SOIL WITH SAND (OL/OH); moist, dark brown, brick fragments. FILL. G1C (1'- 8') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% sand, fine to medium, ~20% gravel, subrounded, ~10% fines, low plasticity; max. size 2", moist, light brown.
15	5								
		S1	24/0	9-12-9-12	PID= NA				S1 (8'- 10') NO RECOVERY; dry spoon.
10	10	S2	24/0	16-17-15-11	PID= NA				S2 (10'- 12') NO RECOVERY; dry spoon.
		S3	24/10	24-12-10-12	PID= 0.2				S3 (12'- 14') NARROWLY GRADED SAND WITH GRAVEL (SP); ~75% sand, fine to medium, ~20% gravel, fine, subrounded, ~5% fines; moist, reddish brown.
▽		S4	24/11	6-14-18-15	PID= 0.5			Env. Sample ID= GPEC-SB-9 (14-16)	S4 (14'- 16') WIDELY GRADED GRAVEL WITH SAND (GW); ~65% gravel, fine to coarse, ~30% sand, fine to coarse, ~5% fines; max. size 2", wet,
	15								

WELL DETAILS

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG
PAGE 2 of 4
GPEC-SB09/MW-09

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
5	15								reddish brown.	
		S5	24/20	14-12-11-9	PID= 0.2				S5 (16'- 18') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine to coarse, subangular, ~5% fines; max. size 2", wet, orange brown.	
		S6	24/24	7-12-14-10	PID= 1.0				S6 (18'- 20') NARROWLY GRADED SAND WITH GRAVEL (SP); ~60% sand, medium to coarse, ~35% gravel, fine to coarse, subangular, ~5% fines; max. size 2", wet, orange brown, glass. FILL.	
0	20	S7	24/12	13-15-11-12	PID= 0.2				S7 (20'- 22') NARROWLY GRADED SAND (SP); ~85% sand, medium to coarse, ~10% gravel, fine to coarse, rounded, ~5% fines; max. size 1.5", wet, orange brown.	
		S8	24/24	13-13-17-17	PID= 0.6			Env. Sample ID= GPEC-SB-9 (22-24)	S8 (22'- 24') NARROWLY GRADED SAND (SP); ~85% sand, medium, ~10% gravel, fine, ~5% fines; wet, orange brown.	
-5	25	S9	24/8	2-4-8-12	PID= 0.2				S9 (24'- 26') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded, ~5% fines; wet, orange brown.	
		S10	24/19	16-19-19-21	PID= 1.2				S10 (26'- 28') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, subrounded, ~5% fines; wet, orange brown.	
		S11	24/24	11-16-25-24	PID= 0.3				S11 (28'- 30') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, subangular to subrounded, ~5% fines; wet, brown, sample becomes finer with depth.	
-10	30	S12	24/10	8-10-10-12	PID= 0.6				S12 (30'- 32') WIDELY GRADED SAND (SW); ~85% sand, medium to coarse, ~10% gravel, fine, ~5% fines; wet, light brown to orange brown.	
		S13	24/11	8-13-13-14	PID= NM				S13 (32'- 34') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, medium to coarse, ~15% gravel, fine to coarse, subangular, ~5% fines; max. size 2, wet, light brown to orange brown.	

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BORING LOG

GPEC-SB09/MW-09

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	35	S14	24/10	11-9-14-15	PID= 1.0				S14 (34'- 36') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, medium to coarse, ~20% gravel, fine, subrounded, ~5% fines; wet, orange brown.	
-15		S15	24/13	14-22-20-26	PID= 0.9 PID= 0.5				S15A (36'- 36.6') WIDELY GRADED SAND WITH GRAVEL (SW); ~55% sand, fine to coarse, ~40% gravel, coarse, ~5% fines; max. size 2", wet, brown. S15B (36.6'- 38') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, orange brown.	
		S16	24/18	16-19-27-22	PID= 0.7				S16 (38'- 40') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, orange brown, silt seam ~2" from spoon tip.	
-20	40	S17	24/15	8-6-10-8	PID= 2.3				S17 (40'- 42') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, subrounded, ~5% fines; wet, brown.	
		S18	24/10	6-12-16-17	PID= 0.5				S18 (42'- 44') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, medium to coarse, ~15% gravel, fine, ~5% fines; max. size 1", wet, brown.	
		S19	24/10	8-16-15-17	PID= 0.9				S19 (44'- 46') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium to coarse, ~15% gravel, fine, ~5% fines; wet, brown.	
-25	45	S20	24/1	16-20-23-21	PID= 0.0				S20 (46'- 48') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; brown.	
		S21	24/24	11-11-10-9	PID= 0.7				S21 (48'- 50') NARROWLY GRADED SAND (SP); ~85% sand, medium to coarse, ~10% gravel, fine, ~5% fines; wet, brown.	
-30	50	S22	24/4	8-16-12-8	PID= 0.7		NLO		S22 (50'- 52') WIDELY GRADED GRAVEL WITH SAND (GW); ~55% gravel, fine to coarse, ~40% sand, fine to coarse, ~5% fines; slight naphthalene-like odor, wet.	

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BORING LOG
PAGE 4 of 4
GPEC-SB09/MW-09

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
		S23	24/11	6-8-11-16	PID= 0.9				S23 (52'- 54') NARROWLY GRADED SAND WITH GRAVEL (SP); ~65% sand, medium to coarse, ~30% gravel, fine to coarse, subrounded, ~5% fines; wet, orange brown.	
-35	55	S24	24/2	27-24-16-23	PID= 0.1				S24 (54'- 56') WIDELY GRADED GRAVEL WITH SAND (GW); ~50% gravel, fine to coarse, ~45% sand, fine to coarse, ~5% fines; max. size 1.5", orange brown.	
		S25	24/6	18-26-29-26	PID= 0.2				S25 (56'- 58') WIDELY GRADED GRAVEL WITH SAND (GW); ~50% gravel, fine to coarse, ~45% sand, fine to coarse, ~5% fines; max. size 2", orange brown.	
		S26	24/16	21-19-17-16	PID= 0.4			Env. Sample ID= GPEC-SB-9 (58-60)	S26 (58'- 60') WIDELY GRADED GRAVEL WITH SAND (GW); ~50% gravel, fine to coarse, subrounded, ~45% sand, fine to coarse, ~5% fines; max. size 2", wet, orange brown.	
-40	60	S27	24/4	7-29-35-22	PID= 0.4		NLO	(60') Rough drilling and drilling chatter. Likely drilling through gravel.	S27 (60'- 62') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, ~35% sand, fine to coarse, ~5% fines; slight naphthalene-like odor, wet.	
		S28	24/4	46-38-27-23	PID= 0.6				S28 (62'- 64') WIDELY GRADED GRAVEL WITH SAND (GW); ~55% gravel, fine to coarse, subangular, ~40% sand, medium to coarse, ~5% fines; max. size 2", wet.	

End of Boring at 64 feet.
Borehole offset ~12' west from original hole due to slab.
Monitoring well installed upon completion. Screened 10'- 25'.

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BORING LOG
PAGE 1 of 4
GPEC-SB10/MW-10

GROUND SURFACE ELEVATION (FT): 17.14 **LOCATION:** West of Service Building
NORTHING (FT): 687735 **EASTING (FT):** 650394 **TOTAL DEPTH (FT):** 70.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 6/3/2009 - 6/5/2009
DRILLING DETAILS: Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 10.00 6/3/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	G1	96/96	NA					Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') ASPHALT. G1B (0.5'- 2') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~60% gravel, ~30% sand, ~10% fines; dark brown to gray, large cobbles. FILL.	
15					PID= 1.0			Env. Sample ID= GPEC-SB-10 (3-4)	G1C (3'- 4') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~60% gravel, fine to coarse, ~30% sand, fine to coarse, ~10% fines; dark brown to gray, cobbles slightly smaller than previous. Brick fragments, wire, metal. Slight unidentifiable odor.	
	5									
10		S1	24/10	8-10-4-6	PID= 5.9				S1 (8'- 10') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; moist, orange brown.	
	10	S2	24/17	5-5-5-3	PID= 0.5			Env. Sample ID= GPEC-SB-10 (10-12)	S2A (10'- 11.3') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; moist, orange brown.	
					PID= 0.7		SLO		S2B (11.3'- 12') NARROWLY GRADED SAND (SP); slight sulfur-like odor, wet, gray to black.	
5		S3	24/22	2-2-2-4	PID= 0.7		SLO		S3A (12'- 12.8') NARROWLY GRADED SAND (SP); slight sulfur-like odor, wet, gray black.	
					PID= 0.4				S3B (12.8'- 14') CLAYEY SAND (SC); ~65% sand, fine to medium, ~35% fines; wet, gray, sample becomes finer with depth.	
	15	S4	24/9	2-9-19-13	PID= 1.3				S4 (14'- 16') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine, subrounded, ~5% fines; max. size 1.5",	

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BORING LOG

GPEC-SB10/MW-10

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15								wet, dark brown.	
		S5	24/24	14-30-49-50	PID= 3.7				S5 (16'- 18') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, ~5% fines; wet, brown to dark brown.	
0		S6	24/24	21-34-40-44	PID= 9.3				S6 (18'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", moist to wet, brown.	
	20	S7	24/17	4-13-15-20	PID= 3.7				S7 (20'- 22') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, ~10% fines; wet, orange brown.	
-5		S8	24/24	6-16-18-23	PID= 2.0				S8 (22'- 24') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine, ~10% fines; wet, orange brown.	
		S9	24/10	8-9-7-7	PID= 1.2				S9 (24'- 26') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to medium, ~15% gravel, fine, ~15% fines; wet, orange brown.	
	25	S10	24/0	8-11-12-10	PID= NA				S10 (26'- 28') NO RECOVERY; some silty sand wash in spoon.	
-10		S11	24/6	7-12-12-13	PID= 1.0				S11 (28'- 30') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine, ~10% fines; wet, orange brown.	
	30	S12	24/0	7-12-10-8	PID= NA				S12 (30'- 32') NO RECOVERY; some gravel wash.	
-15		S13	24/4	8-9-11-11	PID= 0.4				S13 (32'- 34') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~10% fines; max. size 1", wet, orange brown.	

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S_V = TORVANE PEAK IN TSF

GEI Consultants

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

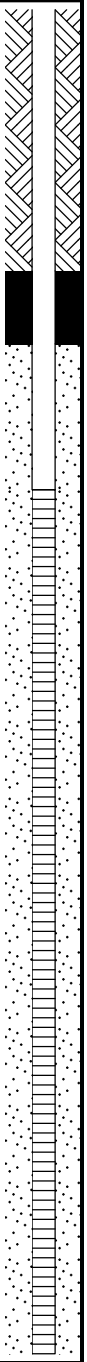
CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093260-1-1101

BORING LOG

GPEC-SB10/MW-10

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		S14	24/0	9-11-16-15	PID= NA			(34'- 36') Driller likely pushing large gravel.	S14 (34'- 36') NO RECOVERY; some gravel wash..
	35								
		S15	24/0	19-15-16-11	PID= NA			(36'- 38') Driller likely pushing large gravel.	S15 (36'- 38') NO RECOVERY.
-20		S16	24/5	16-5-6-5	PID= 5.0				S16 (38'- 40') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, subangular, ~35% sand, fine to coarse, ~5% fines; max. size 2", wet, orange brown to gray.
	40	S17	24/0	11-4-4-5	PID= NA				S17 (40'- 42') NO RECOVERY.
-25		S18	24/8	5-7-5-4	PID= 521		TLO	Env. Sample ID= GPEC-SB-10 (42-44)	S18 (42'- 44') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~35% gravel, fine, subangular, ~5% fines; slight tar-like odor, wet, gray to dark gray.
		S19	24/0	4-10-10-14	PID= NA				S19 (44'- 46') NO RECOVERY.
	45								
		S20	24/15	6-10-7-7	PID= 359				S20 (46'- 48') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wet, gray, sample becomes finer with depth.
-30		S21	24/16	5-5-6-7	PID= 335				S21 (48'- 50') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subangular, ~5% fines; max. size 1.5", wet, gray.
	50	S22	24/6	10-8-9-9	PID= 263				S22 (50'- 52') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subangular, ~5% fines; max. size 1.25", wet, gray.

WELL DETAILS



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BORING LOG
PAGE 4 of 4
GPEC-SB10/MW-10

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-35	55	S23	24/2	5-9-13-11	PID= 216				S23 (52'- 54') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subangular, ~5% fines; max. size 1.25", wet, gray.	
		S24	24/0	25-16-9-11	PID= NA				S24 (54'- 56') NO RECOVERY.	
-40		S25	24/12	6-6-7-10	PID= 135				S25 (56'- 58') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~5% fines; max. size 1", wet, gray brown.	
	60	S26	24/15	7-7-12-14	PID= 109				S26 (58'- 60') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded, ~5% fines; max. size 1", wet, gray brown.	
-45		S27	24/9	12-14-14-13	PID= 31.2				S27 (60'- 62') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wet, gray brown, interbedded coarse sands and fine sands with silt seams.	
		S28	24/14	6-10-12-13	PID= 20.6				S28 (62'- 64') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", wet, gray.	
	65	S29	24/6	14-18-16-22	PID= 1.3				S29 (64'- 66') WIDELY GRADED SAND WITH GRAVEL (SW); ~50% sand, fine to coarse, ~45% gravel, fine to coarse, rounded, ~5% fines; max. size 2", wet, gray brown, odd, "peppery," unrecognizable odor.	
-50		S30	24/18	10-13-15-20	PID= 1.6				S30 (66'- 68') WIDELY GRADED SAND WITH GRAVEL (SW); ~55% sand, fine to coarse, ~40% gravel, fine to coarse, subrounded to subangular, ~5% fines; max. size 1.5", wet, gray brown.	
		S31	24/17	11-11-15-21	PID= 3.2			Env. Sample ID= GPEC-SB-10 (68-70)	S31 (68'- 70') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", wet, gray brown.	
	70								End of Boring at 70 feet. Monitoring well installed upon completion. Screened 40'-55' (2"Ø PVC).	

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT 7/6/11

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BORING LOG
PAGE 1 of 4
GPEC-SB11/MW-11

GROUND SURFACE ELEVATION (FT): 17.30 **LOCATION:** South of LNG Tank 2 Area
NORTHING (FT): 687966 **EASTING (FT):** 650054 **TOTAL DEPTH (FT):** 64.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 5/28/2009 - 6/1/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 10.00 5/28/2009 ;
GENERAL NOTE:
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	0	G1	96/96	NA						Note: 0'- 8': HAND CLEARED. G1A (0- 0.3') CRUSHED GRAVEL, soil, and clayey fines. G1B (0.3'- 3') WIDELY GRADED SAND WITH CLAY AND GRAVEL (SW-SC); coarse; wet, dark brown, large cobbles (10") and clay seams. Dripping clays. FILL.	
15											
	5							TLO	Env. Sample ID= GPEC-SB-11 (3-4)	G1C (3'- 4') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", moderate tar-like odor, glass and brick fragments. Some silt clasts or balls. Black stained. FILL. G1D (4'- 8') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, subrounded, ~10% fines, medium plasticity; moist, brown, FILL.	
10											
		S1	24/16	6-4-3-2	PID= 16.1			TLO	Env. Sample ID= GPEC-SB-11 (8-10)	S1 (8'- 10') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~60% gravel, fine to coarse, angular, ~30% sand, fine to coarse, ~10% fines; moderate tar-like odor, moist to wet, stained. Sheen.	
	10 ▽	S2	24/8	7-6-3-2	PID= 0.6			TLO		S2 (10'- 12') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to medium, ~15% gravel, fine to coarse, ~15% fines; moderate tar-like odor, wet, greenish brown, sheen.	
5		S3	24/7	1-1-2-2	PID= 0.1					S3 (12'- 14') ELASTIC SILT WITH SAND (MH); ~80% fines, medium plasticity, low toughness, ~20% sand, fine to medium; brown to olive brown, some black staining.	
	15	S4	24/19	1-WOH-1-2	PID= 1.8					S4 (14'- 16') ORGANIC SOIL (OL/OH); dark brown, some peat and plant material.	

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BORING LOG
PAGE 2 of 4
GPEC-SB11/MW-11

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15										
		S5	24/14	P-U-S-H	PID= NA			TLO		S5 (16'- 18') SILTY SAND (SM); ~80% sand, fine to medium, ~15% fines, ~5% gravel, fine; moderate tar-like odor, gray brown, Shelby tube sample; Some organics. Top 4" stained black.	
0		S6	24/18	5-4-9-12	PID= 1.4			TLO		S6 (18'- 20') SILTY SAND (SM); ~75% sand, fine to coarse, ~15% fines, ~10% gravel, fine to coarse, rounded; moderate tar-like odor, wet, brown, silt clasts. Thin silt seam ~1" from spoon tip with no sediment below but with some sheen present.	
	20	S7	24/14	2-5-3-9	PID= 0.5 PID= 0.1			CLO		S7A (20'- 21.1') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine, rounded, ~10% fines; slight chemical-like odor, wet, tan brown. S7B (21.1'- 22') SILTY SAND WITH GRAVEL (SW); ~70% sand, fine to medium, ~15% gravel, fine to coarse, angular, ~15% fines; wet, gray.	
-5		S8	24/20	10-24-12-9	PID= 0.1 PID= 0.2					S8A (22'- 23.2') SILTY SAND WITH GRAVEL (SW); ~60% sand, fine to medium, ~20% gravel, fine to coarse, subangular, ~20% fines; wet, gray to brown gray. S8B (23.2'- 24') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine to medium, ~15% gravel, fine to coarse, subangular, ~10% fines; max. size 1.5", wet, orange brown.	
	25	S9	24/10	13-7-7-8	PID= 0.8			TLO		S9 (24'- 26') NARROWLY GRADED SAND (SP); ~85% sand, fine to medium, ~10% gravel, fine, ~5% fines; slight tar-like odor, wet, dark gray brown.	
		S10	24/10	4-5-5-5	PID= 0.2					S10 (26'- 28') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, gray green, borderline widely graded sand.	
-10		S11	24/12	1-5-7-5	PID= 0.1					S11 (28'- 30') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, subangular, ~5% fines; max. size 2", wet, gray brown.	
	30	S12	24/8	3-2-4-3	PID= 0.1					S12 (30'- 32') WIDELY GRADED SAND (SW); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, brownish gray.	
-15		S13	24/12	1-1-2-7	PID= 0.9					S13 (32'- 34') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, fine, angular, ~10% fines; wet, brownish gray.	

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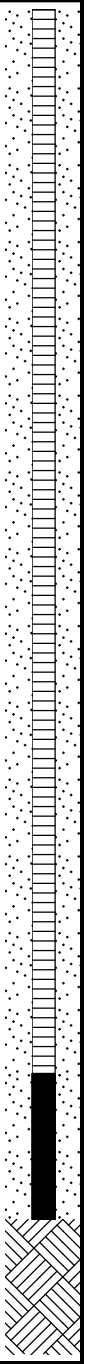
BORING LOG

GPEC-SB11/MW-11

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	35	S14	24/10	4-4-4-5	PID= 0.2			TLO		S14 (34'- 36') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, angular, ~25% gravel, fine, subangular, ~5% fines; slight tar-like odor, wet, gray.
-20		S15	24/15	5-5-6-3	PID= 7.1			TLO		S15 (36'- 38') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, angular, ~10% gravel, fine, ~10% fines; moderate tar-like odor, wet, gray, some black staining. Interbedded.
		S16	24/14	WOH-WOH-4-5	PID= 4.4			TLO		S16 (38'- 40') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, angular, ~10% gravel, fine, ~10% fines; moderate tar-like odor, wet, gray, black staining. Interbedded.
	40	S17	24/4	WOH-2-2-2	PID= 6.4			TLO		S17 (40'- 42') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine, ~5% fines; moderate tar-like odor, wet, black, stained.
-25		S18	24/14	5-4-5-5	PID= 18.0			TLO	Env. Sample ID= GPEC-SB-11 (42-44)	S18 (42'- 44') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine, subangular, ~10% fines; strong tar-like odor, black, stained. Sample becomes finer with depth.
	45	S19	24/12	3-4-5-6	PID= 3.0			TLO		S19 (44'- 46') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, ~5% fines; moderate tar-like odor, wet, black, stained.
-30		S20	24/14	9-12-12-10	PID= 3.6					S20 (46'- 48') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, angular, ~5% fines; max. size 2", wet, black, stained.
		S21	24/14	6-5-10-6	PID= 2.1			TLO		S21 (48'- 50') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", moderate tar-like odor, wet, black, stained.
	50	S22	24/8	8-10-8-6	PID= 0.0					S22 (50'- 52') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", wet, gray.

WELL DETAILS



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BORING LOG

GPEC-SB11/MW-11

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-35		S23	24/12	5-6-9-6	PID= 0.1			TLO		S23 (52'- 54') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded, ~5% fines; max. size 1", slight tar-like odor, wet, gray, Pyrite flakes.	
	55	S24	24/0	10-5-8-9	PID= NA				(54'- 56'_ Basket missing in spoon.	S24 (54'- 56') NO RECOVERY.	
-40		S25	24/7	11-16-33-26	PID= 0.0			TLO		S25 (56'- 58') WIDELY GRADED SAND WITH GRAVEL (SW); ~50% sand, fine to coarse, ~45% gravel, fine to coarse, subangular, ~5% fines; max. size 2", slight tar-like odor, wet, gray brown.	
		S26	24/0	24-24-26-25	PID= NA				(57'- 58') Driller notes chatter. Likely pushing a cobble.	S26 (58'- 60') NO RECOVERY.	
	60	S27	24/8	18-9-7-9	PID= 0.0				(60') Drill chatter continues.	S27 (60'- 62') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, angular, ~5% fines; wet, gray brown.	
-45		S28	24/16	10-14-22-10	PID= 0.0				Env. Sample ID= GPEC-SB-11 (62-64)	S28 (62'- 64') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, angular, ~5% fines; max. size 2", wet, orange brown.	
										End of Boring at 64 feet. Monitoring well installed upon completion. Screened 33- 48'.	

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S_V = TORVANE PEAK IN TSF

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GPEC_ENVIRONMENTAL BORING LOG GREENPOINT BORINGS.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 7/6/11

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

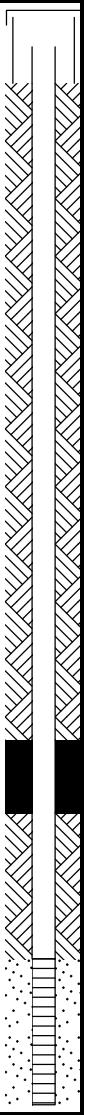
CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 1 of 4
GPEC-SB12/MW-12

GROUND SURFACE ELEVATION (FT): 20.32 **LOCATION:** North of Storage Building that is Along Varick Ave.
NORTHING (FT): 687767 **EASTING (FT):** 649520 **TOTAL DEPTH (FT):** 64.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 6/1/2009 - 6/3/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 14.00 6/1/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
20	0									Note: 0'- 8': HAND CLEARED.
		G1	12/12	NA	PID= NM					G1 (3'- 4') WIDELY GRADED SAND WITH GRAVEL (SW); ~55% sand, fine to coarse, subrounded, ~40% gravel, fine to coarse, subangular, ~5% fines; max. size 2", brown, FILL.
15	5									
		S1	24/3	1-1-1-1	PID= 0.7					S1 (8'- 10') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to medium, ~30% gravel, fine to coarse, angular, ~15% fines; max. size 1.5", moist, reddish brown.
10	10	S2	24/0	7-4-1-2	PID= NA					S2 (10'- 12') NO RECOVERY.
		S3	24/9	WOH-WOH-4-5	PID= 0.0				Env. Sample ID= GPEC-SB-12 (12-14)	S3 (12'- 14') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to medium, ~20% gravel, fine to coarse, subangular, ~15% fines; max. size 1.5", wet, olive brown.
▽		S4	24/9	3-2-2-WOH	PID= 0.0					S4 (14'- 16') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to coarse, ~20% gravel, fine to coarse, subangular, ~15% fines; max.
	15									

WELL DETAILS



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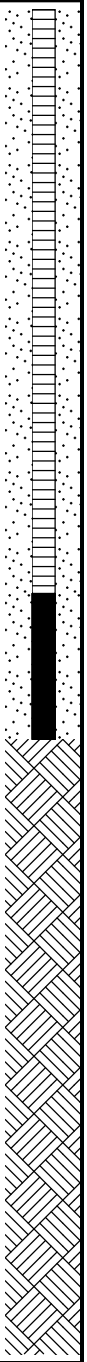
BORING LOG
PAGE 2 of 4
GPEC-SB12/MW-12

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
5	15									size 1.5", wet, brown to olive brown.
		S5	24/10	3-3-3-1	PID= 0.0					S5 (16'- 18') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines; wet, brown to olive brown.
		S6	24/4	3-2-4-2	PID= 0.0			TLO		S6 (18'- 20') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to medium, ~30% gravel, fine, ~15% fines; slight tar-like odor, wet, brown.
0	20	S7	24/0	1-1-WOH-3	PID= NA					S7 (20'- 22') NO RECOVERY; some wash in spoon.
		S8	24/21	20-2-2-3	PID= 17.3 PID= 29.3			TLO TLO	Env. Sample ID= GPEC-SB-12 (22-24)	S8A (22'- 22.6') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, subrounded, ~10% fines; max. size 1", moderate tar-like odor, wet, brown to black, stained. S8B (22.6'- 24') PEAT (PT); slight tar-like odor, moist, brown to black, stained.
-5	25	S9	24/0	P-U-S-H	PID= NA				(24'- 26') Driller attempts to drill through Shelby tube lost down hole. Driller experiencing chatter.	S9 (24'- 26') NO RECOVERY; Shelby tube sample, lost Shelby down hole.
		S10	24/0	51-44-40-36	PID= NA				(26'- 28') Likely pushing Shelby tube. Driller attempts to drill Shelby tube out again.	S10 (26'- 28') NO RECOVERY.
										S11 (28'- 30') Sample interval skipped due to lost Shelby tube.
-10	30	S12	24/7	15-22-12-14	PID= 0.1					S12 (30'- 32') SILTY SAND (SM); ~75% sand, fine to coarse, ~15% fines, ~10% gravel, fine; wet, light gray.
		S13	24/24	15-20-17-18	PID= 0.0					S13A (32'- 33.4') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine, ~10% fines; wet, light gray.

WELL DETAILS



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BORING LOG

GPEC-SB12/MW-12

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
					PID= 0.0					S13B (33.4'- 34') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, gray. S14 (34'- 36') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, ~5% fines; wet, gray.	
-15	35	S14	24/5	10-12-12-13	PID= 0.0						
		S15	24/12	12-14-16-15	PID= 0.0					S15 (36'- 38') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, subangular, ~10% gravel, fine, subangular, ~5% fines; wet, progressive color change with depth. Gray to tan to red.	
		S16	24/17	11-10-22-23	PID= 0.0					S16 (38'- 40') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, orange brown.	
-20	40	S17	24/8	10-10-9-11	PID= 0.0					S17 (40'- 42') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine, ~10% fines; wet, light orange brown.	
		S18	24/6	12-13-20-23	PID= 0.2					S18 (42'- 44') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, fine, ~10% fines; wet, reddish brown.	
		S19	24/12	10-13-12-9	PID= 0.0					S19 (44'- 46') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, subangular, ~10% fines; wet, orange brown.	
-25	45	S20	24/8	8-8-14-18	PID= 0.0					S20 (46'- 48') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, subangular, ~10% fines; wet, orange brown.	
		S21	24/12	23-20-28-30	PID= 0.0					S21 (48'- 50') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to coarse, ~10% fines, ~5% gravel, fine; wet, orange brown.	
-30	50	S22	24/0	10-12-13-11	PID= NA					S22 (50'- 52') NO RECOVERY.	

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BORING LOG
PAGE 4 of 4
GPEC-SB12/MW-12

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		S23	24/0	20-17-13-18	PID= NA					S23 (52'- 54') NO RECOVERY; may be pushing Shelby tube.	
-35	55	S24	24/8	10-11-12-15	PID= 0.0					S24 (54'- 56') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to medium, ~15% gravel, fine to coarse, subrounded, ~15% fines; wet, orange brown.	
		S25	24/15	10-10-11-21	PID= 0.0					S25 (56'- 58') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to medium, ~15% gravel, fine to coarse, subangular, ~15% fines; wet, orange brown.	
		S26	24/24	11-15-14-16	PID= 0.0					S26 (58'- 60') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine, ~15% fines; wet, orange brown.	
-40	60	S27	24/10	12-13-10-8	PID= 0.0				Env. Sample ID= GPEC-SB-12 (60-62)	S27 (60'- 62') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to coarse, ~20% gravel, fine to coarse, angular, ~15% fines; wet, orange brown.	
		S28	24/0	2-17-13-18	PID= NA				(62'- 64') Possibly getting into gravel-rich zone and spoon is pushing a cobble.	S28 (62'- 64') NO RECOVERY.	

End of Boring at 64 feet.
Monitoring well installed upon completion.
Screened 13'- 23'.

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BORING LOG
PAGE 1 of 5
GPEC-SB13/MW-13

GROUND SURFACE ELEVATION (FT): 54.81 **LOCATION:** Southeast of Varick Ave./Lombardy St. Intersection
NORTHING (FT): 688780 **EASTING (FT):** 649202 **TOTAL DEPTH (FT):** 70.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 5/18/2009 - 5/20/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 52.00 5/19/2009 ;
GENERAL NOTE:
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55	0	G1	96/96	NA	PID= 0.3				Note: 0'- 8': HAND CLEARED. G1 (0'- 8') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; reddish brown.	
50	5	S1	24/13	4-4-9-11	PID= NM			Env. Sample ID= GPEC-SB-13 (8-10)	S1 (8'- 10') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; moist, brown.	
45	10	S2	24/5	12-20-32-37	PID= NM				S2 (10'- 12') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; moist, brown, FILL.	

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		S3	24/0	39-39-46-31	PID= NA				S3 (12'- 14') NO RECOVERY; spoon tip came off.	
40	15	S4	24/10	15-19-18-20	PID= NM				S4 (14'- 16') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; dry, tan.	
		S5	24/14	14-16-16-17	PID= NM				S5 (16'- 18') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; dry, tan.	
		S6	24/12	19-17-22-21	PID= 0.0				S6 (18'- 20') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; dry, tan.	
35	20	S7	24/12	11-11-14-14	PID= 0.0				S7 (20'- 22') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; dry to moist, tan.	
		S8	24/14	16-17-17-13	PID= 0.0				S8 (22'- 24') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; layered, dry to moist, tan to brown.	
		S9	24/12	9-11-15-15	PID= 0.1				S9 (24'- 26') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; dry, light brown.	
30	25	S10	24/18	13-15-22-20	PID= 0.1				S10 (26'- 28') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; dry, light brown.	
		S11	24/22	20-18-30-23	PID= 0.0				S11 (28'- 30') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, angular, ~5% fines; max. size 1", dry, light brown.	
25										

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	30	S12	24/14	21-25-20-20	PID= 0.0				S12 (30'- 32') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subangular, ~5% fines; dry to moist, brown.	
		S13	24/20	22-21-21-20	PID= 0.1 PID= 0.1				S13A (32'- 32.8') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subangular, ~5% fines; moist, brown. S13B (32.8'- 34') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~5% gravel, fine, ~5% fines; laminated, dry, tan.	
20	35	S14	24/18	15-17-25-31	PID= 0.1				S14 (34'- 36') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~5% gravel, fine, ~5% fines; dry, gray tan.	
		S15	24/18	30-35-30-31	PID= 0.1				S15 (36'- 38') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; dry to moist, gray tan to brown, layering of brown fine sand and gray-tan coarse sand.	
15	40	S16	24/16	26-31-24-30	PID= 0.1				S16 (38'- 40') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; layered, dry, gray tan, FILL.	
		S17	24/18	31-33-30-31	PID= 0.1				S17 (40'- 42') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; dry to moist, gray tan to brown, intermittent coloring. FILL.	
		S18	24/24	25-23-33-46	PID= 0.1				S18 (42'- 44') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, subangular, ~5% fines; dry, light brown to gray tan.	
10	45	S19	24/12	43-42-39-40	PID= 0.3 PID= 0.1				S19A (44'- 45.2') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, ~5% fines; dry, gray tan. S19B (45.2'- 46') SILTY SAND (SM); ~80% sand, fine, ~15% fines, ~5% gravel, fine; moist, brown, mica-rich.	
		S20	24/24	32-32-46-42	PID= 0.1				S20 (46'- 48') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", top 6" is moist and brown. Bottom 18" is dry and gray-tan.	
		S21	24/18	30-31-	PID= 0.1				S21 (48'- 50') WIDELY GRADED SAND WITH	

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BORING LOG
PAGE 4 of 5
GPEC-SB13/MW-13

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
				65-51					GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~5% fines; max. size 2", dry, brown to gray tan, bottom 2" is wet.	
5	50	S22	24/10	42-37-39-43	PID= 0.1				S22 (50'- 52') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, subrounded, ~5% fines; wet, brown, dark mineral laminations.	
▽		S23	12/12	79-100/6"	PID= 0.1			Env. Sample ID= GPEC-SB-13 (52-54)	S23 (52'- 53') WIDELY GRADED SAND WITH GRAVEL (SW); ~55% sand, fine to coarse, ~40% gravel, fine to coarse, subrounded, ~5% fines; max. size 1".	
		S24	24/0	20-36-36-23	PID= NA				S24 (54'- 56') NO RECOVERY; some wash in spoon.	
0	55	S25	24/14	33-36-34-30	PID= 0.1				S25 (56'- 58') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subrounded, ~15% gravel, fine to coarse, subrounded, ~5% fines; max. size 1", wet, brown.	
		S26	24/12	36-35-30-23	PID= 0.3				S26 (58'- 60') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, subrounded, ~35% sand, fine to coarse, ~5% fines; max. size 2", wet, brown.	
-5	60	S27	24/14	18-26-31-39	PID= 0.3				S27 (60'- 62') WIDELY GRADED SAND WITH GRAVEL (SW); ~55% sand, fine to coarse, subrounded, ~40% gravel, fine to coarse, ~5% fines; max. size 1", wet, brown.	
		S28	24/12	34-28-22-19	PID= 0.2		NLO		S28 (62'- 64') WIDELY GRADED GRAVEL WITH SAND (GW); ~50% gravel, fine to coarse, ~45% sand, fine to coarse, ~5% fines; max. size 1", slight naphthalene-like odor, wet, brown.	
-10	65	S29	18/0	55-82-100/6"	PID= NA			(64') Cobbles likely present.	S29 (64'- 65.5') NO RECOVERY; mud and wash in spoon..	
		S30	24/10	15-19-22-20	PID= 0.5		NLO		S30 (66'- 68') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~5% gravel, fine, ~5% fines;	

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BORING LOG

GPEC-SB13/MW-13

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							NLO		slight naphthalene-like odor, wet, brown, well sorted sand.	
-15	70	S31	24/18	25-25-20-29	PID= 0.3			Env. Sample ID= GPEC-SB-13 (68-70)	S31 (68'- 70') NARROWLY GRADED SAND (SP); ~85% sand, medium, ~10% gravel, fine, ~5% fines; wet, brown.	
									End of Boring at 70 feet. Monitoring well installed upon completion. Screened 47'- 62'.	

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BORING LOG
PAGE 1 of 7
GPEC-SB101A/MW-101D

GROUND SURFACE ELEVATION (FT): 16.31
LOCATION: Southeast of the Stores Building, Northeast of the Transportation Building
NORTHING (FT): 687711 **EASTING (FT):** 650823
TOTAL DEPTH (FT): 120.0
DRILLED BY: Boart Longyear / Dell Cunningham
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K. Kucher, R. Marshall, K. Nelsen
DATE START / END: 6/16/2010 - 6/17/2010
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.
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	G1	96/96				Env. Sample ID= GPEC-SB-101A (4-5)	Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') ASPHALT. G1B (0.5'- 2') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, ~35% sand, fine to coarse, ~5% fines; max. size 4", gray, FILL. G1C (2'- 6') SILTY SAND (SM); ~75% sand, fine to coarse, ~15% fines, ~10% gravel; max. size 2", moist, orange - brown, FILL.	
15									
	5	SC1	60/40	NM	PID= 0.0*			SC1A (5'- 8') Resampled on hand cleared area.	
10					PID= 0.0*			G1D (6'- 8') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, ~35% sand, fine to coarse, ~5% fines; max. size 8", light brown, some cobbles. FILL.	
					PID= 0.0*				
					PID= 0.0*			SC1B (8'- 10') CONCRETE; dry, light gray, crushed concrete. FILL.	
	10	SC2	60/18	2 min	PID= 0.0*			SC2 (10'- 15') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel; ~15% silty fines, wet, yellow and reddish brown, brick fragments. FILL.	
5									
					PID= 0.0*				
	15								

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BORING LOG

GPEC-SB101A/MW-101D

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	15	SC3	60/33	1 min	PID= 0.0*			SC3 (15'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse; ~5% silty fines, max. size 2", moist, yellowish brown, loose. FILL.	
0					PID= 0.0*				
					PID= 0.0*				
	20	SC4	60/53	1 min	PID= 0.0*			SC4 (20'- 25') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel; ~5% silty fines, max. size 2", moist, brown, loose.	
-5					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0**				
	25	SC5	60/49	1 min	PID= 0.0*			SC5A (25'- 28.5') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel; ~5% silty fines, max. size 2", moist, brown, loose.	
-10					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*			SC5B (28.5'- 30') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine; ~5% gravel, ~10% silty fines, moist, gray.	
	30	SC6	60/29	1 min	PID= 0.0*			SC6 (30'- 35') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine; ~10% silty fines, wet, gray, loose.	
-15					PID= 0.0*				

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BORING LOG

GPEC-SB101A/MW-101D

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					PID= 0.0*				
	35	SC7	60/50	1 min	PID= 0.0*			SC7 (35'- 40') SILTY SAND (SM); ~75% sand, fine; ~25% silty fines, low plasticity, slow dilatancy, very moist, gray, soft, mica flakes.	
-20					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
	40	SC8	60/51	1 min	PID= 0.0*			SC8 (40'- 45') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse; moist, gray brown, loose.	
-25					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
	45	SC9	60/51	1 min	PID= 0.0*			SC9A (45'- 48.6') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse; ~5% silty fines, moist, gray brown, loose.	
-30					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*			SC9B (48.6'- 50') SILTY SAND (SM); ~75% sand, fine; ~25% silty fines, low plasticity, moist to very moist, gray tan, soft.	
	50	SC10	60/14	1 min	PID= NM			SC10 (50'- 55') SILTY SAND (SM); ~75% sand, fine; ~25% silty fines, low plasticity, moist to very moist, gray brown, soft.	
-35									

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BORING LOG

PAGE 4 of 7

GPEC-SB101A/MW-101D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	55	SC11	60/42	1 min	PID= 0.0*			SC11 (55'- 55') SILTY SAND (SM); ~75% sand, fine; ~25% silty fines, low plasticity, moist to very moist, gray brown, soft.	
-40					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
	60	SC12	60/48	1 min	PID= 0.0*			SC12 (60'- 65') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, fine; ~10% silty fines, moist, gray brown, loose.	
-45					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
	65	SC13	60/45	1 min	PID= 0.0*			SC13 (65'- 70') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~80% sand, fine to coarse, ~15% gravel, fine to coarse; ~10% silty fines, max. size 2", moist, gray brown, loose.	
-50					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
	70				PID= 0.0*				

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-55		SC14	60/45	1 min	PID= 0.0*			SC14 (70'- 75') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse; ~5% silty fines, max. size 3", wet, orange brown, loose.	
					PID= 0.0*				
					PID= 0.0*				
	75	SC15	60/41	1 min	PID= 0.0*		Env. Sample ID= GPEC-SB101A (75-77)	SC15 (75'- 80') WIDELY GRADED SAND WITH GRAVEL (SW); ~50% sand, fine to coarse; ~45% gravel, fine to coarse, and cobbles, ~5% silty fines, max. size 5", wet, orange brown, loose.	
-60					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
	80	SC16	60/46	1 min	PID= 0.0*			SC16 (80'- 85') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to coarse, ~20% gravel, fine to coarse; ~15% silty fines, max. size 3", wet, gray, medium dense.	
-65					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
	85	SC17	60/45	1 min	PID= 0.0* Q_P= 2.5 S_V= 0.675			SC17A (85'- 88.1') SANDY FAT CLAY WITH GRAVEL (CH); ~70% clayey fines, ~15% sand, fine to coarse, ~15% gravel, fine to coarse, max. size 4", moist to wet, gray, very hard.	
-70					PID= 0.0*				
					PID= 0.0*				
								SC17B (88.1'- 90') SILTY SAND (SM).	

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GPEC-SB101A/MW-101D

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					PID= 0.0*				
	90	SC18	60/45	3 min	PID= 0.0*		(90') Difficult drilling.	SC18A (90'- 93.7') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse; ~10% silty fines, ~5% gravel, fine to coarse, moist, brown, loose.	
-75					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*		(94') Difficult drilling.	SC18B (93.7'- 95') CLAYEY SAND WITH GRAVEL (SC); ~65% sand, fine to coarse; ~20% clayey fines, ~15% gravel, fine to coarse, moist, gray, medium stiff.	
	95	SC19	60/46	4 min	PID= 0.2*			SC19A (95'- 96') SANDY LEAN CLAY WITH GRAVEL (CL); ~70% clayey fines, ~15% sand, fine to coarse, ~15% gravel, fine to coarse, max. size 2", gray.	
-80					PID= 0.4*			SC19B (96'- 100') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse; ~20% silty fines, max. size 3", moist, gray brown.	
					PID= 0.4*				
					PID= 0.3*				
	100	SC20	60/55	1 min	PID= 0.0*			SC20 (100'- 105') SILTY SAND WITH GRAVEL (SM); ~40% sand, fine to coarse; ~40% gravel, fine to coarse, ~20% silty fines, max. size 4", very moist, gray brown, dense.	
-85					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
	105	SC21	60/51	1 min	PID= 0.0*			SC21 (105'- 110') SILTY SAND WITH GRAVEL (SM); ~40% sand, fine to coarse; ~40% gravel, fine to coarse, ~20% silty fines, max. size 4", wet, gray brown, dense.	
-90					PID= 0.0*				

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					PID= 0.0*				
					PID= 0.0*				
	110	SC22	60/52	5 min	PID= 0.0*			SC22 (110'- 115') SILTY SAND WITH GRAVEL (SM); ~40% sand, fine to coarse; ~40% gravel, fine to coarse, ~20% silty fines, max. size 4", wet, gray brown, dense.	
-95					PID= 0.0*		Env. Sample ID= GPEC-SB101A (111-112)		
					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
	115	SC23	60/12	15 min	PID= 0.0*		(115') Difficult drilling, very hard. Possible bedrock at 116'.	SC23 (115'- 120') Bedrock.	
-100									
	120							End of Boring at 120 feet. Monitoring well installed upon completion. Screened 97'-112'.	

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ALO = ASPHALT LIKE ODOR

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

NA = NOT APPLICABLE
NM = NOT MEASURED

Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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: 093260-1-1101

BORING LOG
PAGE 1 of 7
GPEC-SB102/MW-102D

GROUND SURFACE ELEVATION (FT): 13.18 **LOCATION:** Southeast of Transportation Building
NORTHING (FT): 687528 **EASTING (FT):** 651026 **TOTAL DEPTH (FT):** 112.0
DRILLED BY: Boart Longyear / Dell Cunningham **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: J. Morin, K. Kucher, M. Sweet **DATE START / END:** 6/11/2010 - 6/15/2010
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.
GENERAL NOTE: **SPT sampled first, then SC over sampled through SPT zone and then virgin soil.

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	G1	96/96		PID= 0.0*				Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') ASPHALT. G1B (0.5'- 4') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, ~10% fines; moist, gray brown, FILL.	
					PID= 3.3*					
10										
								Env. Sample ID= GPEC-SB-102 (4-5)	G1C (4'- 6') SILTY SAND WITH GRAVEL (SM); fine to coarse; moist, black, FILL.	
	5									
					PID= 0.0*				G1D (6'- 8') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, ~5% fines; moist, gray brown, angular tile, brick, and concrete fragments. FILL.	
5		SC1	24/0	<1 min	PID= NA				SC1 (8'- 10') NO RECOVERY.	
	10	SC2	60/48	<1 min	PID= 0.0*				SC2A (10'- 12.2') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~55% sand, fine to coarse, ~35% gravel, fine to coarse; ~10% silty fines, max. size 2", wet, brown to black, brick fragments. FILL.	
					PID= 0.0*					
0					PID= 21.2*				SC2B (12.2'- 15') SILTY SAND (SM); ~50% sand, fine to medium; ~45% silty fines, ~5% gravel, fine, max. size 0.5", strong sewage-like odor, blue green, organic fibers, white fragments.	
					PID= 21.6*		SeLO			
	15									

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BORING LOG

GPEC-SB102/MW-102D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15	SC3	60/60	<1 min	PID= 14.7* PID= 36.9* PID= 43.1* PID= 18.7*		SeLO		SC3 (15'- 20') SANDY SILT (ML); ~50% silty fines, non plastic, ~45% sand, fine to medium, ~5% gravel, fine, max. size 1", strong sewage-like odor, moist, blue green with tan layers, significant amount of organic fibers, white fragments.	
-5										
	20	SC4	60/35	<1 min	PID= 32.5* PID= 77.3* PID= 27.3* PID= 298*		SeLO PLO	Env. Sample ID= GPEC-SB102/ MW102D (20-21) Env. Sample ID= GPEC-SB102/ MW102D (24-25)	SC4A (20'- 21.4') SANDY SILT (ML); ~50% silty fines, non plastic, ~45% sand, fine to medium, ~5% gravel, fine, max. size 1", strong sewage-like odor, moist, blue green with tan layers, significant amount of organic fibers, white fragments. SC4B (21.4'- 25') PEAT (PT); moderate petroleum-like odor, moderate sewage-like odor, moist, brown, fibrous, spongy.	
-10										
	25	SC5	60/53	1 min	PID= 286* PID= 90.0* PID= 13.2* PID= 1.6*		PLO SeLO		SC5A (25'- 26.3') PEAT (PT); moderate petroleum-like odor, moderate sewage-like odor, moist, brown, fibrous, spongy. SC5B (26.3'- 30') SILTY SAND (SM); ~70% sand, fine to medium; ~30% silty fines, non plastic, moderate sewage-like odor, moist, silt lenses.	
-15										
	30	SC6	60/50	1 min	PID= 0.0* Q_P= 0.5 S_V= 0.25 PID= 0.0* PID= 0.0*				SC6 (30'- 35') FAT CLAY (CH); ~90% clayey fines, high plasticity, none to slow dilatancy, low toughness, ~10% sand, fine, gray.	
-20										

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BORING LOG

PAGE 3 of 7

GPEC-SB102/MW-102D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
					PID= 0.3*					
	35	SC7	60/52	1 min	PID= 0.0* Q_P= 0.5 S_V= 0.25				SC7A (35'- 37.5') FAT CLAY (CH); ~90% clayey fines, high plasticity, none to slow dilatancy, low toughness, ~10% sand, fine, gray.	
					PID= 0.0*					
-25					PID= 0.0*				SC7B (37.5'- 40') SANDY FAT CLAY (CH); ~55% clayey fines, plastic, ~45% sand, fine, moist, brown gray.	
					PID= 0.0*					
	40	SC8	60/43	1 min	PID= 0.0*				SC8A (40'- 42.6') SILT (ML); ~90% silty fines, non plastic, ~10% sand, fine, wet, brown gray, clay lenses.	
					PID= 0.0*					
					PID= 0.0*				SC8B (42.6'- 45') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine; ~10% silty fines, non plastic, wet, brown gray.	
-30					PID= 0.0*					
	45	SC9	60/45	1 min	PID= 0.0*				SC9 (45'- 50') SILTY SAND (SM); ~70% sand, fine; ~30% silty fines, non plastic, moist to wet, brownish gray.	
					PID= 0.0*					
					PID= 0.0*					
-35					PID= 0.0*					
	50	S1	24/24	4-3-4-3	PID= 0.0*				S1 (50'- 52') SILTY SAND (SM); ~70% sand, fine; ~30% silty fines, non plastic, moist to wet, brownish gray.	
					PID= 0.2*					

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BORING LOG
PAGE 4 of 7
GPEC-SB102/MW-102D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-40	55	SC10**	36/44	1 min	PID= 0.0* PID= 0.2* PID= 0.0* PID= 0.0*		SeLO		SC10 (52'- 55') SILTY SAND (SM); ~80% sand, fine; ~20% silty fines, low plasticity, slight sewage-like odor, very moist to wet, gray - orange, soft.	
		S2	24/0	4-5-5-4	PID= NA				S2 (55'- 57') NO RECOVERY.	
-45		SC11**	36/0	<1 min	PID= NA			(57'- 60') Bit lost down hole.	SC11 (57'- 60') NO RECOVERY.	
	60	S3	24/19	2-3-3-2	PID= 0.0* PID= 0.0*				S3 (60'- 62') NARROWLY GRADED SAND (SP); ~90% sand, medium; ~5% silty fines, ~5% gravel, fine, max. size 0.5", wet, gray brown, loose.	
-50		SC12**	36/20	1 min	PID= 0.0* PID= 0.0*				SC12 (62'- 65') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse; ~5% silty fines, ~5% gravel, fine, wet, gray brown, loose.	
	65	S4	24/0	3-4-3-4	PID= NA				S4 (65'- 67') NO RECOVERY.	
-55		SC13**	36/30	<1 min	PID= 0.0* PID= 0.0* PID= 0.0*				SC13 (67'- 70') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse; ~5% silty fines, ~5% gravel, fine, wet, brown, loose.	
	70				PID= NA					

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BORING LOG

GPEC-SB102/MW-102D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
		S5	24/0	5-5-5-4					S5 (70'- 72') NO RECOVERY.	
-60	75	SC14**	36/32	NM	PID= 0.0* PID= 0.0* PID= 0.0*				SC14 (72'- 75') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse; ~5% silty fines, ~5% gravel, fine, wet, brown, loose.	
		S6	24/16	4-4-4-5	PID= NM				S6 (75'- 77') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, ~5% fines; wet, gray.	
-65		SC15**	36/28	<1 min	PID= 0.0* PID= 0.0* PID= 0.0*				SC15 (77'- 80') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse; ~10% silty fines, wet, loose.	
	80	S7	24/6	3-12-10-9	PID= 0.0*				S7 (80'- 82') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, ~5% fines; brownish gray.	
-70		SC16**	36/32	<1 min	PID= 0.0* PID= 0.0*				SC16 (82'- 85') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse; ~5% silty fines, max. size 2", wet, gray, loose.	
	85	S8	24/13	12-9-8-11	PID= 0.0*				S8 (85'- 87') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse; ~5% silty fines, max. size 1", wet, loose.	
-75		SC17**	36/4	<1 min	PID= 0.0*				SC17 (87'- 90') WIDELY GRADED SAND WITH GRAVEL (SW); ~55% sand, fine to coarse, ~40% gravel, fine to coarse; ~5% silty fines, max. size 2", wet, gray, loose.	

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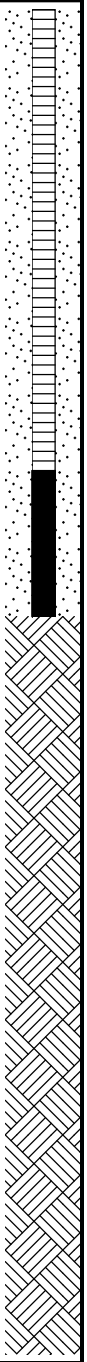
BORING LOG
PAGE 6 of 7
GPEC-SB102/MW-102D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	90	S9	24/6	13-19-10-10	PID= 0.0*				S9 (90'- 92') WIDELY GRADED SAND WITH GRAVEL (SW); ~55% sand, fine to coarse, ~40% gravel, fine to coarse; ~5% silty fines, max. size 2", wet, gray, loose.
-80		SC18**	36/36	<1 min	PID= 0.0* PID= 0.0* PID= 0.0*				SC18 (92'- 95') WIDELY GRADED SAND WITH GRAVEL (SW); ~55% sand, fine to coarse, ~40% gravel, fine to coarse; ~5% silty fines, max. size 4", wet, gray, fine sand layer at 5-6", loose.
	95	S10	24/8	7-13-18-19	PID= 0.0*				S10 (95'- 97') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% sand, fine to coarse, ~40% gravel, fine to coarse; ~10% silty fines, wet, gray, loose.
-85		SC19**	36/60	1 min	PID= 0.0* PID= 0.0* PID= 0.0* PID= 0.0*				SC19 (97'- 100') SANDY LEAN CLAY WITH GRAVEL (CL); layered, ~50% clayey fines, medium plasticity, ~35% sand, fine to coarse, ~15% gravel, fine to coarse, max. size 2", moist, gray, very stiff, hard, lignite. GARDINERS CLAY.
	100	S11	24/16	1-1-1-3	PID= 0.0* PID= 0.0*				S11 (100'- 102') CLAYEY SAND WITH GRAVEL (SC); ~65% sand, fine to coarse; ~20% clayey fines, ~15% gravel, fine to coarse, max. size 2", wet, gray, loose.
-90		SC20**	36/51	<1 min	PID= 0.0* PID= 0.0* PID= 0.0* PID= 0.0*				SC20 (102'- 105') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine, ~20% gravel, fine to coarse; layered, ~20% silty fines, low plasticity, max. size 4", moist, gray, lignite, glauconitic sands.
	105	S12	24/24	3-4-3-12	PID= 0.0* PID= 0.0* PID= 0.0*			Env. Sample ID= GPEC-SB102 (106-107) with duplicate	S12 (105'- 107') CLAYEY SAND WITH GRAVEL (SC); ~60% sand, fine to coarse; ~25% clayey fines, ~15% gravel, max. size 1", moist, gray brown, medium dense, lignite.

WELL DETAILS



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BORING LOG

GPEC-SB102/MW-102D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-95		SC21**	36/60	NM	PID= 0.0* Q_P= 4.5 S_V= 1.875 PID= 0.0* PID= 0.0* PID= 0.0* PID= 0.0*				SC21 (107'- 110') SANDY FAT CLAY WITH GRAVEL (CH); ~50% clayey fines, low to high plasticity, ~35% sand, fine, ~15% gravel, fine to coarse, and cobbles, max. size 5", moist to wet, green gray, layered sand and clay, hard. GARDINERS CLAY.	
	110	S13	24/0	14-7-9-9	PID= 0.0*				S13 (110'- 112') NO RECOVERY; gravel and sand wash.	
									End of Boring at 112 feet. Monitoring well installed upon completion. Screened 85'- 95'.	

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BORING LOG
PAGE 1 of 7
GPEC-SB103

GROUND SURFACE ELEVATION (FT): 10.68 **LOCATION:** Northeast of Accommodations Building, West of Mooring Bitt 8
NORTHING (FT): 687792 **EASTING (FT):** 651254 **TOTAL DEPTH (FT):** 120.0
DRILLED BY: Boart Longyear / Dell Cunningham **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, J. Morin, R. Marshall **DATE START / END:** 5/19/2010 - 5/21/2010
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): ▽ 10.00 5/19/2010 10:30 am ;
GENERAL NOTE: *PID readings are screened readings made at discreet locations over the soil sample.
GENERAL NOTE: **SPT sampled first, then SC over sampled through SPT zone and then virgin soil.

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
10	0	G1	96/96	NA						Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') NARROWLY GRADED GRAVEL (GP); on surface, 3/8" gravel base. G1B (0.5'- 4') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, ~10% fines; max. size 4", moist, brown, some cobbles. FILL.
5	5				PID= 0.0*				Env. Sample ID= GPEC-SB-103 (4-5)	G1C (4'- 6') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, ~5% fines; max. size 3", moist, yellow / buff, FILL. G1D (6'- 8') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, ~5% fines; max. size 3", moist, brown, wood planks at bottom of sample, likely bulkhead tie backs or decking. FILL.
0	10	SC1	24/0	NM						SC1 (8'- 10') NO RECOVERY.
		SC2	60/24	NM	PID= 0.0* PID= 0.3* PID= 0.7*					SC2 (10'- 15') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines; max. size 2", moist to wet, dark brown, no odor observed. FILL.
	15									

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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: 093260-1-1101

BORING LOG

GPEC-SB103

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-5	15	SC3	60/26	<1 min	PID= 0.0* "lamp error"					SC3 (15'- 20') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, ~10% fines; max. size 4", wet, dark brown, some cobbles, brick fragments, and concrete. Sheen. No odor observed.
-10	20	SC4	60/13	1 min	PID= 0.0* PID= 0.5*				(20') Drilling resistance; possible rip rap.	SC4 (20'- 25') WIDELY GRADED GRAVEL (GW); ~90% gravel, fine to coarse, ~10% sand, fine to coarse; max. size 4", saturated, gray black, some cobbles, pulverized riprap.
-15	25	SC5	60/13	1 min	PID= NM				(25') Drilling through rip rap; drilling time extended.	SC5 (25'- 30') WIDELY GRADED GRAVEL (GW); ~90% gravel, fine to coarse, ~10% sand, fine to coarse; max. size 4", saturated, gray black, some cobbles, pulverized riprap.
-20	30	SC6	60/8	2 min	PID= 2.8*					SC6 (30'- 35') WIDELY GRADED GRAVEL WITH SAND (GW); ~80% gravel, fine to coarse, ~20% sand, fine to coarse; max. size 4", wet to saturated, gray black, some cobbles, pulverized riprap. FORDHAM GNEISS.

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BORING LOG
PAGE 3 of 7
GPEC-SB103

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	35	SC7	60/39	<1 min	PID= 0.0*					SC7A (35'- 38.5') SILTY SAND (SM); ~75% sand and mica flakes, fine, ~20% silt, peat, and clay lenses, ~5% gravel, fine to coarse, moderate organic-like odor, wet to saturated, gray black, coarsening downward.
-25					PID= 0.3*			OLO		
					PID= 0.4*					
					PID= 0.0*					SC7B (38.5'- 40') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, ~10% fines, ~5% gravel, coarse; gray.
	40	SC8	60/45	<1 min	PID= 0.0*				(40') Drillers stop drilling to remove driller water from thimble and casings. 5.5" casing dropped below ground surface and was dug out.	SC8 (40'- 45') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine to medium, ~15% gravel, fine to coarse, ~10% fines; wet, gray brown, coarsening downward.
-30					PID= 0.6*					
					PID= 0.0*					
	45	SC9	60/40	<1 min						SC9A (45'- 49.1') NARROWLY GRADED SAND WITH GRAVEL (SP); ~50% sand, medium to coarse, ~50% gravel, fine to coarse, max. size 2", wet, gray brown.
-35					PID= 3.6*					
					PID= 3.7*					
					PID= 20.9*					SC9B (49.1'- 50') SILTY SAND (SM); ~80% sand, fine, ~20% fines; gray, sheen, coal tar blebs.
	50	SC10	60/54	1 min	PID= 33.6*					SC10 (50'- 55') SILTY SAND (SM); ~80% sand, fine to medium, ~15% fines, ~5% gravel, fine to coarse; max. size 3", slight tar-like odor, very moist, gray, blebs and globs.
-40					PID= 67.0*			TLO		

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BORING LOG
PAGE 4 of 7
GPEC-SB103

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
					PID= 76.5*					
					PID= 57.5*			TLO		
	55	SC11	60/35	<1 min	PID= 257*					SC11 (55'- 60') SILTY SAND (SM); ~80% sand, fine to medium, ~15% fines, ~5% gravel, fine to coarse; max. size 3", moderate tar-like odor, very moist, gray, blebs and globs, tar coated in top 2.7'.
-45					PID= 188*				Env. Sample ID= GPEC-SB-103 (56-57) with duplicate	
					PID= 13.4*			TLO		
	60	SC12	60/41	<1 min	PID= 0.0*					SC12 (60'- 65') NARROWLY GRADED SAND (SP); ~90% sand, medium to coarse, ~5% gravel, fine, ~5% fines; moist to wet, gray to black, mottled at base.
-50					PID= 1.4*					
					PID= 4.1*					
					PID= 7.8*					
	65	SC13	60/40	<1 min	PID= 3.8*					SC13 (65'- 70') NARROWLY GRADED SAND (SP); ~90% sand, medium to coarse, ~5% gravel, fine, ~5% fines; moist to wet, black - gray yellow.
-55					PID= 2.6*					
					PID= 1.4*					
					PID= 1.6*					
	70				PID= 203*					

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BORING LOG
PAGE 5 of 7
GPEC-SB103

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-60		SC14	60/50	<1 min	PID= 251* PID= 104* PID= 125* PID= 115*			TLO	(70') Core loose; reinstalled with catch valve. (70'- 80') SC14 and SC15 fall out of casing; drillers attempt to use new bit to pick up fall out from the bottom of hole, left bit in overnight to collect sample.	SC14 (70'- 75') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; max. size 2", slight tar-like odor, wet, gray, tar coated grains in top 1.2'.
	75	SC15	60/50	<1 min	PID= 228* PID= 173* PID= 69* PID= 44* PID= 49*					SC15 (75'- 80') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, ~10% fines, ~5% gravel, fine; moist, gray, loose - medium dense. No odor or staining observed.
-65										
-70	80	S1	24/0	8-7-8-23	PID= NA					S1 (80'- 82') NO RECOVERY.
		SC16**	36/36	2 min	PID= 0* PID= 0* PID= 0*				(82'- 85') SC16 falls out of casing, needs to be re-sampled.	SC16 (82'- 85') NARROWLY GRADED SAND (SP); ~90% sand, medium to coarse, ~5% gravel, fine to coarse, ~5% fines; max. size 1.5", moist to wet, gray, loose.
-75	85	S2	24/11	7-2-3-3	PID= 0.0* PID= 0.0*					S2 (85'- 87') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; max. size 2", moist to wet, gray.
		SC17**	36/25	<1 min	PID= 0.0*			OLO		SC17 (87'- 90') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, ~10% fines; max. size 3", slight organic-like odor, wet, brown - gray.

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BORING LOG
PAGE 6 of 7
GPEC-SB103

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
					PID= 0.0*			OLO		
	90	S3	24/9	11-11-11-10	PID= 0.0*					S3 (90'- 92') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, ~10% fines; wet, gray.
-80					PID= 0.0*					
		SC18**	36/42	<1 min	PID= 0.0*					SC18 (92'- 95') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% sand, fine to medium, ~20% gravel, fine to coarse, ~10% fines; max. size 4", moderate organic-like odor, very moist, gray to black, some cobbles.
					PID= 0.0*			OLO		
					PID= 0.0*					
	95	S4	24/17	19-20-37-60	PID= 0.0*					S4A (95'- 96.3') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine to medium, ~15% gravel, fine, ~10% fines; max. size 0.5".
-85					PID= 0.0*					S4B (96.3'- 97') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to medium, ~20% gravel, fine to coarse, ~15% fines; moist to wet, dark gray.
		SC19**	36/46	<1 min	PID= 0.0*					SC19 (97'- 100') SILTY SAND (SM); ~80% sand, fine to medium, ~15% fines, ~5% gravel, fine to coarse; max. size 3", moist to wet, gray.
					PID= 0.0*					
					PID= 1.0*					
					PID= 0.8*					
	100	S5	11/6	19-84/5"	PID= 0.0*					S5 (100'- 100.9') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine to medium, ~10% gravel, fine to coarse, ~10% fines; max. size 1", moist, gray.
-90					PID= 0.0*					
		SC20**	49/55	6 min	PID= 0.0*					SC20 (100.9'- 105') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine to medium, ~15% gravel, fine to coarse, ~10% fines; max. size 4", wet, gray, medium dense, some cobbles.
					PID= 0.0*					
					PID= 0.0*					
	105	S6	24/12	10-17-17-37	PID= 0*					S6 (105'- 107') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to medium, ~5% fines, non plastic; max. size 1", moist, brown gray.
-95					PID= 0*					
					PID= 0*					

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BORING LOG

GPEC-SB103

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		SC21**	36/44	2 min	PID= 0* PID= 0* PID= 0.0*					SC21 (107'- 110') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to medium, ~5% fines; max. size 1", moist, black gray, low to medium dense.
	110	S7	24/4	9-27-19-24	PID= 0.0* PID= 0.0*					S7 (110'- 112') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to medium, ~5% fines; max. size 1", moist, black gray.
-100		SC22**	36/51	NM	PID= 0.0* PID= 0.0* PID= 0.0*					SC22A (112'- 112.9') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~35% fines, non plastic, ~15% gravel, fine to medium; max. size 1.5", gray with black and red. SC22B (112.9'- 114.2') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to medium, ~15% fines, non plastic; max. size 1", gray brown, lenses of clayey fines. SC22C (114.2'- 115') LEAN CLAY WITH GRAVEL (CL); ~85% fines, medium plasticity, slow dilatancy, medium toughness, ~15% gravel, fine to medium; max. size 1", gray with black lenses.
	115	S8	10/9	2-100/4"	PID= 0.0* PID= 0.0*					S8 (115'- 115.8') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine, ~10% fines; very moist, gray brown.
-105		SC23**	50/57	NM	PID= 0.0* PID= 0.0* PID= 0.0*				Env. Sample ID= GPEC-SB103 (119-120)	SC23A (115.8'- 117.1') LEAN CLAY WITH GRAVEL (CL); medium plasticity, slow dilatancy, medium toughness, ~70% sand, ~30% gravel, fine to medium; max. size 3", gray. SC23B (117.1'- 118.1') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, mostly fine to medium, ~15% gravel, fine to coarse, ~10% fines, non plastic; max. size 3", gray - brown. SC23C (118.1'- 120') LEAN CLAY WITH GRAVEL (CL); medium plasticity, slow dilatancy, medium toughness, ~70% sand, ~30% gravel, fine to medium; max. size 3", gray, one large cobble (5"). GARDINER'S CLAY.
	120									End of Boring at 120 feet. Borehole grouted upon completion.

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BORING LOG
PAGE 1 of 1
GPEC-SB103A/MW-103

GROUND SURFACE ELEVATION (FT): _____ **LOCATION:** Northeast of Accommodations Building, West of Mooring Bitt 8
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 65.0
DRILLED BY: Boart Longyear / Dell Cunningham **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 6/22/2010 - 6/22/2010
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: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0							Straight drill to 50'.	
	50	SC1	60/46			TLO	(45') Driller and M. Sweet notice coal tar odor.	SC1 (50'- 55') NARROWLY GRADED SAND WITH GRAVEL (SP); slight tar-like odor, moist, gray.	
	55	SC2	60/31			TLO		SC2 (55'- 60') NARROWLY GRADED SAND WITH GRAVEL (SP); moderate tar-like odor, moist, gray, tar saturated lenses.	
	65							End of Boring at 65 feet. Offset from GPEC-SB103. Monitoring well installed. Screened 50'- 60'.	

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PAGE 1 of 6
GPEC-SB104

GROUND SURFACE ELEVATION (FT): 11.66
LOCATION: East of Accommodations Building, West of Mooring Bitt 10
NORTHING (FT): 687953 **EASTING (FT):** 651193
TOTAL DEPTH (FT): 107.0
DRILLED BY: Boart Longyear / Dell Cunningham
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, J. Morin, R. Marshall
DATE START / END: 5/25/2010 - 5/27/2010
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.
GENERAL NOTE: **SPT sampled first, then SC over sampled through SPT zone and then virgin soil.

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96		PID= 0.0*			Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') NARROWLY GRADED GRAVEL (GP); 3/8" crushed gravel and filter fabric. G1B (0.5'- 3') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~55% sand, fine to coarse, ~35% gravel, fine to coarse, ~10% fines; max. size 10", moist, dark brown, some debris. No odor or staining observed. FILL.
10					PID= 0.0*			
					PID= 0.0*			G1C (3'- 6') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, ~10% fines; max. size 3", moist, dark brown, some debris. No odor observed. FILL.
	5						Env. Sample ID= GPEC-SB-104 (4-5)	
					PID= 0.0*			G1D (6'- 8') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, ~10% fines; max. size 12", moist, dark brown, some cobbles and debris. No odor observed. FILL.
5					PID= 0.0*			
		SC1	84/36	2 min	PID= 0.0*			SC1 (8'- 15') SILTY SAND WITH GRAVEL (SM); ~65% fines, ~20% gravel, fine to coarse, rounded, ~15% sand, fine to coarse; moist to wet, orange brown to dark brown, first 3' of sample (5'-8') resampled on hand cleared area. FILL.
	10							
0								
	15							

NOTES:

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OLO = ORGANIC LIKE ODOR
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MLO = MUSTY LIKE ODOR
SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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: 093260-1-1101

BORING LOG

GPEC-SB104

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
		SC2	120/22	2 min	PID= 0.0* PID= 0.0*			SC2 (15'- 20') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse; ~30% gravel , fine to coarse, and cobbles, ~15% fines, max. size 4", wet, dark brown, riprap at 18'. FILL.
-5							(17'- 20') Some resistance.	
	20							SC2 (20'- 25') NO RECOVERY.
-10								
	25	SC3	60/14	2 min	PID= 0.5* PID= 0.7*		(25'- 30') Resistance and grinding throughout sampling.	SC3 (25'- 30') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, ~10% fines; max. size 3", wet, dark brown, FILL.
-15								
	30	SC4	60/55	2 min	PID= 8.0* PID= 85.6* PID= 11.3* PID= 24.0*		(30'- 35') Resistance and grinding throughout sampling. Env. Sample ID= GPEC-SB-104 (32.5-33)	SC4A (30'- 33') SILTY GRAVEL WITH SAND (GM); ~50% gravel, fine to coarse, ~25% sand, fine to coarse, ~25% fines; max. size 3", wet, pulverized riprap, Manhattan Schist. SC4B (33'- 35') PEAT (PT); ~35% organics, ~30% clayey fines, medium plasticity, ~30% sand, fine, very moist, brown, soft.
-20								

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GPEC-SB104

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
					PID= 3.0*			
	35	SC5	60/38	1 min	PID= 0.0*			SC5A (35'- 35.6') SILTY SAND (SM); ~65% sand, fine to coarse, ~15% fines, ~10% gravel, fine to coarse; ~10% organics, dark brown, FILL.
					PID= 0.0*			SC5B (35.6'- 40') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, medium, ~10% fines; gray green.
-25					PID= 0.0*			
	40	SC6	60/35	1 min	PID= 0.0*			SC6 (40'- 45') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium; ~5% silty fines, very moist, gray black.
					PID= 0.0*			
-30					PID= 0.0*			
					PID= 0.0*			
	45	SC7	60/44	<1 min	PID= 0.0*			SC7 (45'- 50') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium; ~5% silty fines, very moist, gray black.
					PID= 0.0*			
-35					PID= 0.0*			
					PID= 0.0*			
	50	SC8	60/39	<1 min	PID= 0.0*			SC8 (50'- 55') NARROWLY GRADED SAND (SP); non plastic, ~95% sand, fine to medium; ~5% silty fines, moist, gray, gravel and silt lenses in bottom 14" of sample with two large cobbles (4").
					PID= 0.0*			
-40								

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GPEC-SB104

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					PID= 0.0*			
					PID= 0.0*			
	55	SC9	60/48	1 min	PID= 0.0*			SC9 (55'- 60') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; moist, gray.
					PID= 0.0*			
-45					PID= 0.0*			
					PID= 0.0*			
	60	SC10	60/48	1 min	PID= 0.0*			SC10 (60'- 65') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; moist, gray.
					PID= 0.0*			
-50					PID= 0.0*			
					PID= 0.0*			
	65	SC11	60/47	<1 min	PID= 0.0*			SC11 (65'- 70') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; moist, gray.
					PID= 0.0*			
-55					PID= 0.0*			
					PID= 0.0*			
	70	SC12	60/41	<1 min	PID= 0.0*			SC12A (70'- 72.8') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, ~10% fines; gray.

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BORING LOG
PAGE 5 of 6
GPEC-SB104

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
					PID= 0.0*			
-60					PID= 0.0*			
					PID= 0.0*			SC12B (72.8'- 75') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, rounded, ~10% fines; max. size 1", moist, black gray.
	75	S1	24/11	3-4-3-3	PID= 0.0*			S1 (75'- 77') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, rounded, ~10% fines; max. size 1", moist, black gray.
-65					PID= 0.0*			
		SC13**	36/44	<1 min	PID= 0.0*			SC13 (77'- 80') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, non plastic, ~5% gravel, fine to coarse; max. size 3", moist, gray, silt content increases with depth.
					PID= 0.0*			
					PID= 0.0*			
	80	S2	24/1	2-2-2-10	PID= 0.0*			S2 (80'- 82') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, non plastic, ~5% gravel, fine to coarse; max. size 3", moist, gray, silt content increases with depth.
-70		SC14**	36/16	<1 min	PID= 0.0*			SC14 (82'- 85') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines, non plastic; max. size 0.5", wet, gray.
					PID= 0.0*			
	85	S3	24/10	2-2-12-15	PID= 0.0*			S3 (85'- 87') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine, ~10% fines; max. size 0.5", moist, gray.
-75					PID= 0.0*			
		SC15**	36/47	1 min	PID= 0.0*			SC15 (87'- 90') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, ~10% fines; max. size 3", wet, gray.
					PID= 0.0*			

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BORING LOG
PAGE 6 of 6
GPEC-SB104

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	90	S4	24/19	2-11-6-6	PID= 0.0* PID= 0.0*			S4 (90'- 92') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to coarse, ~20% gravel, fine to coarse, ~15% fines; max. size 1.5", wet, gray.
-80		SC16**	36/43	5 min	PID= 0.0* PID= 0.0* PID= 0.0* PID= 0.0*			SC16 (92'- 95') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to coarse, ~20% gravel, fine to coarse, ~15% fines; max. size 1.5", wet, gray, medium dense.
	95	S5	24/22	6-9-12-21	PID= 0.0* PID= 0.0*			S5 (95'- 97') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% gravel, fine to coarse, ~15% fines; max. size 1.5", wet, gray.
-85		SC17**	36/42	5 min	PID= 0.0* PID= 0.2* PID= 0.1* PID= 0.1*		(98') Drilling resistance, cobbles present.	SC17 (97'- 100') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~25% gravel, fine to coarse, ~20% fines; wet, gray, increasing silt content.
	100	S6	24/6	8-14-26-28	PID= 0.0* PID= 0.3*			S6 (100'- 102') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~25% gravel, fine to coarse, ~20% fines; wet, gray, increasing silt content.
-90		SC18**	36/60	2 min	PID= 9.3* Q_P= 4.5 S_V= 1.5 PID= 11.3* PID= 18.0* PID= 11.5*		Env. Sample ID= GPEC-SB-104 (103-105)	SC18 (102'- 105') GRAVELLY FAT CLAY WITH SAND (CH); ~65% fines, ~20% gravel, fine to coarse, ~15% sand, fine to coarse; gray green black, glauconitic sand, lignite. GARDINER'S CLAY.
	105	S7	24/0	1-1-1-1	PID= NA		(105'- 107') Split spoon failed, slough in casing captued SPT, successfully overdrilled and removed spoon. S7: Blow counts not accurate.	S7 (105'- 107') NO RECOVERY.
-95								End of Boring at 107 feet. Borehole grouted upon completion.

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BORING LOG
PAGE 1 of 6
GPEC-SB105/MW-02D

GROUND SURFACE ELEVATION (FT): 11.62 **LOCATION:** Southeast of LNG Dock House, Between Mooring Bitts 12 &13
NORTHING (FT): 688041 **EASTING (FT):** 651161 **TOTAL DEPTH (FT):** 105.0
DRILLED BY: Boart Longyear / Dell Cunningham **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K. Kucher, R. Marshall **DATE START / END:** 6/2/2010 - 6/3/2010
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.
GENERAL NOTE: **SPT sampled first, then SC over sampled through SPT zone and then virgin soil.

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0	G1	96/96		PID= 0.0*				Env. Sample ID= GPEC-SB-105 (4-5)	Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') ASPHALT and 3/8" base. G1B (0.5'- 1') CONCRETE slab. G1C (1'- 6') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, ~10% fines; moist, brown, some cobbles, brick, and concrete. FILL.	
5	5									G1D (6'- 8') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, ~10% fines; moist to wet, brown, some cobbles, brick, and concrete. Wet at 7'. Cobble at 7.5'. FILL.	
	10	SC1	24/0	1 min	PID= NA					SC1 (8'- 10') NO RECOVERY.	
0		SC2	60/7	1 min	PID= 0.0*					SC2 (10'- 15') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~35% gravel, fine to coarse, ~15% fines; wet, brown, loose. FILL.	
	15										

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BORING LOG
PAGE 2 of 6
GPEC-SB105/MW-02D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15	SC3	60/12	1 min	PID= 2.1*			TLO		SC3 (15'- 20') SILTY SAND (SM); ~80% sand, fine to coarse, ~15% fines, ~5% gravel, fine to coarse; slight tar-like odor, wet, brown, tar blebs and globs. FILL.	
-5											
	20	SC4	60/41	1 min	PID= 0.0* PID= 0.0* PID= 0.0* PID= 0.0*			TLO		SC4A (20'- 23.5') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines; slight tar-like odor, slight sulfur-like odor, wet, brown, FILL. SC4B (23.5'- 25') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~65% gravel, fine to coarse, crushed, ~25% sand, fine to coarse, ~10% fines; wet, brownish gray, RIPRAP.	
-10											
	25	SC5	60/0	2 min	PID= NA					SC5 (25'- 30') NO RECOVERY. RIPRAP.	
-15											
	30	SC6	60/33	10 min	PID= 25.8* PID= 48.0*			TLO	(31') Difficult drilling on cobble.	SC6 (30'- 35') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, ~35% sand, fine to medium, ~5% fines; moderate tar-like odor, wet, gray, pulverized riprap.	
-20											

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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093260-1-1101

BORING LOG

GPEC-SB105/MW-02D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
					PID= 61.4*			TLO			
	35	SC7	60/10	2 min	PID= 267* PID= 220*				Difficult drilling through rip rap.	SC7 (35'- 40') SILTY SAND WITH GRAVEL (SM); ~45% sand, fine to coarse; ~25% gravel, coarse, and riprap, ~15% timber, ~15% fines, strong tar-like odor, strong creosote-like odor, very moist, tan to black.	
-25								TLO			
	40	SC8	60/0	1 min	PID= NA				Env. Sample ID= GPEC-SB-105 (39-40) with duplicate	SC8 (40'- 45') NO RECOVERY.	
-30											
	45	SC9	60/9	1 min	PID= 0.0*					SC9 (45'- 50') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine to medium, ~10% gravel, fine, ~10% fines; wet, gray brown.	
-35											
	50	SC10	60/40	1 min	PID= 0.0* PID= 0.0*					SC10 (50'- 55') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; wet, gray.	
-40											

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

GEI Consultants

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

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PAGE 4 of 6

GPEC-SB105/MW-02D

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					PID= 0.0*						
					PID= 0.0*						
	55	SC11	60/18	1 min	PID= 2.0*					SC11 (55'- 60') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, ~10% fines; max. size 3", wet, gray brown, layered silty fines and gravel.	
-45					PID= 1.8*						
	60	SC12	60/0	1 min	PID= NA					SC12 (60'- 65') NO RECOVERY.	
-50											
	65	SC13	60/0	1 min	PID= NA					SC13 (65'- 70') NO RECOVERY.	
-55											
	70				PID= 0.0*						

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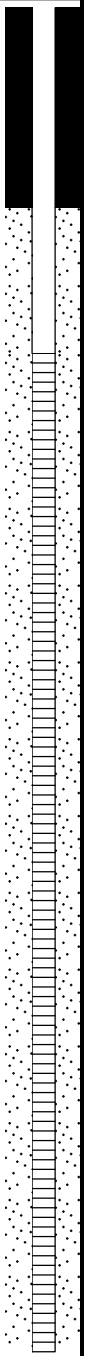
BORING LOG
PAGE 5 of 6
GPEC-SB105/MW-02D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-60		SC14	60/42	1 min	PID= 3.0* PID= 46.0* PID= 58.0*			TLO		SC14 (70'- 75') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; max. size 3", moderate tar-like odor, wet, gray to black at base. Staining and odor in bottom 1' of sample.
	75	S1	24/1	4-7-4-4	PID= 0.0*			TLO		S1 (75'- 80') NO RECOVERY; fine to coarse gravel wash in spoon, max. size 1".
-65		SC15**	36/18	1 min	PID= 100* PID= 168*			TLO	Env. Sample ID= GPEC-SB-105 (79-80)	SC15 (77'- 80') WIDELY GRADED SAND WITH GRAVEL (SW); ~50% sand, fine to coarse, ~45% gravel, fine to coarse, ~5% fines; max. size 3", moderate tar-like odor, wet, gray brown, tar saturated and tar coated grains.
	80	S2	24/1	1-5-5-8	PID= NM					SC2 (80'- 82') NO RECOVERY; fine to coarse gravel wash in spoon, max. size 1".
-70		SC16**	36/38	NM	PID= 0.6* PID= 0.2* PID= 0.0*					SC16 (82'- 85') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, ~5% fines; wet, gray.
	85	S3	24/0	20-18-12-9	PID= NA					S3 (85'- 87') NO RECOVERY.
-75		SC17**	36/38	NM	PID= 26.1* PID= 71.1*				Env. Sample ID= GPEC-SB-105 (88-89)	SC17A (87'- 88.7') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, ~5% fines; max. size 1", wet, gray.

WELL DETAILS



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PAGE 6 of 6
GPEC-SB105/MW-02D

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					PID= 13.5*					SC17B (88.7'- 90') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% fines, ~65% sand, fine to medium, ~25% gravel; max. size 2.5", tar saturated 22-29".	
	90	S4	24/0	14-21-14-20	PID= NA					S4 (90'- 92') NO RECOVERY.	
-80		SC18**	36/44	NM	PID= 0.0*					SC18A (92'- 93.6') SANDY SILT WITH GRAVEL (ML); ~50% fines, low plasticity, ~30% sand, fine to coarse, ~20% gravel, subrounded; max. size 2", wet, gray, stiff to hard.	
					PID= 0.0* Q_P= >4.5 S_V= >2.5					SC18B (93.6'- 95') SANDY FAT CLAY (CH); ~50% fines, medium plasticity, ~30% sand, fine to coarse, ~20% gravel; wet, gray.	
	95	S5	24/4	17-22-26-24	PID= NM					S5 (95'- 97') SANDY CLAY WITH GRAVEL (CL); ~50% fines, ~40% sand, fine to coarse, ~10% gravel, fine; gray.	
-85		SC19**	36/35	1 min	PID= 0.0*					S19 (97'- 100') WIDELY GRADED SAND WITH CLAY AND GRAVEL (SW-SC); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, ~10% fines; layered, max. size 2", wet, gray.	
					PID= 0.0*						
					PID= 0.0*						
	100	S6	24/20	12-27-54-58	PID= 0.0*					S6 (100'- 102') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, ~10% fines; max. size 1", moist, orange gray.	
-90					PID= 0.0*						
		SC20**	36/53	1 min	PID= 0.0* Q_P= >4.5 S_V= 1.75				Env. Sample ID= GPEC-SB-105 (103-105)	S20 (102'- 105') SANDY FAT CLAY WITH GRAVEL (CH); ~60% clayey and silty layers, low to high plasticity, ~25% sand, fine to coarse, ~15% gravel, fine to coarse, max. size 3", moist, GARDINER'S CLAY.	
					PID= 0.0*						
					PID= 0.0*						
					PID= 0.0*						
	105									End of Boring at 105 feet. Monitoring well installed upon completion. Screened 75'- 90'.	

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BORING LOG
PAGE 1 of 6
GPEC-SB106/MW-03WT

GROUND SURFACE ELEVATION (FT): 9.95 **LOCATION:** West of Mooring Bitt 16, South of Fence
NORTHING (FT): 688297 **EASTING (FT):** 651075 **TOTAL DEPTH (FT):** 107.0
DRILLED BY: Boart Longyear / Dell Cunningham **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, J. Morin, K. Kucher **DATE START / END:** 6/7/2010 - 6/9/2010
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.
GENERAL NOTE: **SPT sampled first, then SC over sampled through SPT zone and then virgin soil.

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	0	G1	96/96		PID= 0.0*				Env. Sample ID= GPEC-SB-106 (4-5)	Note: 0'- 8': HAND CLEARED. G1A (0'- 1') NARROWLY GRADED GRAVEL (GP); 1/4" gravel base. G1B (1'- 3') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); fine to coarse, ~60% sand, fine to coarse; ~30% gravel and cobbles, ~10% fines, max. size 10", dark brown, FILL. G1C (3'- 6') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% sand, medium, ~20% gravel, fine to coarse, ~10% fines; max. size 3", moist, orange brown, FILL. G1D (6'- 8') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% sand, medium, ~20% gravel, fine to coarse, ~10% fines; max. size 6", wet, orange brown, groundwater at 7'. Rocks and cobbles at 7.5'. FILL.	
5	5										
		SC1	24/0							SC1 (8'- 10') NO RECOVERY.	
0	10	SC2	60/30	1 min	PID= 0.0* PID= 0.0* PID= 0.0*					SC2 (10'- 15') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, ~15% fines; wet, brown to dark brown.	
-5	15										

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		SC3	60/39	2 min	PID= 0.0*				(15'- 20') Some coring resistance.	SC3A (15'- 17') SILTY SAND WITH GRAVEL (SM); ~70% sand, ~15% gravel, ~15% fines; wet, brown to dark brown.	
					PID= 0.4*					SC3B (17'- 20') SILTY GRAVEL (GM); ~70% gravel, ~15% sand, fine to coarse, ~15% fines; wet, brown to dark brown, pulverized riprap.	
					PID= 0.2*						
-10	20	SC4	60/10	5 min	PID= 0.0*			TLO	(20'- 30') Drilling resistance.	SC4 (20'- 25') SILTY SAND (SM); ~85% sand, fine to coarse, ~15% fines; moderate tar-like odor, wet, riprap.	
-15	25	SC5	60/60		PID= 0.0*					SC5 (25'- 30') SILTY GRAVEL (GM); ~70% gravel and cobbles, ~15% sand, fine to coarse, ~15% silty fines, max. size 4", slight tar-like odor, wet, gray, pulverized riprap.	
					PID= 2.0*						
					PID= 1.9*			TLO			
					PID= 5.0*						
-20	30	SC6	60/39	5 min	PID= NM				(30') Drilling resistance.	SC6 (30'- 35') CLAYEY GRAVEL (GC); ~70% gravel, ~15% sand, fine to coarse, ~15% fines; moderate tar-like odor, black - brown, sheen and staining.	
								TLO			

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								TLO			
-25	35	SC7	60/51	3 min	PID= NM					SC7A (35'- 37') SANDY SILT (ML); ~50% sand, fine, ~50% fines, low plasticity; wet, black tan.	
										SC7B (36.8'- 40') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine to medium, ~10% gravel; ~10% silty fines, max. size 1", moist, black to orange.	
-30	40	SC8	60/46	1 min	PID= 0.0*					SC8 (40'- 45') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine to medium, ~10% gravel; ~10% silty fines, max. size 1", moist, black to orange.	
					PID= 0.0*						
					PID= 0.0*						
					PID= 0.0*						
-35	45	SC9	60/38	1 min	PID= 0.0*					SC9 (45'- 50') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse; ~10% silty fines, max. size 2", moist, brown.	
					PID= 0.0*						
					PID= 0.0*						
-40	50	SC10	60/50	1 min	PID= 0.0*					SC10 (50'- 55') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine; ~5% silty fines, moist, brown tan.	
					PID= 0.0*						

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					PID= 0.0*						
					PID= 0.0*						
-45	55	SC11	60/46	1 min	PID= 0.0*					SC11 (55'- 60') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel; ~10% silty fines, max. size 2", moist, orange brown.	
					PID= 0.0*						
					PID= 0.0*						
					PID= 0.0*						
					PID= 0.0*						
-50	60	SC12	60/39	1 min	PID= 0.0*				Core 60'- 70'.	SC12 (60'- 65') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, medium to coarse, ~20% gravel, fine to coarse; ~5% silty fines, max. size 2", moist, orange brown.	
					PID= 0.0*						
					PID= 0.0*						
					PID= 0.0*						
-55	65	SC13	60/44	1 min	PID= 0.0*					SC13 (65'- 70') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse; ~10% silty fines, max. size 3", moist, orange brown, loose, fining downward.	
					PID= 0.0*						
					PID= 0.0*						
					PID= 0.0*						
-60	70	SC14	60/28		PID= 0.0*					SC14 (70'- 75') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to	

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					PID= 0.0*					coarse, ~25% gravel, fine to coarse; ~5% silty fines, max. size 3", wet, brown.	
-65	75	S1	24/0	8-6-5-6	PID= NA					S1 (75'- 77') NO RECOVERY; fine to coarse gravel wash.	
		SC15**	36/25	1 min	PID= 0.0* PID= 0.0*					S15 (77'- 80') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, ~5% fines; max. size 3", wet, brown.	
-70	80	S2	24/9	3-9-9-9	PID= 0.0*					S2 (80'- 82') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, ~5% fines; max. size 3", wet, brown.	
		SC16**	36/48	1 min	PID= 0.0* PID= 0.0* PID= 0.0*					S16 (82'- 85') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, fine to medium, ~15% gravel, fine; moist, brown.	
-75	85	S3	24/3	10-13-11-13	PID= NM					S3 (85'- 87') SILTY SAND (SM); ~85% sand, fine to medium, ~15% fines; wet, brown.	
		SC17**	36/42	1 min	PID= 0.0* PID= 0.4* PID= 0.6*					S17 (87'- 90') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; moist to wet, light brown.	

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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: 093260-1-1101

BORING LOG
PAGE 6 of 6
GPEC-SB106/MW-03WT

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-80	90	S4	24/11	5-8-6-7	PID= 0.0* PID= 0.0*					S4 (90'- 92') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; wet, light brown.	
		SC18**	36/41	<1 min	PID= 13.3 PID= 1.9			PLO		S18A (92'- 93.8') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; slight petroleum-like odor, wet, light brown, interbedded clay layer. S18B (93.8'- 95') SILTY SAND (SM); ~75% sand, fine to medium, ~20% fines, ~5% gravel; max. size 3", wet, brown.	
-85	95	S5	24/13	4-5-5-10	PID= 0.0* PID= 0.0*					S5 (95'- 97') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine to medium, ~15% gravel, fine to coarse, ~10% fines; ~10% silty fines, non plastic, max. size 2", moist, brown , gray.	
		SC19**	36/36	<1 min	PID= 11.2			PLO		SC19 (97'- 100') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, ~10% fines; slight petroleum-like odor, wet, brown, interbedded silt layers.	
-90	100	S6	24/15	13-20-24-32	PID= 0.4* PID= 6.0*			PLO		S6 (100'- 102') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, ~10% fines; slight petroleum-like odor, wet, brown, interbedded silt layers.	
		SC20**	36/56	1 min	PID= 102* PID= 138* PID= 347* Q_p= 4.5 S_V= 1.5 PID= 5.4*				Env. Sample ID= GPEC-SB106 (102-103) Env. Sample ID= GPEC-SB106 (104-105)	SC20A (102'- 103.4') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, ~10% fines; max. size 3", tar coated grains throughout. SC20B (103.4'- 105') FAT CLAY WITH GRAVEL (CH); ~85% fines, ~15% gravel; max. size 1", gray.	
-95	105	S7**	24/8	7-14-20-29	PID= 0.0* PID= 0.0*					S7 (105'- 107') FAT CLAY WITH GRAVEL (CH); ~85% fines, ~15% gravel; max. size 1", gray.	
										End of Boring at 107 feet. Monitoring well installed upon completion. Screened 3'- 13'.	

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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: 093260-1-1101

BORING LOG
PAGE 1 of 6
GPEC-SB107/MW-11D

GROUND SURFACE ELEVATION (FT): 17.16 **LOCATION:** South of LNG Tank 2 Area
NORTHING (FT): 687995 **EASTING (FT):** 650043 **TOTAL DEPTH (FT):** 100.0
DRILLED BY: Boart Longyear / Dell Cunningham **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: J. Morin, K. Kucher **DATE START / END:** 6/9/2010 - 6/10/2010
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.
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	G1	96/NM					Note: 0'- 8': HAND CLEARED. G1A (0'- 1') NARROWLY GRADED GRAVEL (GP); 0.5" gravel base. G1B (1'- 2') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, ~10% fines; max. size 2", brown, some debris. FILL. G1C (2'- 8') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, ~5% fines; gray brown, some debris. Cannot extract the soil below 7'. FILL.	
15									
	5						Env. Sample ID= GPEC-SB107 (4-5)		
10		SC1	24/0	1 min	PID= NA			SC1 (8'- 10') NO RECOVERY.	
	10	SC2	60/52	1 min	PID= 0.0*			SC2A (10'- 11.1') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~20% gravel, ~20% fines; max. size 1", moist, dark gray.	
					PID= 0.1*			SC2B (11.1'- 13.8') SANDY SILT (ML); ~70% fines, ~30% sand, fine; moist, gray.	
5					PID= 0.2*				
					PID= 0.0*			SC2C (13.8'- 15') PEAT (PT); brown, highly fibrous.	
	15								

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT 7/6/11

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BORING LOG

GPEC-SB107/MW-11D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15	SC3	60/42	1 min	PID= 0.0*		Env. Sample ID= GPEC-SB107 MW 11D (15-16)	SC3A (15'- 16.1') SANDY SILT (ML); ~65% fines, ~35% sand, fine; wet, light brown.	
					PID= 0.0*			SC3B (16.1'- 20') SILTY SAND (SM); ~75% sand, fine, ~25% fines; moist, gray to dark gray.	
0					PID= 0.0*				
					PID= 0.0*				
	20	SC4	60/43	1 min	PID= 0.0*			SC4 (20'- 25') SILTY SAND (SM); ~80% sand, fine to medium, ~15% fines, ~5% gravel, fine; wet, dark gray.	
					PID= 0.0*				
-5					PID= 0.0*				
					PID= 0.0*				
	25	SC5	60/42	1 min	PID= 0.0*			SC5 (25'- 30') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, ~15% fines; max. size 4", moist, gray.	
					PID= 0.0*				
-10					PID= 0.0*				
					PID= 0.0*				
	30	SC6	60/43	1 min	PID= 0.0*			SC6 (30'- 35') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, ~5% fines; max. size 3", moist, gray - brown.	
					PID= 0.0*				
-15					PID= 0.0*				

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG

GPEC-SB107/MW-11D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
					PID= 0.1*				
	35	SC7	60/34	1 min	PID= 0.0*			SC7 (35'- 40') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, ~5% fines; max. size 3", moist, black / dark gray, silt layer 13-15".	
					PID= 0.1*				
-20					PID= 0.1*				
					PID= 0.0*				
	40	SC8	60/45	1 min	PID= 0.3*			SC8 (40'- 45') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, ~5% fines; max. size 3", moist, gray.	
					PID= 0.3*				
-25					PID= 0.5*				
					PID= 0.5*				
	45	SC9	60/39	1 min	PID= 1.1*			SC9 (45'- 50') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, ~5% fines; max. size 3", moist, gray.	
					PID= 0.8*				
-30					PID= 1.7*				
					PID= 3.2*				
	50	SC10	60/41	1 min	PID= NM			SC10A (50'- 52.3') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, ~5% fines; max. size 3", moist, gray.	

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BORING LOG

GPEC-SB107/MW-11D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-35								SC10B (52.3'- 55') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% fines, ~15% gravel; max. size 3", wet, brown.	
	55	SC11	60/39	<1 min	PID= NM			SC11 (55'- 60') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% fines, ~15% gravel; max. size 3", wet, brown.	
-40									
	60	SC12	60/29		PID= 0.0*			SC12A (60'- 63.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, ~5% fines; max. size 3", wet, brown.	
-45					PID= 0.0*				
					PID= 0.0*			SC12B (63.3'- 65') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine, ~20% gravel, ~20% fines.	
	65	SC13	60/42	NM	PID= 0.0*			SC13A (65'- 68.7') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine, ~25% fines, ~15% gravel, fine; wet, brown.	
					PID= 0.0*				
-50					PID= 0.0*				
					PID= 0.0*			SC13B (68.7'- 70') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, ~5% fines; max. size 3", wet, brown.	
	70				PID= NM				

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI.DATA TEMPLATE.GDT 7/6/11

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455 Winding Brook Road
Glastonbury, CT 06033
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BORING LOG

GPEC-SB107/MW-11D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
		SC14	60/47	<1 min				SC14 (70'- 75') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, ~5% fines; max. size 1", moist, brown.	
-55	75	SC15	60/46	<1 min	PID= 0.0* PID= 0.0* PID= 0.0*			SC15 (75'- 80') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~35% gravel, ~5% fines; max. size 2", moist, brown.	
-60	80	SC16	60/43	<1 min	PID= 0.5* PID= 0.5* PID= 9.2* PID= 0.0*			SC16 (80'- 85') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines; wet, brown.	
-65	85	SC17	60/52	<1 min	PID= 0.0* Q_P= 1.25 S_V= 0.8 PID= 0.0* PID= 0.0*			SC17A (85'- 85.9') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines; wet, brown. SC17B (85.9'- 90') SANDY LEAN CLAY (CL); ~60% fines, ~35% sand, fine, ~5% gravel; wet, light brown.	
-70									

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG

PAGE 6 of 6

GPEC-SB107/MW-11D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
					PID= 0.0*				
	90	SC18	60/47	<1 min	PID= 0.0*		Env. Sample ID= GPEC-SB107/ MW11D (90-91)	SC18A (90'- 91.6') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines; wet, brown.	
-75					PID= 0.0* Q_P= 4.0 S_V= 0.9			SC18B (91.6'- 95') FAT CLAY WITH SAND (CH); ~80% fines, ~20% sand, fine.	
					PID= 0.0*				
	95	SC19	60/66	<1 min	PID= 0.0* Q_P= 2.5 S_V= 0.5			SC19 (95'- 100') FAT CLAY WITH SAND (CH); ~80% fines, ~20% sand, fine.	
-80					PID= 0.0*				
					PID= 0.0*				
	100							End of Boring at 100 feet. Monitoring well installed upon completion. Screened 80'-90'.	

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BORING LOG
PAGE 1 of 1
GPEC-SB108/MW-101I (SB-101C)

GROUND SURFACE ELEVATION (FT): 16.06 **LOCATION:** Southeast of the Stores Building, Northeast of the Transportation Building
NORTHING (FT): 687714 **EASTING (FT):** 650838 **TOTAL DEPTH (FT):** 85.0
DRILLED BY: Boart Longyear / Dell Cunningham **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 6/18/2010 - 6/18/2010
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: Boring ID during utility clearance: GPEC-SB101C
GENERAL NOTE: *PID readings are screened readings made at discreet locations over the soil sample.

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
15	0	G1	96/96	PID= 0.0*			Note: 0'- 8': HAND CLEARED.	
10	5			PID= 0.0*		Env. Sample ID= GPEC-SB-101C (4-5)	G1A (0'- 0.5') ASPHALT.	
5	10						G1B (0.5'- 1.5') NARROWLY GRADED GRAVEL WITH SAND (GP); ~80% gravel, coarse, ~20% sand, fine to coarse; max. size 6", gray brown, FILL.	
0	15						G1C (1.5'- 4') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, rounded, ~10% fines; max. size 2", dark brown, FILL.	
-5	20						G1D (4'- 6') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% gravel, fine to coarse, rounded, ~15% fines; moist, dark brown, FILL.	
-10	25						G1E (6'- 8') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~50% gravel, fine to coarse, ~40% sand, fine to coarse, ~10% fines; max. size 8", moist, brown, some cobbles. FILL.	
-15	30						Straight drill to 75' due to proximity to GPEC-SB101A/ GPEC-MW-101D.	
-20	35						Core through concrete foundation from 8.5'-10'.	
-25	40							
-30	45							
-35	50							
-40	55							
-45	60							
-50	65					(65'- 75') Slow drilling; possibly a cobble in sonic casing.		
-55	70							
-60	75	SC1	60/23	PID= 0.0*			SC1 (75'- 80') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to coarse; ~30% clayey fines, ~15% gravel, fine to coarse, wet, gray, stiff.	
-65	80	SC2	60/48	PID= 0.0*			SC2 (80'- 85') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~25% gravel, fine to coarse; ~25% silty fines, wet, gray.	
	85						End of Boring at 85 feet.	
							Monitoring well installed upon completion. Screened 65'- 75'.	

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
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NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI.DATA TEMPLATE.GDT_7/6/11

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: 093260-1-1101

BORING LOG
PAGE 1 of 1
GPEC-SB109/MW-101WT (SB-101B)

GROUND SURFACE ELEVATION (FT): 16.23
LOCATION: Southeast of the Stores Building, Northeast of the Transportation Building
NORTHING (FT): 687716 **EASTING (FT):** 650829
TOTAL DEPTH (FT): 20.0
DRILLED BY: Boart Longyear / Dell Cunningham
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet
DATE START / END: 6/18/2010 - 6/18/2010
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: Boring ID during utility clearance: GPEC-SB101B
GENERAL NOTE: *PID readings are screened readings made at discreet locations over the soil sample.

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
15	0	G1	96/96				Note: 0'- 8': HAND CLEARED.	
							G1A (0'- 0.5') ASPHALT.	
							G1B (0.5'- 1') Concrete and gravel/road base to 0.5", brick and debris. FILL.	
							G1C (1'- 4') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, ~10% fines; max. size 3", gray / brown, some cobbles and debris, bricks, tile, and cement block. FILL.	
10	5			PID= 0.0*		Env. Sample ID= GPEC-SB-101B (4-5)	G1D (4'- 6') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, ~10% fines; max. size 3", moist, gray / brown, some cobbles and debris, bricks, tile, and cement block. FILL.	
5	10						G1E (6'- 8') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% sand, fine to coarse, ~40% gravel, fine to coarse, ~10% fines; max. size 10", moist, brown, some cobbles, brick and concrete fragments, and debris. Large mortared piece of bricks at 7.5'. FILL.	
0	15						Straight drill to 20' due to proximity to GPEC-SB101A/ GPEC-MW-101D.	
	20						End of Boring at 20 feet.	
							Monitoring well installed upon completion. Screened 8'- 18'.	

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG
PAGE 1 of 1
GPEC-SB-115

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Greenpoint, Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K. Kucher **DATE START / END:** 4/25/2011 - 4/25/2011
DRILLING DETAILS: Air knife, Vac Master, hand auger
WATER LEVEL DEPTHS (FT): ▼ 4.00 ;
GENERAL NOTE: Ground surface elevation estimated from ground contours.
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0			PID= 0.0		Env. Sample ID= GPEC-SB-115 (0-2)	(0'- 0.5') dry, Asphalt. (0.5'- 2') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~50% gravel, fine to coarse, ~40% sand, fine to coarse, ~10% fines; moist to saturated, blackish gray. (2'- 6') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% sand, fine to coarse, ~40% gravel, fine to coarse, ~10% fines; saturated to wet, gray.
▼							
5	5			PID= 0.0		Env. Sample ID= GPEC-SB-115 (5-6)	
							End of Boring at 6 feet. Backfill with excavated material

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

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FT. = FEET
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BORING LOG
PAGE 1 of 1
GPEC-SB-116

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Greenpoint, Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K. Kucher **DATE START / END:** 4/26/2011 - 4/26/2011
DRILLING DETAILS: Air knife, Vac Master, hand auger
WATER LEVEL DEPTHS (FT): ▼ 4.00 ;
GENERAL NOTE: Ground surface elevation estimated from ground contours.
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0			PID= 0.0		Env. Sample ID= GPEC-SB-116 (0-2)	(0'- 4') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~50% gravel, fine to coarse, ~40% sand, fine to coarse, ~10% fines; moist, gray brown.
▼							
5	5			PID= 0.0		Env. Sample ID= GPEC-SB-116 (5-6)	(4'- 6') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% gravel, fine to coarse, ~20% fines; wet, gray.
							End of Boring at 6 feet. Backfill with excavated material

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(860) 368-5300

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BORING LOG

PAGE 1 of 1

GPEC-SB-117

GROUND SURFACE ELEVATION (FT): 10.00
LOCATION: Greenpoint, Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____
TOTAL DEPTH (FT): 6.0
DRILLED BY: Zebra Environmental
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K. Kucher
DATE START / END: 4/26/2011 - 4/26/2011
DRILLING DETAILS: Air knife, Vac Master, hand auger
WATER LEVEL DEPTHS (FT): ▼ 4.00 ;
GENERAL NOTE: Ground surface elevation estimated from ground contours.
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0			PID= 0.0		Env. Sample ID= GPEC-SB-117 (0-2)	(0'- 4') WIDELY GRADED SAND WITH SILT AND GRAVEL; ~60% sand, fine to coarse, ~30% gravel, fine to coarse, ~10% fines; saturated, brown.
▼							
5	5			PID= 0.0		Env. Sample ID= GPEC-SB-117 (5-6)	(4'- 6') SILTY SAND WITH GRAVEL; ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines; wet, gray.
							End of Boring at 6 feet. Backfill with excavated material

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BORING LOG
PAGE 1 of 1
GPEC-SB-118

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Greenpoint, Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K. Kucher **DATE START / END:** 4/26/2011 - 4/26/2011
DRILLING DETAILS: Air knife, Vac Master, hand auger
WATER LEVEL DEPTHS (FT): ▼ 4.00 ;
GENERAL NOTE: Ground surface elevation estimated from ground contours.
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0			PID= 0.0		Env. Sample ID= GPEC-SB-118 (0-2) DUP & MS/MSD	(0'- 4') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~35% gravel, fine to coarse, ~15% fines; moist, dark brown, few cobbles 2-4'.
▼							
5	5			PID= 0.0		Env. Sample ID= GPEC-SB-118 (5-6)	(4'- 6') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, ~10% fines; wet, gray brown, relocated at 4' bgs due to obstruction. Completed interval 5' NE of original location.
							End of Boring at 6 feet. Backfill with excavated material

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455 Winding Brook Road
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BORING LOG

PAGE 1 of 1

GPEC-SB-119

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Greenpoint, Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 5.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K. Kucher **DATE START / END:** 4/25/2011 - 4/25/2011
DRILLING DETAILS: Air knife, Vac Master, hand auger
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: Ground surface elevation estimated from ground contours.
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0			PID= 0.0		Env. Sample ID= GPEC-SB-119 (0-2)	(0'- 5') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, ~10% fines; moist to saturated, brown, concrete slab at 5'.
5	5						End of Boring at 5 feet. Backfill with excavated material

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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Glastonbury, CT 06033
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BORING LOG

PAGE 1 of 1

GPEC-SB-120

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Greenpoint, Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 5.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K. Kucher **DATE START / END:** 4/25/2011 - 4/25/2011
DRILLING DETAILS: Air knife, Vac Master, hand auger
WATER LEVEL DEPTHS (FT): ▼ 5.00 ;
GENERAL NOTE: Ground surface elevation estimated from ground contours.
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0			PID= 0.0		Env. Sample ID= GPEC-SB-120 (0-2)	(0'- 5') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~50% gravel, fine to coarse, ~40% sand, fine to coarse, ~10% fines; saturated to wet, brown black to gray, very rocky and submerged in water at 5'.
				PID= 0.0		Env. Sample ID= GPEC-SB-120 (4-5)	
▼ 5	5						End of Boring at 5 feet. Backfill with excavated material

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Glastonbury, CT 06033
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BORING LOG
PAGE 1 of 1
GPEC-SB-121

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Greenpoint, Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 8.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K. Kucher **DATE START / END:** 4/25/2011 - 4/25/2011
DRILLING DETAILS: Air knife, Vac Master, hand auger
WATER LEVEL DEPTHS (FT): ▼ 5.00 ;
GENERAL NOTE: Ground surface elevation estimated from ground contours.
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0			PID= 0.0		Env. Sample ID= GPEC-SB-121 (0-2)	(0'- 6') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, ~20% fines; max. size 8, moist to wet, brown, Fill: bricks, tile, fibers, rock; cobbles present 2-4'; wet at 5' (groundwater table). No visual inspection below 5' due to water, air knife clears to 8'.
▼ 5	5			PID= 0.0		Env. Sample ID= GPEC-SB-121 (5-6)	
							End of Boring at 8 feet. Backfill with excavated material

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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Glastonbury, CT 06033
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GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 1 of 1
GPEC-SB-122

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Greenpoint, Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K. Kucher **DATE START / END:** 4/26/2011 - 4/26/2011
DRILLING DETAILS: Air knife, Vac Master, hand auger
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: Ground surface elevation estimated from ground contours.
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0			PID= 0.0		Env. Sample ID= GPEC-SB-122 (0-2)	(0'- 6') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); fine to coarse, fine to coarse; moist to wet, brown to gray.
5	5			PID= 0.0		Env. Sample ID= GPEC-SB-122 (5-6)	
							End of Boring at 6 feet. Backfill with excavated material

NOTES:

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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
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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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: 093260-1-1101

BORING LOG
PAGE 1 of 1
GPEC-SIS1

GROUND SURFACE ELEVATION (FT): 18.44 **LOCATION:** West of Stores Building
NORTHING (FT): 687772 **EASTING (FT):** 650752 **TOTAL DEPTH (FT):** 10.5
DRILLED BY: Summit Drilling **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer, K. Kucher **DATE START / END:** 7/8/2009 - 7/9/2009
DRILLING DETAILS: Geoprobe
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO TYPE and NO.	SAMPLE INFO PEN/REC IN./IN.	STRATA	SOIL / BEDROCK DESCRIPTION
	0	S1	12/NM		S1 (0'- 1') ASPHALT and crushed gravel.
		S2	12/NM		S2 (1'- 2') CONCRETE, hard, uneven surface. No rebar.
		S3	12/NM		S3 (2'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, medium to coarse, ~15% gravel, fine to coarse, ~5% fines; moist, brown, some concrete cobbles.
15		S4	24/NM		S4 (3'- 5') Unable to sample due to concrete from 2'-3'.
	5	S5	60/NM		S5 (4'- 10') WIDELY GRADED GRAVEL (GW); ~85% gravel, subangular, ~10% sand, fine to coarse, ~5% fines; max. size 2", some concrete. Minimal recovery.
10					
	10		6/NM		Soil was not logged below 10'.
					End of Boring at 10.5 feet. Abandoned at 10.5' due to concrete obstruction.

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
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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
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OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR
SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG
PAGE 1 of 2
GPEC-SIS2 (PZ)

GROUND SURFACE ELEVATION (FT): 17.66 **LOCATION:** West/Northwest of Stores Building
NORTHING (FT): 687839 **EASTING (FT):** 650729 **TOTAL DEPTH (FT):** 18.0
DRILLED BY: Summit Drilling **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 7/7/2009 - 7/7/2009
DRILLING DETAILS: Geoprobe
WATER LEVEL DEPTHS (FT): ▽ 10.00 7/7/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO TYPE and NO.	SAMPLE INFO PEN/REC IN./IN.	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	S1	12/NM		S1 (0'- 1') ASPHALT and crushed gravel.	
		S2	12/NM		S2 (1'- 2') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, angular, ~35% sand, fine to coarse, ~5% fines; moist, brown.	
15		S3	24/NM		S3 (3'- 5') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, angular, ~10% fines; moist, brown.	
	5	S4	48/NM		S4 (5'- 9') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, angular, ~10% fines; moist, brown to black, coal-like material.	
10		S5	36/NM		S5 (9'- 12') WIDELY GRADED SAND (SW); ~85% sand, medium to coarse, ~10% gravel, fine, ~5% fines; wet.	
▽	10					
5					Soil was not logged below 12'.	
	15					

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
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ALO = ASPHALT LIKE ODOR

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

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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GEI PROJECT NUMBER: 093260-1-1101

BORING LOG

GPEC-SIS2 (PZ)

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15					
0						
					End of Boring at 18 feet.	

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.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 7/6/11

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BORING LOG
PAGE 1 of 2
GPEC-SIS3 (PZ)

GROUND SURFACE ELEVATION (FT): 16.09 **LOCATION:** Northwest of Stores Building
NORTHING (FT): 687882 **EASTING (FT):** 650715 **TOTAL DEPTH (FT):** 18.0
DRILLED BY: Summit Drilling **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 7/7/2009 - 7/7/2009
DRILLING DETAILS: Geoprobe
WATER LEVEL DEPTHS (FT): ▽ 10.00 7/7/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO TYPE and NO.	SAMPLE INFO PEN/REC IN./IN.	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	S1	84/NM		S1 (0'- 7') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, angular, ~35% sand, fine to coarse, ~5% fines; moist, dark brown.	
15						
	5					
10		S2	18/NM		S2 (7'- 8.5') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, angular, ~10% fines; moist, tan to dark brown.	
		S3	78/NM		S3 (8.5'- 15') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, tan to brown.	
	10	▽				
5						
	15					

NOTES:

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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
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

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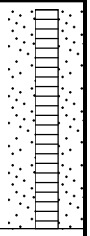
BORING LOG

GPEC-SIS3 (PZ)

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
0	15				Soil was not logged below 15'.	
					End of Boring at 18 feet.	

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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
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BORING LOG
PAGE 1 of 2
GPEC-SIS4 (PZ)

GROUND SURFACE ELEVATION (FT): 16.25 **LOCATION:** Northwest of Stores Building
NORTHING (FT): 687908 **EASTING (FT):** 650704 **TOTAL DEPTH (FT):** 18.0
DRILLED BY: Summit Drilling **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer, K. Kucher **DATE START / END:** 7/8/2009 - 7/9/2009
DRILLING DETAILS: Geoprobe
WATER LEVEL DEPTHS (FT): ▽ 10.00 7/9/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	S1	12/NM			S1 (0'- 1') ASPHALT and crushed gravel.	
15		S2	36/NM	PID= 0.2		S2 (1'- 4') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to subrounded, ~5% fines; moist, brown.	
	5	S3	60/NM			S3 (5'- 10') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, medium to coarse, ~25% gravel, subrounded, ~10% fines; max. size 1.5", moist, brown to dark brown, shell fragments.	
10							
	10	S4	60/16			S4 (10'- 15') WIDELY GRADED GRAVEL WITH SAND (GW); ~65% gravel, fine to coarse, ~35% sand, fine to coarse; top 8" moist, light brown; bottom 16" wet, gray.	
5							
	15						

NOTES:

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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
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT 7/6/11

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BORING LOG

PAGE 2 of 2

GPEC-SIS4 (PZ)

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
0	15					Soil was not logged below 15'.	

End of Boring at 18 feet.

NOTES:

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NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

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FT. = FEET
TSF = TONS PER SQUARE FOOT

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

CrLO= CREOSOTE LIKE ODOR
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GPEC_ENVIRONMENTAL BORING LOG GREENPOINT BORINGS.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 7/6/11

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BORING LOG
PAGE 1 of 1
GPEC-SIS5 (PZ)

GROUND SURFACE ELEVATION (FT): 11.57 **LOCATION:** North/Northwest of Stores Building
NORTHING (FT): 688004 **EASTING (FT):** 650674 **TOTAL DEPTH (FT):** 14.0
DRILLED BY: Summit Drilling **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 7/7/2009 - 7/7/2009
DRILLING DETAILS: Geoprobe
WATER LEVEL DEPTHS (FT): ▽ 6.80 7/7/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	S1	24/NM	PID= 2.0			S1 (0'- 2') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine to coarse, ~5% fines; moist, black, stained.	
10		S2	36/NM	PID= 0.5			S2 (2'- 5') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~35% gravel, fine to coarse, ~5% fines; moist, dark brown, some cobbles, metal. FILL.	
	5	S3	22/NM	PID= 0.2			S3 (5'- 6.8') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% gravel, coarse, ~20% fines; moist, brown to orange, some cobbles.	
▽ 5		S4	14/NM	PID= 0.0			S4 (6.8'- 8') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, ~35% sand, fine to coarse, ~5% fines; wet, gray.	
		S5	12/NM	PID= 0.3			S5 (8'- 9') ORGANIC SOIL (OL-OH); ~90% fines/organics, ~10% sand, fine to medium, dark brown.	
		S6	12/NM	PID= 0.0			S6 (9'- 10') SILTY SAND (SM); light brown, some organics.	
	10						Soil was not logged below 10'.	
0								

End of Boring at 14 feet.

NOTES:

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FT. = FEET
TSF = TONS PER SQUARE FOOT

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TLO = TAR LIKE ODOR
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OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR
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Q_P = POCKET PENETROMETER IN TSF
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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG
PAGE 1 of 2
GPEC-SIS6 (PZ)

GROUND SURFACE ELEVATION (FT): 14.79 **LOCATION:** North of Maspeth Ave. in SNG Area
NORTHING (FT): 687264 **EASTING (FT):** 649901 **TOTAL DEPTH (FT):** 15.0
DRILLED BY: Summit Drilling **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer, K. Kucher **DATE START / END:** 7/8/2009 - 7/9/2009
DRILLING DETAILS: Geoprobe
WATER LEVEL DEPTHS (FT): ▽ 10.00 7/9/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	S1	12/NM	PID= 0.5		S1 (0'- 1') CRUSHED GRAVEL.	
		S2	48/NM			S2 (1'- 5') SILTY SAND WITH GRAVEL (SM); ~50% sand, ~35% gravel, ~15% fines; moist, brown to orange red, abundance of slag and burnt material.	
10	5	S3	60/NM			S3 (5'- 10') SILTY SAND (SM); ~70% sand, fine to coarse, ~20% fines, ~10% gravel; wet, top 8" dark brown, bottom 16" light brown.	
▽ 5	10	S4	60/60			S4A (10'- 12') SILTY SAND (SM); sand, fine to coarse.	
						S4B (12'- 15') LEAN CLAY (CL); gray brown, some organics.	
0	15						

NOTES:

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FT. = FEET
TSF = TONS PER SQUARE FOOT

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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

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 7/6/11

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BORING LOG

GPEC-SIS6 (PZ)

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
						End of Boring at 15 feet.	

NOTES:

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GPEC_ENVIRONMENTAL BORING LOG GREENPOINT BORINGS.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 7/6/11

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BORING LOG
PAGE 1 of 1
GPEC-SIS7 (PZ)

GROUND SURFACE ELEVATION (FT): 15.39 **LOCATION:** North of Maspeth Ave. in SNG Area
NORTHING (FT): 687193 **EASTING (FT):** 649926 **TOTAL DEPTH (FT):** 12.0
DRILLED BY: Summit Drilling **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer, K. Kucher **DATE START / END:** 7/8/2009 - 7/9/2009
DRILLING DETAILS: Geoprobe
WATER LEVEL DEPTHS (FT): ▽ 3.50 7/8/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
15	0	S1	12/NM			S1 (0'- 1') CRUSHED GRAVEL.	
		S2	48/NM	PID= 0.8		S2 (1'- 5') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% gravel, fine to coarse, ~15% fines; brown to black, some slag, burnt material, coal-like material.	
▽							
10	5	S3	60/NM			S3 (5'- 10') SILTY SAND (SM); ~70% sand, fine to coarse, ~30% fines; wet, brown.	
5	10					Soil was not logged below 10'.	
						End of Boring at 12 feet.	

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FT. = FEET
TSF = TONS PER SQUARE FOOT
NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
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SeLO= SEWAGE LIKE ODOR
NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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: 093260-1-1101

BORING LOG
PAGE 1 of 1
GPEC-SIS8 (PZ)

GROUND SURFACE ELEVATION (FT): 15.46 **LOCATION:** North of Maspeth Ave. in SNG Area
NORTHING (FT): 687155 **EASTING (FT):** 649941 **TOTAL DEPTH (FT):** 11.0
DRILLED BY: Summit Drilling **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer, K. Kucher **DATE START / END:** 7/8/2009 - 7/9/2009
DRILLING DETAILS: Geoprobe
WATER LEVEL DEPTHS (FT): ▽ 2.50 7/8/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
15	0	S1	12/NM			S1 (0'- 1') CRUSHED GRAVEL.	
		S2	48/NM	PID= 0.4		S2 (1'- 5') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~65% gravel, fine to coarse, ~25% sand, fine to coarse, ~10% fines; wet, brown, some cobbles, some slag and burnt materials.	
▽							
10	5	S3	60/20			S3A (5'- 7') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, ~5% fines; wet, brown.	
						S3B (7'- 10') SILT WITH SAND (ML); ~85% fines, ~15% sand, fine.	
5	10					Soil was not logged below 10'.	
						End of Boring at 11 feet.	

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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455 Winding Brook Road
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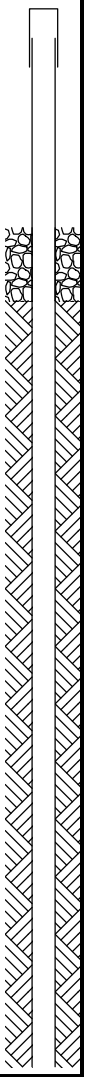
BORING LOG
PAGE 1 of 4
GPEC-GT01 (MW)

GROUND SURFACE ELEVATION (FT): 14.79 **LOCATION:** Maspeth Ave. and Varick Ave.
NORTHING (FT): 687047 **EASTING (FT):** 649699 **TOTAL DEPTH (FT):** 62.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 8/21/2009 - 8/24/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
15	0	G1	96/96	NA	PID= 0.0 PID= 7.5				Env. Sample ID= GPEC-GT-1 (8)	Note: 0'- 8': HAND CLEARED.
10	5	S1	24/16	4-4-7-8	PID= 20.9			TLO		S1 (8'- 10') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% gravel, fine to coarse, angular, ~15% fines; max. size 1.5", moderate tar-like odor, wet, black to brown, occasional brick fragments. Stained. FILL.
5	10	S2	24/12	5-9-8-9	PID= 1.0			TLO		S2 (10'- 12') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, rounded to angular, ~20% fines; max. size 1.5", moderate tar-like odor, wet,

WELL DETAILS



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S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT_7/6/11

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

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BORING LOG
PAGE 2 of 4
GPEC-GT01 (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
										black to brown, stained. FILL.	
		S3	24/4	8-8-9-7	PID= 3.8			TLO		S3 (12'- 14') SILTY SAND WITH GRAVEL (SM); ~60% sand, ~20% gravel, ~20% fines; max. size 1.5", moderate tar-like odor, wet, black to brown, stained. FILL.	
0	15	S4	24/0	4-3-2-1	PID= NA					S4 (14'- 16') NO RECOVERY.	
		S5	24/10	1-2-1-3	PID= 1.0					S5 (16'- 18') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~25% fines, ~20% gravel, fine to coarse, subangular; max. size 1.25", wet, brown, FILL.	
		S6	24/14	2-2-3-1	PID= 1.0					S6 (18'- 20') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~25% fines, ~20% gravel, fine to coarse, subangular; max. size 1.25", wet, brown, trace organics. FILL.	
-5	20	S7	24/16	1-2-1-2	PID= 1.6			SLO		S7 (20'- 22') PEAT (PT); ~90% peat, ~10% fines, strong sulfur-like odor, moist.	
		S8	24/8	2-4-3-4	PID= 2.9			SLO		S8 (22'- 24') PEAT (PT); ~80% peat, ~20% fines, strong sulfur-like odor, moist.	
-10	25	S9	24/12	4-2-4-5	PID= 1.1			SLO		S9 (24'- 26') ORGANIC SOIL (OL/OH); ~75% fines; ~25% organic fines, strong sulfur-like odor, moist, reddish brown to black.	
-15											

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

GEI Consultants

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

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GEI PROJECT NUMBER: 093260-1-1101

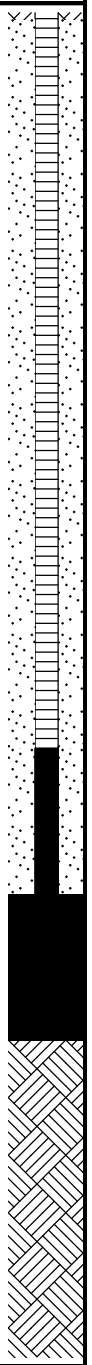
BORING LOG

PAGE 3 of 4

GPEC-GT01 (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	30	S10	24/19	4-3-3-3	PID= 0.9 Q_P= 1.024, 0.819, 0.512 S_V= 0.205, 0.205, 0.205			SLO		S10 (30'- 32') SILT (ML); ~95% fines, medium plasticity, low dry strength, low toughness; ~5% organic fines, strong sulfur-like odor, moist, greenish gray, heterogenous.
-20	35	S11/ U1	24/0	P-U-S-H	PID= NA					S11/U1 (35'- 37') NO RECOVERY; Shelby tube sample.
		S12	24/24	4-6-4-5	PID= 0.8				Env. Sample ID= GPEC-GT-1 (37-39)	S12 (37'- 39') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% fines, rapid dilatancy, ~15% gravel, fine to coarse, subrounded to subangular; max. size 1", moist to wet, gray, silt content increases with depth. Sample becomes finer with depth.
-25	40	S13	24/16	7-7-8-6	PID= 0.4 Q_P= 0.768, 0.768, 0.512 S_V= 0.082, 0.102, 0.102					S13 (40'- 42') SILT WITH SAND (ML); ~80% fines, medium plasticity, slow dilatancy, low toughness, ~20% sand, fine; wet, gray.
-30	45	S14	24/20	7-7-6-6	PID= 0.5 Q_P= 0.512, 0.410, 0.410 S_V= 0.102, 0.102, 0.102					S14 (45'- 47') LEAN CLAY WITH SAND (CL); ~85% fines, medium plasticity, slow dilatancy, medium toughness, ~15% sand, fine; wet, gray.
		S15/ U2	24/24	P-U-S-H	PID= NA					S15/U2 (47'- 49') SILT (ML); Shelby tube sample (set overnight).

WELL DETAILS



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BORING LOG
PAGE 4 of 4
GPEC-GT01 (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-35	50	S16	24/24	2-3-3-5	PID= 0.0 S_V= 0.051					S16 (50'- 52') LEAN CLAY WITH SAND (CL); ~85% fines, medium plasticity, low toughness, ~15% sand, fine; wet, gray, soil too soft for penetrometer measurements.	
-40	55	S17	24/24	5-5-5-8	PID= 1.2 Q_P= 1.280 S_V= 2.867					S17 (55'- 57') LEAN CLAY WITH SAND (CL); ~85% fines, medium plasticity, medium toughness, ~15% sand, fine; wet, gray.	
-45	60	S18	24/24	5-5-5-8	PID= 0.0 Q_P= 1.536 S_V= 1.536				Env. Sample ID= GPEC-GT-1 (60-62)	S18 (60'- 62') LEAN CLAY WITH SAND (CL); ~85% fines, medium plasticity, medium toughness, ~15% sand, fine; wet, gray.	
										End of Boring at 62 feet. Monitoring well installed upon completion. Screened 30'- 40'.	

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT_7/6/11

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455 Winding Brook Road
Glastonbury, CT 06033
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BORING LOG
PAGE 1 of 1
GPEC-GT02 (CPT)

GROUND SURFACE ELEVATION (FT): 15.01 **LOCATION:** Maspeth Ave.
NORTHING (FT): 687112 **EASTING (FT):** 649887 **TOTAL DEPTH (FT):** 8.0
DRILLED BY: ConeTec / AC/DB **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: **DATE START / END:** 10/8/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT): ▽ 5.50 8/4/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96	PID= 0.4			Note: 0'- 8': HAND CLEARED. G1A (0'- 0.3') Crushed rock and gravel. FILL. G1B (0.3'- 8') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~25% gravel, fine to coarse, ~20% fines; moist, brown to light brown.
10 ▽	5			PID= 0.0		Env. Sample ID= GPEC-GT-2 (5-6)	
							Note: Soil was not logged past the hand cleared depth of 8'. Cone Penetrometer Test performed 8'- 93.9'. End of Boring at 8 feet.

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid
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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 1 of 3
GPEC-GT03 (MW)

GROUND SURFACE ELEVATION (FT): 16.39 **LOCATION:** Near Maspeth Ave.
NORTHING (FT): 687178 **EASTING (FT):** 650076 **TOTAL DEPTH (FT):** 52.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 8/4/2009 - 8/13/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 3.50 8/4/2009
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC FT./FT.	BLOWS (/6 IN.)	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
15	0	G1	8/8	NA	0.0				GPEC-GT-3 (3-4)	Note: 0'- 8': HAND CLEARED. G1A (0'- 0.4') Crushed rock and gravel. FILL. G1B (0.3'- 8') SILTY SAND WITH GRAVEL (SM); ~45% sand, fine to coarse, ~35% gravel, fine to coarse, ~20% fines; dark brown, brick fragments, cobbles, slag. FILL.	
10	5										
5	10	S1	2/0.8	1-1-1-1	NM			NLO	GPEC-GT-3 (8-10)	S1 (8'- 10') SILTY SAND (SM); ~60% sand, fine to coarse, ~30% fines, ~10% gravel, fine to coarse, subangular; max. gravel size 1.5", strong naphthalene-like odor, wet, gray to light brown, NAPL-coated grains.	
	10	S2	2/1.3	1/12"-1/12"	NM			NLO		S2 (10'- 12') GRAVELLY SILT WITH SAND (ML); ~50% fines, ~30% gravel, fine to coarse, subangular, ~20% sand, fine to coarse; strong naphthalene-like odor, wet, light brown, blebs and stringers.	
		S3	2/0.3	1/12"-1-1	NM			NLO		S3 (12'- 14') SANDY SILT WITH GRAVEL (ML); ~50% fines, ~30% sand, fine to coarse, ~20% gravel, fine; strong naphthalene-like odor, gray to light brown, blebs and stringers.	
		S4	2/0.6	1/24"	NM					S4A (14'- 14.6') SANDY SILT WITH GRAVEL (ML); ~50% fines, ~30% sand, fine to coarse, ~20% gravel, fine; wet, light brown, blebs and stringers.	
0	15	S5	2/0.4	2-3-5-1	NM			PLO		S4B (14.6'- 15.4') FAT CLAY WITH SAND (CH); ~75% fines, medium to high, high toughness, ~20% sand, fine, ~5% gravel, fine; wet, gray.	
		S6	2/0.4	2-4-5-5	NM			PLO		S4C (15.4'- 16') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse,	
	20	S7	2/2	2-2-1-1	0.0 Q_p=0.256						

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JHS = JAR HEADSPACE PID READING (PPM)

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ppm = PARTS PER MILLION
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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS GEI-OTHERS 03_14_2015 (LCM) - DEPTH,ELEV,NOTES CHANGES ONLY.GPJ GEI TEMPLATE 11-7-13.GDT 10/4/18

GEI Consultants

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

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BORING LOG
PAGE 2 of 3
GPEC-GT03 (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC FT./FT.	BLOWS (/6 IN.)	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
					S_v=0.051					~30% gravel, fine to coarse, ~20% fines; wet, light brown. S5 (16'- 18') SILTY SAND WITH GRAVEL (SM); ~45% fines, ~30% sand, fine to coarse, ~25% gravel, fine to coarse, subangular; moderate petroleum-like odor, wet, light brown. S6 (18'- 20') SANDY SILT WITH GRAVEL (ML); ~55% fines, ~30% sand, fine to coarse, ~15% gravel, fine to coarse, subangular; slight petroleum-like odor, wet, light brown. S7 (20'- 22') ELASTIC SILT (MH); ~95% fines, high plasticity, no dilatancy, medium toughness, ~5% gravel; homogeneous, wet, gray, shell fragments. S8A (25'- 25.8') ELASTIC SILT (MH); ~100% fines, high plasticity, no dilatancy, medium toughness; homogeneous, wet, gray, shell fragments. S8B (25.8'- 27') PEAT (PT); ~80% plant mass/organic fines, ~20% fines, moderate sulfur-like odor, brown to dark brown. S9/U1 (27'- 29') Shelby tube sample. S10 (30'- 32') SILT (ML); ~100% fines, medium plasticity, no dilatancy, medium toughness; slight sulfur-like odor, wet, olive - gray, some organics and shell fragments. S11 (35'- 37') SILTY SAND (SM); ~75% sand, fine to medium, ~20% fines, ~5% gravel, fine, subrounded; max. gravel size 0.25", wet, brown. S12 (40'- 42') SANDY ELASTIC SILT (MH); ~60% fines, medium plasticity, slow dilatancy, medium toughness, ~40% sand, fine; wet, brown to gray brown, coarsens upward to less silt near top of sample. S13 (45'- 47') ELASTIC SILT WITH SAND (MH); ~85% fines, medium plasticity, slow dilatancy, medium toughness, ~15% sand, fine; wet, olive gray. S14 (50'- 52') FAT CLAY WITH SAND (CH); ~85% fines, high plasticity, no dilatancy, medium toughness, ~15% sand, fine; wet, olive brown.	
	25	S8	2/2	2-3-5-5	0.0						
-10					0.0			SLO			
		S9/ U1	2/2	P-U-S-H	NA						
	30	S10	2/1.8	2-3-4-4	0.0 Q_p=1.024, 1.024, 1.024			SLO			
-15					S_v=0.077, 1.229, 0.123						
	35	S11	2/1	8-12-10-11	18.0						
-20											
	40	S12	2/1.2	5-9-9-10	1.6 Q_p=2.048, 1.280, 1.280 S_v=0.184, 0.184, 0.184						
-25											
	45	S13	2/1.5	4-5-8-7	0.0						
-30											
	50	S14	2/0.8	3-4-5-5	0.0 Q_p= 0.512, 1.024,				GPEC-GT-3 (50-52)		
-35											

ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_GEI-OTHERS 03_14_2015 (LCM) - DEPTH,ELEV,NOTES CHANGES ONLY.GPJ GEI TEMPLATE 11-7-13.GDT 10/4/18

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (PPM)
JHS = JAR HEADSPACE PID READING (PPM)

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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

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

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

GEI Consultants, Inc. P.C.
110 Walt Whitman Road
Suite 204
Huntington Station,
New York 11746

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093260-1-1101

BORING LOG

GPEC-GT03 (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC FT./FT.	BLOWS (/6 IN.)	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
					1.024 S_V=0.154, 0.128					End of Boring at 52 feet. Monitoring well installed upon completion. Screened 2'- 17'.	

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ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_GEI-OTHERS 03_14_2015 (LCM) - DEPTH,ELEV,NOTES CHANGES ONLY.GPJ GEI TEMPLATE 11-7-13.GDT 10/4/18

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: 093260-1-1101

BORING LOG

GPEC-GT03 (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	50	S14	24/10	3-4-5-5	PID= 0.0 Q_P= 0.512, 1.024, 1.024 S_V= 0.154, 0.128				Env. Sample ID= GPEC-GT-3 (50-52)	S14 (50'- 52') FAT CLAY WITH SAND (CH); ~85% fines, high plasticity, no dilatancy, medium toughness, ~15% sand, fine; wet, olive brown.	
-35										End of Boring at 52 feet. Monitoring well installed upon completion. Screened 2'- 17'.	

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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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GPEC_ENVIRONMENTAL BORING LOG GREENPOINT BORINGS.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 7/6/11

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

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PROJECT: Greenpoint Energy Center
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BORING LOG
PAGE 1 of 1
GPEC-GT04S (MW)

GROUND SURFACE ELEVATION (FT): 13.97 **LOCATION:** Near Maspeth Ave.
NORTHING (FT): 687255 **EASTING (FT):** 650292 **TOTAL DEPTH (FT):** 20.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 8/10/2009 - 8/10/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 7.50 8/5/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0	G1	108/108						Note: 0'- 9': HAND CLEARED. G1A (0'- 0.5') ASPHALT and gravel road pack. G1B (0.5'- 3') SILTY GRAVEL WITH SAND (GM); ~65% gravel, fine to coarse, angular, ~20% sand, fine to coarse, ~15% fines; moist, dark brown, some cobbles. FILL.	
5	5			PID= 3.0			PLO	Env. Sample ID= GPEC-GT-4S (4-5)	G1C (3'- 9') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, ~20% fines; strong petroleum-like odor, moist, dark brown, some cobbles. Sheen and staining. FILL.	
▽										
5				PID= 80.6				Env. Sample ID= GPEC-GT-4S (8-9)		
0	10								Soil was not logged past the hand cleared depth of 9' due to proximity to GPEC-GT-4D(MW).	
-5	15									
	20								End of Boring at 20 feet. Monitoring well installed upon completion. Screened 3'- 18'.	

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S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
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GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 1 of 5
GPEC-GT04D (MW)

GROUND SURFACE ELEVATION (FT): 15.81 **LOCATION:** Near Maspeth Ave.
NORTHING (FT): 687258 **EASTING (FT):** 650302 **TOTAL DEPTH (FT):** 72.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 8/5/2009 - 8/10/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 7.50 8/5/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0	G1	108/96	NA					Note: 0'- 9': HAND CLEARED. G1A (0'- 0.5') ASPHALT and gravel road pack. G1B (0.5'- 3') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~70% gravel, fine to coarse, angular, ~20% sand, fine to coarse, ~10% fines; moist, dark brown, some cobbles and slag. FILL.
15					PID= 26.3		PLO	Env. Sample ID= GPEC-GT-4D (3-4)	G1C (3'- 4') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% gravel, fine to coarse, ~15% fines; moderate petroleum-like odor, moist, dark brown, some cobbles, brick fragments, and slag. FILL.
	5								G1D (4'- 8') WIDELY GRADED GRAVEL (GW); ~85% gravel, fine to coarse, ~10% sand, fine to coarse, ~5% fines; strong petroleum-like odor, layer of cobbles and brick fragments. FILL.
10							PLO		
		S1	24/2	9-6-2-4	PID= 80.6 PID= 22.4			Env. Sample ID= GPEC-GT-4D (8-9)	S1 (8'- 10') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to coarse, ~25% gravel, fine to coarse, ~25% fines; strong petroleum-like odor, gray, concrete fragment in sampler tip. FILL.
							PLO		
	10	S2	24/6	1-1-1-1	PID= 76.1				S2 (10'- 12') CLAYEY SAND WITH GRAVEL (SC); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines; strong petroleum-like odor, dark gray, FILL.
5							PLO		
		S3	24/16	1-1-2-4	PID= 26.9				S3 (12'- 14') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine to coarse, ~10% gravel, fine, ~10% fines; strong petroleum-like odor, gray, FILL.
							PLO		
		S4	24/4	1-0-0-0	PID= 16.7				S4 (14'- 16') WIDELY GRADED SAND WITH SILT

WELL DETAILS

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT_7/6/11

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

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BORING LOG
PAGE 2 of 5
GPEC-GT04D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15						PLO		(SW-SM); ~85% sand, fine to coarse, ~10% fines, ~5% gravel, fine; moderate petroleum-like odor, wet, gray - brown.	
0							PLO			
		S5	24/14	1-1-3-7	PID= 22.0		PLO		S5 (16'- 18') SILTY SAND (SM); ~80% sand, fine to coarse, ~15% fines, ~5% gravel, fine to coarse; moderate petroleum-like odor, wet, brown to black.	
		S6	24/24	2-3-4-4	PID= 7.6		PLO		S6 (18'- 20') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine, ~10% fines; moderate petroleum-like odor, brown to black.	
	20	S7	24/22	8-10-11-10	PID= 5.0		PLO		S7 (20'- 22') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, ~10% fines; slight petroleum-like odor, wet, gray - brown.	
-5		S8	24/18	2-4-8-9	PID= 11.4		SLO		S8 (22'- 24') ORGANIC SOIL (OL/OH); ~70% fines, low plasticity; ~30% peat, strong sulfur-like odor, moist, brown.	
		S9	24/10	9-7-8-10	PID= 2.4		SLO		S9 (24'- 26') ORGANIC SOIL (OL/OH); ~65% fines, low plasticity; ~25% organics, ~10% sand, fine, moderate sulfur-like odor, moist, brown.	
	25	U1	30/27	P-U-S-H	PID= NA				U1 (1) (26'- 27.6') PEAT (PT).	
-10		S10	24/24	1-1-3-6	PID= 2.4 Q_P= 0.256 S_V= 0.082		SLO		U1 (2) (27.6'- 28') ORGANIC SOIL (OL); ~65% fines; ~25% organics, ~10% sand, fine. S10 (28'- 30') LEAN CLAY WITH SAND (CL); ~85% fines, low plasticity, ~15% sand, fine; moderate sulfur-like odor, moist, gray, trace roots. Sand seams.	
	30									
-15										

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S_V = TORVANE PEAK IN TSF

GEI Consultants

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

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
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GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 3 of 5
GPEC-GT04D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-20	35	S11	24/20	3-6-5-7	PID= 1.1		SLO		S11 (35'- 37') CLAYEY SAND (SC); 55% sand, fine, 45% fines, moderate sulfur-like odor, gray to reddish brown, intermittent layers of sand and clayey fines but sand dominated.	
-25	40	S12	24/18	4-5-6-9	PID= 1.1				S12 (40'- 42') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded, ~10% fines; max. size 1", wet, orange brown, clay seam at 41.5'.	
-30	45	S13	24/24	6-9-13-19	PID= 1.5			(45') Driller experiences running sands.	S13 (45'- 47') NARROWLY GRADED SAND (SP); ~95% sand, medium, ~5% fines; wet, orange - gray brown, sample becomes coarser with depth.	
-35	50	S14	24/16	13-20-25-28	PID= 1.3				S14 (50'- 52') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, subangular to subrounded, ~5% fines; wet, orange - gray brown, sample becomes coarser with depth.	

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

GEI Consultants

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Glastonbury, CT 06033
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BORING LOG

GPEC-GT04D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-40	55	S15	24/8	9-15-17-19	PID= 1.3				S15 (55'- 57') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, angular to subangular, ~5% fines; wet, orange brown, iron oxidation.	
-45	60	S16	24/14	9-16-15-20	PID= 1.6				S16 (60'- 62') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, angular to subangular, ~5% gravel, fine, angular to subangular, ~5% fines; wet, red brown to gray, thin silt seam. Iron oxidation.	
-50	65	S17	24/14	6-8-12-12	PID= 1.1			(65') Some chatter associated with cobbles.	S17 (65'- 67') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, angular to subrounded, ~10% fines, ~5% gravel, fine, subangular to subrounded; wet, gray.	

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

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BORING LOG

GPEC-GT04D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-55	70	S18	24/2	14-12-9-10	PID= 0.8				S18 (70'- 72') SILTY SAND (SM); ~75% sand, fine to coarse, ~20% fines, ~5% gravel, fine; wet, gray.	

End of Boring at 72 feet.
Monitoring well installed upon completion. Screened 54'- 69'.

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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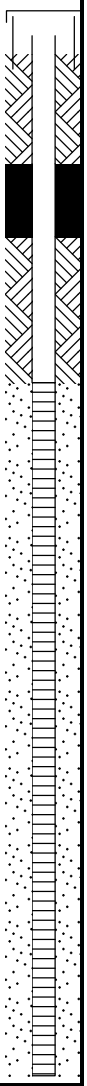
BORING LOG
PAGE 1 of 4
GPEC-GT05 (MW)

GROUND SURFACE ELEVATION (FT): 15.73 **LOCATION:** Near Maspeth Ave.
NORTHING (FT): 687293 **EASTING (FT):** 650421 **TOTAL DEPTH (FT):** 52.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 8/4/2009 - 8/11/2009
DRILLING DETAILS: Hollow Stem Auger / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 14.00 8/11/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
15	0	G1	96/96	NA	PID= 60.6			PLO		Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') ORGANIC SOIL (OL/OH); plant material. G1B (0.5'- 2') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~30% gravel, fine to coarse, ~15% fines; dark brown. G1C (2'- 3') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~30% gravel, fine to coarse, ~15% fines; strong petroleum-like odor, dark brown. G1D (3'- 7') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~30% gravel, fine to coarse, ~15% fines; dark brown.
10	5				PID= 151			PLO	Env. Sample ID= GPEC-GT-5 (7-8)	G1E (7'- 8') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~30% gravel, fine to coarse, ~15% fines; strong petroleum-like odor, moist, dark brown, some sheen and staining.
5	10	S1	24/12	2-5-4-3	PID= 1072			PLO		S1 (8'- 10') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to coarse, ~20% fines, ~15% gravel, fine to coarse, subrounded; max. size 1", moderate petroleum-like odor, wet, gray brown to black, some organics. Stained.
		S2	24/14	3-2-2-3	PID= >9999			PLO		S2 (10'- 12') SANDY ORGANIC SOIL (OL/OH); ~50% fines, low plasticity, ~40% sand, fine to medium, ~10% gravel, fine; moderate petroleum-like odor, wet to moist, brown to black, stained.
		S3	24/10	2-2-3-3	PID= >9999					S3 (12'- 14') SILTY SAND (SM); ~65% sand, fine, ~35% fines; moist, light brown, some organics.
▽		S4	24/16	2-2-4-5	PID= >9999					S4 (14'- 16') SILTY SAND (SM); ~75% sand,

WELL DETAILS



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SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE
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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT 7/6/11

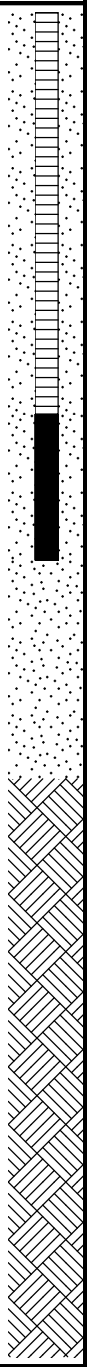
GEI Consultants, Inc.
455 Winding Brook Road
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 2 of 4
GPEC-GT05 (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	15							PLO PLO		fine to medium, ~25% fines; strong petroleum-like odor, wet, light brown to gray brown, staining. Color changes from tan to gray at 6" from bottom. Believed to be associated with odor.
0		S5	24/16	3-2-5-5	PID= >9999			PLO	Env. Sample ID= GPEC-GT-5 (16-18)	S5 (16'- 18') SILTY SAND (SM); ~80% sand, fine to medium, ~20% fines; strong petroleum-like odor, wet, gray / brown, sheen.
		S6	24/20	5-5-18-12	PID= >9999			PLO		S6 (18'- 20') SILTY SAND (SM); ~75% sand, fine to medium, ~20% fines, ~5% gravel, coarse, subrounded; max. size 1.25", strong petroleum-like odor, wet, gray brown to brown, gravel towards bottom of sample. Staining.
	20	S7	24/10	4-8-9-7	PID= >9999				(20'- 22') Driller experiences running sands.	S7 (20'- 22') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, subangular, ~10% fines; max. size 1.25", wet, gray / brown, sheen.
-5		S8	24/24	2-5-5-6	PID= 2766			PLO	(22'- 24') Driller experiences running sands. Env. Sample ID= GPEC-GT-5 (23-24)	S8 (22'- 24') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded, ~5% fines; max. size 2", strong petroleum-like odor, gray / brown.
	25								(28') Drilling experiences difficulty drilling likely due to coarse gravel.	
-10										
	30	S9	24/10	6-9-5-4	PID= 126			PLO	Env. Sample ID= GPEC-GT-5 (30-32)	S9 (30'- 32') WIDELY GRADED GRAVEL WITH SAND (GW); ~65% gravel, fine to coarse, subrounded, ~30% sand, fine to coarse, ~5% fines; max. size 1.5", slight petroleum-like odor, wet, gray.
-15										

WELL DETAILS



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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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Glastonbury, CT 06033
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BORING LOG
PAGE 3 of 4
GPEC-GT05 (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	35	S10	24/10	1-2-1-3	PID= 7.4			PLO		S10 (35'- 37') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; slight petroleum-like odor, wet, gray, sample becomes coarser with depth, may be wash as coarser sands appear "clean".	
-20											
	40	S11	24/24	15-11-6-5	PID= 14.1					S11 (40'- 42') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, angular, ~20% gravel, fine to coarse, subangular to rounded, ~5% fines; max. size 1", wet, gray.	
-25											
	45	S12	24/24	2-2-2-5	PID= 22.1			PLO		S12 (45'- 47') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, angular, ~15% gravel, fine to coarse, subrounded, ~5% fines; max. size 0.75", slight petroleum-like odor, wet, gray, less gravel near bottom.	
-30											
	50	S13	24/12	1-1-1-1	PID= 13.4				Env. Sample ID= GPEC-GT-5 (50-52)	S13 (50'- 52') WIDELY GRADED SAND (SW); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, gray.	
-35											

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Glastonbury, CT 06033
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BORING LOG

GPEC-GT05 (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
										End of Boring at 52 feet. Monitoring well installed upon completion. Screened 5'- 20'.	

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BORING LOG

PAGE 1 of 1

GPEC-GT06 (CPT)

GROUND SURFACE ELEVATION (FT): 15.93
LOCATION: Southwest of Transportation Building
NORTHING (FT): 687347 **EASTING (FT):** 650560
TOTAL DEPTH (FT): 8.0
DRILLED BY: ConeTec / AC/DB
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY:
DATE START / END: 10/12/2009
DRILLING DETAILS: Cone Penetration Test
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
15	0	G1	96/96	PID= 10.0		NLO		Note: 0'- 8': HAND CLEARED. G1A (0'- 0.3') ASPHALT and road pack. G1B (0.3'- 8') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, ~10% fines; slight naphthalene-like odor, moist, brown, some brick fragments and cobbles. FILL.
10	5			PID= 7.3				Note: Soil was not logged past the hand cleared depth of 8'. Cone Penetrometer Test performed 8'- 91.7'. End of Boring at 8 feet.

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG
PAGE 1 of 4
GPEC-GT07D (MW)

GROUND SURFACE ELEVATION (FT): 16.13 **LOCATION:** South of Transportation Building
NORTHING (FT): 687412 **EASTING (FT):** 650763 **TOTAL DEPTH (FT):** 52.0
DRILLED BY: Summit Drilling **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: **DATE START / END:** 8/27/2009 - 8/27/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	G1	96/96	NA					Note: 0'- 8': HAND CLEARED.	
15										
	5									
10										
		S1	24/16	1-2-1-1	PID= 0.3 PID= 0.2 PID= 0.2			Env. Sample ID= GPEC-GT-7 (8-10)	S1A (8'- 8.6') SILTY SAND (SM); ~75% sand, fine to coarse, ~20% fines, ~5% gravel, fine, subangular; wet, dark brown. S1B (8.6'- 9.4') SILTY SAND (SM); ~70% sand, fine to medium, ~30% fines; wet, light brown. S1C (9.4'- 10') SILTY SAND (SM); ~80% sand, fine to coarse, ~20% fines; wet, brown.	
	10	S2	24/7	1-1-2-5	PID= 0.3				S2 (10'- 12') SILTY SAND (SM); ~85% sand, fine to coarse, ~15% fines; wet, orange brown.	
5		S3	24/13	3-5-5-8	PID= 0.2 PID= 0.2				S3 (12'- 14') SILTY SAND (SM); ~85% sand, fine to coarse, ~15% fines; saturated, orange brown.	
		S4	24/9	1-5-6-9	PID= 0.2				S4 (14'- 16') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, rounded, ~5% fines; saturated,	
	15									

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 2 of 4
GPEC-GT07D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15								brown.	
0		S5	24/16	12-12-8-8	PID= 0.2 PID= 0.3				S5 (16'- 18') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, rounded, ~15% fines; wet, brown and orange brown.	
		S6	24/23	82-21-12-23	PID= 0.3 PID= 0.2 PID= 0.2 PID= 0.3		OLO		S6 (18'- 20') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded to rounded, ~5% fines; slight organic-like odor, wet, brown.	
	20	S7	24/0	21-12-6-8	PID= NA				S7 (20'- 22') NO RECOVERY.	
-5		S8	24/5	9-5-4-7	PID= 0.8 PID= 0.4		PLO		S8 (22'- 24') SILTY SAND (SM); ~60% sand, fine to medium, ~40% fines, non plastic; slight petroleum-like odor, wet, black.	
		S9	24/0	8-9-8-9	PID= NA				S9 (24'- 26') NO RECOVERY.	
	25									
-10		S10	24/0	7-10-10-12	PID= NA				S10 (26'- 28') NO RECOVERY.	
		S11	24/9	8-9-9-10	PID= 0.6		PLO		S11 (28'- 30') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; slight petroleum-like odor, wet, black.	
	30	S12	24/10	5-6-7-7	PID= 0.6 PID= 0.5				S12 (30'- 32') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, dark gray.	
-15		S13	24/9	3-5-7-8	PID= 0.7 PID= 0.5				S13 (32'- 34') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, angular, ~5% fines; wet, dark brown.	

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG

GPEC-GT07D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	35	S14	24/0	7-10-10-11	PID= NA				S14 (35'- 37') NO RECOVERY.	
-20										
	40	S15	24/0	17-21-18-18	PID= NA				S15 (40'- 42') NO RECOVERY.	
-25										
	45	S16	24/10	14-14-12-15	PID= 0.5 PID= 0.5				S16 (45'- 47') WIDELY GRADED SAND (SM); 97% sand, fine to coarse, 3% fines, wet, dark gray / black.	
-30										
	50	S17	24/16	14-15-18-20	PID= 0.5 PID= 0.5 PID= 0.5			Env. Sample ID= GPEC-GT-7 (50-52)	S17 (50'- 52') SILTY SAND (SM); ~80% sand, fine, ~20% fines; wet, gray brown.	
-35										

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BORING LOG

GPEC-GT07D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
									End of Boring at 52 feet. Monitoring well installed upon completion. Screened 30'- 45'.	

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BORING LOG
PAGE 1 of 4
GPEC-GT08

GROUND SURFACE ELEVATION (FT): 13.97 **LOCATION:** Southeast of Transportation Building
NORTHING (FT): 687503 **EASTING (FT):** 650951 **TOTAL DEPTH (FT):** 57.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 8/5/2009 - 8/25/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 7.50 8/5/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
10	0	G1	108/108	NA					Note: 0'- 9': HAND CLEARED. G1A (0'- 1') ASPHALT and crushed gravel for road pack. G1B (1'- 4') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~30% gravel, fine to coarse, ~15% fines; moist, brown, brick, slag, cobbles, glass. FILL.
					PID= 2.5				G1C (4'- 5') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~30% gravel, fine to coarse, ~15% fines; moist, brown, FILL. G1D (5'- 7') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~30% gravel, fine to coarse, ~15% fines; moist, brown, FILL.
5	5								G1E (7'- 7.5') WOOD.
▽					PID= 7.5		SLO	Env. Sample ID= GPEC-GT-8 (7.5-9)	G1F (7.5'- 9') SILTY GRAVEL WITH SAND (GM); ~55% gravel, fine to coarse, angular, ~30% fines, ~15% sand, fine to coarse; moderate sulfur-like odor, wet, gray, wood fragments. FILL.
5		S1	12/3	WOH-5	PID= 0.5		OLO		S1 (9'- 10') SILTY SAND (SM); ~70% sand, fine to coarse, ~20% fines, ~10% gravel, fine; moderate organic-like odor, wet, gray.
	10	S2	24/0	5-2-2-1	PID= NA				S2 (10'- 12') NO RECOVERY.
		S3	24/0	1-3-3-5	PID= NA		OLO		S3 (12'- 14') NO RECOVERY; slop in sampler, strong organic-like odor.
0		S4	24/22	3-2-3-4	PID= 48		OLO	Env. Sample ID= GPEC-GT-8 (14-16)	S4 (14'- 16') SILT WITH SAND (ML); ~80% fines, ~15% sand, ~5% gravel, fine; strong organic-like odor, green, some peat at bottom 6" Piece of wood fragments.
	15								

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NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT 7/6/11

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

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BORING LOG
PAGE 2 of 4
GPEC-GT08

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	15						OLO		
		S5	24/24	12-4-2-3	PID= 30				S5 (16'- 18') SANDY SILT (ML); ~65% fines, ~35% sand; green, wood fragments throughout sample.
		S6	24/24	5-9-9-9	PID= 24				S6A (18'- 19.5') SANDY SILT (ML); ~65% fines, ~35% sand; green, wood fragments throughout sample.
-5									S6B (19.5'- 20') PEAT (PT); ~100% peat, black / brown.
	20	S7	24/22	2-3-3-5	PID= NM		OLO		S7 (20'- 22') PEAT (PT); ~100% peat, strong organic-like odor, brown.
		S8	24/6	1-3-2-4	PID= NM		OLO		S8 (22'- 24') PEAT (PT); ~100% peat, strong organic-like odor, brown.
-10		S9	24/17	3-5-8-11	PID= 7.0 PID= 3.0				S9A (24'- 24.4') PEAT (PT); ~100% peat, brown. S9B (24.4'- 25.9') SILT WITH SAND (ML); ~80% fines, low plasticity, ~15% sand, ~5% gravel, fine; moist, gray.
	25				PID= 27				S9C (25.9'- 26') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; moist, gray.
-15									
	30	S10	24/24	9-11-13-21	PID= 7				S10 (30'- 32') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; moist, gray.
		U1	24/0	P-U-S-H	PID= NA				U1 (33'- 35') Shelby tube sample attempted. Not consolidated

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG
PAGE 3 of 4
GPEC-GT08

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
									enough for sample.
-20	35	S11	24/24	7-6-5-6	PID= 0.4				S11 (35'- 37') LEAN CLAY (CL); ~95% fines, low plasticity, ~5% sand, fine; gray.
-25	40	S12	24/24	11-9-13-9	PID= 0.7				S12A (40'- 40.6') LEAN CLAY WITH SAND (CL); ~85% fines, low plasticity, ~15% sand, fine; wet, gray. S12B (40.6'- 41.8') SILTY SAND (SM); ~85% sand, ~15% fines; wet, gray.
									S12C (41.8'- 42') SILT WITH SAND (ML); ~85% fines, low plasticity, ~15% sand, fine; wet, gray.
-30	45	S13	24/16	3-4-4-6	PID= 1.8			Env. Sample ID= GPEC-GT-8 (45-47)	S13A (45'- 46') NARROWLY GRADED SAND (SP); ~95% sand, ~5% gravel; wet, gray.
									S13B (46'- 47') SILTY SAND (SM); ~80% sand, ~15% fines, ~5% gravel, fine; gray.
-35	50	S14	24/14	5-9-8-9	PID= 0.8				S14 (50'- 52') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; wet, gray.

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BORING LOG

GPEC-GT08

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-40	55	S15	24/14	6-8-8-6	PID= 0.6			Env. Sample ID= GPEC-GT-8 (55-57)	S15 (55'- 57') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, medium, ~10% fines; wet, gray.

End of Boring at 57 feet.

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BORING LOG
PAGE 1 of 1
GPEC-GT09 (CPT)

GROUND SURFACE ELEVATION (FT): 13.67 **LOCATION:** Southwest of Accommodations Building
NORTHING (FT): 687597 **EASTING (FT):** 651182 **TOTAL DEPTH (FT):** 9.0
DRILLED BY: ConeTec / AC/DB **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: **DATE START / END:** 10/19/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0	G1	108/108				Note: 0'- 9': HAND CLEARED.
10				PID= 0.0			
	5						
5				PID= 0.0		Env. Sample ID= GPEC-GT-9 (8-9)	

Note: Soil was not logged in this borehole. Cone Penetrometer Test performed 9'- 61.7'.
End of Boring at 9 feet.

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

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FT. = FEET
TSF = TONS PER SQUARE FOOT

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG
PAGE 1 of 2
GPEC-GT10S (MW)

GROUND SURFACE ELEVATION (FT): 13.27 **LOCATION:** Between Accommodations Building and Saltwater Pump House
NORTHING (FT): 687626 **EASTING (FT):** 651251 **TOTAL DEPTH (FT):** 20.0
DRILLED BY: Summit Drilling **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: K. Kucher **DATE START / END:** 8/31/2009 - 8/31/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0							
5	5							
	10	S1	24/4	2-2-3-2	PID= NM		S1 (10'- 12') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, subrounded to subangular, ~5% fines; max. size 1", thin layer (2-2.5") of organics.	
0								
	15							

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BORING LOG

GPEC-GT10S (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15							
-5		S2	24/5	3-4-4-4	PID= NM		S2 (18'- 20') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, ~5% gravel, subrounded; max. size 0.5", wet, brown, organics 2-3".	
	20						End of Boring at 20 feet. Monitoring well installed upon completion. Screened 5'- 20'.	

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BORING LOG
PAGE 1 of 7
GPEC-GT10D (MW)

GROUND SURFACE ELEVATION (FT): 11.74 **LOCATION:** Southeast of Accommodations Building
NORTHING (FT): 687649 **EASTING (FT):** 651322 **TOTAL DEPTH (FT):** 121.9
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 8/14/2009 - 8/19/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	G1	96/96	NA	PID= 0.0					Note: 0'- 8': HAND CLEARED.	
10											
	5										
5		S1	24/12	1-1-3-1	PID= 0.1				Env. Sample ID= GPEC-GT-10D (8-10)	S1 (8'- 10') SILTY SAND (SM); ~60% sand, fine to coarse, ~30% fines, ~10% gravel, fine to coarse, subrounded; max. size 1.5", wet, brown, brick fragments. Silt clasts. FILL.	
	10	S2	24/6	1-1-1-8	PID= NM					S2 (10'- 12') SANDY SILT WITH GRAVEL (ML); ~50% fines, ~30% sand, fine to coarse, ~20% gravel, fine to coarse, subangular; layered, max. size 1.5", wet, reddish brown to black, stained. Brick fragments. FILL.	
0		S3	24/8	1-2-1-8	PID= NM					S3 (12'- 14') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, ~20% gravel, fine to coarse, subangular; layered, max. size 1", wet, reddish brown to black, stained. Brick fragments. FILL.	
	15	S4	24/0	4-5-5-7	PID= NA					S4 (14'- 16') NO RECOVERY; wash in spoon.	

color removed

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BORING LOG
PAGE 2 of 7
GPEC-GT10D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15										
		S5	24/8	11-12-16-8	PID= NM					S5 (16'- 18') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~70% gravel, fine to coarse, angular to subangular, ~20% sand, fine to coarse, ~10% fines; max. size 2", wet, red black to brown, crushed brick. FILL.	
-5		S6	24/8	8-7-11-7	PID= NM					S6 (18'- 20') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~15% fines; max. size 1.5", wet, brown to black, brick fragments. FILL.	
	20	S7	24/0	6-3-3-5	PID= NA					S7 (20'- 22') NO RECOVERY; wash in spoon.	
-10		S8	24/5	6-8-9-9	PID= NM					S8 (22'- 24') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% gravel, fine to coarse, ~15% fines; wet, brown to black, brick fragments and glass. Stained. Some sheen. FILL.	
	25	S9	24/11	3-2-4-4	PID= NM					S9 (24'- 26') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine, rounded, ~5% fines; max. size 0.5", wet, brown to black, staining occurs ~1" from spoon tip. FILL.	
-15		S10	24/10	8-10-10-10	PID= NM					S10A (26'- 27.8') NARROWLY GRADED SAND WITH SILT (SP-SM); 89% sand, fine to medium, 8% fines, 3% gravel, fine, subrounded, max. size 0.5", wet, brown, FILL.	
		S11	24/14	10-13-21-21	PID= NM Q_P= 2.816, 1.792, 2.048 S_V= 0.481, 0.563, 0.563					S10B (27.8'- 28') GRAVELLY SILT WITH SAND (ML); ~55% fines, ~30% gravel, fine to coarse, subangular, ~15% sand, medium to coarse; max. size 1", moist, gray, FILL. S11 (28'- 30') SILT WITH SAND (ML); ~85% fines, low plasticity, high dry strength, slow dilatancy, low toughness, ~15% sand, fine to medium; moist, gray to light brown, FILL.	
	30	S12/ U1	24/19	P-U-S-H	PID= NA					S12/U1 (30'- 32') SILT (ML).	
-20											

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BORING LOG

GPEC-GT10D (MW)

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	35	S13	24/14	12-8-9-9	PID= NM					S13 (35'- 37') SILTY SAND (SM); ~85% sand, fine, ~15% fines, rapid dilatancy; layered, wet, gray - brown, some layering and seams.	
-25											
	40	S14	24/11	7-8-9-11	PID= NM					S14 (40'- 42') NARROWLY GRADED SAND WITH SILT (SP-SM); layered, 91% sand, mostly fine, 9% fines, wet, gray - brown.	
-30											
	45	S15	24/16	4-4-5-7	PID= NM				Env. Sample ID= GPEC-GT-10D (45-47)	S15 (45'- 47') SILTY SAND (SM); ~80% sand, fine, ~20% fines, rapid dilatancy; wet, gray - brown.	
-35											
	50	S16	24/12	6-10-10-11	PID= NM				(50') Some drilling chatter.	S16 (50'- 52') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, ~5% gravel, fine, subangular; layered, max. size 0.25", wet, gray - brown.	
-40											

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

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BORING LOG
PAGE 4 of 7
GPEC-GT10D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	55	S17	24/5	7-7-8-6	PID= NM			NLO		S17 (55'- 57') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine, subrounded, ~10% fines; max. size 0.5", slight naphthalene-like odor, wet, gray - brown, coarse gravel in wash in spoon above sampler.	
-45											
	60	S18	24/4	8-11-11-13	PID= NM					S18 (60'- 62') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, subrounded, ~5% fines; max. size 0.75", wet, gray - brown, coarse gravel in wash in spoon above sampler.	
-50											
	65	S19	24/8	11-8-11-12	PID= NM					S19 (65'- 67') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, subrounded, ~5% fines; max. size 0.5", wet, gray - brown, coarse gravel in wash in spoon above sampler.	
-55											
	70				PID= 0.8						

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BORING LOG

GPEC-GT10D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-60		S20	24/8	7-15-18-13						S20 (70'- 72') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, subangular to angular, ~5% fines; max. size 0.25", wet, gray.	
	75	S21	24/12	11-11-10-13	PID= 0.3			NLO		S21 (75'- 77') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, subangular to angular, ~5% fines; max. size 0.25", slight naphthalene-like odor, wet, gray.	
-65											
	80	S22	24/10	13-11-14-15	PID= 1.2					S22 (80'- 82') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, subangular to angular, ~5% fines; max. size 0.25", wet, gray, contained 0.25" thick silt seam 3" from top of sample.	
-70											
	85	S23	24/4	18-12-13-15	PID= 3.2					S23 (85'- 87') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); 71% sand, fine to coarse, 21% gravel, fine to coarse, subrounded, 8% fines, max. size 0.75", wet, brown - gray.	
-75											

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BORING LOG
PAGE 6 of 7
GPEC-GT10D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	90	S24	24/18	31-67-75-63	PID= 1.2 PID= 0.9					S24A (90'- 90.9') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, subrounded, ~5% fines; max. size 0.25", wet, gray. S24B (90.9'- 92') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~75% gravel, fine to coarse, rounded to angular, ~15% sand, fine to coarse, ~10% fines; max. size 2", wet.	
-80											
	95	S25	24/9	27-69-70-76	PID= 0.4				(95'- 100') Some chatter.	S25 (95'- 97') SILTY SAND WITH GRAVEL (SM); 51% sand, fine to coarse, 35% gravel, fine to coarse, subrounded, 14% fines, max. size 2", wet, gray, driller notes likelihood of cobbles and gravel while sampling.	
-85											
	100	S26	24/6	27-20-32-39	PID= 1.0				(100') Strong chatter, possibly due to cobble "fall-in."	S26 (100'- 102') SILTY SAND (SM); ~75% sand, fine to medium, ~20% fines, ~5% gravel, fine, rounded; max. size 0.4", wet, gray, 0.5" of clayey material in spoon tip.	
-90											
	105	S27	24/4	41-40-44-41	PID= 0.9					S27 (105'- 107') CLAYEY SAND WITH GRAVEL (SC); 39% sand, fine to coarse, 12% gravel, fine to coarse, rounded, 49% fines, max. size 1", moist, gray, driller attributes high blow counts and low recovery to gravel/cobble "fall-in".	
-95											

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG

GPEC-GT10D (MW)

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	110	S28	4/4	100/4"	PID= 1.1					S28 (110'- 110.3') SILTY SAND (SM); ~80% sand, fine, ~15% fines, ~5% gravel, fine, subangular; max. size 0.25", wet, greenish gray, some clay seams in top 1".	
-100											
	115	S29	24/10	30-36-39-47	PID= 1.1					S29 (115'- 117') SILTY SAND (SM); ~80% sand, fine, ~15% fines, ~5% gravel, fine, subangular; max. size 0.25", wet, greenish gray.	
-105											
	120	S30	23/9	43-60-75-100/5"	PID= 0.3				Env. Sample ID= GPEC-GT-10D (120-121.9) (121'- 121.9') Hammer bouncing last 10".	S30 (120'- 121.9') SILTY SAND (SM); ~80% sand, fine, ~15% fines, ~5% gravel, fine, subangular; max. size 0.25", wet, greenish gray.	
-110										End of Boring at 121.9 feet. Monitoring well installed upon completion. Screened 43'- 58'.	

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BORING LOG
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GPEC-GT11 (CPT)

GROUND SURFACE ELEVATION (FT): 7.00
LOCATION: Between Accommodations Building and Saltwater Pump House
NORTHING (FT): 687652 **EASTING (FT):** 651336
TOTAL DEPTH (FT): 8.0
DRILLED BY: ConeTec / AC/DB
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer
DATE START / END: 10/12/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: Ground surface elevation estimated from ground contours.
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO TYPE and NO.	SAMPLE INFO PEN/REC IN./IN.	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96			Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') ASPHALT and crushed rock pack. G1B (0.5'- 2') NARROWLY GRADED SAND WITH GRAVEL (SP); ~50% gravel, fine to coarse, ~50% sand, fine to medium; moist, brown, FILL.
5					(2'- 3') Brick or concrete "wall" to the south side of the hole.	G1C (2'- 5') WIDELY GRADED GRAVEL WITH SAND (GW); trace silty fines, max. size 8", moist, brown, with cobbles and brick fragments. FILL.
	5				(6') Refusal. Hole moved 1.5' north and 1.5' west.	G1D (5'- 8') WIDELY GRADED GRAVEL WITH SAND (GW); trace silty fines, max. size 8", moist, brown, with cobbles and brick fragments. FILL.
0						
						Note: Soil was not logged past the hand cleared depth of 8'. Cone Penetrometer Test performed 8'- 17.2'. End of Boring at 8 feet.

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG
PAGE 1 of 1
GPEC-GT13 (CPT)

GROUND SURFACE ELEVATION (FT): 15.17 **LOCATION:** Southeast of Stores Building
NORTHING (FT): 687861 **EASTING (FT):** 651166 **TOTAL DEPTH (FT):** 8.0
DRILLED BY: ConeTec / AC/DB **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 10/14/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO TYPE and NO.	SAMPLE INFO PEN/REC IN./IN.	STRATA	SOIL / BEDROCK DESCRIPTION
15	0	G1	96/96		Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') ASPHALT and crushed road pack. G1B (0.5'- 3') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, coarse, ~10% fines; moist, brown, some cobbles. FILL.
10	5				Note: Soil was not logged past the hand cleared depth of 8'. Cone Penetrometer Test performed 8'- 90.7'. End of Boring at 8 feet.

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BORING LOG
PAGE 1 of 1
GPEC-GT15 (CPT)

GROUND SURFACE ELEVATION (FT): 10.06 **LOCATION:** Near bulkhead between Mooring Bitts 13 & 14
NORTHING (FT): 688155 **EASTING (FT):** 651119 **TOTAL DEPTH (FT):** 8.0
DRILLED BY: ConeTec / AC/DB **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 10/14/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT): ▽ 8.50 10/7/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO TYPE and NO.	SAMPLE INFO PEN/REC IN./IN.	STRATA	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96		Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') Crushed gravel road pack. G1B (0.5'- 8') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~55% sand, fine to coarse, ~35% gravel, fine to coarse, ~10% fines; moist, brown, FILL.
5	5				
▽					Note: Soil was not logged past the hand cleared depth of 8'. Cone Penetrometer Test performed 8'- 90.9'. End of Boring at 8 feet.

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BORING LOG
PAGE 1 of 1
GPEC-GT17 (CPT)

GROUND SURFACE ELEVATION (FT): 5.50 **LOCATION:** West of Mooring Bitt 20
NORTHING (FT): 688550 **EASTING (FT):** 650967 **TOTAL DEPTH (FT):** 8.0
DRILLED BY: ConeTec / AC/DB **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 10/13/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: Ground surface elevation estimated from ground contours.
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	SOIL / BEDROCK DESCRIPTION
5	0	G1	96/96		Note: 0'- 8': HAND CLEARED. G1 (0'- 8') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); brown to dark brown, some cobbles. FILL.
0	5				Note: Soil was not logged past the hand cleared depth of 8'. Cone Penetrometer Test performed 8'- 27.9'. End of Boring at 8 feet.

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BORING LOG
PAGE 1 of 1
GPEC-GT19 (CPT)

GROUND SURFACE ELEVATION (FT): 9.94 **LOCATION:** West of Mooring Bitt 29
NORTHING (FT): 688978 **EASTING (FT):** 650776 **TOTAL DEPTH (FT):** 8.0
DRILLED BY: ConeTec / AC/DB **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 10/14/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	ODOR	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96			Note: 0'- 8': HAND CLEARED. G1 (0'- 8') SILTY SAND WITH GRAVEL (SM); slight tar-like odor, light brown, FILL.
5	5				TLO	
						Note: Soil was not logged past the hand cleared depth of 8'. Cone Penetrometer Test performed 8'- 76.1'. End of Boring at 8 feet.

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BORING LOG
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GPEC-GT21 (CPT)

GROUND SURFACE ELEVATION (FT): 9.69 **LOCATION:** West of Mooring Bitts 33 and 34
NORTHING (FT): 689228 **EASTING (FT):** 650718 **TOTAL DEPTH (FT):** 8.0
DRILLED BY: ConeTec / AC/DB **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 10/14/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96			Air knife to 3' bgs, coal tar odor.	Note: 0'- 8': HAND CLEARED. G1 (0'- 8') WIDELY GRADED SAND WITH SILT (SW-SM); slight tar-like odor, dark brown, a little gravel. FILL.
5	5				TLO		
							Note: Soil was not logged past the hand cleared depth of 8'. Cone Penetrometer Test performed 8'- 76.1'. End of Boring at 8 feet.

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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
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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: 093260-1-1101

BORING LOG
PAGE 1 of 1
GPEC-GT23 (CPT)

GROUND SURFACE ELEVATION (FT): 13.75 **LOCATION:** Between Stores Building and Accommodations Building
NORTHING (FT): 687769 **EASTING (FT):** 651129 **TOTAL DEPTH (FT):** 8.0
DRILLED BY: ConeTec / AC/DB **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 10/19/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT): ▽ 2.50 10/1/1979 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96			Note: 0'- 8': HAND CLEARED. (0'- 0.5') ASPHALT and crushed road pack.
▽					Env. Sample ID= GPEC-GT-23 (3-4)	
10						
	5					
						Note: Soil was not logged in this borehole. Cone Penetrometer Test performed 8'- 73.8'. End of Boring at 8 feet.

NOTES:

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

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MLO = MUSTY LIKE ODOR
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NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG

GPEC-GT24 (CPT)

GROUND SURFACE ELEVATION (FT): 14.99 **LOCATION:** East of Generator Area, near Varick Ave.
NORTHING (FT): 687293 **EASTING (FT):** 649811 **TOTAL DEPTH (FT):** 8.0
DRILLED BY: ConeTec / AC/DB **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: **DATE START / END:** 10/8/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96		Note: 0'- 8': HAND CLEARED.
10	5				
					Note: Soil was not logged in this borehole. Cone Penetrometer Test performed 8'- 100.2'. End of Boring at 8 feet.

NOTES:

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FT. = FEET
TSF = TONS PER SQUARE FOOT

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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

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

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BORING LOG

GPEC-GT25 (CPT)

GROUND SURFACE ELEVATION (FT): 16.11
LOCATION: Between Varick Ave. and CRG Unit Area
NORTHING (FT): 687446 **EASTING (FT):** 649645
TOTAL DEPTH (FT): 8.0
DRILLED BY: ConeTec / AC/DB
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY:
DATE START / END: 10/12/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96		Note: 0'- 8': HAND CLEARED.
15					
	5				
10					
					Note: Soil was not logged in this borehole. Cone Penetrometer Test performed 8'- 68.2'. End of Boring at 8 feet.

NOTES:

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TSF = TONS PER SQUARE FOOT

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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

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NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

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BORING LOG
PAGE 1 of 1
GPEC-GT26 (CPT)

GROUND SURFACE ELEVATION (FT): 9.23 **LOCATION:** West of Mooring Bitts 18 & 19
NORTHING (FT): 688439 **EASTING (FT):** 650976 **TOTAL DEPTH (FT):** 8.0
DRILLED BY: ConeTec / AC/DB **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 10/13/2009
DRILLING DETAILS: Cone Penetrometer Test
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO TYPE and NO.	SAMPLE INFO PEN/REC IN./IN.	STRATA	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96		Note: 0'- 8': HAND CLEARED. G1 (0'- 8') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); brick and glass fragments. FILL.
5	5				
					Note: Soil was not logged past the hand cleared depth of 8'. Cone Penetrometer Test performed 8'- 98.4'. End of Boring at 8 feet.

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FT. = FEET
TSF = TONS PER SQUARE FOOT

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TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
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MLO = MUSTY LIKE ODOR
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NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

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BORING LOG

PAGE 1 of 1

GPEC-MR-01

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM				(0'- 6') NARROWLY GRADED SAND WITH SILT (SP-SM); ~70% sand, fine to medium, ~20% fines, ~10% gravel; max. size 0.5", moist, brown and gray, FILL.
5	5		6/NM	PID= 0.0		Env. Sample ID= GPEC-MR-01	
							End of Boring at 6 feet. Backfilled.

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
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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
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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.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 1 of 1
GPEC-MR-02

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM				(0'- 6') NARROWLY GRADED SAND (SP); ~80% sand, medium, ~15% gravel, ~5% fines; max. size 0.75", dry, brown, FILL.
			6/NM	PID= 0.0		Env. Sample ID= GPEC-MR-02	
5	5						End of Boring at 6 feet. Backfilled.

NOTES:

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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
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CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG
PAGE 1 of 1
GPEC-MR-03

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM					(0'- 6') SILTY SAND (SM); ~70% sand, fine to coarse, ~20% fines, non plastic, ~10% gravel; max. size 0.5", moderate petroleum-like odor, gray black, 8" thick concrete slab at 3' bgs. FILL.
5	5		6/NM	PID= 0.0		PLO	Env. Sample ID= GPEC-MR-03	
								End of Boring at 6 feet. Backfilled.

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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
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG

PAGE 1 of 1

GPEC-MR-04

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM				(0'- 6') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, ~5% fines; max. size 0.75", dry, brown, cobbles at surface. FILL.
			6/NM	PID= 0.0		Env. Sample ID= GPEC-MR-04	
5	5						End of Boring at 6 feet. Backfilled.

NOTES:

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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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BORING LOG
PAGE 1 of 1
GPEC-MR-05

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM					(0'- 6') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, medium to coarse, ~20% gravel, ~5% fines; max. size 2", moderate petroleum-like odor, moist, gray brown, FILL.
			6/NM	PID= 3.2		PLO	Env. Sample ID= GPEC-MR-05	
5	5							End of Boring at 6 feet. Refusal at 3 feet. Backfilled.

NOTES:

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FT. = FEET
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PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
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CrLO= CREOSOTE LIKE ODOR
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SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR
SeLO= SEWAGE LIKE ODOR

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI.DATA TEMPLATE.GDT 7/6/11

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BORING LOG
PAGE 1 of 1
GPEC-MR-06

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM			PLO		(0'- 6') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to medium, ~20% gravel, ~5% fines; max. size 2", slight petroleum-like odor, dry, dark black brown, FILL.
			6/NM	PID= 0.8			Env. Sample ID= GPEC-MR-06	
5	5							End of Boring at 6 feet. Backfilled.

NOTES:

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ALO = ASPHALT LIKE ODOR
CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR
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NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI.DATA TEMPLATE.GDT 7/6/11

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GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 1 of 1
GPEC-MR-07

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM				(0'- 6') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse sand, ~20% gravel, ~10% fines, non plastic; very moist, gray, FILL.
			6/NM	PID= 0.0		Env. Sample ID= GPEC-MR-07	
5	5						End of Boring at 6 feet. Backfilled.

NOTES:

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S_V = TORVANE PEAK IN TSF

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

NLO = NAPHTHALENE LIKE ODOR
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MLO = MUSTY LIKE ODOR
SeLO= SEWAGE LIKE ODOR

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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: 093260-1-1101

BORING LOG

PAGE 1 of 1

GPEC-MR-08

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM				(0'- 2.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, medium to coarse, ~15% gravel, ~5% fines; max. size 2", dry, brown, FILL.
			6/NM	PID= 0.2		Env. Sample ID= GPEC-MR-08	
5	5						End of Boring at 6 feet. Refusal at 2.5 feet. Backfilled.

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.GPJ_ATLANTIC.GEI.DATA TEMPLATE.GDT_7/6/11

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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 1 of 1
GPEC-MR-09

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM				(0'- 6') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, ~5% fines; max. size 2", dry, dark brown, FILL.
			6/NM	PID= 0.1		Env. Sample ID= GPEC-MR-09	
5	5						End of Boring at 6 feet. Backfilled.

NOTES:

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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.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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455 Winding Brook Road
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BORING LOG
PAGE 1 of 1
GPEC-MR-10

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM				(0'- 6') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, ~35% sand, fine to coarse, ~5% fines; max. size 2", moist, dark brown, FILL.
			6/NM	PID= 0.0		Env. Sample ID= GPEC-MR-10	
5	5						End of Boring at 6 feet. Backfilled.

NOTES:

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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.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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

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GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 1 of 1
GPEC-MR-11

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2011
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM					(0'- 6') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse sand, ~15% gravel, ~10% fines; max. size 1", slight petroleum-like odor, dry, dark brown, wood and debris, plastic. FILL.
			6/NM	PID= 19.3			Env. Sample ID= GPEC-MR-11	
5	5					PLO		
								End of Boring at 6 feet. Backfilled.

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FT. = FEET
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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
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT 7/6/11

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

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BORING LOG
PAGE 1 of 1
GPEC-MR-12

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM				(0'- 6') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~30% gravel, ~20% fines, non plastic; max. size 1", wet, brown gray, FILL.
			6/NM	PID= 0.0		Env. Sample ID= GPEC-MR-12	
5	5						End of Boring at 6 feet. Backfilled.

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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.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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455 Winding Brook Road
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BORING LOG
PAGE 1 of 1
GPEC-MR-13

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: Erin Ringer **DATE START / END:** 7/19/2010 - 7/19/2010
DRILLING DETAILS: Hand Clearance/Soil Vacuum Extraction / Hand Tools/VacMaster
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		72/NM				(0'- 6') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, medium to coarse, ~10% gravel, ~5% fines, non plastic; max. size 1", dry, brown, FILL.
			6/NM	PID= 10.0		Env. Sample ID= GPEC-MR-13	
5	5						End of Boring at 6 feet. Backfilled.

NOTES:

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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
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT 7/6/11

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455 Winding Brook Road
Glastonbury, CT 06033
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GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 1 of 1
GPEC-MW-01R

GROUND SURFACE ELEVATION (FT): 11.70 **LOCATION:** Northeast of Accommodations Building, West of Mooring Bitt 8
NORTHING (FT): 687779 **EASTING (FT):** 651237 **TOTAL DEPTH (FT):** 65.0
DRILLED BY: Boart Longyear / Dell Cunningham **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K. Kucher, R. Marshall **DATE START / END:** 5/24/2010 - 5/25/2010
DRILLING DETAILS: Roto-Sonic Drilling / Mini Sonic Bredel 40 SPX / Casing: 7.625 in. ID / Casing: 8 in. OD
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0		60/NM	2 min		GPEC-MW-01R over-drilled through GPEC-MW-01 that had been damaged. No samples collected.	
5	5		60/NM	2 min			
0	10		60/NM	5 min			
-5	15		60/NM	2 min			
-10	20		60/NM	2 min			
-15	25		60/NM	2 min			
-20	30		60/NM	6 min			
-25	35		60/NM	1 min			
-30	40		60/NM	1 min			
-35	45		60/NM	1 min			
-40	50		60/NM	3 min			
-45	55		60/NM	2 min			
-50	60		60/NM	NM			
	65					End of Boring at 65 feet. Monitoring well installed. Screened 50'- 60'.	

NOTES:

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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
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT_7/6/11

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Glastonbury, CT 06033
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BORING LOG
PAGE 1 of 1
GPEC-SB01

GROUND SURFACE ELEVATION (FT): 11.42 **LOCATION:**
NORTHING (FT): 687779 **EASTING (FT):** 651237 **TOTAL DEPTH (FT):** 19.3
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 4/1/2009 - 4/1/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 6.50 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96	NA	PID= 0.4				Env. Sample ID= GPEC-SB-1 (7.5-8)	Note: 0'- 8': HAND CLEARED. G1A (0'- 1') ASPHALT and reinforced concrete. G1B (1'- 6.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, subrounded, ~15% gravel, fine to coarse, ~5% fines; ~5% cobbles, slight petroleum-like odor, moist, reddish brown, brick, and concrete. FILL.
10	5							PLO		
▽ 5					PID= 1.0					G1C (6.5'- 8') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, subrounded, ~15% gravel, fine to coarse, ~5% fines; ~5% cobbles, wet, brown, brick, and concrete. FILL.
		S1	24/9	9-1-1-1	PID= 26.8					S1 (8'- 10') WIDELY GRADED SAND (SW); ~85% sand, fine to medium, ~10% gravel, fine, ~5% fines; wet, brown, timber and concrete. FILL.
0	10	S2	24/9	9-7-2-6	PID= 26.5					S2 (10'- 12') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, ~5% fines; wet, brown, brick fragments. FILL.
		S3	24/14	2-2-5-5	PID= 7.5					S3 (12'- 14') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; wet, brown, brick, tile, concrete fragments. FILL.
		S4	24/1	30-7-4-5	PID= 42.5					S4 (14'- 16') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; wet, brown, brick, tile, concrete fragments. Sheen. FILL.
-5	15	S5	24/13	9-4-20-21	PID= 26.1			PLO		S5 (16'- 18') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, ~5% fines; slight petroleum-like odor, wet, brown, brick fragments. Trace petroleum sheen.
		S6	16/15	6-4-50/3"	PID= 4.8			PLO		S6 (18'- 19.3') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, ~10% fines; slight petroleum-like odor, wet, brown, brick fragments. Trace petroleum sheen. End of Boring at 19.3 feet. Auger refusal at 19.5 ft bgs, steel or rock. Bentonite hole plug and backfill with asphalt patch at surface. Offset 1 foot and continued drilling. (GPEC-MW-01/SB-01B(MW))

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI.DATA TEMPLATE.GDT 7/6/11

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

CLIENT: National Grid
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BORING LOG
PAGE 1 of 6
GPEC-SB01B/MW-01

GROUND SURFACE ELEVATION (FT): 11.65 **LOCATION:** Northeast of Accommodations Building, West of Mooring Bitt 8
NORTHING (FT): 687779 **EASTING (FT):** 651237 **TOTAL DEPTH (FT):** 99.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 4/8/2009 - 4/10/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 6.50 ; from GPEC-SB-01
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0									Note: 0'- 19.3' logged in GPEC-SB-01.	
5	5										
0	10										
	15										

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG

GPEC-SB01B/MW-01

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-5	15										
	20	S1	24/6	6-22-11-9	PID= 30.3					S1 (20'- 22') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% sand, fine to medium, ~20% gravel, fine to coarse, rounded, ~10% fines; max. size 2", moist to wet, brown, FILL.	
-10		S2	24/7	7-5-6-6	PID= 6.0					S2 (22'- 24') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% sand, fine to medium, ~20% gravel, fine to coarse, rounded, ~10% fines; max. size 2", wet, brown, FILL.	
	25	S3	24/16	3-8-24-52	PID= 70.5			TLO		S3 (24'- 26') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subangular, ~5% fines; max. size 2", slight tar-like odor, wet, black, stained. Sheen. FILL.	
-15		S4	24/24	3-6-18-24	PID= 12.6					S4 (26'- 28') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, subangular, ~5% fines; max. size 1.5", wet, black, brick tile fragments. FILL.	
		S5	24/24	13-11-4-8	PID= 14.1			TLO		S5 (28'- 30') NARROWLY GRADED SAND (SP); ~95% sand, medium to coarse, angular, ~5% gravel, fine; moderate tar-like odor, wet, gray, brick tile fragments. Sheen. FILL.	
	30	S6	24/10	4-5-7-9	PID= 4.1					S6 (30'- 32') ORGANIC SOIL WITH SAND (OL/OH); ~50% organic silt, ~25% organic roots, ~25% sand, fine, moist, dark brown.	
-20		S7	24/3	8-13-17-20	PID= 11.2					S7 (32'- 34') ORGANIC SOIL WITH SAND (OL/OH); ~50% organic silt, ~25% organic roots, ~25% sand, fine, saturated, dark brown.	

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT_7/6/11

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

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BORING LOG
PAGE 3 of 6
GPEC-SB01B/MW-01

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	35	S8	24/1	8-10-12-12	PID= 4.0					S8 (34'- 36') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine; wet, gray.	
-25		S9	24/14	8-10-14-13	PID= 1.2					S9 (36'- 38') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine, subangular; wet, gray.	
		S10	24/16	10-11-14-21	PID= 1.1					S10 (38'- 40') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subangular, ~10% gravel, fine, subangular; wet, gray.	
	40	S11	24/1	6-10-9-7	PID= 2.0					S11 (40'- 42') WIDELY GRADED GRAVEL (GW); ~100% gravel, fine to coarse, subangular; max. size 1.25".	
-30		S12	24/8	6-7-10-13	PID= 3.0					S12 (42'- 44') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse; max. size 2", wet, gray.	
	45	S13	24/8	8-10-11-15	PID= 0.5				(44') Cobbles causing rough drilling.	S13 (44'- 46') WIDELY GRADED SAND (SW); ~90% sand, medium to coarse, ~10% gravel, fine to coarse, angular; max. size 1", wet, gray.	
-35		S14	24/16	6-11-18-22	PID= 1.0					S14 (46'- 48') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to medium, ~20% gravel, fine to coarse, subangular; max. size 1.75", wet, gray.	
		S15	24/24	19-30-26-22	PID= 0.9					S15 (48'- 50') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to medium, ~20% gravel, fine to coarse, subangular; max. size 2", wet, gray.	
	50	S16	24/0	40-30-34-39	PID= NA				S16: 3" spoon used.	S16 (50'- 52') NO RECOVERY.	
-40											

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BORING LOG
PAGE 4 of 6
GPEC-SB01B/MW-01

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
		S17	24/23	6-14-17-22	PID= 256			TLO	Env. Sample ID= GPEC-SB-1B (52-54)	S17 (52'- 54') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, subrounded, ~15% gravel, fine to coarse, subrounded; max. size 1.5", strong tar-like odor, wet, gray brown, fine sand at bottom of sample. Tar saturated.	
	55	S18	24/10	36-38-34-43	PID= 31.8			TLO	S18: 3" spoon used.	S18 (54'- 56') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; moderate tar-like odor, wet to moist, gray.	
-45		S19	24/1	6-8-13-11	PID= 34.0					S19 (56'- 58') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine; gray.	
		S20	24/22	7-5-8-16	PID= 22.8			TLO		S20 (58'- 60') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~5% fines; layered, strong tar-like odor, wet, gray brown, sheen.	
	60	S21	24/4	10-9-13-13	PID= 9.9			TLO		S21 (60'- 62') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, fine to medium, ~20% gravel, fine, subangular; moderate tar-like odor, wet, gray.	
-50		S22	24/23	4-9-14-0	PID= 5.3					S22 (62'- 64') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, subangular, ~15% gravel, fine; wet, gray brown.	
		S23	24/2	11-9-10-15	PID= 4.6				S23: 3" spoon used.	S23 (64'- 66') WIDELY GRADED GRAVEL (GW); ~100% gravel; max. size 2.5", wet.	
	65	S24	24/18	5-7-10-13	PID= 32.3					S24 (66'- 68') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, subrounded, ~35% gravel, fine to coarse, subrounded; max. size 2", wet, black gray.	
-55		S25	24/20	5-6-15-24	PID= 7.6					S25 (68'- 70') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, medium to coarse, subrounded, ~35% gravel, fine to coarse, subrounded; max. size 2", wet, dark gray.	
	70				PID= NA						

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BORING LOG
PAGE 5 of 6
GPEC-SB01B/MW-01

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
		S26	24/0	10-12-16-30						S26 (70'- 72') NO RECOVERY.	
-60		S27	24/14	12-16-16-16	PID= 9.5					S27 (72'- 74') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium to coarse, ~20% gravel, fine to coarse, subrounded; max. size 1", wet, gray brown.	
	75	S28	24/12	12-20-26-37	PID= 9.3			TLO	S28: 3" spoon used.	S28 (74'- 76') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium to coarse, subrounded, ~15% gravel, fine to coarse; max. size 1", slight tar-like odor, wet, brown.	
-65		S29	24/22	6-14-13-17	PID= 3.7			TLO		S29 (76'- 78') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium to coarse, subrounded, ~15% gravel, fine to coarse; max. size 1", slight tar-like odor, wet, brown.	
		S30	24/18	7-15-22-29	PID= 4.6			TLO	(78') Dificult drilling.	S30 (78'- 80') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium to coarse, subrounded, ~15% gravel, fine to coarse; max. size 1", slight tar-like odor, wet, brown.	
	80	S31	24/12	12-19-22-24	PID= 4.2			TLO		S31 (80'- 82') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium to coarse, ~15% gravel, fine to coarse; slight tar-like odor, wet, gray, 1" gravel seam.	
-70		S32	24/21	8-23-39-52	PID= 8.2 PID= 2.3					S32A (82'- 83') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium, ~15% gravel, fine to coarse; max. size 1", wet, brown to dark gray. S32B (83'- 84') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, fine, ~15% gravel, fine to coarse; max. size 1", wet, brown to dark gray.	
	85	S33	24/9	24-31-32-47	PID= 5.6				S33: 3" spoon used.	S33 (84'- 86') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, fine to medium, ~20% gravel, fine to coarse, subrounded; wet, gray brown.	
-75		S34	24/20	30-20-20-21	PID= 6.3 PID= 6.6					S34A (86'- 87') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, fine to medium, ~20% gravel, fine to coarse, subrounded; wet, gray. S34B (87'- 88') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse; wet, dark gray.	
		S35	24/24	18-16-19-47	PID= 5.7			TLO	(88') Trace		

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BORING LOG

PAGE 6 of 6

GPEC-SB01B/MW-01

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									tar/sheen in drilling mud.	S35 (88'- 90') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, subrounded, ~15% gravel, fine to coarse, subrounded; slight tar-like odor, wet, gray brown, trace sheen.	
	90	S36	24/8	51-38-26-21	PID= 2.1			TLO		S36 (90'- 92') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded; max. size 1.5", slight tar-like odor, wet, dark gray.	
-80		S37	24/24	18-29-61-55	PID= 2.0			TLO		S37 (92'- 94') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse; max. size 1.5", wet, gray.	
	95	S38	24/11	35-45-61-46	PID= 2.0				S38: 3" spoon used.	S38 (94'- 96') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium to coarse, ~15% gravel, fine to coarse, subrounded; max. size 2", wet, gray.	
-85		S39	24/13	19-47-70-73	PID= 1.7					S39 (96'- 98') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium to coarse, ~15% gravel, fine to coarse, subrounded; max. size 2", wet, gray.	
		S40	12/12	68-100/6"	PID= 1.7				Env. Sample ID= GPEC-SB-1B (98-100)	S40 (98'- 99') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse; layered, max. size 1.25", wet, dark gray.	
										End of Boring at 99 feet.	
										Monitoring well installed upon completion.	
										Screened 43'- 58'.	

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BORING LOG
PAGE 1 of 6
GPEC-SB02/MW-02

GROUND SURFACE ELEVATION (FT): 11.34 **LOCATION:** South of LNG Dock House, Between Mooring Bitts 12 &13
NORTHING (FT): 688036 **EASTING (FT):** 651144 **TOTAL DEPTH (FT):** 100.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 4/1/2009 - 4/7/2009
DRILLING DETAILS: Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 6.50 4/1/2009 ;
GENERAL NOTE:
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10	0	G1	96/96	NA	PID= 1.7					Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') ASPHALT. G1B (0.5'- 5.5') WIDELY GRADED GRAVEL WITH SAND (GW); ~50% gravel, fine to coarse, subrounded, ~45% sand, fine to coarse, ~5% fines; moist, dark brown, some brick or concrete cobbles (6" diameter).	
	5				PID= 0.6					G1C (5.5'- 8') WIDELY GRADED SAND (SW); ~90% sand, fine to medium, ~5% gravel, fine, subrounded, ~5% fines; wet, brown.	
▽ 5		S1	24/9.5	WOH/12"-1-1	PID= 0.3					S1 (8'- 10') SILTY SAND (SM); ~80% sand, fine to medium, ~15% fines, ~5% gravel; moist, red brown.	
0	10	S2	24/9.5	2-2-3-2	PID= 2.2				Env. Sample ID= GPEC-SB-2 (10-12)	S2 (10'- 12') SILTY SAND (SM); ~75% sand, fine to medium, ~15% fines, ~10% gravel; moist, red brown.	
		S3	24/22	1-2-4-6	PID= 0.0					S3 (12'- 14') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, ~10% fines; wet, dark brown.	
	15	S4	24/0	2-1-2-1	PID= NA					S4 (14'- 16') NO RECOVERY.	

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GPEC-SB02/MW-02

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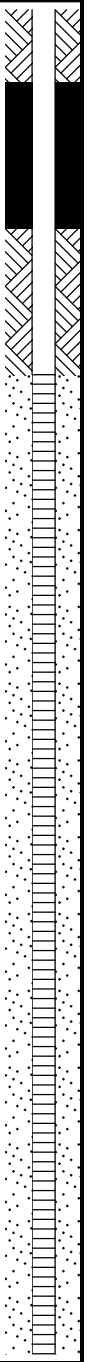
	15									
-5		S5	8/8	4-50/2"	PID= 0.5				(17') Steel plate encountered. Driller able to penetrate.	S5 (16'- 16.7') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, ~10% fines; wet, dark brown.
		S6	8/8	6-50/2"	PID= 0.3					S6 (18'- 18.7') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine to medium, ~10% gravel, coarse, ~10% fines; brown, 2" layer of black.
	20	S7	1/0	50/1"	PID= NA					S7 (20'- 20.1') NO RECOVERY.
-10		S8	24/15	18-13-9-9	PID= 0.5					S8 (22'- 24') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, ~5% fines; wet, brick fragments. FILL.
	25	S9	24/4	3-4-11-9	PID= 1.3			PLO		S9 (24'- 26') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, ~5% fines; moderate petroleum-like odor, wet, brick fragments. Sheen. FILL.
-15		S10	24/4	WOH/12"-1-2	PID= 1.5			TLO		S10 (26'- 28') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse; slight tar-like odor, wet, brick fragments, tile. Angular. Super saturated. Sheen. FILL.
		S11	24/12	4-1-4-5	PID= 41			TLO		S11 (28'- 30') ELASTIC SILT WITH SAND (MH); ~80% fines, ~10% gravel, coarse, subangular, ~10% sand, fine to coarse; max. size 2", moderate tar-like odor, moist, black, sheen.
	30	S12	24/14	2-12-4-9	PID= 50 PID= 12.6			TLO	Env. Sample ID= GPEC-SB-2 (30-32)	S12A (30'- 30.9') SILTY GRAVEL (GM); moderate tar-like odor, wet, black, sheen. Blebs and globs. FILL. S12B (30.9'- 32') LEAN CLAY (CL); medium plasticity, no dilatancy; moist, dark gray, shell fragments.
-20		S13	24/18	12-12-11-13	PID= 20.3			TLO		S13 (32'- 34') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, angular, ~20% gravel, fine to coarse, angular; max. size 1", moderate tar-like odor, wet,

WELL DETAILS



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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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: 093260-1-1101

BORING LOG
PAGE 3 of 6
GPEC-SB02/MW-02

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
										black, sheen. Staining. FILL.
	35	S14	24/20	4-7-6-6	PID= 20.3 PID= 2.3			TLO		S14A (34'- 35') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse; moderate tar-like odor, wet, dark gray, tile, brick fragments. Sheen. FILL. S14B (35'- 36') NARROWLY GRADED SAND (SP); ~100% sand, fine to medium; gray brown.
-25		S15	24/24	2-6-6-7	PID= 21.1 PID= 3.8			TLO		S15A (36'- 37') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, subangular, ~15% gravel, fine, subangular; moderate tar-like odor, wet, dark gray. S15B (37'- 38') NARROWLY GRADED SAND (SP); ~100% sand, fine; wet, gray.
		S16	24/16	5-3-5-11	PID= 13.8			TLO		S16 (38'- 40') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% gravel, fine to coarse, subangular; max. size 1", moderate tar-like odor, wet, dark gray.
	40	S17	24/4	18-21-13-12	PID= 1.7					S17 (40'- 42') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse; wet.
-30		S18	24/7	9-23-8-11	PID= 1.7			TLO		S18 (42'- 44') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium to coarse, ~15% gravel, fine to coarse, subrounded; slight tar-like odor.
	45	S19	24/4.5	24-14-11-11	PID= 3.2			TLO		S19 (44'- 46') WIDELY GRADED GRAVEL WITH SAND (GW); ~70% gravel, fine to coarse, ~30% sand, medium to coarse; slight tar-like odor, subrounded grains.
-35		S20	24/10	12-14-13-10	PID= 2.4			TLO	(46') Rough drilling.	S20 (46'- 48') WIDELY GRADED GRAVEL WITH SAND (GW); ~80% gravel, fine to coarse, subangular, ~20% sand, medium to coarse; slight tar-like odor, sheen.
		S21	24/0	23-18-12-15	PID= NA				(48') Loss of drilling mud.	S21 (48'- 50') NO RECOVERY; gravel wash, wet.
	50	S22	24/6	8-13-11-11	PID= 1.5			TLO	(50'- 52') Drilling mud loss continues.	S22 (50'- 52') WIDELY GRADED GRAVEL WITH SAND (GW); ~80% gravel, fine to coarse, subangular, ~20% sand, medium to coarse; slight tar-like odor, wet.
-40										

color removed

WELL DETAILS

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Q_P = POCKET PENETROMETER IN TSF
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BORING LOG
PAGE 4 of 6
GPEC-SB02/MW-02

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
		S23	24/10	7-10-12-16	PID= 2.6			TLO	(52'- 54') Drilling mud loss continues.	S23 (52'- 54') WIDELY GRADED GRAVEL WITH SAND (GW); ~85% gravel, fine to coarse, subangular, ~15% sand, fine to coarse; max. size 1.75", slight tar-like odor, wet, gray, multicolored.	
	55	S24	24/8	6-5-10-11	PID= 1.6			TLO	(54'- 56') Drilling mud loss continues.	S24 (54'- 56') WIDELY GRADED GRAVEL WITH SAND (GW); ~85% gravel, fine to coarse, subangular, ~15% sand, fine to coarse; max. size 1.75", slight tar-like odor, wet, gray, multicolored.	
-45		S25	24/12	16-23-22-22	PID= 1.6 PID= 1.2				(56'- 58') Drilling mud loss continues.	S25 (56'- 58') NARROWLY GRADED SAND WITH GRAVEL (SP); ~70% sand, fine to medium, ~30% gravel, fine, subangular; max. size 0.25", clean sand with gravel seam.	
		S26	24/0	NM	PID= NA				(58') Driller experiencing gravel collapsing into the hole.	S26 (58'- 60') NO RECOVERY.	
	60	S27	24/8	8-16-15-14	PID= 0.4					S27 (60'- 62') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~10% gravel, fine to coarse, subrounded; moist to wet, gray black.	
-50		S28	24/20	17-15-17-12	PID= 0.3 PID= 0.2				(62') Difficult drilling.	S28A (62'- 62.8') NARROWLY GRADED SAND (SP); ~100% sand, fine to medium; wet, gray. S28B (62.8'- 64') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium, ~20% gravel, fine to coarse, rounded; max. size 2", wet, black.	
		S29	24/18	10-13-16-20	PID= 0.6					S29A (64'- 66') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, fine to medium, ~20% gravel, fine to coarse, rounded; layered, wet, gray black, black sand due to mineralogy. Gravel: chert, basalt.	
	65	S30	24/20	15-24-25-23	PID= 0.3 PID= 0.3				(66') Drill chatter and difficult drilling.	S30A (66'- 67') NARROWLY GRADED SAND (SP); ~100% sand, fine to medium; wet, tan. S30B (67'- 68') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, rounded, ~20% gravel, fine to coarse, rounded; max. size 1.5", wet, black.	
-55		S31	24/4	10-14-29-10	PID= 1.4				(68') Driller reports drilling mud loss and cobbles.	S31 (68'- 70') NARROWLY GRADED SAND WITH GRAVEL (SP); ~75% sand, medium, ~25% gravel, fine to coarse, rounded; wet, black gray.	
	70				PID= 0.8						

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BORING LOG
PAGE 5 of 6
GPEC-SB02/MW-02

ELEV. FT.	DEPTH FT.	TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-60		S32	24/2	7-10-13-8						S32 (70'- 72') WIDELY GRADED GRAVEL (GW); ~100% gravel, fine to coarse, subrounded; probable drilling wash. Granite and Basalt.	
		S33	24/20	9-13-12-8	PID= 4.0 PID= 2.0				(72'- 74') Some drilling mud loss	S33A (72'- 72.8') NARROWLY GRADED SAND (SP); ~100% sand, medium to coarse, subangular; wet, tan. S33B (72.8'- 74') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, medium to coarse, subangular, ~20% gravel, fine to coarse, subangular; max. size 1.5", wet, black gray.	
	75	S34	24/6	7-17-18-24	PID= 4.5			TLO		S34 (74'- 76') NARROWLY GRADED SAND WITH GRAVEL (SP); ~75% sand, medium to coarse, subangular, ~25% gravel, fine to coarse; max. size 1", moderate tar-like odor, wet, gray.	
-65		S35	24/18	14-29-33-36	PID= 9.3 PID= 3.2			TLO		S35A (76'- 77.8') NARROWLY GRADED SAND (SP); ~95% sand, medium to coarse, subangular, ~5% gravel, fine, subangular; moderate tar-like odor, gray, blebs of sheen.	
		S36	24/19	17-20-38-32	PID= 2.9 PID= 3.9			TLO		S35B (77.8'- 78') WIDELY GRADED GRAVEL WITH SAND (GW); ~75% gravel, fine to coarse, subangular, ~25% sand, medium to coarse, subangular; max. size 2", moderate tar-like odor, wet, dark gray, blebs of sheen. S36A (78'- 79') NARROWLY GRADED SAND (SP); ~100% sand, medium; layered, wet, gray.	
	80	S37	24/10	18-28-30-30	PID= 3.2 PID= 8.3				(80'- 82') Drilling mud loss (~1/2 tub).	S36B (79'- 80') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, subrounded, ~40% sand, fine to coarse, subrounded; layered, max. size 2", wet, gray. S37A (80'- 81') NARROWLY GRADED SAND (SP); ~100% sand, medium; layered, wet, gray.	
-70		S38	24/23	31-44-55-41	PID= 1.5 PID= 2.7					S37B (81'- 82') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, subrounded, ~40% sand, fine to coarse, subrounded; layered, max. size 2", wet, gray. S38A (82'- 83') NARROWLY GRADED SAND (SP); ~100% sand, medium to coarse; layered, wet, gray.	
		S39	24/16	25-54-57-55	PID= 2.9 PID= 0.7			TLO		S38B (83'- 84') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, subrounded, ~40% sand, fine to coarse, subrounded; layered, max. size 3", wet, gray. S39A (84'- 84.5') WIDELY GRADED GRAVEL (GW); ~90% gravel, fine to coarse, subangular, ~10% sand; layered, max. size 1.5", wet, gray.	
	85										
-75		S40	24/19	31-33-36-38	PID= 4.2 PID= 0.6						
		S41	24/14	22-30-44-22	PID= 3.7				(88'- 90') Drilling	S39B (84.5'- 86') NARROWLY GRADED	

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BORING LOG
PAGE 6 of 6
GPEC-SB02/MW-02

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
					PID= 0.7				mud loss (~100 gal).	SAND (SP); ~95% sand, fine to medium, ~5% gravel, fine; layered, slight tar-like odor, wet, gray.	
	90	S42	24/0	40-55-52-37	PID= NA				S42: 3" spoon used.	S40A (86'- 87') WIDELY GRADED GRAVEL (GW); ~90% gravel, fine to coarse, ~10% sand, fine to medium; layered, wet.	
-80										S40B (87'- 88') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% gravel, fine; layered, gray.	
		S43	24/16	17-26-25-28	PID= 0.3					S41A (88'- 88.6') WIDELY GRADED GRAVEL (GW); ~90% gravel, fine to medium, subangular, ~10% sand, coarse; layered, wet, gray.	
					PID= 0.4					S41B (88.6'- 90') NARROWLY GRADED SAND (SP); ~85% sand, fine to medium, ~10% gravel, fine, ~5% fines; layered, gray.	
		S44	24/13	20-61-49-65	PID= 0.5				S44: 3" spoon used.	S42 (90'- 92') NO RECOVERY.	
	95				PID= 0.3					S43A (92'- 93.3') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine, ~10% gravel, fine, ~10% fines; layered, wet.	
										S43B (93.3'- 94') CLAYEY SAND (SC); ~65% sand, fine, ~25% fines, medium plasticity, ~10% gravel, fine; layered.	
-85		S45	24/12	37-45-76-41	PID= NM					S44A (94'- 95') CLAYEY SAND (SC); ~75% sand, fine, ~15% fines, medium plasticity, ~10% gravel, fine; layered, wet, gray.	
										S44B (95'- 96') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine, ~10% gravel, fine, ~10% fines; layered, wet, gravel wash at top.	
		S46	24/14	16-36-35-52	PID= NM					S45A (96'- 97') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine, ~10% gravel, fine, ~10% fines; layered, wet.	
										S45B (97'- 98') CLAYEY SAND (SC); ~80% sand, fine, ~10% gravel, fine, ~10% fines, medium plasticity; layered, wet, gray, environmental sample taken.	
	100									S46 (98'- 100') ELASTIC SILT WITH SAND (MH); ~80% fines, low plasticity, medium dry strength, low toughness, ~20% sand, medium; layered, moist.	
										End of Boring at 100 feet.	
										Monitoring well installed upon completion.	
										Screened 20'- 35'.	

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GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 1 of 3
GPEC-SB03S/MW-03S

GROUND SURFACE ELEVATION (FT): 10.60 **LOCATION:** West of Mooring Bitt 16, South of Fence
NORTHING (FT): 688289 **EASTING (FT):** 651055 **TOTAL DEPTH (FT):** 42.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 4/22/2003 - 4/23/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0										
	5										
5											
	10	S1	24/0	WOH/12"-WOH/12"	PID= NA					S1 (8'- 10') NO RECOVERY.	
0		S2	24/17	2-2-2-8	PID= NM					S2 (10'- 12') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, ~5% gravel, fine; layered, max. size 0.5", dark brown and tan, layers of dark brown thin silty layers and tan sands. Sheen present. FILL.	
	15										

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BORING LOG

GPEC-SB03S/MW-03S

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-5	15										
-10	20										
-15	25										
-20	30								(31') Obstruction hit. Driller was able to break through.		

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GPEC-SB03S/MW-03S

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	35	S3	24/20	3-3-6-8	PID= NM					S3A (34'- 35.2') SILTY GRAVEL WITH SAND (GM); ~60% gravel, fine to coarse, angular, ~25% fines, ~15% sand, fine to coarse; max. size 1", black staining. FILL.	
-25								TLO		S3B (35.2'- 36') ELASTIC SILT WITH GRAVEL (MH); ~80% fines, ~15% gravel, fine, ~5% sand, fine; moderate tar-like odor, black, FILL.	
		S4	24/24	5-5-9-8	PID= NM			TLO		S4 (36'- 38') SILTY GRAVEL WITH SAND (GM); ~60% gravel, fine to coarse, ~25% fines, ~15% sand, fine to coarse; max. size 1", moderate tar-like odor, black stains. FILL.	
		S5	24/6	4-2-2-10	PID= NM			TLO		S5 (38'- 40') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to medium, ~25% gravel, fine, angular, ~15% fines; moderate tar-like odor, black stains. FILL.	
	40	S6	24/20	7-10-13-12	PID= NM					S6A (40'- 41.4') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine, ~5% fines.	
-30								TLO		S6B (41.4'- 42') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; moderate tar-like odor, gray to light brown, black stained seams.	
										End of Boring at 42 feet.	
										Monitoring well installed upon completion.	
										Screened 25'- 40'.	

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BORING LOG
PAGE 1 of 7
GPEC-SB03/MW-03D

GROUND SURFACE ELEVATION (FT): 10.56 **LOCATION:** West of Mooring Bitt 16, South of Fence
NORTHING (FT): 688301 **EASTING (FT):** 651051 **TOTAL DEPTH (FT):** 115.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 4/14/2009 - 4/17/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 8.00 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0	G1	96/96	NA						Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') Large stone, brick fragments. G1B (0.5'- 3') WIDELY GRADED GRAVEL WITH SAND (GW); ~70% gravel, fine to coarse, ~25% sand, fine to coarse, ~5% fines; max. size 10", brown, brick, cobbles, fireblock.	
									Env. Sample ID= GPEC-SB-3 (3-4)	G1C (3'- 4') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse; black, cinder material. G1D (4'- 6') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse; black, cinder material.	
5	5										
									Env. Sample ID= GPEC-SB-3 (7-8)	G1E (6'- 8') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine to coarse, ~5% fines; moist to wet, brown.	
		S1	24/16	2-2-2-2	PID= 0.5					S1A (8'- 9') SILTY SAND (SM); ~80% sand, fine, ~15% fines, ~5% gravel, fine; wet, dark brown.	
					PID= 1.7					S1B (9'- 10') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, fine to medium, ~15% gravel, fine, ~5% fines; wet, brown.	
0	10	S2	24/12	7-2-2-WOH	PID= 0.3					S2 (10'- 12') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine, ~10% fines; wet, tan brown.	
		S3	24/8	2-1-8-10	PID= 0.4					S3 (12'- 14') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine to medium, ~15% gravel, fine to coarse, ~10% fines; max. size 0.5", wet, brown, FILL.	
	15	S4	24/4	4-4-5-4	PID= 0.4					S4 (14'- 16') WIDELY GRADED GRAVEL WITH SAND (GW); ~65% gravel, fine to coarse, ~30% sand, fine to coarse, ~5% fines;	

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S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI.DATA TEMPLATE.GDT 7/6/11

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: 093260-1-1101

BORING LOG
PAGE 2 of 7
GPEC-SB03/MW-03D

ELEV. FT.	DEPTH FT.	TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15									max. size 1", wet, dark brown, FILL.	
-5		S5	24/16	2-5-4-10	PID= 0.4					S5 (16'- 18') NARROWLY GRADED SAND (SP); ~85% sand, fine to medium, ~10% gravel, fine to coarse, ~5% fines; wet, brown, FILL.	
		S6	24/16	26-18-15-11	PID= 0.3				S6: 3" spoon used.	S6 (18'- 20') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines; layered, max. size 1", red brown tan, FILL.	
	20	S7	24/9	6-6-3-6	PID= 0.4					S7 (20'- 22') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; max. size 1", wet, brown, brick fragments. FILL.	
-10		S8	24/15	5-4-8-7	PID= 0.4					S8 (22'- 24') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, ~5% fines; max. size 1.5", wet, dark brown, brick fragments. FILL.	
		S9	24/11	5-2-3-3	PID= 3.6					S9 (24'- 26') NARROWLY GRADED SAND (SP); ~85% sand, fine to medium, ~10% gravel, fine, ~5% fines; moist to wet, brown, FILL.	
	25	S10	24/21	4-0-2-9	PID= 70.3			PLO		S10 (26'- 28') SILTY SAND (SM); ~70% sand, fine, ~25% fines, low plasticity, slow dilatancy, low toughness, ~5% gravel, fine; strong petroleum-like odor, moist, brown black, sheen.	
-15		S11	3/3	100/3"	PID= 70.3			PLO		S11 (28'- 28.3') SILTY SAND (SM); ~70% sand, fine, ~25% fines, low plasticity, slow dilatancy, low toughness, ~5% gravel, fine; strong petroleum-like odor, moist, black, sheen. color removed	
	30	S12	24/11	3-3-6-9	PID= 12.1			TLO		S12 (30'- 32') ELASTIC SILT WITH SAND (MH); ~85% fines, low plasticity, no dilatancy, low toughness, ~15% sand, fine; strong tar-like odor, wet, black.	
-20		S13	24/24	10-26-24-34	PID= 20.3			TLO		S13A (32'- 33') ELASTIC SILT (MH); ~90% fines, low plasticity, ~10% sand, fine; strong tar-like odor, wet, black.	
					PID= 36.4					S13B (33'- 34') NARROWLY GRADED SAND	

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BORING LOG

GPEC-SB03/MW-03D

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								TLO		WITH GRAVEL (SP); ~85% sand, fine to medium, ~15% gravel, fine; strong tar-like odor, moist to wet, black, tar-like texture.	
		S14	24/16	2-4-3-3	PID= 55.0			TLO	S14: 3" spoon used. Env. Sample ID= GPEC-SB-3 (34-36) (34') Tar in drilling mud.	S14 (34'- 36') ELASTIC SILT WITH GRAVEL (MH); ~75% fines, ~15% gravel, coarse, rounded, ~10% sand, fine to medium; max. size 3", strong tar-like odor.	
-25	35	S15	24/2	0-0-9-9	PID= 42.7			TLO		S15 (36'- 38') ELASTIC SILT WITH GRAVEL (MH); ~75% fines, ~15% gravel, rounded, ~10% sand, fine to medium; strong tar-like odor.	
		S16	24/18	5-9-13-10	PID= 9.4			TLO		S16 (38'- 40') WIDELY GRADED SAND WITH GRAVEL (SW); strong tar-like odor, wet, black.	
-30	40	S17	24/0	4-8-9-13	PID= NA					S17 (40'- 42') NO RECOVERY.	
		S18	24/22	8-9-13-10	PID= 81.9			TLO		S18A (42'- 43') WIDELY GRADED SAND (SW); strong tar-like odor, wet, brown.	
					PID= 4.3				(43') Tar in drilling mud.	S18B (43'- 44') WIDELY GRADED SAND (SW); gray.	
-35	45	S19	24/18	6-16-14-13	PID= 0.0			TLO	S19: 3" spoon used.	S19 (44'- 46') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% gravel, fine; moderate tar-like odor, moist, light brown.	
		S20	24/16	8-10-11-15	PID= 0.7					S20 (46'- 48') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine to coarse; moist, light brown.	
		S21	24/22	12-19-21-36	PID= 6.2					S21 (48'- 50') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine to coarse; moist, light brown.	
-40	50	S22	24/13	9-15-12-12	PID= 17.6					S22 (50'- 52') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium to coarse, ~15% gravel, fine to coarse, angular; light brown.	

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		S23	24/10	15-17-15-21	PID= 4.1				Env. Sample ID= GPEC-SB-3 (52-54)	S23 (52'- 54') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium to coarse, ~20% gravel, fine to coarse, angular; light brown.	
		S24	24/16	11-21-24-27	PID= 3.9				S24: 3" spoon used.	S24 (54'- 56') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% gravel, fine; light brown.	
-45	55	S25	24/0	11-15-24-16	PID= NA					S25 (56'- 58') NO RECOVERY.	
		S26	24/12	8-10-12-11	PID= 1.2					S26 (58'- 60') NARROWLY GRADED SAND (SP); ~90% sand, medium to coarse, ~10% gravel, fine to coarse, angular; orange brown.	
-50	60	S27	24/10	6-12-16-13	PID= 6.0					S27 (60'- 62') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse; wet, light brown.	
		S28	24/15	11-17-14-18	PID= 0.0					S28 (62'- 64') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine; wet, light brown.	
-55	65	S29	24/9.5	18-16-27-30	PID= 5.2			TLO	S29: 3" spoon used.	S29 (64'- 66') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded; max. size 3", slight tar-like odor, wet, brown.	
		S30	24/14	14-16-20-18	PID= 2.0			TLO		S30 (66'- 68') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded; slight tar-like odor, wet, brown.	
		S31	24/17	22-30-34-39	PID= 0.5			TLO		S31 (68'- 70') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded; slight tar-like odor, wet, brown.	
	70				PID= 3.6						

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-60		S32	24/9	12-14-17-15				TLO		S32 (70'- 72') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse; slight tar-like odor, wet, brown.
		S33	24/4	20-24-18-21	PID= 19.6					S33 (72'- 74') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse, subrounded; wet, blackish brown.
	75	S34	24/8	39-26-18-18	PID= 5.2				S34: 3" spoon used.	S34 (74'- 76') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, ~40% sand, fine to coarse, subrounded; max. size 3", wet, brown.
-65		S35	24/24	16-18-23-10	PID= 22.6 PID= 12.9			TLO		S35A (76'- 77.3') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, subangular, ~5% gravel, fine, subrounded; wet, black brown. S35B (77.3'- 78') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse; max. size 1", slight tar-like odor, wet, tan.
		S36	24/21	7-14-14-24	PID= 15.9 PID= 4.7					S36A (78'- 79.3') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, subangular, ~5% gravel, fine, subrounded; wet, black brown, sheen. S36B (79.3'- 80') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse; max. size 1", wet, brown.
	80	S37	24/9	30-22-26-29	PID= 17.3					S37 (80'- 82') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine; wet, brown.
-70		S38	24/15	12-26-25-22	PID= 74.2 PID= 26			TLO		S38A (82'- 83.2') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, angular; layered, moderate tar-like odor, dark brown, stained. S38B (83.2'- 84') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse; layered, brown.
		S39	24/8	47-54-54-41	PID= 14.7				S39: 3" spoon used.	S39A (84'- 85.3') NARROWLY GRADED SAND WITH GRAVEL (SP); layered. S39B (85.3'- 86') WIDELY GRADED GRAVEL (GW); layered, max. size 1", gravel, fine to coarse, subangular.
	85	S40	24/13	15-14-20-31	PID= 27.8 PID= 6.3			TLO	(86') Tar-like residue observed in drilling mud.	S40A (86'- 87') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded; max. size 1", moderate tar-like odor, wet, dark brown.
-75		S41	24/24	36-29-39-33	PID= 30			TLO	removed odor	S40B (87'- 88') NARROWLY GRADED SAND (SP); ~95% sand, medium, ~5% gravel, fine;

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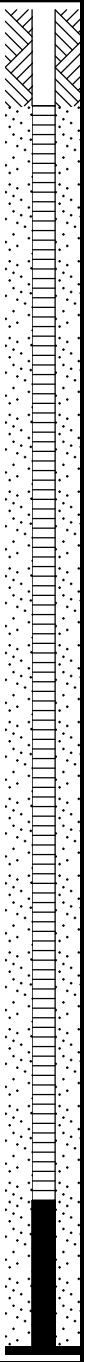
					PID= 5.6					wet, tan.
	90	S42	24/6.5	13-26-27-20	PID= 13			TLO		S41A (88'- 89.2') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subangular; layered, max. size 1", moderate tar-like odor, wet, dark brown, stained seams. S41B (89.2'- 90') NARROWLY GRADED SAND (SP); ~95% sand, medium to coarse, subrounded, ~5% gravel, fine; layered, wet, tan.
-80		S43	24/15	12-21-28-26	PID= 5.3					S42 (90'- 92') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, subrounded, ~5% gravel, fine; slight tar-like odor, wet, tan / brown.
					PID= 32.6			TLO		S43A (92'- 93.3') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% gravel, fine; layered, wet, gray brown, sample becomes coarser with depth.
	95	S44	24/13	54-52-60-57	PID= 115			TLO	S44: 3" spoon used.	S43B (93.3'- 94') WIDELY GRADED GRAVEL (GW); layered, max. size 1", slight tar-like odor, gravel, subangular. S44 (94'- 96') NARROWLY GRADED SAND (SP); moderate tar-like odor, wet, gray, sand, medium to coarse. Tar seams present. Staining. Environmental and geotechnical samples taken.
-85		S45	24/24	26-53-55-61	PID= 22.3			TLO		S45A (96'- 97') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, subrounded, ~5% fines; slight tar-like odor, wet, blackish brown, stains. Sheen. Tar coated grains.
					PID= 2.6					S45B (97'- 98') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~10% fines, non plastic; moist, greenish gray, TILL.
	100	S46	24/11	51-48-81-72	PID= 4.1					S46 (98'- 100') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subrounded, ~15% gravel, fine to coarse, ~5% fines; max. size 1.25", wet, gray brown, no odor observed.
-90		S47	12/7	100/6"-100/6"	PID= 19.1			TLO	(100') Tar observed in drilling mud. Cobble may be obstructing sampling.	S47 (100'- 101') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, subangular, ~5% fines; strong tar-like odor, wet, gray, possible wash material.
		S48	23/12	64-90-96-100/5"	PID= 389			TLO	S48: 3" spoon used. Env. Sample ID= GPEC-SB-3 (102-104) (102') Some chatter. Tar observed in drilling mud.	S48 (102'- 103.9') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, fine to medium, ~15% gravel, fine to coarse, subrounded, ~5% fines; strong tar-like odor, wet, gray brown, tar coated/saturated grains.
	105	S49	22/0	52-56-86-100/4"	PID= NA				(104') Lost spoon down hole (threads separated). Attempted to drill out spoon.	S49 (104'- 105.8') NO RECOVERY.
-95		S50	23/14	43-54-56-100/5"	PID= 211					S50A (106'- 106.6') CLAYEY SAND WITH GRAVEL (SC); ~65% sand, fine to coarse, ~20% fines, ~15% gravel; possible wash
					PID= 34.3					

color removed

WELL DETAILS



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BORING LOG

GPEC-SB03/MW-03D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
										material.	
		S51	18/18	35-100/6"-131/6"	PID= 193 PID= 118					S50B (106.6'- 107.9') LEAN CLAY (CL); ~95% fines, high dry strength, medium toughness, ~5% gravel; moist, gray. S51A (108'- 109') CLAYEY SAND (SC); ~75% sand, fine to coarse, subrounded, ~15% fines, low plasticity, slow dilatancy, ~10% gravel, fine; moist to wet, gray. S51B (109'- 109.5') GRAVELLY LEAN CLAY WITH SAND (CL); ~55% fines, medium plasticity, ~30% gravel, fine to coarse, subangular, ~15% sand, fine to coarse; layered, moist to wet, gray.	
-100	110	S52	24/12	25-63-46-59	PID= 8.5				Env. Sample ID= GPEC-SB-3 (110-112)	S52 (110'- 112') LEAN CLAY (CL); ~90% fines, high dry strength, high toughness, ~5% gravel, ~5% sand; moist, gray.	
		S53	17/0	45-79-100/5"	PID= NA					S53 (112'- 113.4') NO RECOVERY.	
		S54	12/3	56-100/6"	PID= 3.9					S54 (114'- 115') SILTY SAND (SM); ~80% sand, fine, ~15% fines, ~5% gravel, fine, subangular; moist, gray, black seams.	
	115									End of Boring at 115 feet. Monitoring well installed upon completion. Screened 90'- 105'.	

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
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

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: 093260-1-1101

BORING LOG
PAGE 1 of 3
GPEC-SB04

GROUND SURFACE ELEVATION (FT): 9.78 **LOCATION:**
NORTHING (FT): 688533 **EASTING (FT):** 650941 **TOTAL DEPTH (FT):** 36.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 4/27/2009 - 4/28/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 5.50 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0									Note: 0'- 8': HAND CLEARED.
		G1	12/12	NA	PID= 0.0					G1 (3'- 4') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, subangular to subrounded, ~10% fines, medium plasticity, ~5% gravel, fine to medium, subangular; moist, brown, FILL.
5	5									
▽		G2	6/6	NA	PID= 0.0				Env. Sample ID= GPEC-SB-4 (5.5-6)	G2 (5.5'- 6') SILTY SAND (SM); ~75% sand, fine, ~15% fines, ~10% gravel, fine to medium, subangular; wet, light brown, FILL.
		S1	24/10	9-4-4-6	PID= 1.0 PID= 6.2				Env. Sample ID= GPEC-SB-4 (8-10)	S1A (8'- 9.2') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, ~10% fines; dry, brown, FILL. S1B (9.2'- 10') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, ~15% fines; wet, black, stained. FILL.
0	10	S2	24/12	3-2-4-25	PID= 0.5					S2 (10'- 12') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, ~10% fines; max. size 1", wet, brown, FILL.
		S3	24/13	3-4-6-8	PID= 0.3					S3 (12'- 14') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, ~5% fines; brown.
		S4	6/6	100/6"	PID= 0.9					S4 (14'- 14.5') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% sand, fine, ~20% gravel, fine to coarse, ~10% fines; max. size 1", wet,
-5	15									

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BORING LOG
PAGE 2 of 3
GPEC-SB04

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	15									gray brown.
		S5	24/12	13-6-9-7	PID= 0.4					S5 (16'- 18') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to medium, ~15% gravel, fine to coarse, ~5% fines; wet, brown.
		S6	24/4	4-10-10-8	PID= 0.4					S6 (18'- 20') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~60% gravel, fine to coarse, angular, ~30% sand, fine to coarse, ~10% fines; wet.
-10	20	S7	24/6	14-8-9-4	PID= 0.7					S7 (20'- 22') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular, ~15% gravel, fine to coarse, ~5% fines; wet, brown.
		S8	24/14	17-24-42-22	PID= 0.3					S8 (22'- 24') WIDELY GRADED GRAVEL WITH SAND (GW); ~55% gravel, fine to coarse, angular, ~40% sand, fine to coarse, angular, ~5% fines; reddish gray black, brick, concrete, crushed stone fragments. FILL.
-15	25	S9	24/18	4-3-8-9	PID= 0.4 PID= 1.1					S9A (24'- 25') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; brown. S9B (25'- 26') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, angular, ~15% gravel, fine to coarse, ~5% fines; max. size 1.25", wet, dark brown, brick fragments. FILL.
		S10	24/24	20-24-28-35	PID= 0.5 PID= 0.9					S10A (26'- 27') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; wet, brown. S10B (27'- 28') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, angular, ~15% gravel, fine to coarse, ~10% fines; dry, dark brown, brick fragments. FILL.
		S11	24/13	15-13-20-30	PID= 0.8					S11 (28'- 30') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, angular, ~15% gravel, fine to coarse, ~5% fines; moist to wet, brown.
-20	30	S12	10/6	21-100/4"	PID= 91.3			CrLO		S12 (30'- 30.8') SILTY SAND (SM); ~75% sand, fine to medium, ~25% fines; slight creosote-like odor, moist, brown to black, stained.
									(31'- 32.5') Driller reports 18" of steel scrap.	color removed
		S13	24/24	21-22-27-53	PID= 11.5			TLO		S13 (32'- 34') SILT (ML); ~90% fines, ~10% gravel, angular; max. size 1.5", moderate tar-like odor, wet, black, rock fragments in tip. Stained.

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT_7/6/11

GEI Consultants

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(860) 368-5300

CLIENT: National Grid
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BORING LOG

GPEC-SB04

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-25	35	S14	24/6	4-35-15-11	PID= 62.6			TLO		S14 (34'- 36') SILTY GRAVEL (GM); ~65% gravel, fine to coarse, angular, ~35% fines; max. size 1.5", moderate tar-like odor, wet, black, rock fragments. Stained.
										End of Boring at 36 feet. Refusal at 36 feet. Boring moved to GPEC-SB-04B.

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BORING LOG
PAGE 1 of 1
GPEC-SB04B

GROUND SURFACE ELEVATION (FT): 9.78 **LOCATION:**
NORTHING (FT): 688533 **EASTING (FT):** 650941 **TOTAL DEPTH (FT):** 34.5
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 4/28/2009 - 4/28/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
5	0									
0	5									
-5	10									
-10	15									
-15	20									
-20	25									
	30	S15	6/6	100/6"	PID= NM			TLO	Env. Sample ID= GPEC-SB-4B (34-36)	S15 (34'- 34.5') SILT WITH GRAVEL (ML); ~85% fines, ~15% gravel, fine to coarse, angular; moderate tar-like odor, moist, black.

End of Boring at 34.5 feet.
Refusal at 34.5 feet.
Boring moved to GPEC-MW-04/SB-04C (MW).

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BORING LOG
PAGE 1 of 7
GPEC-SB04C/MW-04

GROUND SURFACE ELEVATION (FT): 9.78 **LOCATION:** West of Mooring Bitt 20, South of LNG Tank 1 Fence
NORTHING (FT): 688533 **EASTING (FT):** 650941 **TOTAL DEPTH (FT):** 115.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 4/28/2009 - 5/1/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 10.00 4/27/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0									
5	5									
▽ 0	10									

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

GEI Consultants

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BORING LOG

GPEC-SB04C/MW-04

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-5	15									
-10	20									
-15	25									

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG

GPEC-SB04C/MW-04

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-20	30									
-25	35	S16	24/18	4-7-6-8	PID= 3.8 PID= 3.6 Q_P= 1.024, 0.768, 0.512 S_V= 0.358, 0.358		TLO		S16A (35'- 35.4') SILTY SAND (SM); ~85% sand, fine to medium, ~15% fines; moderate tar-like odor, orange brown, some treated wood debris. S16B (35.4'- 37') LEAN CLAY (CL); ~95% fines, high plasticity, high dry strength, medium toughness, ~5% sand, fine; moist, gray, borderline fat clay.	
		S17	24/24	7-8-7-11	PID= 0.0 Q_P= 1.024, 1.024, 0.768 S_V= 0.410, 0.461, 0.512				S17 (37'- 39') FAT CLAY (CH); ~95% fines, high plasticity, high toughness, ~5% sand, fine; moist, gray, intermittent sand seams.	
-30	40	S18	24/0	P-U-S-H	PID= NA				S18 (39'- 41') NO RECOVERY; Shelby tube sample.	
		S19	24/0	7-8-10-9	PID= NA				S19 (41'- 43') NO RECOVERY.	
		S20	10/10	18-100/4"	PID= 0.0				S20 (43'- 43.8') FAT CLAY (CH); ~95% fines, high plasticity, high toughness, ~5% sand, fine; layered, moist, gray, thin bonds with clay of sand and silt.	
-35	45	S21	24/16	5-13-36-33	PID= 9.0				S21 (45'- 47') SANDY ELASTIC SILT WITH GRAVEL (MH); ~70% fines, low plasticity, slow dilatancy, ~15% gravel, fine to coarse, angular, ~15% sand; gray, timber/wood debris. Gravel at bottom of sample.	
		S22	24/22	14-17-22-5	PID= 0.8				S22 (47'- 49') WIDELY GRADED SAND WITH CLAY AND GRAVEL (SW-SC); ~70% sand, fine to	

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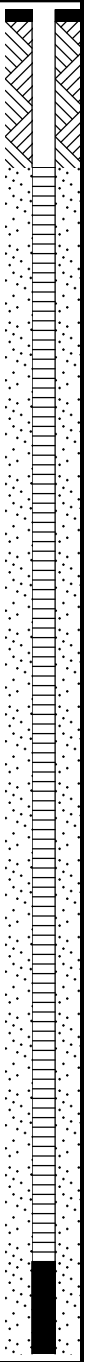
BORING LOG
PAGE 4 of 7
GPEC-SB04C/MW-04

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
									coarse, ~20% gravel, fine to coarse, angular, ~10% fines; wet, brown, timber. Clay seams or clasts.
-40	50	S23	24/14	9-21-26-26	PID= 0.4 PID= 0.4				S23A (49'- 50.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine to coarse, subangular, ~5% fines; gray. S23B (50.3'- 51') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, ~5% gravel, fine; brown.
		S24	24/24	14-27-36-42	PID= 1.6 PID= 0.3				S24A (51'- 52.4') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded, ~5% fines; gray. S24B (52.4'- 53') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; brown.
-45	55	S25	24/24	15-19-28-44	PID= 0.0 PID= 0.0				S25A (53'- 54') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded, ~5% fines; wet, brown. S25B (54'- 55') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; moist, brown.
		S26	24/0	0-0-9-21	PID= NA				S26 (55'- 57') NO RECOVERY; drilling mud and gravel wash in spoon.
		S27	24/0	25-34-27-26	PID= NA				S27 (57'- 59') NO RECOVERY; drilling mud and gravel wash in spoon.
-50	60	S28	24/10	5-12-17-26	PID= 0.1			Env. Sample ID= GPEC-SB-4C (59-61)	S28 (59'- 61') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; max. size 0.75", gray brown.
		S29	24/24	7-15-27-35	PID= 0.2				S29 (61'- 63') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; gray brown, spoon extremely full, sides are splitting at the seam.
		S30	24/10	12-16-24-26	PID= 0.9				S30 (63'- 65') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; gray brown.
-55	65	S31	24/24	7-9-9-9	PID= 0.2				S31 (65'- 67') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subangular, ~5% gravel, fine, subrounded, ~5% fines; thin (1") layer of gray silt in middle of the sample.

WELL DETAILS



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PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
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SeLO= SEWAGE LIKE ODOR

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NM = NOT MEASURED
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S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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: 093260-1-1101

BORING LOG

GPEC-SB04C/MW-04

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
		S32	24/22	14-17-29-27	PID= 0.2				S32 (67'- 69') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subangular, ~5% gravel, fine, subrounded, ~5% fines; sediment seems to get slightly finer towards bottom of sample.	
-60	70	S33	24/10	6-14-18-13	PID= 0.1				S33 (69'- 71') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subangular, ~5% gravel, fine, subrounded, ~5% fines; max. size 0.75", brown.	
		S34	24/17	11-12-18-16	PID= 0.2				S34 (71'- 73') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subangular, ~5% gravel, fine, ~5% fines; gray brown, sample becomes finer with depth.	
		S35	24/24	13-19-32-36	PID= 0.1				S35 (73'- 75') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; brown, sample becomes finer with depth.	
-65	75	S36	24/10	10-12-18-12	PID= 0.0				S36 (75'- 77') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; gray brown, borderline narrowly graded. Finer than previous samples.	
		S37	24/14	5-3-9-14	PID= 0.2				S37 (77'- 79') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, subangular, ~5% fines; max. size 0.75", gray brown.	
-70	80	S38	24/13	14-14-12-10	PID= 0.0				S38 (79'- 81') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; gray brown, gravel in tip.	
		S39	24/12	12-17-16-12	PID= 0.2				S39 (81'- 83') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subangular, ~5% gravel, fine, rounded, ~5% fines; max. size 0.75", gray brown, no odor detected.	
		S40	24/17	12-11-18-26	PID= 0.4				S40 (83'- 85') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subangular, ~5% gravel, fine, subrounded, ~5% fines; gray brown, orange silt clast present.	

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BORING LOG
PAGE 6 of 7
GPEC-SB04C/MW-04

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	85	S41	24/10	9-12-10-10	PID= 0.1				S41 (85'- 87') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, subangular, ~10% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", gray brown.	
		S42	24/14	12-13-18-25	PID= 0.4				S42 (87'- 89') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, subangular, ~10% gravel, fine to coarse, subangular, ~5% fines; max. size 1.5", gray brown.	
-80		S43	24/10	22-32-14-15	PID= 1.0				S43 (89'- 91') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; gray brown.	
	90	S44	24/15	23-26-16-16	PID= 0.5				S44 (91'- 93') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, ~5% fines; max. size 1", gray brown, sample becomes finer with depth.	
		S45	24/11	8-4-6-10	PID= 0.2				S45 (93'- 95') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subangular, ~5% gravel, fine to coarse, subangular, ~5% fines; max. size 2".	
-85		S46	24/5	24-29-23-12	PID= 3.4				S46 (95'- 97') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, subangular, ~20% gravel, fine to coarse, subangular, ~5% fines; max. size 2", gray brown, maximum gravel size found in spoon trap/tip.	
	95	S47	24/12	12-16-23-29	PID= 0.5 PID= 6.1				S47A (97'- 98') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wet. S47B (98'- 99') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, gray.	
-90		S48	24/15	36-43-17-18	PID= 0.3 PID= 0.0				S48A (99'- 100') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; orange brown. S48B (100'- 101') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to medium, ~15% gravel, ~10% fines; gray.	
	100	S49	24/24	7-12-45-55	PID= 0.1 PID= 0.0				S49A (101'- 102.3') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subangular, ~5% gravel, fine, subangular, ~5% fines; orange brown. S49B (102.3'- 102.9') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse,	

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BORING LOG

GPEC-SB04C/MW-04

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
		S50	24/24	29-21-75-51	PID= 0.0 PID= 0.2				subangular, ~10% fines, ~5% gravel, fine, subangular; gray. S49C (102.9'- 103') SANDY LEAN CLAY (CL); ~60% fines, medium plasticity, ~40% sand, fine to medium; moist.	
-95	105	S51	24/16	30-24-33-25	PID= 0.0				S50A (103'- 104.3') SILTY SAND (SM); ~80% sand, fine to coarse, ~15% fines, ~5% gravel, fine; gray. S50B (104.3'- 105') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; orange brown. S51 (105'- 107') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~10% fines; gray brown.	
		S52	24/12	25-11-40-83	PID= 0.6				S52 (107'- 109') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subangular to subrounded, ~5% fines; max. size 2", wet, gray.	
-100	110	S53	19/15	70-89-79-74/1"	PID= 0.0				S53 (109'- 110.6') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, subrounded, ~5% fines; wet, gray.	
		S54	19/19	15-19-61-100/1"	PID= 0.0				S54 (111'- 112.6') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", wet, gray brown.	
		S55	24/20	55-71-90-99	PID= 0.0			Env. Sample ID= GPEC-SB-4C (113-115)	S55 (113'- 115') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to medium, ~15% gravel, fine to coarse, subangular, ~5% fines; max. size 1.5", wet, gray, environmental sample taken.	
-105	115								End of Boring at 115 feet. Monitoring well installed upon completion. Screened 50'- 65'.	

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BORING LOG
PAGE 1 of 3
GPEC-SB05S/MW-05S

GROUND SURFACE ELEVATION (FT): 10.16 **LOCATION:** West of Mooring Bitt 29, North of LNG Tank 1 Fence
NORTHING (FT): 688982 **EASTING (FT):** 650750 **TOTAL DEPTH (FT):** 40.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 5/8/2009 - 5/11/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0										
5	5										
0	10										

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BORING LOG

GPEC-SB05S/MW-05S

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-5	15										
-10	20										
-15	25										

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BORING LOG

GPEC-SB05S/MW-05S

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-20	30	S1	24/24	5-10-11-10	PID= 5.5			TLO		S1 (30'- 32') SILTY SAND (SM); ~80% sand, fine, ~20% fines; strong tar-like odor, wet, black / brown, interbedded. Stained. Tar-like texture.	
		S2	24/16	2-2-2-3	PID= 33.4			TLO	Env. Sample ID= GPEC-SB-5S (32-34)	S2 (32'- 34') SILTY SAND (SM); ~80% sand, fine, ~20% fines; strong tar-like odor, wet, gray.	
-25	35	S3	24/24	13-17-21-29	PID= 2.2			TLO		S3A (34'- 35.3') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; strong tar-like odor, moist, dark gray.	
					PID= 0.3			TLO		S3B (35.3'- 36') SILTY SAND (SM); ~85% sand, fine, ~15% fines; slight tar-like odor, moist, gray brown.	
		S4	24/21	12-14-13-12	PID= 22			TLO		S4A (36'- 37') CLAYEY SAND (SC); ~60% sand, fine, ~40% fines; moderate tar-like odor, wet, black, stained.	
					PID= 8.3			TLO		S4B (37'- 38') NARROWLY GRADED SAND (SP); moderate tar-like odor, moist, orange brown.	
		S5/S6	24/13	8-11-13-16	PID= 16.1			TLO		S5/S6 (38'- 40') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, ~10% fines; moderate tar-like odor, gray brown, tar-like texture. Black staining.	
	40									End of Boring at 40 feet. Monitoring well installed upon completion. Screened 28'- 38'.	

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BORING LOG
PAGE 1 of 6
GPEC-SB05C/MW-05D

GROUND SURFACE ELEVATION (FT): 10.50 **LOCATION:** West of Mooring Bitt 29, North of LNG Tank 1 Fence
NORTHING (FT): 688967 **EASTING (FT):** 650756 **TOTAL DEPTH (FT):** 100.9
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 5/5/2009 - 5/7/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 1.00 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
10	0	G1	96/96	NA	PID= 0.8					Note: 0'- 8': HAND CLEARED. G1A (0'- 1') WIDELY GRADED GRAVEL WITH SAND (GW); ~65% gravel, fine to coarse, subangular, ~30% sand, fine to coarse, ~5% fines; wet, brown, surficial water. FILL.
▽					PID= 1.0				Env. Sample ID= GPEC-SB-5C (3-4)	G1B (3'- 4') SANDY SILT WITH GRAVEL (ML); ~50% fines, ~30% sand, fine, ~20% gravel, fine to coarse; max. size 1.5", wet, dark brown, FILL.
5	5									(6- 8') Significant amount of large rocks.
		S1	24/6	7-5-0-0	PID= 34.8			TLO	Env. Sample ID= GPEC-SB-5C (8-10)	S1 (8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine to coarse, subangular, ~5% fines; max. size 1", strong tar-like odor, wet, black, stained. FILL.
0	10	S2	24/10	0-3-2-3	PID= 4.8			TLO		S2 (10'- 12') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subangular, ~5% fines; max. size 1", moderate tar-like odor, wet,

WELL DETAILS

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BORING LOG

GPEC-SB05C/MW-05D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
										dark gray.	
		S3	24/16	5-4-5-3	PID= 15.1			TLO	(12') Running sands in augers.	S3 (12'- 14') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~5% fines; max. size 1", strong tar-like odor, wet, black, stained. Sheen.	
-5	15	S4	24/14	10-14-9-5	PID= 3.0			TLO		S4 (14'- 16') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, subangular, ~30% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.25", slight tar-like odor, wet, dark gray, stained.	
		S5	24/16	2-5-9-6	PID= 4.2			TLO		S5 (16'- 18') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~35% gravel, fine to coarse, subrounded, ~5% fines; slight tar-like odor, wet, gray, staining.	
		S6	24/22	5-12-26-17	PID= 2.3			TLO	(18') Running sands in augers.	S6 (18'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular, ~15% gravel, fine, ~5% fines; slight tar-like odor, wet, brown.	
-10	20	S7	24/14	8-2-3-2	PID= 5.8			TLO		S7A (20'- 21') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subangular, ~5% gravel, fine, ~5% fines; slight tar-like odor, wet, brown.	
					PID= 18.2			TLO		S7B (21'- 22') LEAN CLAY (CL); ~95% fines, ~5% sand, fine; moderate tar-like odor, moist, black.	
		S8	24/23	1-1-2-8	PID= 10.5			TLO		S8A (22'- 22.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, medium, ~5% fines; moderate tar-like odor, brown.	
					PID= 6.2			TLO		S8B (22.5'- 23') LEAN CLAY (CL); ~95% fines, ~5% sand, fine; moderate tar-like odor, moist, black.	
					PID= 11.4			TLO		S8C (23'- 24') SANDY LEAN CLAY (CL); ~50% sand, fine, ~50% fines; moderate tar-like odor, moist, orange black.	
-15	25	S9	24/17	1-1-3-1	PID= 1.9					S9A (24'- 25') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; wet, dark brown.	
					PID= 20.0					S9B (25'- 26') LEAN CLAY (CL); ~95% fines, ~5% sand, fine; moist, blackish brown, organics.	
		S10	24/16	3-3-4-5	PID= 5.3					S10 (26'- 28') LEAN CLAY WITH SAND (CL); ~85% fines, medium plasticity, ~15% sand, fine; brownish black, sand seams.	
		S11	24/16	6-9-9-12	PID= 2.5					S11 (28'- 30') CLAYEY SAND (SC); ~50% sand, fine, ~40% fines, low plasticity, ~10% gravel, fine; blackish brown, sand and clay seams.	

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Glastonbury, CT 06033
(860) 368-5300

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BORING LOG
PAGE 3 of 6
GPEC-SB05C/MW-05D

ELEV. FT.	DEPTH FT.	TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-20	30	S12	24/17	2-2-7-5	PID= 16.2			TLO		S12 (30'- 32') LEAN CLAY WITH SAND (CL); ~85% fines, medium plasticity, medium toughness, ~15% sand, fine; moderate tar-like odor, black to brown, stained. Thin tar seam 11" from top of sample.	
		S13	24/24	4-10-17-21	PID= 16.5 PID= 0.7			TLO		S13A (32'- 33.3') LEAN CLAY (CL); ~95% fines, low toughness, ~5% sand, fine; strong tar-like odor, black to brown, stained. Tar present. S13B (33.3'- 34') CLAYEY SAND (SC); ~65% sand, fine, ~35% fines, medium plasticity, low toughness; blackish brown, some staining.	
-25	35	S14	24/18	P-U-S-H	PID= NA				color removed	S14 (34'- 36') Shelby tube sample.	
		S15	24/8	2-3-3-5	PID= NM					S15 (36'- 38') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, ~5% fines; wet, brown, some silt seams.	
-30	40	S16	24/14	1-3-7-6	PID= NM					S16 (38'- 40') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, angular, ~10% gravel, fine, subangular, ~5% fines; wet, brown.	
		S17	24/0	6-7-7-8	PID= NA					S17 (40'- 42') NO RECOVERY; some sand wash.	
		S18	24/0	8-9-11-10	PID= NA					S18 (42'- 44') NO RECOVERY.	
-35	45	S19	24/14	6-7-9-10	PID= NM					S19 (44'- 46') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, subangular, ~5% fines; gray brown, borderline widely graded sand.	
		S20	24/18	5-7-10-7	PID= NM					S20 (46'- 48') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; wet, brown, sample becomes coarser with depth.	
		S21	24/22	7-10-18-	PID= NM					S21 (48'- 50') WIDELY GRADED SAND (SW);	

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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GPEC-SB05C/MW-05D

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				12						~85% sand, fine to coarse, ~10% gravel, fine, subangular, ~5% fines; wet, gray brown.	
-40	50	S22	24/9	8-6-7-9	PID= 2.2				Env. Sample ID= GPEC-SB-5C (50-52)	S22 (50'- 52') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; wet, gray brown.	
		S23	24/13	6-7-9-9	PID= 0.3					S23 (52'- 54') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subrounded, ~15% gravel, fine, subrounded, ~5% fines; wet, brown, no odor or staining observed.	
-45	55	S24	24/15	8-8-9-11	PID= 1.4					S24 (54'- 56') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, subangular, ~5% fines; wet, gray, sample becomes coarser with depth.	
		S25	24/11	10-12-13-11	PID= 0.2					S25 (56'- 58') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; wet, orange brown, borderline narrowly graded sand.	
-50	60	S26	24/17	9-9-13-5	PID= 0.2					S26 (58'- 60') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, subrounded, ~5% fines; max. size 0.6", wet, orange brown, gradational.	
		S27	24/8	11-9-9-13	PID= 1.9					S27 (60'- 62') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~35% gravel, fine to coarse, subangular, ~5% fines; max. size 1", wet, orange brown.	
		S28	24/9	11-9-8-7	PID= 1.0					S28 (62'- 64') WIDELY GRADED SAND WITH GRAVEL (SW); ~55% sand, medium to coarse, ~40% gravel, fine to coarse, subangular, ~5% fines; max. size 1", wet, orange brown.	
-55	65	S29	24/9	8-10-14-10	PID= 0.9					S29 (64'- 66') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, angular, ~10% gravel, fine, subrounded, ~5% fines; wet, light brown, silt seam 7" from top of sample.	
		S30	24/10	9-7-13-15	PID= 1.4					S30 (66'- 68') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine,	

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PAGE 5 of 6
GPEC-SB05C/MW-05D

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										~5% fines; wet, light brown, gradational. Coarsens upward from fine sand to gravel at top of sample.	
		S31	24/7	10-13-16-22	PID= 5.3			TLO		S31 (68'- 70') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular, ~15% gravel, fine, subangular, ~5% fines; slight tar-like odor, light brown, gradational. Stained.	
-60	70	S32	24/8	15-10-9-15	PID= 1.1					S32 (70'- 72') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, medium to coarse, subangular to subrounded, ~15% gravel, fine to coarse, subangular, ~5% fines; wet, gray brown.	
		S33	24/11	13-13-11-12	PID= 1.0					S33 (72'- 74') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subangular to subrounded, ~5% gravel, fine, subangular, ~5% fines; wet, light brown.	
-65	75	S34	24/11	8-8-12-17	PID= 0.9					S34 (74'- 76') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", gray brown, silt seam 9", gravel seam 4" from top. Some organics. Blebs of staining.	
		S35	24/15	12-17-14-8	PID= 3.3 PID= 0.7				Env. Sample ID= GPEC-SB-5C (76-78)	S35A (76'- 77.5') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; wet, orange brown, silt seam 3" from top. Seam of staining 0.5" below silt. S35B (77.5'- 78') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~65% gravel, fine to coarse, angular to subangular, ~25% sand, fine to medium, ~10% fines; max. size 2", green.	
		S36	24/24	8-8-9-23	PID= 1.9			TLO		S36 (78'- 80') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, angular to subangular, ~15% gravel, fine to coarse, subangular to subrounded, ~5% fines; max. size 1", moderate tar-like odor, gray brown, gradational. 0.5" thick seam of black-brown staining 9" from top. Stained.	
-70	80	S37	24/5	12-11-10-12	PID= 0.5					S37 (80'- 82') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine, subrounded, ~10% fines; wet, greenish brown.	
		S38	24/8	6-10-24-19	PID= 0.6					S38 (82'- 84') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% sand, fine to medium, ~20% gravel, fine to coarse, subangular to subrounded, ~10% fines; max. size 1.5", wet, greenish gray.	
	85	S39	24/11	21-29-37-42	PID= 0.5					S39 (84'- 86') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine to coarse, ~5% fines; max.	

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BORING LOG

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GPEC-SB05C/MW-05D

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-75										size 1.5", wet, brown, silt seams present. Some yellow-brown oxidized sediment.	
		S40	5/0	100/5"	PID= NA			TLO	(86') Hitting boulders or other very hard material.	S40 (86'- 86.4') NO RECOVERY; gravel mud wash, moderate tar-like odor.	
		S41	24/NM	NA	PID= NA					S41 (88'- 90') Boulders present. Sample skipped.	
	90	S42	7/0	60-100/1"	PID= NA					S42 (90'- 90.6') NO RECOVERY; some granite gravel wash. Granite gravel probable cause of refusal.	
-80											
		S43	4/3	100/4"	PID= 0.5					S43 (92'- 92.3') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~65% sand, fine, ~25% gravel, fine to coarse, subrounded, ~10% fines; wet, gray.	
	95								(96'- 100.9') Tough drilling. Significant chatter. Likely cobbles present. Extremely dense material.		
-85											
	100	S44	11/11	50-100/5"	PID= NM				Env. Sample ID= GPEC-SB-5D (100-102)	S44 (100'- 100.9') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subangular, ~15% gravel, fine to coarse, subangular, ~5% fines; wet, gray.	
-90										End of Boring at 100.9 feet. Monitoring well installed upon completion. Screened 65'- 80'.	

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BORING LOG
PAGE 1 of 3
GPEC-SB06/MW-06

GROUND SURFACE ELEVATION (FT): 16.01 **LOCATION:** Beside Stores Building on Northwest Side
NORTHING (FT): 687871 **EASTING (FT):** 650800 **TOTAL DEPTH (FT):** 50.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 4/23/2009 - 4/24/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 11.00 4/23/2009 ;
GENERAL NOTE:
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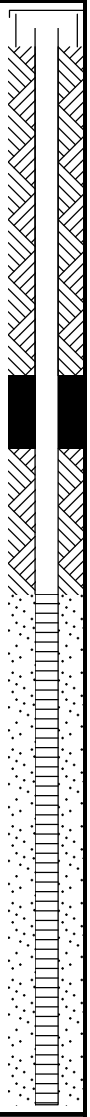
ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96	NA					Note: 0'- 8': HAND CLEARED. G1A (0'- 1') ASPHALT.
15									G1B (1'- 4') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to medium, ~25% gravel, fine to coarse, subangular to subrounded, ~5% fines; max. size 2.5", moist, brown, some silt clods or clasts.
					PID= 0.6			Env. Sample ID= GPEC-SB-6 (3-4)	
	5								G1C (4'- 8') WIDELY GRADED SAND WITH GRAVEL (SW); ~55% sand, fine to coarse, subrounded, ~40% gravel, fine to coarse, subrounded, ~5% fines; max. size 2.5", slight petroleum-like odor, brown, some plant roots, glass. Poorly sorted. Large gravel. Silt clods. FILL.
10							PLO		
					PID= 0.3				
		S1	24/1	8-13-13-12	PID= 0.3				S1 (8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~50% sand, fine to coarse, ~45% gravel, coarse, ~5% fines; max. size 2", dry, brown.
	10	S2	24/3	14-11-7-5	PID= 0.0			Env. Sample ID= GPEC-SB-6 (10-12)	S2 (10'- 12') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine, subrounded, ~5% fines; max. size 1", wet, brown.
▽ 5		S3	24/5	5-6-WOH/6"-WOH/6"	PID= 0.0				S3 (12'- 14') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine, ~5% fines; max. size 1", wet, brown.
		S4	24/15	5-6-4-7	PID= 1.6				S4 (14'- 16') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, subrounded, ~5% fines; gray brown.
	15								

WELL DETAILS



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GPEC-SB06/MW-06

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	15									
0		S5	24/20	11-8-4-4	PID= 0.7				S5 (16'- 18') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine to coarse, subangular, ~5% fines; max. size 2", brown.	
		S6	24/14	WOH/6"-WOH/6"-3-4	PID= 0.2				S6 (18'- 20') NARROWLY GRADED SAND (SP); ~85% sand, medium to coarse, ~10% gravel, fine, ~5% fines; max. size 1", orange brown.	
	20	S7	24/8	2-2-4-6	PID= 0.0			Env. Sample ID= GPEC-SB-6 (20-22)	S7 (20'- 22') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; brown.	
-5		S8	24/18	6-8-11-18	PID= 0.0 PID= 0.0				S8A (22'- 22.9') NARROWLY GRADED SAND (SP); ~95% sand, medium to coarse, ~5% fines; orange brown. S8B (22.9'- 24') SILTY SAND (SM); ~80% sand, fine, ~20% fines, low plasticity; brown, breaks apart easily.	
		S9	24/9	2-2-3-6	PID= 0.0				S9 (24'- 26') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; brown.	
	25									
-10		S10	24/13	5-7-8-5	PID= 0.2				S10 (26'- 28') NARROWLY GRADED SAND (SP); ~90% sand, fine, ~5% gravel, fine, ~5% fines; light brown.	
		S11	24/20	4-4-4-7	PID= 0.1				S11 (28'- 30') NARROWLY GRADED SAND (SP); ~90% sand, medium to coarse, ~5% gravel, fine to coarse, ~5% fines; max. size 1", orange brown.	
	30	S12	24/3	10-6-7-12	PID= 0.2				S12 (30'- 32') NARROWLY GRADED SAND (SP); ~90% sand, medium to coarse, ~5% gravel, fine, ~5% fines; max. size 1", orange brown.	
-15		S13	24/14	7-11-18-23	PID= 0.7				S13A (32'- 33.3') NARROWLY GRADED SAND (SP); ~90% sand, medium to coarse, ~5% gravel, fine, ~5% fines; brown.	

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					PID= 0.4				S13B (33.3'- 34') WIDELY GRADED GRAVEL WITH SAND (GW); ~75% gravel, ~20% sand, ~5% fines; max. size 1.25".	
		S14	24/20	6-5-7-7	PID= 2.0 PID= 0.7				S14A (34'- 34.5') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~5% gravel, fine, ~5% fines; wet, brown. S14B (34.5'- 36') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine, ~10% fines, ~5% gravel; wet, brown.	
-20	35	S15	24/24	2-4-6-7	PID= 2.0 PID= 0.9				S15A (36'- 36.3') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~5% gravel, fine, ~5% fines; layered, wet, brown. S15B (36.3'- 38') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine, ~10% fines, ~5% gravel; layered, wet, brown.	
		S16	24/20	3-8-7-17	PID= 1.9 PID= 0.5				S16A (38'- 38.5') NARROWLY GRADED SAND (SP); ~90% sand, medium, subangular, ~5% gravel, fine, angular, ~5% fines; layered, wet, brown, slightly more gravel than in previous samples. S16B (38.5'- 40') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine, ~10% fines, ~5% gravel; layered, wet, brown, sample becomes slightly finer with depth.	
-25	40	S17	24/24	2-3-3-6	PID= 0.7				S17 (40'- 42') NARROWLY GRADED SAND (SP); ~90% sand, fine, ~5% gravel, ~5% fines; brown.	
		S18	24/19	1-1-4-7	PID= 0.5				S18 (42'- 44') NARROWLY GRADED SAND (SP); ~90% sand, fine, ~5% gravel, ~5% fines; brown.	
		S19	24/16	8-11-13-15	PID= 0.5 PID= 0.6 PID= 0.5				S19A (44'- 44.25') NARROWLY GRADED SAND (SP); ~90% sand, medium, subangular, ~5% gravel, fine, ~5% fines; layered. S19B (44.25'- 45.5') NARROWLY GRADED SAND (SP); ~90% sand, fine, ~5% gravel, ~5% fines; layered, brown.	
-30	45	S20	24/0	0-5-6-7	PID= NA				S19C (45.5'- 46') NARROWLY GRADED SAND (SP); ~90% sand, medium, subangular, ~5% gravel, fine, ~5% fines; layered. S20 (46'- 48') NO RECOVERY.	
		S21	24/20	11-7-12-12	PID= 0.3			Env. Sample ID= GPEC-SB-6 (48-50)	S21A (48'- 49.9') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, subrounded, ~5% gravel, fine, ~5% fines; wet, brown.	
	50				PID= 0.7				S21B (49.9'- 50') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; moist, gray. End of Boring at 50 feet. Monitoring well installed upon completion. Screened 8'- 23'.	

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT_7/6/11

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

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BORING LOG
PAGE 1 of 7
GPEC-SB07/MW-07

GROUND SURFACE ELEVATION (FT): 11.03 **LOCATION:** North of Stores Building, Far West of Mooring Bitt 15
NORTHING (FT): 688126 **EASTING (FT):** 650778 **TOTAL DEPTH (FT):** 114.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 5/21/2009 - 5/26/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 5.00 ;
GENERAL NOTE:
GENERAL NOTE:

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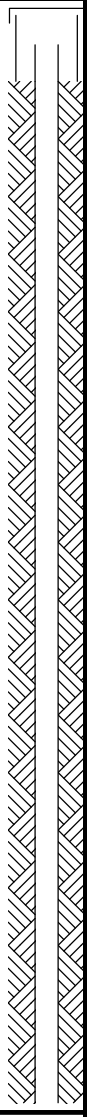
	0								Note: 0'- 7': HAND CLEARED.
10									
		G1	12/12	NA	PID= 31		PLO	Env. Sample ID= GPEC-SB-7 (3-4)	G1 (3'- 4') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to medium, ~20% gravel, fine to coarse, subangular, ~5% fines; max. size 2", slight petroleum-like odor, moist, dark brown.
	5								
5								Env. Sample ID= GPEC-SB-7 (7-8)	
		S1	24/8	1-2-2-2	PID= 0.0			Env. Sample ID= GPEC-SB-7 (8-10)	S1 (8'- 10') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, subangular, ~10% fines; wet, brown, FILL.
	10	S2	24/10	4-0-0-0	PID= 2.0				S2 (10'- 12') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, ~10% fines; wet, dark brown, FILL.
0		S3	24/20	1-0-0-0	PID= 0.1				S3A (12'- 13.4') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wet, brown to dark gray.
					PID= 0.1		SLO		S3B (13.4'- 14') PEAT (PT); low plasticity; ~80% organics, ~20% fines, slight sulfur-like odor, moist, light brown, some gray discoloration at bottom, with no odor and no sheen.
		S4	24/0	P-U-S-H	PID= NA				S4 (14'- 16') NO RECOVERY; Shelby tube sample.
	15								

WELL DETAILS



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BORING LOG

GPEC-SB07/MW-07

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	15									
-5		S5	24/9	2-3-3-5	PID= 0.7				S5 (16'- 18') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded, ~10% fines; max. size 1", wet, brown.	
		S6	24/14	12-13-17-17	PID= 0.7		SLO		S6A (18'- 18.9') CLAYEY SAND (SC); ~80% sand, fine to medium, ~20% fines; slight sulfur-like odor, moist to wet, gray.	
					PID= 0.1		SLO		S6B (18.9'- 20') LEAN CLAY (CL); ~90% fines, ~10% sand, fine; slight sulfur-like odor, moist, gray.	
	20	S7	24/14	P-U-S-H	PID= NA Q_P= 1.280, 1.536, 2.048 S_V= 0.410, 0.461, 0.614				S7 (20'- 22') Shelby tube sample.	
-10		S8	24/14	7-10-18-17	PID= 0.1				S8 (22'- 24') FAT CLAY WITH SAND (CH); ~85% fines, medium plasticity, medium toughness, ~15% sand, fine to medium; laminated, moist to dry, olive gray.	
		S9	24/18	7-10-8-9	PID= 0.1				S9 (24'- 26') CLAYEY SAND (SC); medium plasticity, low toughness; wet, gray brown, interbedded.	
	25									
-15		S10	24/10	4-8-12-12	PID= 0.0				S10 (26'- 28') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, subrounded, ~5% fines; gray brown.	
		S11	24/6	5-6-6-5	PID= 0.0				S11 (28'- 30') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; reddish brown.	
	30	S12	24/5	6-4-6-8	PID= 0.2				S12 (30'- 32') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, orange brown.	
-20		S13	24/12	4-8-9-9	PID= 0.2				S13 (32'- 34') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, brown red yellow black, iron deposit. Discoloration.	

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BORING LOG
PAGE 3 of 7
GPEC-SB07/MW-07

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	35	S14	24/14	6-7-10-9	PID= 0.1				S14 (34'- 36') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, brown red yellow black, iron deposit. Discoloration.	
-25		S15	24/13	7-5-6-8	PID= 0.1		TLO		S15 (36'- 38') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; slight tar-like odor, wet, brown.	
		S16	24/22	8-7-10-8	PID= 0.1		TLO		S16 (38'- 40') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; slight tar-like odor, wet, brown.	
	40	S17	24/10	2-2-4-5	PID= 0.0				S17 (40'- 42') NARROWLY GRADED SAND (SP); ~95% sand, medium, ~5% fines; wet, gray brown.	
-30		S18	24/12	4-6-7-12	PID= 0.1				S18 (42'- 44') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", wet, brown.	
		S19	24/14	5-7-8-5	PID= 0.1		NLO		S19 (44'- 46') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~5% gravel, fine, ~5% fines; slight naphthalene-like odor, wet, brown.	
	45									
-35		S20	24/17	9-13-16-13	PID= 0.1				S20 (46'- 48') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, subrounded, ~20% gravel, ~5% fines; wet, brown.	
		S21	24/24	11-7-10-12	PID= 0.2 PID= 0.1				S21A (48'- 49') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, ~5% fines; brown. S21B (49'- 50') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~5% gravel, fine, ~5% fines; wet, brown.	
	50	S22	24/0	3-4-6-8	PID= NA				S22 (50'- 52') NO RECOVERY; ~2" of wash.	
-40										

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BORING LOG
PAGE 4 of 7
GPEC-SB07/MW-07

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		S23	24/12	6-9-11-10	PID= 0.1				S23 (52'- 54') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, brown.	
	55	S24	24/6	16-16-14-13	PID= 0.1				S24 (54'- 56') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, brown.	
-45		S25	24/4	15-16-20-19	PID= 0.1				S25 (56'- 58') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, coarse, ~5% fines; wet, brown.	
		S26	24/0	8-9-10-15	PID= NA				S26 (58'- 60') NO RECOVERY.	
	60	S27	24/9	8-10-11-11	PID= 0.1				S27 (60'- 62') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, brown.	
-50		S28	24/15	9-11-11-16	PID= 0.1				S28 (62'- 64') NARROWLY GRADED SAND (SP); ~85% sand, fine to medium, ~10% gravel, fine to coarse, ~5% fines; wet, brown.	
	65	S29	24/9	15-14-18-19	PID= 0.1				S29 (64'- 66') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, subrounded, ~35% sand, fine to coarse, ~5% fines; max. size 1.5", wet, brown.	
-55		S30	24/13	16-16-18-20	PID= 0.2				S30 (66'- 68') WIDELY GRADED GRAVEL WITH SAND (GW); ~55% gravel, fine to coarse, angular to subangular, ~40% sand, fine to coarse, ~5% fines; layered, max. size 2", wet, brown, some iron coated grains.	
		S31	24/10	5-13-13-15	PID= 0.1				S31 (68'- 70') NARROWLY GRADED SAND WITH GRAVEL (SP); ~60% sand, medium to coarse, ~35% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", wet, brown.	
	70				PID= 0.1					

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PAGE 5 of 7
GPEC-SB07/MW-07

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-60		S32	24/10	15-11-12-16					S32 (70'- 72') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, subrounded, ~5% fines; wet, brown.	
		S33	24/14	12-14-16-17	PID= 0.1				S33 (72'- 74') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, subangular, ~5% fines; wet, brown, gradational. Sample becomes coarser with depth.	
		S34	24/0	28-14-16-21	PID= NA				S34 (74'- 76') NO RECOVERY; wet wash.	
	75									
-65		S35	24/9	12-17-11-13	PID= 0.1				S35 (76'- 78') NARROWLY GRADED SAND (SP); ~85% sand, fine to medium, ~10% gravel, fine, subangular, ~5% fines; max. size 0.5", wet, brown.	
		S36	24/0	9-8-11-13	PID= NA				S36 (78'- 80') NO RECOVERY; wet wash.	
	80	S37	24/9	15-8-9-8	PID= 0.1				S37 (80'- 82') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, brown.	
-70		S38	24/4	9-17-13-11	PID= 0.1				S38 (82'- 84') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, brown.	
		S39	24/9	23-15-14-12	PID= 0.1				S39 (84'- 86') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, subangular, ~5% fines; wet, orange brown.	
	85									
-75		S40	24/17	12-14-20-18	PID= 0.2 PID= 0.2				S40A (86'- 87') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, subangular, ~5% fines; wet, gray brown. S40B (87'- 88') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, brown.	
		S41	24/24	10-13-13-21	PID= 0.1			Env. Sample ID= GPEC-SB-7	S41 (88'- 90') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15%	

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PAGE 6 of 7
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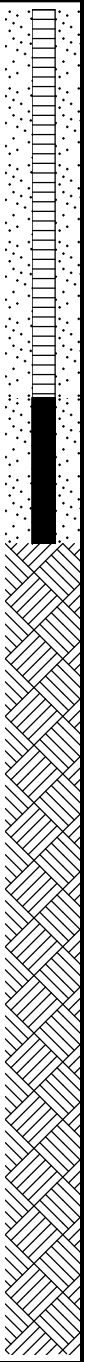
								(88-90)	gravel, fine, ~5% fines; wet, brown.
	90	S42	24/4	20-13-12-15	PID= 0.5			(90') Some drill chatter.	S42 (90'- 92') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subangular, ~5% fines; slight naphthalene-like odor, wet, brown.
-80							NLO		
		S43	24/20	15-15-20-40	PID= 0.1		NLO		S43 (92'- 94') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subangular, ~5% fines; slight naphthalene-like odor, wet, brown, dark gray discoloration 4-5" from spoon tip. Red iron stain 2-4" from spoon tip.
		S44	24/1	17-27-26-73	PID= 0.0				S44 (94'- 96') CLAYEY GRAVEL WITH SAND (GC); ~40% fines, medium plasticity, ~35% gravel, fine to coarse, ~25% sand, fine to medium; wet, dark gray.
	95								
-85		S45	6/6	100/6"	PID= 0.1				S45 (96'- 96.5') SANDY FAT CLAY (CH); ~55% fines, high plasticity, high toughness, ~35% sand, fine to medium, ~10% gravel, fine; wet, dark brown to dark gray.
		S46	24/15	23-36-30-56	PID= 0.1			(98') Some drill chatter.	S46 (98'- 100') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subangular, ~5% fines; max. size 1.5", wet, brown.
	100	S47	24/10	23-46-31-26	PID= 0.1				S47 (100'- 102') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to coarse, ~30% fines, ~20% gravel, fine to coarse; wet, brown to dark gray.
-90		S48	24/8	33-41-51-62	PID= 0.1		CLO		S48 (102'- 104') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, ~5% fines; moderate chemical-like odor, wet, brown.
		S49	24/16	15-23-36-36	PID= 0.1				S49 (104'- 106') FAT CLAY WITH SAND (CH); ~80% fines, high plasticity, slow dilatancy, high toughness, ~20% sand, fine to medium; moist, gray to dark gray.
	105								
-95		S50	24/24	39-49-54-76	PID= 0.1				S50 (106'- 108') FAT CLAY WITH SAND (CH); ~75% fines, ~15% sand, fine to medium, ~10% gravel, fine; moist, green to gray, thin layer of dark

WELL DETAILS



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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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: 093260-1-1101

BORING LOG

GPEC-SB07/MW-07

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
									material with no associated odor.	
		S51	24/20	46-56-74-100/6"	PID= 0.0				S51 (108'- 110') ELASTIC SILT WITH SAND (MH); ~85% fines, low plasticity, ~10% sand, fine to medium, ~5% gravel, fine; dry to moist, gray green.	
	110	S52	24/17	14-30-40-35	PID= 0.0				S52 (110'- 112') ELASTIC SILT (MH); medium plasticity, high toughness; dry to moist, gray green to gray brown, interbedded layers of silty and clayey fines.	
-100		S53	24/10	16-47-75-73	PID= 0.1			Env. Sample ID= GPEC-SB-7 (112-114)	S53 (112'- 114') ELASTIC SILT (MH); medium plasticity, high toughness; dry to moist, gray green to gray brown, interbedded layers of silty and clayey fines.	
									End of Boring at 114 feet. Monitoring well installed upon completion. Screened 79'- 94'.	

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BORING LOG
PAGE 1 of 5
GPEC-SB08/MW-08

GROUND SURFACE ELEVATION (FT): 9.40 **LOCATION:** Southeast of LNG Tank 1 Area, Along East Edge of Access Road
NORTHING (FT): 688452 **EASTING (FT):** 650559 **TOTAL DEPTH (FT):** 80.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 5/14/2009 - 5/15/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0									Note: 0'- 8': HAND CLEARED.	
		G1	12/12	NA	PID= NM					G1 (3'- 4') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to medium, ~30% gravel, fine to coarse, subrounded, ~15% fines; max. size 3", wet, gray brown, silt in clasts, balls, or free form. FILL.	
5	5										
		S1	24/18	3-4-4-5	PID= 0.0 PID= 3.7			TLO TLO		S1A (8'- 8.5') SILTY SAND (SM); ~75% sand, fine to medium, ~20% fines, ~5% gravel, fine; strong tar-like odor, moist, black, stained. S1B (8.5'- 10') SANDY ELASTIC SILT (MH); ~65% fines, ~30% sand, fine; ~5% organics, strong tar-like odor, wet, black, stained.	
0	10	S2	24/24	5-5-6-6	PID= 2.5 PID= 0.1			TLO	Env. Sample ID= GPEC-SB-8 (10-12)	S2A (10'- 11') SILTY SAND (SM); ~80% sand, fine, ~15% fines, ~5% gravel, fine; strong tar-like odor, black, stained. S2B (11'- 12') ORGANIC SOIL (OL/OH);	

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BORING LOG

GPEC-SB08/MW-08

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
										~85% fines, medium plasticity, medium toughness; ~15% organics, some peat.	
		S3	24/24	5-5-1-3	PID= 4.2			TLO		S3A (12'- 13.7') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine, ~15% gravel, fine to coarse, ~15% fines; moderate tar-like odor, black, stained.	
					PID= 0.1					S3B (13.7'- 14') ORGANIC SOIL (OL/OH); ~85% fines, medium plasticity, medium toughness; ~15% organics.	
-5	15	S4	24/16	3-3-5-5	PID= 0.0			TLO		S4 (14'- 16') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; slight tar-like odor, brown to gray.	
		S5	24/24	6-6-7-9	PID= 0.1					S5 (16'- 18') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines, rapid dilatancy; wet, gray.	
		S6	24/24	7-10-13-15	PID= 0.0					S6A (18'- 19.2') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines, rapid dilatancy; layered, wet, gray.	
-10					PID= 0.0					S6B (19.2'- 20') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; layered, brown gray black, interbedded layers of fine and coarse sand. Black staining at layer boundaries-no odor.	
	20	S7	24/13	2-2-2-3	PID= 0.0			TLO		S7 (20'- 22') WIDELY GRADED SAND (SW); ~85% sand, fine to medium, ~10% gravel, fine to coarse, ~5% fines; slight tar-like odor, wet, dark brown.	
		S8	24/4	9-10-10-16	PID= 0.0			TLO		S8 (22'- 24') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; moderate tar-like odor, wet, brown.	
-15		S9	24/5	7-8-7-9	PID= 0.0					S9 (24'- 26') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, gray brown.	
	25	S10	24/24	10-11-11-17	PID= 0.0					S10A (26'- 27') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, gray brown.	
					PID= 0.1					S10B (27'- 28') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded to subangular, ~5% fines; wet, orange brown.	
		S11	24/18	4-4-9-16	PID= 0.0					S11A (28'- 29.3') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; brown.	
-20					PID= 0.0					S11B (29.3'- 30') WIDELY GRADED SAND WITH CLAY (SW-SC); ~85% sand, fine to	

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BORING LOG
PAGE 3 of 5
GPEC-SB08/MW-08

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	30	S12	24/2	14-22-22-12	PID= 0.4					coarse, ~10% fines, ~5% gravel, fine; orange brown. S12 (30'- 32') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% sand, fine to coarse, ~40% gravel, coarse, ~10% fines; wet, orange brown.	
		S13	24/2	18-15-20-21	PID= 0.0					S13 (32'- 34') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~35% gravel, coarse, ~5% fines; wet, orange brown.	
-25	35	S14	24/4	14-16-13-11	PID= 2.4					S14 (34'- 36') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~35% gravel, fine to coarse, ~5% fines; wet, orange brown.	
		S15	24/6	17-16-21-15	PID= 0.0					S15 (36'- 38') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, orange brown.	
-30	40	S16	24/24	16-20-28-25	PID= 0.0					S16 (38'- 40') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, orange brown.	
		S17	24/4	15-10-13-14	PID= 0.2					S17 (40'- 42') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, orange brown.	
		S18	24/10	11-13-12-15	PID= 0.0					S18 (42'- 44') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, orange brown.	
-35	45	S19	24/10	8-7-10-12	PID= 0.1					S19 (44'- 46') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, angular to subangular, ~5% fines; wet, orange brown.	
		S20	24/18	8-10-12-13	PID= 0.1					S20 (46'- 48') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium to coarse, ~15% gravel, fine to coarse, angular to subangular, ~5% fines; max. size 1", wet, orange brown.	
		S21	24/20	9-11-9-9	PID= 0.4					S21 (48'- 50') WIDELY GRADED SAND (SW);	

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BORING LOG
PAGE 4 of 5
GPEC-SB08/MW-08

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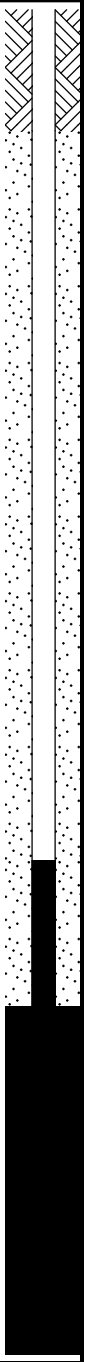
										~85% sand, fine to coarse, angular, ~10% gravel, fine, subangular, ~5% fines; max. size 0.5", wet, orange brown.
-40	50	S22	24/0	8-10-9-11	PID= NA					S22 (50'- 52') NO RECOVERY; wet spoon.
		S23	24/15	9-10-15-8	PID= 0.0					S23 (52'- 54') NARROWLY GRADED SAND (SP); ~85% sand, medium to coarse, subrounded, ~10% gravel, coarse, rounded, ~5% fines; max. size 1.5", wet, light brown.
-45	55	S24	24/14	6-8-6-7	PID= 0.1			NLO	Env. Sample ID= GPEC-SB-8 (54-56)	S24 (54'- 56') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium, subangular, ~15% gravel, fine to coarse, subangular, ~5% fines; max. size 1", slight naphthalene-like odor, wet, orange brown.
		S25	24/16	6-6-7-5	PID= 0.1			NLO		S25 (56'- 58') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium, subangular, ~15% gravel, fine to coarse, ~5% fines; max. size 1", slight naphthalene-like odor, wet, orange brown.
-50	60	S26	24/24	11-17-18-29	PID= 0.2			NLO		S26 (58'- 60') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; max. size 2", slight naphthalene-like odor, wet, light brown.
		S27	24/4	21-13-10-10	PID= 0.1			NLO	(60'- 62')) Driller reports mud loss.	S27 (60'- 62') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, coarse, ~5% fines; max. size 1", slight naphthalene-like odor, wet, light brown.
		S28	24/8	25-29-20-18	PID= 0.4					S28 (62'- 64') NARROWLY GRADED SAND WITH GRAVEL (SP); ~70% sand, medium coarse, ~25% gravel, fine to coarse, ~5% fines; wet, light brown.
-55	65	S29	24/0	15-6-14-13	PID= NA				(64-66") Rough drilling, likely cobbles. Drilling mud loss.	S29 (64'- 66') NO RECOVERY.
		S30	24/10	23-12-16-21	PID= 0.1				(66'- 68') Drilling mud loss	S30 (66'- 68') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand,

WELL DETAILS



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BORING LOG

GPEC-SB08/MW-08

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
									continues.	fine to coarse, ~20% gravel, fine, ~10% fines.	
		S31	24/16	12-10-10-8	PID= 0.7				(68'- 70') Drilling mud loss continues.	S31 (68'- 70') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; max. size 2", wet, brown.	
-60	70	S32	24/0	11-10-17-26	PID= NA					S32 (70'- 72') NO RECOVERY; large piece of gravel stuck in spoon tip.	
		S33	24/12	14-15-34-36	PID= 2.3					S33 (72'- 74') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wet, brown.	
-65	75	S34	24/4	27-26-47-31	PID= 0.4					S34 (74'- 76') WIDELY GRADED SAND WITH GRAVEL (SW); ~55% sand, fine to coarse, ~40% gravel, fine to coarse, ~5% fines; max. size 1.5", thin seam of red-brown silty fines 1.5" from bottom. Thin seam of mottled sand 1" from top/stain.	
		S35	24/10	44-48-53-42	PID= 0.1 PID= 0.1			NLO	(76') Significant loss of drilling mud. Likely pushing obstruction.	S35A (76'- 77') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to medium, ~15% gravel, fine, ~15% fines; reddish brown, sediment towards top of spoon, nothing in bottom. S35B (77'- 78') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine, ~5% fines; slight naphthalene-like odor, brown.	
-70	80	S36	24/10	29-32-50-52	PID= 0.1			MLO	Env. Sample ID= GPEC-SB-8 (78-80)	S36 (78'- 80') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, subangular, ~10% fines; moderate musty-like odor, wet, reddish brown, interbedded layers of fine sand with silty fines and medium-coarse sand with gravel. End of Boring at 80 feet. Monitoring well installed upon completion. Screened 50'- 60'.	

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BORING LOG
PAGE 1 of 4
GPEC-SB09/MW-09

GROUND SURFACE ELEVATION (FT): 20.11 **LOCATION:** West of Storage Building that is West of LNG Tank 1
NORTHING (FT): 688506 **EASTING (FT):** 650269 **TOTAL DEPTH (FT):** 64.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 5/12/2009 - 5/13/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 14.00 5/12/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
20	0	G1	96/96	NA	PID= 0.2				Note: 0'- 8': HAND CLEARED. G1A (0- 0.3') CRUSHED GRAVEL. G1B (0.3'- 1') ORGANIC SOIL WITH SAND (OL/OH); moist, dark brown, brick fragments. FILL. G1C (1'- 8') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% sand, fine to medium, ~20% gravel, subrounded, ~10% fines, low plasticity; max. size 2", moist, light brown.
15	5								
		S1	24/0	9-12-9-12	PID= NA				S1 (8'- 10') NO RECOVERY; dry spoon.
10	10	S2	24/0	16-17-15-11	PID= NA				S2 (10'- 12') NO RECOVERY; dry spoon.
		S3	24/10	24-12-10-12	PID= 0.2				S3 (12'- 14') NARROWLY GRADED SAND WITH GRAVEL (SP); ~75% sand, fine to medium, ~20% gravel, fine, subrounded, ~5% fines; moist, reddish brown.
▽		S4	24/11	6-14-18-15	PID= 0.5			Env. Sample ID= GPEC-SB-9 (14-16)	S4 (14'- 16') WIDELY GRADED GRAVEL WITH SAND (GW); ~65% gravel, fine to coarse, ~30% sand, fine to coarse, ~5% fines; max. size 2", wet,
	15								

WELL DETAILS

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TSF = TONS PER SQUARE FOOT

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SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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: 093260-1-1101

BORING LOG
PAGE 2 of 4
GPEC-SB09/MW-09

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
5	15								reddish brown.	
		S5	24/20	14-12-11-9	PID= 0.2				S5 (16'- 18') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine to coarse, subangular, ~5% fines; max. size 2", wet, orange brown.	
		S6	24/24	7-12-14-10	PID= 1.0				S6 (18'- 20') NARROWLY GRADED SAND WITH GRAVEL (SP); ~60% sand, medium to coarse, ~35% gravel, fine to coarse, subangular, ~5% fines; max. size 2", wet, orange brown, glass. FILL.	
0	20	S7	24/12	13-15-11-12	PID= 0.2				S7 (20'- 22') NARROWLY GRADED SAND (SP); ~85% sand, medium to coarse, ~10% gravel, fine to coarse, rounded, ~5% fines; max. size 1.5", wet, orange brown.	
		S8	24/24	13-13-17-17	PID= 0.6			Env. Sample ID= GPEC-SB-9 (22-24)	S8 (22'- 24') NARROWLY GRADED SAND (SP); ~85% sand, medium, ~10% gravel, fine, ~5% fines; wet, orange brown.	
-5	25	S9	24/8	2-4-8-12	PID= 0.2				S9 (24'- 26') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, subrounded, ~5% fines; wet, orange brown.	
		S10	24/19	16-19-19-21	PID= 1.2				S10 (26'- 28') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, subrounded, ~5% fines; wet, orange brown.	
		S11	24/24	11-16-25-24	PID= 0.3				S11 (28'- 30') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, subangular to subrounded, ~5% fines; wet, brown, sample becomes finer with depth.	
-10	30	S12	24/10	8-10-10-12	PID= 0.6				S12 (30'- 32') WIDELY GRADED SAND (SW); ~85% sand, medium to coarse, ~10% gravel, fine, ~5% fines; wet, light brown to orange brown.	
		S13	24/11	8-13-13-14	PID= NM				S13 (32'- 34') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, medium to coarse, ~15% gravel, fine to coarse, subangular, ~5% fines; max. size 2, wet, light brown to orange brown.	

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BORING LOG

GPEC-SB09/MW-09

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	35	S14	24/10	11-9-14-15	PID= 1.0				S14 (34'- 36') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, medium to coarse, ~20% gravel, fine, subrounded, ~5% fines; wet, orange brown.	
-15		S15	24/13	14-22-20-26	PID= 0.9 PID= 0.5				S15A (36'- 36.6') WIDELY GRADED SAND WITH GRAVEL (SW); ~55% sand, fine to coarse, ~40% gravel, coarse, ~5% fines; max. size 2", wet, brown. S15B (36.6'- 38') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, orange brown.	
		S16	24/18	16-19-27-22	PID= 0.7				S16 (38'- 40') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, orange brown, silt seam ~2" from spoon tip.	
-20	40	S17	24/15	8-6-10-8	PID= 2.3				S17 (40'- 42') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, subrounded, ~5% fines; wet, brown.	
		S18	24/10	6-12-16-17	PID= 0.5				S18 (42'- 44') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, medium to coarse, ~15% gravel, fine, ~5% fines; max. size 1", wet, brown.	
		S19	24/10	8-16-15-17	PID= 0.9				S19 (44'- 46') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium to coarse, ~15% gravel, fine, ~5% fines; wet, brown.	
-25	45	S20	24/1	16-20-23-21	PID= 0.0				S20 (46'- 48') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; brown.	
		S21	24/24	11-11-10-9	PID= 0.7				S21 (48'- 50') NARROWLY GRADED SAND (SP); ~85% sand, medium to coarse, ~10% gravel, fine, ~5% fines; wet, brown.	
-30	50	S22	24/4	8-16-12-8	PID= 0.7		NLO		S22 (50'- 52') WIDELY GRADED GRAVEL WITH SAND (GW); ~55% gravel, fine to coarse, ~40% sand, fine to coarse, ~5% fines; slight naphthalene-like odor, wet.	

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		S23	24/11	6-8-11-16	PID= 0.9				S23 (52'- 54') NARROWLY GRADED SAND WITH GRAVEL (SP); ~65% sand, medium to coarse, ~30% gravel, fine to coarse, subrounded, ~5% fines; wet, orange brown.	
-35	55	S24	24/2	27-24-16-23	PID= 0.1				S24 (54'- 56') WIDELY GRADED GRAVEL WITH SAND (GW); ~50% gravel, fine to coarse, ~45% sand, fine to coarse, ~5% fines; max. size 1.5", orange brown.	
		S25	24/6	18-26-29-26	PID= 0.2				S25 (56'- 58') WIDELY GRADED GRAVEL WITH SAND (GW); ~50% gravel, fine to coarse, ~45% sand, fine to coarse, ~5% fines; max. size 2", orange brown.	
		S26	24/16	21-19-17-16	PID= 0.4			Env. Sample ID= GPEC-SB-9 (58-60)	S26 (58'- 60') WIDELY GRADED GRAVEL WITH SAND (GW); ~50% gravel, fine to coarse, subrounded, ~45% sand, fine to coarse, ~5% fines; max. size 2", wet, orange brown.	
-40	60	S27	24/4	7-29-35-22	PID= 0.4		NLO	(60') Rough drilling and drilling chatter. Likely drilling through gravel.	S27 (60'- 62') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, ~35% sand, fine to coarse, ~5% fines; slight naphthalene-like odor, wet.	
		S28	24/4	46-38-27-23	PID= 0.6				S28 (62'- 64') WIDELY GRADED GRAVEL WITH SAND (GW); ~55% gravel, fine to coarse, subangular, ~40% sand, medium to coarse, ~5% fines; max. size 2", wet.	

End of Boring at 64 feet.
Borehole offset ~12' west from original hole due to slab.
Monitoring well installed upon completion. Screened 10'- 25'.

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BORING LOG
PAGE 1 of 4
GPEC-SB10/MW-10

GROUND SURFACE ELEVATION (FT): 17.14 **LOCATION:** West of Service Building
NORTHING (FT): 687735 **EASTING (FT):** 650394 **TOTAL DEPTH (FT):** 70.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 6/3/2009 - 6/5/2009
DRILLING DETAILS: Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 10.00 6/3/2009 ;
GENERAL NOTE:
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	0	G1	96/96	NA					Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') ASPHALT. G1B (0.5'- 2') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~60% gravel, ~30% sand, ~10% fines; dark brown to gray, large cobbles. FILL.	
15					PID= 1.0			Env. Sample ID= GPEC-SB-10 (3-4)	G1C (3'- 4') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~60% gravel, fine to coarse, ~30% sand, fine to coarse, ~10% fines; dark brown to gray, cobbles slightly smaller than previous. Brick fragments, wire, metal. Slight unidentifiable odor.	
	5									
10		S1	24/10	8-10-4-6	PID= 5.9				S1 (8'- 10') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; moist, orange brown.	
	10	S2	24/17	5-5-5-3	PID= 0.5			Env. Sample ID= GPEC-SB-10 (10-12)	S2A (10'- 11.3') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; moist, orange brown.	
					PID= 0.7		SLO		S2B (11.3'- 12') NARROWLY GRADED SAND (SP); slight sulfur-like odor, wet, gray to black.	
5		S3	24/22	2-2-2-4	PID= 0.7		SLO		S3A (12'- 12.8') NARROWLY GRADED SAND (SP); slight sulfur-like odor, wet, gray black.	
					PID= 0.4				S3B (12.8'- 14') CLAYEY SAND (SC); ~65% sand, fine to medium, ~35% fines; wet, gray, sample becomes finer with depth.	
	15	S4	24/9	2-9-19-13	PID= 1.3				S4 (14'- 16') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine, subrounded, ~5% fines; max. size 1.5",	

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BORING LOG

GPEC-SB10/MW-10

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	15								wet, dark brown.	
		S5	24/24	14-30-49-50	PID= 3.7				S5 (16'- 18') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, ~5% fines; wet, brown to dark brown.	
0		S6	24/24	21-34-40-44	PID= 9.3				S6 (18'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", moist to wet, brown.	
	20	S7	24/17	4-13-15-20	PID= 3.7				S7 (20'- 22') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, ~10% fines; wet, orange brown.	
-5		S8	24/24	6-16-18-23	PID= 2.0				S8 (22'- 24') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine, ~10% fines; wet, orange brown.	
		S9	24/10	8-9-7-7	PID= 1.2				S9 (24'- 26') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to medium, ~15% gravel, fine, ~15% fines; wet, orange brown.	
	25	S10	24/0	8-11-12-10	PID= NA				S10 (26'- 28') NO RECOVERY; some silty sand wash in spoon.	
-10		S11	24/6	7-12-12-13	PID= 1.0				S11 (28'- 30') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine, ~10% fines; wet, orange brown.	
	30	S12	24/0	7-12-10-8	PID= NA				S12 (30'- 32') NO RECOVERY; some gravel wash.	
-15		S13	24/4	8-9-11-11	PID= 0.4				S13 (32'- 34') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~10% fines; max. size 1", wet, orange brown.	

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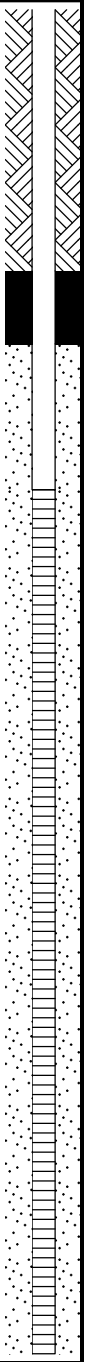
		S14	24/0	9-11-16-15	PID= NA			(34'- 36') Driller likely pushing large gravel.	S14 (34'- 36') NO RECOVERY; some gravel wash..
	35								
		S15	24/0	19-15-16-11	PID= NA			(36'- 38') Driller likely pushing large gravel.	S15 (36'- 38') NO RECOVERY.
-20		S16	24/5	16-5-6-5	PID= 5.0				S16 (38'- 40') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, subangular, ~35% sand, fine to coarse, ~5% fines; max. size 2", wet, orange brown to gray.
	40	S17	24/0	11-4-4-5	PID= NA				S17 (40'- 42') NO RECOVERY.
-25		S18	24/8	5-7-5-4	PID= 521		TLO	Env. Sample ID= GPEC-SB-10 (42-44)	S18 (42'- 44') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~35% gravel, fine, subangular, ~5% fines; slight tar-like odor, wet, gray to dark gray.
		S19	24/0	4-10-10-14	PID= NA				S19 (44'- 46') NO RECOVERY.
	45								
		S20	24/15	6-10-7-7	PID= 359				S20 (46'- 48') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wet, gray, sample becomes finer with depth.
-30		S21	24/16	5-5-6-7	PID= 335				S21 (48'- 50') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subangular, ~5% fines; max. size 1.5", wet, gray.
	50	S22	24/6	10-8-9-9	PID= 263				S22 (50'- 52') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subangular, ~5% fines; max. size 1.25", wet, gray.

WELL DETAILS



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ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-35	55	S23	24/2	5-9-13-11	PID= 216				S23 (52'- 54') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subangular, ~5% fines; max. size 1.25", wet, gray.	
		S24	24/0	25-16-9-11	PID= NA				S24 (54'- 56') NO RECOVERY.	
-40		S25	24/12	6-6-7-10	PID= 135				S25 (56'- 58') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~5% fines; max. size 1", wet, gray brown.	
	60	S26	24/15	7-7-12-14	PID= 109				S26 (58'- 60') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded, ~5% fines; max. size 1", wet, gray brown.	
-45		S27	24/9	12-14-14-13	PID= 31.2				S27 (60'- 62') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wet, gray brown, interbedded coarse sands and fine sands with silt seams.	
		S28	24/14	6-10-12-13	PID= 20.6				S28 (62'- 64') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", wet, gray.	
	65	S29	24/6	14-18-16-22	PID= 1.3				S29 (64'- 66') WIDELY GRADED SAND WITH GRAVEL (SW); ~50% sand, fine to coarse, ~45% gravel, fine to coarse, rounded, ~5% fines; max. size 2", wet, gray brown, odd, "peppery," unrecognizable odor.	
-50		S30	24/18	10-13-15-20	PID= 1.6				S30 (66'- 68') WIDELY GRADED SAND WITH GRAVEL (SW); ~55% sand, fine to coarse, ~40% gravel, fine to coarse, subrounded to subangular, ~5% fines; max. size 1.5", wet, gray brown.	
		S31	24/17	11-11-15-21	PID= 3.2			Env. Sample ID= GPEC-SB-10 (68-70)	S31 (68'- 70') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", wet, gray brown.	
	70								End of Boring at 70 feet. Monitoring well installed upon completion. Screened 40'-55' (2"Ø PVC).	

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

NAP = NAPHTHALENE LIKE ODOR
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TLO = TAR LIKE ODOR
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SeLO= SEWAGE LIKE ODOR

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT 7/6/11

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: 093260-1-1101

BORING LOG
PAGE 1 of 4
GPEC-SB11/MW-11

GROUND SURFACE ELEVATION (FT): 17.30 **LOCATION:** South of LNG Tank 2 Area
NORTHING (FT): 687966 **EASTING (FT):** 650054 **TOTAL DEPTH (FT):** 64.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 5/28/2009 - 6/1/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 10.00 5/28/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	G1	96/96	NA						Note: 0'- 8': HAND CLEARED. G1A (0- 0.3') CRUSHED GRAVEL, soil, and clayey fines. G1B (0.3'- 3') WIDELY GRADED SAND WITH CLAY AND GRAVEL (SW-SC); coarse; wet, dark brown, large cobbles (10") and clay seams. Dripping clays. FILL.	
15											
								TLO	Env. Sample ID= GPEC-SB-11 (3-4)	G1C (3'- 4') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", moderate tar-like odor, glass and brick fragments. Some silt clasts or balls. Black stained. FILL. G1D (4'- 8') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, subrounded, ~10% fines, medium plasticity; moist, brown, FILL.	
	5										
10											
		S1	24/16	6-4-3-2	PID= 16.1			TLO	Env. Sample ID= GPEC-SB-11 (8-10)	S1 (8'- 10') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~60% gravel, fine to coarse, angular, ~30% sand, fine to coarse, ~10% fines; moderate tar-like odor, moist to wet, stained. Sheen.	
	10 ▽	S2	24/8	7-6-3-2	PID= 0.6			TLO		S2 (10'- 12') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to medium, ~15% gravel, fine to coarse, ~15% fines; moderate tar-like odor, wet, greenish brown, sheen.	
5		S3	24/7	1-1-2-2	PID= 0.1					S3 (12'- 14') ELASTIC SILT WITH SAND (MH); ~80% fines, medium plasticity, low toughness, ~20% sand, fine to medium; brown to olive brown, some black staining.	
		S4	24/19	1-WOH-1-2	PID= 1.8					S4 (14'- 16') ORGANIC SOIL (OL/OH); dark brown, some peat and plant material.	
	15										

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455 Winding Brook Road
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BORING LOG
PAGE 2 of 4
GPEC-SB11/MW-11

ELEV. FT.	DEPTH FT.	TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	15									
0		S5	24/14	P-U-S-H	PID= NA			TLO		S5 (16'- 18') SILTY SAND (SM); ~80% sand, fine to medium, ~15% fines, ~5% gravel, fine; moderate tar-like odor, gray brown, Shelby tube sample; Some organics. Top 4" stained black.
		S6	24/18	5-4-9-12	PID= 1.4			TLO		S6 (18'- 20') SILTY SAND (SM); ~75% sand, fine to coarse, ~15% fines, ~10% gravel, fine to coarse, rounded; moderate tar-like odor, wet, brown, silt clasts. Thin silt seam ~1" from spoon tip with no sediment below but with some sheen present.
	20	S7	24/14	2-5-3-9	PID= 0.5 PID= 0.1			CLO		S7A (20'- 21.1') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine, rounded, ~10% fines; slight chemical-like odor, wet, tan brown. S7B (21.1'- 22') SILTY SAND WITH GRAVEL (SW); ~70% sand, fine to medium, ~15% gravel, fine to coarse, angular, ~15% fines; wet, gray.
-5		S8	24/20	10-24-12-9	PID= 0.1 PID= 0.2					S8A (22'- 23.2') SILTY SAND WITH GRAVEL (SW); ~60% sand, fine to medium, ~20% gravel, fine to coarse, subangular, ~20% fines; wet, gray to brown gray. S8B (23.2'- 24') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine to medium, ~15% gravel, fine to coarse, subangular, ~10% fines; max. size 1.5", wet, orange brown.
	25	S9	24/10	13-7-7-8	PID= 0.8			TLO		S9 (24'- 26') NARROWLY GRADED SAND (SP); ~85% sand, fine to medium, ~10% gravel, fine, ~5% fines; slight tar-like odor, wet, dark gray brown.
-10		S10	24/10	4-5-5-5	PID= 0.2					S10 (26'- 28') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, gray green, borderline widely graded sand.
		S11	24/12	1-5-7-5	PID= 0.1					S11 (28'- 30') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, subangular, ~5% fines; max. size 2", wet, gray brown.
	30	S12	24/8	3-2-4-3	PID= 0.1					S12 (30'- 32') WIDELY GRADED SAND (SW); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, brownish gray.
-15		S13	24/12	1-1-2-7	PID= 0.9					S13 (32'- 34') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, fine, angular, ~10% fines; wet, brownish gray.

WELL DETAILS

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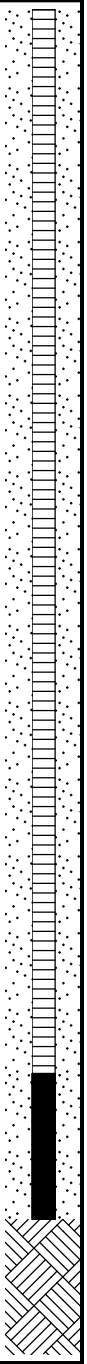
BORING LOG

GPEC-SB11/MW-11

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	35	S14	24/10	4-4-4-5	PID= 0.2			TLO		S14 (34'- 36') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, angular, ~25% gravel, fine, subangular, ~5% fines; slight tar-like odor, wet, gray.
-20		S15	24/15	5-5-6-3	PID= 7.1			TLO		S15 (36'- 38') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, angular, ~10% gravel, fine, ~10% fines; moderate tar-like odor, wet, gray, some black staining. Interbedded.
		S16	24/14	WOH-WOH-4-5	PID= 4.4			TLO		S16 (38'- 40') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, angular, ~10% gravel, fine, ~10% fines; moderate tar-like odor, wet, gray, black staining. Interbedded.
	40	S17	24/4	WOH-2-2-2	PID= 6.4			TLO		S17 (40'- 42') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine, ~5% fines; moderate tar-like odor, wet, black, stained.
-25		S18	24/14	5-4-5-5	PID= 18.0			TLO	Env. Sample ID= GPEC-SB-11 (42-44)	S18 (42'- 44') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine, subangular, ~10% fines; strong tar-like odor, black, stained. Sample becomes finer with depth.
	45	S19	24/12	3-4-5-6	PID= 3.0			TLO		S19 (44'- 46') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, ~5% fines; moderate tar-like odor, wet, black, stained.
-30		S20	24/14	9-12-12-10	PID= 3.6					S20 (46'- 48') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, angular, ~5% fines; max. size 2", wet, black, stained.
		S21	24/14	6-5-10-6	PID= 2.1			TLO		S21 (48'- 50') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", moderate tar-like odor, wet, black, stained.
	50	S22	24/8	8-10-8-6	PID= 0.0					S22 (50'- 52') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", wet, gray.

WELL DETAILS



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BORING LOG

GPEC-SB11/MW-11

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-35		S23	24/12	5-6-9-6	PID= 0.1			TLO		S23 (52'- 54') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded, ~5% fines; max. size 1", slight tar-like odor, wet, gray, Pyrite flakes.	
	55	S24	24/0	10-5-8-9	PID= NA				(54'- 56'_ Basket missing in spoon.	S24 (54'- 56') NO RECOVERY.	
-40		S25	24/7	11-16-33-26	PID= 0.0			TLO		S25 (56'- 58') WIDELY GRADED SAND WITH GRAVEL (SW); ~50% sand, fine to coarse, ~45% gravel, fine to coarse, subangular, ~5% fines; max. size 2", slight tar-like odor, wet, gray brown.	
		S26	24/0	24-24-26-25	PID= NA				(57'- 58') Driller notes chatter. Likely pushing a cobble.	S26 (58'- 60') NO RECOVERY.	
	60	S27	24/8	18-9-7-9	PID= 0.0				(60') Drill chatter continues.	S27 (60'- 62') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, angular, ~5% fines; wet, gray brown.	
-45		S28	24/16	10-14-22-10	PID= 0.0				Env. Sample ID= GPEC-SB-11 (62-64)	S28 (62'- 64') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, angular, ~5% fines; max. size 2", wet, orange brown.	
										End of Boring at 64 feet. Monitoring well installed upon completion. Screened 33- 48'.	

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GPEC_ENVIRONMENTAL BORING LOG GREENPOINT BORINGS.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 7/6/11

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Glastonbury, CT 06033
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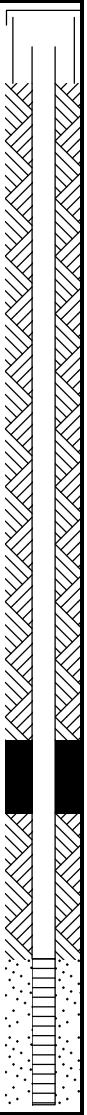
BORING LOG
PAGE 1 of 4
GPEC-SB12/MW-12

GROUND SURFACE ELEVATION (FT): 20.32 **LOCATION:** North of Storage Building that is Along Varick Ave.
NORTHING (FT): 687767 **EASTING (FT):** 649520 **TOTAL DEPTH (FT):** 64.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 6/1/2009 - 6/3/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 14.00 6/1/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
20	0									Note: 0'- 8': HAND CLEARED.
		G1	12/12	NA	PID= NM					G1 (3'- 4') WIDELY GRADED SAND WITH GRAVEL (SW); ~55% sand, fine to coarse, subrounded, ~40% gravel, fine to coarse, subangular, ~5% fines; max. size 2", brown, FILL.
15	5									
		S1	24/3	1-1-1-1	PID= 0.7					S1 (8'- 10') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to medium, ~30% gravel, fine to coarse, angular, ~15% fines; max. size 1.5", moist, reddish brown.
10	10	S2	24/0	7-4-1-2	PID= NA					S2 (10'- 12') NO RECOVERY.
		S3	24/9	WOH-WOH-4-5	PID= 0.0				Env. Sample ID= GPEC-SB-12 (12-14)	S3 (12'- 14') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to medium, ~20% gravel, fine to coarse, subangular, ~15% fines; max. size 1.5", wet, olive brown.
▽		S4	24/9	3-2-2-WOH	PID= 0.0					S4 (14'- 16') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to coarse, ~20% gravel, fine to coarse, subangular, ~15% fines; max.
	15									

WELL DETAILS



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BORING LOG
PAGE 2 of 4
GPEC-SB12/MW-12

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	15									size 1.5", wet, brown to olive brown.	
5		S5	24/10	3-3-3-1	PID= 0.0					S5 (16'- 18') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines; wet, brown to olive brown.	
		S6	24/4	3-2-4-2	PID= 0.0			TLO		S6 (18'- 20') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to medium, ~30% gravel, fine, ~15% fines; slight tar-like odor, wet, brown.	
0	20	S7	24/0	1-1-WOH-3	PID= NA					S7 (20'- 22') NO RECOVERY; some wash in spoon.	
		S8	24/21	20-2-2-3	PID= 17.3 PID= 29.3			TLO TLO	Env. Sample ID= GPEC-SB-12 (22-24)	S8A (22'- 22.6') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, subrounded, ~10% fines; max. size 1", moderate tar-like odor, wet, brown to black, stained. S8B (22.6'- 24') PEAT (PT); slight tar-like odor, moist, brown to black, stained.	
-5	25	S9	24/0	P-U-S-H	PID= NA				(24'- 26') Driller attempts to drill through Shelby tube lost down hole. Driller experiencing chatter.	S9 (24'- 26') NO RECOVERY; Shelby tube sample, lost Shelby down hole.	
		S10	24/0	51-44-40-36	PID= NA				(26'- 28') Likely pushing Shelby tube. Driller attempts to drill Shelby tube out again.	S10 (26'- 28') NO RECOVERY.	
										S11 (28'- 30') Sample interval skipped due to lost Shelby tube.	
-10	30	S12	24/7	15-22-12-14	PID= 0.1					S12 (30'- 32') SILTY SAND (SM); ~75% sand, fine to coarse, ~15% fines, ~10% gravel, fine; wet, light gray.	
		S13	24/24	15-20-17-18	PID= 0.0					S13A (32'- 33.4') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine, ~10% fines; wet, light gray.	

color removed

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S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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: 093260-1-1101

BORING LOG

GPEC-SB12/MW-12

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
					PID= 0.0					S13B (33.4'- 34') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, gray. S14 (34'- 36') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, ~5% fines; wet, gray.	
-15	35	S14	24/5	10-12-12-13	PID= 0.0						
		S15	24/12	12-14-16-15	PID= 0.0					S15 (36'- 38') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, subangular, ~10% gravel, fine, subangular, ~5% fines; wet, progressive color change with depth. Gray to tan to red.	
		S16	24/17	11-10-22-23	PID= 0.0					S16 (38'- 40') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, orange brown.	
-20	40	S17	24/8	10-10-9-11	PID= 0.0					S17 (40'- 42') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine, ~10% fines; wet, light orange brown.	
		S18	24/6	12-13-20-23	PID= 0.2					S18 (42'- 44') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, fine, ~10% fines; wet, reddish brown.	
		S19	24/12	10-13-12-9	PID= 0.0					S19 (44'- 46') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, subangular, ~10% fines; wet, orange brown.	
-25	45	S20	24/8	8-8-14-18	PID= 0.0					S20 (46'- 48') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, subangular, ~10% fines; wet, orange brown.	
		S21	24/12	23-20-28-30	PID= 0.0					S21 (48'- 50') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to coarse, ~10% fines, ~5% gravel, fine; wet, orange brown.	
-30	50	S22	24/0	10-12-13-11	PID= NA					S22 (50'- 52') NO RECOVERY.	

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BORING LOG
PAGE 4 of 4
GPEC-SB12/MW-12

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
		S23	24/0	20-17-13-18	PID= NA					S23 (52'- 54') NO RECOVERY; may be pushing Shelby tube.	
-35	55	S24	24/8	10-11-12-15	PID= 0.0					S24 (54'- 56') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to medium, ~15% gravel, fine to coarse, subrounded, ~15% fines; wet, orange brown.	
		S25	24/15	10-10-11-21	PID= 0.0					S25 (56'- 58') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to medium, ~15% gravel, fine to coarse, subangular, ~15% fines; wet, orange brown.	
		S26	24/24	11-15-14-16	PID= 0.0					S26 (58'- 60') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine, ~15% fines; wet, orange brown.	
-40	60	S27	24/10	12-13-10-8	PID= 0.0				Env. Sample ID= GPEC-SB-12 (60-62)	S27 (60'- 62') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to coarse, ~20% gravel, fine to coarse, angular, ~15% fines; wet, orange brown.	
		S28	24/0	2-17-13-18	PID= NA				(62'- 64') Possibly getting into gravel-rich zone and spoon is pushing a cobble.	S28 (62'- 64') NO RECOVERY.	

End of Boring at 64 feet.
Monitoring well installed upon completion.
Screened 13'- 23'.

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BORING LOG
PAGE 1 of 5
GPEC-SB13/MW-13

GROUND SURFACE ELEVATION (FT): 54.81 **LOCATION:** Southeast of Varick Ave./Lombardy St. Intersection
NORTHING (FT): 688780 **EASTING (FT):** 649202 **TOTAL DEPTH (FT):** 70.0
DRILLED BY: Summit Drilling / Jeremy Lojel **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 5/18/2009 - 5/20/2009
DRILLING DETAILS: Hollow Stem Auger/Mud Rotary / Hammer: 140 lbs / Drop: 30 in.
WATER LEVEL DEPTHS (FT): ▽ 52.00 5/19/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
55	0	G1	96/96	NA	PID= 0.3				Note: 0'- 8': HAND CLEARED. G1 (0'- 8') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; reddish brown.	
50	5	S1	24/13	4-4-9-11	PID= NM			Env. Sample ID= GPEC-SB-13 (8-10)	S1 (8'- 10') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; moist, brown.	
45	10	S2	24/5	12-20-32-37	PID= NM				S2 (10'- 12') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; moist, brown, FILL.	

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BORING LOG

GPEC-SB13/MW-13

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
		S3	24/0	39-39-46-31	PID= NA				S3 (12'- 14') NO RECOVERY; spoon tip came off.	
40	15	S4	24/10	15-19-18-20	PID= NM				S4 (14'- 16') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; dry, tan.	
		S5	24/14	14-16-16-17	PID= NM				S5 (16'- 18') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; dry, tan.	
		S6	24/12	19-17-22-21	PID= 0.0				S6 (18'- 20') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; dry, tan.	
35	20	S7	24/12	11-11-14-14	PID= 0.0				S7 (20'- 22') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; dry to moist, tan.	
		S8	24/14	16-17-17-13	PID= 0.0				S8 (22'- 24') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; layered, dry to moist, tan to brown.	
		S9	24/12	9-11-15-15	PID= 0.1				S9 (24'- 26') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; dry, light brown.	
30	25	S10	24/18	13-15-22-20	PID= 0.1				S10 (26'- 28') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; dry, light brown.	
		S11	24/22	20-18-30-23	PID= 0.0				S11 (28'- 30') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, angular, ~5% fines; max. size 1", dry, light brown.	
25										

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BORING LOG
PAGE 3 of 5
GPEC-SB13/MW-13

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	30	S12	24/14	21-25-20-20	PID= 0.0				S12 (30'- 32') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subangular, ~5% fines; dry to moist, brown.	
		S13	24/20	22-21-21-20	PID= 0.1 PID= 0.1				S13A (32'- 32.8') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subangular, ~5% fines; moist, brown. S13B (32.8'- 34') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~5% gravel, fine, ~5% fines; laminated, dry, tan.	
20	35	S14	24/18	15-17-25-31	PID= 0.1				S14 (34'- 36') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~5% gravel, fine, ~5% fines; dry, gray tan.	
		S15	24/18	30-35-30-31	PID= 0.1				S15 (36'- 38') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; dry to moist, gray tan to brown, layering of brown fine sand and gray-tan coarse sand.	
15	40	S16	24/16	26-31-24-30	PID= 0.1				S16 (38'- 40') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; layered, dry, gray tan, FILL.	
		S17	24/18	31-33-30-31	PID= 0.1				S17 (40'- 42') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; dry to moist, gray tan to brown, intermittent coloring. FILL.	
		S18	24/24	25-23-33-46	PID= 0.1				S18 (42'- 44') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, subangular, ~5% fines; dry, light brown to gray tan.	
10	45	S19	24/12	43-42-39-40	PID= 0.3 PID= 0.1				S19A (44'- 45.2') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, ~5% fines; dry, gray tan. S19B (45.2'- 46') SILTY SAND (SM); ~80% sand, fine, ~15% fines, ~5% gravel, fine; moist, brown, mica-rich.	
		S20	24/24	32-32-46-42	PID= 0.1				S20 (46'- 48') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5", top 6" is moist and brown. Bottom 18" is dry and gray-tan.	
		S21	24/18	30-31-	PID= 0.1				S21 (48'- 50') WIDELY GRADED SAND WITH	

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PAGE 4 of 5
GPEC-SB13/MW-13

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				65-51					GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~5% fines; max. size 2", dry, brown to gray tan, bottom 2" is wet.	
5	50	S22	24/10	42-37-39-43	PID= 0.1				S22 (50'- 52') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, subrounded, ~5% fines; wet, brown, dark mineral laminations.	
▽		S23	12/12	79-100/6"	PID= 0.1			Env. Sample ID= GPEC-SB-13 (52-54)	S23 (52'- 53') WIDELY GRADED SAND WITH GRAVEL (SW); ~55% sand, fine to coarse, ~40% gravel, fine to coarse, subrounded, ~5% fines; max. size 1".	
		S24	24/0	20-36-36-23	PID= NA				S24 (54'- 56') NO RECOVERY; some wash in spoon.	
0	55	S25	24/14	33-36-34-30	PID= 0.1				S25 (56'- 58') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, subrounded, ~15% gravel, fine to coarse, subrounded, ~5% fines; max. size 1", wet, brown.	
		S26	24/12	36-35-30-23	PID= 0.3				S26 (58'- 60') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, subrounded, ~35% sand, fine to coarse, ~5% fines; max. size 2", wet, brown.	
-5	60	S27	24/14	18-26-31-39	PID= 0.3				S27 (60'- 62') WIDELY GRADED SAND WITH GRAVEL (SW); ~55% sand, fine to coarse, subrounded, ~40% gravel, fine to coarse, ~5% fines; max. size 1", wet, brown.	
		S28	24/12	34-28-22-19	PID= 0.2		NLO		S28 (62'- 64') WIDELY GRADED GRAVEL WITH SAND (GW); ~50% gravel, fine to coarse, ~45% sand, fine to coarse, ~5% fines; max. size 1", slight naphthalene-like odor, wet, brown.	
-10	65	S29	18/0	55-82-100/6"	PID= NA			(64') Cobbles likely present.	S29 (64'- 65.5') NO RECOVERY; mud and wash in spoon..	
		S30	24/10	15-19-22-20	PID= 0.5		NLO		S30 (66'- 68') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~5% gravel, fine, ~5% fines;	

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							NLO		slight naphthalene-like odor, wet, brown, well sorted sand.	
-15	70	S31	24/18	25-25-20-29	PID= 0.3			Env. Sample ID= GPEC-SB-13 (68-70)	S31 (68'- 70') NARROWLY GRADED SAND (SP); ~85% sand, medium, ~10% gravel, fine, ~5% fines; wet, brown.	
									End of Boring at 70 feet. Monitoring well installed upon completion. Screened 47'- 62'.	

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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 1 of 7
GPEC-SB101A/MW-101D

GROUND SURFACE ELEVATION (FT): 16.31
LOCATION: Southeast of the Stores Building, Northeast of the Transportation Building
NORTHING (FT): 687711 **EASTING (FT):** 650823
TOTAL DEPTH (FT): 120.0
DRILLED BY: Boart Longyear / Dell Cunningham
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K. Kucher, R. Marshall, K. Nelsen
DATE START / END: 6/16/2010 - 6/17/2010
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.
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	G1	96/96				Env. Sample ID= GPEC-SB-101A (4-5)	Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') ASPHALT. G1B (0.5'- 2') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, ~35% sand, fine to coarse, ~5% fines; max. size 4", gray, FILL. G1C (2'- 6') SILTY SAND (SM); ~75% sand, fine to coarse, ~15% fines, ~10% gravel; max. size 2", moist, orange - brown, FILL.	
15									
	5	SC1	60/40	NM	PID= 0.0*			SC1A (5'- 8') Resampled on hand cleared area.	
10					PID= 0.0*			G1D (6'- 8') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, ~35% sand, fine to coarse, ~5% fines; max. size 8", light brown, some cobbles. FILL.	
					PID= 0.0*				
					PID= 0.0*			SC1B (8'- 10') CONCRETE; dry, light gray, crushed concrete. FILL.	
	10	SC2	60/18	2 min	PID= 0.0*			SC2 (10'- 15') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel; ~15% silty fines, wet, yellow and reddish brown, brick fragments. FILL.	
5									
					PID= 0.0*				
	15								

NOTES:

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MLO = MUSTY LIKE ODOR
SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT_7/6/11

GEI Consultants

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

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BORING LOG

GPEC-SB101A/MW-101D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15	SC3	60/33	1 min	PID= 0.0*			SC3 (15'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse; ~5% silty fines, max. size 2", moist, yellowish brown, loose. FILL.	
0					PID= 0.0*				
					PID= 0.0*				
	20	SC4	60/53	1 min	PID= 0.0*			SC4 (20'- 25') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel; ~5% silty fines, max. size 2", moist, brown, loose.	
-5					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0**				
	25	SC5	60/49	1 min	PID= 0.0*			SC5A (25'- 28.5') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel; ~5% silty fines, max. size 2", moist, brown, loose.	
-10					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*			SC5B (28.5'- 30') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine; ~5% gravel, ~10% silty fines, moist, gray.	
	30	SC6	60/29	1 min	PID= 0.0*			SC6 (30'- 35') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine; ~10% silty fines, wet, gray, loose.	
-15					PID= 0.0*				

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BORING LOG

GPEC-SB101A/MW-101D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
					PID= 0.0*				
	35	SC7	60/50	1 min	PID= 0.0*			SC7 (35'- 40') SILTY SAND (SM); ~75% sand, fine; ~25% silty fines, low plasticity, slow dilatancy, very moist, gray, soft, mica flakes.	
-20					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
	40	SC8	60/51	1 min	PID= 0.0*			SC8 (40'- 45') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse; moist, gray brown, loose.	
-25					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
	45	SC9	60/51	1 min	PID= 0.0*			SC9A (45'- 48.6') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse; ~5% silty fines, moist, gray brown, loose.	
-30					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*			SC9B (48.6'- 50') SILTY SAND (SM); ~75% sand, fine; ~25% silty fines, low plasticity, moist to very moist, gray tan, soft.	
	50	SC10	60/14	1 min	PID= NM			SC10 (50'- 55') SILTY SAND (SM); ~75% sand, fine; ~25% silty fines, low plasticity, moist to very moist, gray brown, soft.	
-35									

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BORING LOG

PAGE 4 of 7

GPEC-SB101A/MW-101D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	55	SC11	60/42	1 min	PID= 0.0*			SC11 (55'- 55') SILTY SAND (SM); ~75% sand, fine; ~25% silty fines, low plasticity, moist to very moist, gray brown, soft.	
-40					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
	60	SC12	60/48	1 min	PID= 0.0*			SC12 (60'- 65') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, fine; ~10% silty fines, moist, gray brown, loose.	
-45					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
	65	SC13	60/45	1 min	PID= 0.0*			SC13 (65'- 70') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~80% sand, fine to coarse, ~15% gravel, fine to coarse; ~10% silty fines, max. size 2", moist, gray brown, loose.	
-50					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
	70				PID= 0.0*				

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BORING LOG

GPEC-SB101A/MW-101D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-55		SC14	60/45	1 min	PID= 0.0*			SC14 (70'- 75') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse; ~5% silty fines, max. size 3", wet, orange brown, loose.	
					PID= 0.0*				
					PID= 0.0*				
	75	SC15	60/41	1 min	PID= 0.0*		Env. Sample ID= GPEC-SB101A (75-77)	SC15 (75'- 80') WIDELY GRADED SAND WITH GRAVEL (SW); ~50% sand, fine to coarse; ~45% gravel, fine to coarse, and cobbles, ~5% silty fines, max. size 5", wet, orange brown, loose.	
-60					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
	80	SC16	60/46	1 min	PID= 0.0*			SC16 (80'- 85') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to coarse, ~20% gravel, fine to coarse; ~15% silty fines, max. size 3", wet, gray, medium dense.	
-65					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
	85	SC17	60/45	1 min	PID= 0.0* Q_P= 2.5 S_V= 0.675			SC17A (85'- 88.1') SANDY FAT CLAY WITH GRAVEL (CH); ~70% clayey fines, ~15% sand, fine to coarse, ~15% gravel, fine to coarse, max. size 4", moist to wet, gray, very hard.	
-70					PID= 0.0*				
					PID= 0.0*				
								SC17B (88.1'- 90') SILTY SAND (SM).	

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BORING LOG

PAGE 6 of 7

GPEC-SB101A/MW-101D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
					PID= 0.0*				
	90	SC18	60/45	3 min	PID= 0.0*		(90') Difficult drilling.	SC18A (90'- 93.7') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse; ~10% silty fines, ~5% gravel, fine to coarse, moist, brown, loose.	
-75					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*		(94') Difficult drilling.	SC18B (93.7'- 95') CLAYEY SAND WITH GRAVEL (SC); ~65% sand, fine to coarse; ~20% clayey fines, ~15% gravel, fine to coarse, moist, gray, medium stiff.	
	95	SC19	60/46	4 min	PID= 0.2*			SC19A (95'- 96') SANDY LEAN CLAY WITH GRAVEL (CL); ~70% clayey fines, ~15% sand, fine to coarse, ~15% gravel, fine to coarse, max. size 2", gray.	
-80					PID= 0.4*			SC19B (96'- 100') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse; ~20% silty fines, max. size 3", moist, gray brown.	
					PID= 0.4*				
					PID= 0.3*				
	100	SC20	60/55	1 min	PID= 0.0*			SC20 (100'- 105') SILTY SAND WITH GRAVEL (SM); ~40% sand, fine to coarse; ~40% gravel, fine to coarse, ~20% silty fines, max. size 4", very moist, gray brown, dense.	
-85					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
	105	SC21	60/51	1 min	PID= 0.0*			SC21 (105'- 110') SILTY SAND WITH GRAVEL (SM); ~40% sand, fine to coarse; ~40% gravel, fine to coarse, ~20% silty fines, max. size 4", wet, gray brown, dense.	
-90					PID= 0.0*				

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BORING LOG

PAGE 7 of 7

GPEC-SB101A/MW-101D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
	110	SC22	60/52	5 min	PID= 0.0*			SC22 (110'- 115') SILTY SAND WITH GRAVEL (SM); ~40% sand, fine to coarse; ~40% gravel, fine to coarse, ~20% silty fines, max. size 4", wet, gray brown, dense.	
-95					PID= 0.0*		Env. Sample ID= GPEC-SB101A (111-112)		
					PID= 0.0*				
					PID= 0.0*				
					PID= 0.0*				
	115	SC23	60/12	15 min	PID= 0.0*		(115') Difficult drilling, very hard. Possible bedrock at 116'.	SC23 (115'- 120') Bedrock.	
-100									
	120							End of Boring at 120 feet. Monitoring well installed upon completion. Screened 97'-112'.	

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BORING LOG
PAGE 1 of 7
GPEC-SB102/MW-102D

GROUND SURFACE ELEVATION (FT): 13.18 **LOCATION:** Southeast of Transportation Building
NORTHING (FT): 687528 **EASTING (FT):** 651026 **TOTAL DEPTH (FT):** 112.0
DRILLED BY: Boart Longyear / Dell Cunningham **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: J. Morin, K. Kucher, M. Sweet **DATE START / END:** 6/11/2010 - 6/15/2010
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.
GENERAL NOTE: **SPT sampled first, then SC over sampled through SPT zone and then virgin soil.

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	G1	96/96		PID= 0.0*				Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') ASPHALT. G1B (0.5'- 4') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, ~10% fines; moist, gray brown, FILL.	
					PID= 3.3*					
10										
								Env. Sample ID= GPEC-SB-102 (4-5)	G1C (4'- 6') SILTY SAND WITH GRAVEL (SM); fine to coarse; moist, black, FILL.	
	5									
					PID= 0.0*				G1D (6'- 8') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, ~5% fines; moist, gray brown, angular tile, brick, and concrete fragments. FILL.	
5		SC1	24/0	<1 min	PID= NA				SC1 (8'- 10') NO RECOVERY.	
	10	SC2	60/48	<1 min	PID= 0.0*				SC2A (10'- 12.2') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~55% sand, fine to coarse, ~35% gravel, fine to coarse; ~10% silty fines, max. size 2", wet, brown to black, brick fragments. FILL.	
					PID= 0.0*					
0					PID= 21.2*				SC2B (12.2'- 15') SILTY SAND (SM); ~50% sand, fine to medium; ~45% silty fines, ~5% gravel, fine, max. size 0.5", strong sewage-like odor, blue green, organic fibers, white fragments.	
					PID= 21.6*		SeLO			
	15									

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BORING LOG

GPEC-SB102/MW-102D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15	SC3	60/60	<1 min	PID= 14.7* PID= 36.9* PID= 43.1* PID= 18.7*		SeLO		SC3 (15'- 20') SANDY SILT (ML); ~50% silty fines, non plastic, ~45% sand, fine to medium, ~5% gravel, fine, max. size 1", strong sewage-like odor, moist, blue green with tan layers, significant amount of organic fibers, white fragments.	
-5										
	20	SC4	60/35	<1 min	PID= 32.5* PID= 77.3* PID= 27.3* PID= 298*		SeLO PLO	Env. Sample ID= GPEC-SB102/ MW102D (20-21) Env. Sample ID= GPEC-SB102/ MW102D (24-25)	SC4A (20'- 21.4') SANDY SILT (ML); ~50% silty fines, non plastic, ~45% sand, fine to medium, ~5% gravel, fine, max. size 1", strong sewage-like odor, moist, blue green with tan layers, significant amount of organic fibers, white fragments. SC4B (21.4'- 25') PEAT (PT); moderate petroleum-like odor, moderate sewage-like odor, moist, brown, fibrous, spongy.	
-10										
	25	SC5	60/53	1 min	PID= 286* PID= 90.0* PID= 13.2* PID= 1.6*		PLO SeLO		SC5A (25'- 26.3') PEAT (PT); moderate petroleum-like odor, moderate sewage-like odor, moist, brown, fibrous, spongy. SC5B (26.3'- 30') SILTY SAND (SM); ~70% sand, fine to medium; ~30% silty fines, non plastic, moderate sewage-like odor, moist, silt lenses.	
-15										
	30	SC6	60/50	1 min	PID= 0.0* Q_P= 0.5 S_V= 0.25 PID= 0.0* PID= 0.0*				SC6 (30'- 35') FAT CLAY (CH); ~90% clayey fines, high plasticity, none to slow dilatancy, low toughness, ~10% sand, fine, gray.	
-20										

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG

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GPEC-SB102/MW-102D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
					PID= 0.3*					
	35	SC7	60/52	1 min	PID= 0.0* Q_P= 0.5 S_V= 0.25				SC7A (35'- 37.5') FAT CLAY (CH); ~90% clayey fines, high plasticity, none to slow dilatancy, low toughness, ~10% sand, fine, gray.	
					PID= 0.0*					
-25					PID= 0.0*				SC7B (37.5'- 40') SANDY FAT CLAY (CH); ~55% clayey fines, plastic, ~45% sand, fine, moist, brown gray.	
					PID= 0.0*					
	40	SC8	60/43	1 min	PID= 0.0*				SC8A (40'- 42.6') SILT (ML); ~90% silty fines, non plastic, ~10% sand, fine, wet, brown gray, clay lenses.	
					PID= 0.0*					
					PID= 0.0*				SC8B (42.6'- 45') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine; ~10% silty fines, non plastic, wet, brown gray.	
-30					PID= 0.0*					
	45	SC9	60/45	1 min	PID= 0.0*				SC9 (45'- 50') SILTY SAND (SM); ~70% sand, fine; ~30% silty fines, non plastic, moist to wet, brownish gray.	
					PID= 0.0*					
					PID= 0.0*					
-35					PID= 0.0*					
	50	S1	24/24	4-3-4-3	PID= 0.0*				S1 (50'- 52') SILTY SAND (SM); ~70% sand, fine; ~30% silty fines, non plastic, moist to wet, brownish gray.	
					PID= 0.2*					

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BORING LOG
PAGE 4 of 7
GPEC-SB102/MW-102D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-40	55	SC10**	36/44	1 min	PID= 0.0* PID= 0.2* PID= 0.0* PID= 0.0*		SeLO		SC10 (52'- 55') SILTY SAND (SM); ~80% sand, fine; ~20% silty fines, low plasticity, slight sewage-like odor, very moist to wet, gray - orange, soft.	
		S2	24/0	4-5-5-4	PID= NA				S2 (55'- 57') NO RECOVERY.	
-45		SC11**	36/0	<1 min	PID= NA			(57'- 60') Bit lost down hole.	SC11 (57'- 60') NO RECOVERY.	
	60	S3	24/19	2-3-3-2	PID= 0.0* PID= 0.0*				S3 (60'- 62') NARROWLY GRADED SAND (SP); ~90% sand, medium; ~5% silty fines, ~5% gravel, fine, max. size 0.5", wet, gray brown, loose.	
-50		SC12**	36/20	1 min	PID= 0.0* PID= 0.0*				SC12 (62'- 65') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse; ~5% silty fines, ~5% gravel, fine, wet, gray brown, loose.	
	65	S4	24/0	3-4-3-4	PID= NA				S4 (65'- 67') NO RECOVERY.	
-55		SC13**	36/30	<1 min	PID= 0.0* PID= 0.0* PID= 0.0*				SC13 (67'- 70') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse; ~5% silty fines, ~5% gravel, fine, wet, brown, loose.	
	70				PID= NA					

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BORING LOG

GPEC-SB102/MW-102D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
		S5	24/0	5-5-5-4					S5 (70'- 72') NO RECOVERY.	
-60	75	SC14**	36/32	NM	PID= 0.0* PID= 0.0* PID= 0.0*				SC14 (72'- 75') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse; ~5% silty fines, ~5% gravel, fine, wet, brown, loose.	
		S6	24/16	4-4-4-5	PID= NM				S6 (75'- 77') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, ~5% fines; wet, gray.	
-65		SC15**	36/28	<1 min	PID= 0.0* PID= 0.0* PID= 0.0*				SC15 (77'- 80') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse; ~10% silty fines, wet, loose.	
	80	S7	24/6	3-12-10-9	PID= 0.0*				S7 (80'- 82') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, ~5% fines; brownish gray.	
-70		SC16**	36/32	<1 min	PID= 0.0* PID= 0.0*				SC16 (82'- 85') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse; ~5% silty fines, max. size 2", wet, gray, loose.	
	85	S8	24/13	12-9-8-11	PID= 0.0*				S8 (85'- 87') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse; ~5% silty fines, max. size 1", wet, loose.	
-75		SC17**	36/4	<1 min	PID= 0.0*				SC17 (87'- 90') WIDELY GRADED SAND WITH GRAVEL (SW); ~55% sand, fine to coarse, ~40% gravel, fine to coarse; ~5% silty fines, max. size 2", wet, gray, loose.	

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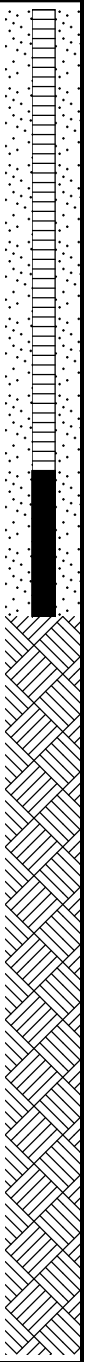
BORING LOG
PAGE 6 of 7
GPEC-SB102/MW-102D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	90	S9	24/6	13-19-10-10	PID= 0.0*				S9 (90'- 92') WIDELY GRADED SAND WITH GRAVEL (SW); ~55% sand, fine to coarse, ~40% gravel, fine to coarse; ~5% silty fines, max. size 2", wet, gray, loose.
-80		SC18**	36/36	<1 min	PID= 0.0* PID= 0.0* PID= 0.0*				SC18 (92'- 95') WIDELY GRADED SAND WITH GRAVEL (SW); ~55% sand, fine to coarse, ~40% gravel, fine to coarse; ~5% silty fines, max. size 4", wet, gray, fine sand layer at 5-6", loose.
	95	S10	24/8	7-13-18-19	PID= 0.0*				S10 (95'- 97') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% sand, fine to coarse, ~40% gravel, fine to coarse; ~10% silty fines, wet, gray, loose.
-85		SC19**	36/60	1 min	PID= 0.0* PID= 0.0* PID= 0.0* PID= 0.0*				SC19 (97'- 100') SANDY LEAN CLAY WITH GRAVEL (CL); layered, ~50% clayey fines, medium plasticity, ~35% sand, fine to coarse, ~15% gravel, fine to coarse, max. size 2", moist, gray, very stiff, hard, lignite. GARDINERS CLAY.
	100	S11	24/16	1-1-1-3	PID= 0.0* PID= 0.0*				S11 (100'- 102') CLAYEY SAND WITH GRAVEL (SC); ~65% sand, fine to coarse; ~20% clayey fines, ~15% gravel, fine to coarse, max. size 2", wet, gray, loose.
-90		SC20**	36/51	<1 min	PID= 0.0* PID= 0.0* PID= 0.0* PID= 0.0*				SC20 (102'- 105') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine, ~20% gravel, fine to coarse; layered, ~20% silty fines, low plasticity, max. size 4", moist, gray, lignite, glauconitic sands.
	105	S12	24/24	3-4-3-12	PID= 0.0* PID= 0.0* PID= 0.0*			Env. Sample ID= GPEC-SB102 (106-107) with duplicate	S12 (105'- 107') CLAYEY SAND WITH GRAVEL (SC); ~60% sand, fine to coarse; ~25% clayey fines, ~15% gravel, max. size 1", moist, gray brown, medium dense, lignite.

WELL DETAILS



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BORING LOG

GPEC-SB102/MW-102D

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-95		SC21**	36/60	NM	PID= 0.0* Q_P= 4.5 S_V= 1.875 PID= 0.0* PID= 0.0* PID= 0.0* PID= 0.0*				SC21 (107'- 110') SANDY FAT CLAY WITH GRAVEL (CH); ~50% clayey fines, low to high plasticity, ~35% sand, fine, ~15% gravel, fine to coarse, and cobbles, max. size 5", moist to wet, green gray, layered sand and clay, hard. GARDINERS CLAY.	
	110	S13	24/0	14-7-9-9	PID= 0.0*				S13 (110'- 112') NO RECOVERY; gravel and sand wash.	
									End of Boring at 112 feet. Monitoring well installed upon completion. Screened 85'- 95'.	

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BORING LOG
PAGE 1 of 7
GPEC-SB103

GROUND SURFACE ELEVATION (FT): 10.68 **LOCATION:** Northeast of Accommodations Building, West of Mooring Bitt 8
NORTHING (FT): 687792 **EASTING (FT):** 651254 **TOTAL DEPTH (FT):** 120.0
DRILLED BY: Boart Longyear / Dell Cunningham **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, J. Morin, R. Marshall **DATE START / END:** 5/19/2010 - 5/21/2010
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): ▽ 10.00 5/19/2010 10:30 am ;
GENERAL NOTE: *PID readings are screened readings made at discreet locations over the soil sample.
GENERAL NOTE: **SPT sampled first, then SC over sampled through SPT zone and then virgin soil.

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
10	0	G1	96/96	NA						Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') NARROWLY GRADED GRAVEL (GP); on surface, 3/8" gravel base. G1B (0.5'- 4') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, ~10% fines; max. size 4", moist, brown, some cobbles. FILL.
5	5				PID= 0.0*				Env. Sample ID= GPEC-SB-103 (4-5)	G1C (4'- 6') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, ~5% fines; max. size 3", moist, yellow / buff, FILL. G1D (6'- 8') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, ~5% fines; max. size 3", moist, brown, wood planks at bottom of sample, likely bulkhead tie backs or decking. FILL.
0	10	SC1	24/0	NM						SC1 (8'- 10') NO RECOVERY.
		SC2	60/24	NM	PID= 0.0* PID= 0.3* PID= 0.7*					SC2 (10'- 15') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines; max. size 2", moist to wet, dark brown, no odor observed. FILL.
	15									

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-5	15	SC3	60/26	<1 min	PID= 0.0* "lamp error"					SC3 (15'- 20') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, ~10% fines; max. size 4", wet, dark brown, some cobbles, brick fragments, and concrete. Sheen. No odor observed.
-10	20	SC4	60/13	1 min	PID= 0.0* PID= 0.5*				(20') Drilling resistance; possible rip rap.	SC4 (20'- 25') WIDELY GRADED GRAVEL (GW); ~90% gravel, fine to coarse, ~10% sand, fine to coarse; max. size 4", saturated, gray black, some cobbles, pulverized riprap.
-15	25	SC5	60/13	1 min	PID= NM				(25') Drilling through rip rap; drilling time extended.	SC5 (25'- 30') WIDELY GRADED GRAVEL (GW); ~90% gravel, fine to coarse, ~10% sand, fine to coarse; max. size 4", saturated, gray black, some cobbles, pulverized riprap.
-20	30	SC6	60/8	2 min	PID= 2.8*					SC6 (30'- 35') WIDELY GRADED GRAVEL WITH SAND (GW); ~80% gravel, fine to coarse, ~20% sand, fine to coarse; max. size 4", wet to saturated, gray black, some cobbles, pulverized riprap. FORDHAM GNEISS.

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	35	SC7	60/39	<1 min	PID= 0.0*					SC7A (35'- 38.5') SILTY SAND (SM); ~75% sand and mica flakes, fine, ~20% silt, peat, and clay lenses, ~5% gravel, fine to coarse, moderate organic-like odor, wet to saturated, gray black, coarsening downward.
-25					PID= 0.3*			OLO		
					PID= 0.4*					
					PID= 0.0*					SC7B (38.5'- 40') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, ~10% fines, ~5% gravel, coarse; gray.
	40	SC8	60/45	<1 min	PID= 0.0*				(40') Drillers stop drilling to remove driller water from thimble and casings. 5.5" casing dropped below ground surface and was dug out.	SC8 (40'- 45') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine to medium, ~15% gravel, fine to coarse, ~10% fines; wet, gray brown, coarsening downward.
-30					PID= 0.6*					
					PID= 0.0*					
	45	SC9	60/40	<1 min						SC9A (45'- 49.1') NARROWLY GRADED SAND WITH GRAVEL (SP); ~50% sand, medium to coarse, ~50% gravel, fine to coarse, max. size 2", wet, gray brown.
-35					PID= 3.6*					
					PID= 3.7*					
					PID= 20.9*					SC9B (49.1'- 50') SILTY SAND (SM); ~80% sand, fine, ~20% fines; gray, sheen, coal tar blebs.
	50	SC10	60/54	1 min	PID= 33.6*					SC10 (50'- 55') SILTY SAND (SM); ~80% sand, fine to medium, ~15% fines, ~5% gravel, fine to coarse; max. size 3", slight tar-like odor, very moist, gray, blebs and globs.
-40					PID= 67.0*			TLO		

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S_V = TORVANE PEAK IN TSF

GEI Consultants

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

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BORING LOG

GPEC-SB103

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
					PID= 76.5*					
					PID= 57.5*			TLO		
	55	SC11	60/35	<1 min	PID= 257*					SC11 (55'- 60') SILTY SAND (SM); ~80% sand, fine to medium, ~15% fines, ~5% gravel, fine to coarse; max. size 3", moderate tar-like odor, very moist, gray, blebs and globs, tar coated in top 2.7'.
-45					PID= 188*				Env. Sample ID= GPEC-SB-103 (56-57) with duplicate	
					PID= 13.4*			TLO		
	60	SC12	60/41	<1 min	PID= 0.0*					SC12 (60'- 65') NARROWLY GRADED SAND (SP); ~90% sand, medium to coarse, ~5% gravel, fine, ~5% fines; moist to wet, gray to black, mottled at base.
-50					PID= 1.4*					
					PID= 4.1*					
					PID= 7.8*					
	65	SC13	60/40	<1 min	PID= 3.8*					SC13 (65'- 70') NARROWLY GRADED SAND (SP); ~90% sand, medium to coarse, ~5% gravel, fine, ~5% fines; moist to wet, black - gray yellow.
-55					PID= 2.6*					
					PID= 1.4*					
					PID= 1.6*					
	70				PID= 203*					

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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455 Winding Brook Road
Glastonbury, CT 06033
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BORING LOG
PAGE 5 of 7
GPEC-SB103

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-60		SC14	60/50	<1 min	PID= 251* PID= 104* PID= 125* PID= 115*			TLO	(70') Core loose; reinstalled with catch valve. (70'- 80') SC14 and SC15 fall out of casing; drillers attempt to use new bit to pick up fall out from the bottom of hole, left bit in overnight to collect sample.	SC14 (70'- 75') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; max. size 2", slight tar-like odor, wet, gray, tar coated grains in top 1.2'.
	75	SC15	60/50	<1 min	PID= 228* PID= 173* PID= 69* PID= 44* PID= 49*					SC15 (75'- 80') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, ~10% fines, ~5% gravel, fine; moist, gray, loose - medium dense. No odor or staining observed.
-65										
-70	80	S1	24/0	8-7-8-23	PID= NA					S1 (80'- 82') NO RECOVERY.
		SC16**	36/36	2 min	PID= 0* PID= 0* PID= 0*				(82'- 85') SC16 falls out of casing, needs to be re-sampled.	SC16 (82'- 85') NARROWLY GRADED SAND (SP); ~90% sand, medium to coarse, ~5% gravel, fine to coarse, ~5% fines; max. size 1.5", moist to wet, gray, loose.
-75	85	S2	24/11	7-2-3-3	PID= 0.0* PID= 0.0*					S2 (85'- 87') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; max. size 2", moist to wet, gray.
		SC17**	36/25	<1 min	PID= 0.0*			OLO		SC17 (87'- 90') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, ~10% fines; max. size 3", slight organic-like odor, wet, brown - gray.

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455 Winding Brook Road
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BORING LOG
PAGE 6 of 7
GPEC-SB103

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
					PID= 0.0*			OLO		
	90	S3	24/9	11-11-11-10	PID= 0.0*					S3 (90'- 92') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, ~10% fines; wet, gray.
-80					PID= 0.0*					
		SC18**	36/42	<1 min	PID= 0.0*					SC18 (92'- 95') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% sand, fine to medium, ~20% gravel, fine to coarse, ~10% fines; max. size 4", moderate organic-like odor, very moist, gray to black, some cobbles.
					PID= 0.0*			OLO		
					PID= 0.0*					
	95	S4	24/17	19-20-37-60	PID= 0.0*					S4A (95'- 96.3') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine to medium, ~15% gravel, fine, ~10% fines; max. size 0.5".
-85					PID= 0.0*					S4B (96.3'- 97') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to medium, ~20% gravel, fine to coarse, ~15% fines; moist to wet, dark gray.
		SC19**	36/46	<1 min	PID= 0.0*					SC19 (97'- 100') SILTY SAND (SM); ~80% sand, fine to medium, ~15% fines, ~5% gravel, fine to coarse; max. size 3", moist to wet, gray.
					PID= 0.0*					
					PID= 1.0*					
					PID= 0.8*					
	100	S5	11/6	19-84/5"	PID= 0.0*					S5 (100'- 100.9') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine to medium, ~10% gravel, fine to coarse, ~10% fines; max. size 1", moist, gray.
-90					PID= 0.0*					
		SC20**	49/55	6 min	PID= 0.0*					SC20 (100.9'- 105') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine to medium, ~15% gravel, fine to coarse, ~10% fines; max. size 4", wet, gray, medium dense, some cobbles.
					PID= 0.0*					
					PID= 0.0*					
	105	S6	24/12	10-17-17-37	PID= 0*					S6 (105'- 107') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to medium, ~5% fines, non plastic; max. size 1", moist, brown gray.
-95					PID= 0*					
					PID= 0*					

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BORING LOG

GPEC-SB103

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		SC21**	36/44	2 min	PID= 0* PID= 0* PID= 0.0*					SC21 (107'- 110') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to medium, ~5% fines; max. size 1", moist, black gray, low to medium dense.
	110	S7	24/4	9-27-19-24	PID= 0.0* PID= 0.0*					S7 (110'- 112') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to medium, ~5% fines; max. size 1", moist, black gray.
-100		SC22**	36/51	NM	PID= 0.0* PID= 0.0* PID= 0.0*					SC22A (112'- 112.9') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~35% fines, non plastic, ~15% gravel, fine to medium; max. size 1.5", gray with black and red. SC22B (112.9'- 114.2') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to medium, ~15% fines, non plastic; max. size 1", gray brown, lenses of clayey fines. SC22C (114.2'- 115') LEAN CLAY WITH GRAVEL (CL); ~85% fines, medium plasticity, slow dilatancy, medium toughness, ~15% gravel, fine to medium; max. size 1", gray with black lenses.
	115	S8	10/9	2-100/4"	PID= 0.0* PID= 0.0*					S8 (115'- 115.8') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine, ~10% fines; very moist, gray brown.
-105		SC23**	50/57	NM	PID= 0.0* PID= 0.0* PID= 0.0*				Env. Sample ID= GPEC-SB103 (119-120)	SC23A (115.8'- 117.1') LEAN CLAY WITH GRAVEL (CL); medium plasticity, slow dilatancy, medium toughness, ~70% sand, ~30% gravel, fine to medium; max. size 3", gray. SC23B (117.1'- 118.1') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, mostly fine to medium, ~15% gravel, fine to coarse, ~10% fines, non plastic; max. size 3", gray - brown. SC23C (118.1'- 120') LEAN CLAY WITH GRAVEL (CL); medium plasticity, slow dilatancy, medium toughness, ~70% sand, ~30% gravel, fine to medium; max. size 3", gray, one large cobble (5"). GARDINER'S CLAY.
	120									End of Boring at 120 feet. Borehole grouted upon completion.

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BORING LOG
PAGE 1 of 1
GPEC-SB103A/MW-103

GROUND SURFACE ELEVATION (FT): _____ **LOCATION:** Northeast of Accommodations Building, West of Mooring Bitt 8
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 65.0
DRILLED BY: Boart Longyear / Dell Cunningham **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 6/22/2010 - 6/22/2010
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: _____
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0							Straight drill to 50'.	
	50	SC1	60/46			TLO	(45') Driller and M. Sweet notice coal tar odor.	SC1 (50'- 55') NARROWLY GRADED SAND WITH GRAVEL (SP); slight tar-like odor, moist, gray.	
	55	SC2	60/31			TLO		SC2 (55'- 60') NARROWLY GRADED SAND WITH GRAVEL (SP); moderate tar-like odor, moist, gray, tar saturated lenses.	
	65							End of Boring at 65 feet. Offset from GPEC-SB103. Monitoring well installed. Screened 50'- 60'.	

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BORING LOG
PAGE 1 of 6
GPEC-SB104

GROUND SURFACE ELEVATION (FT): 11.66
LOCATION: East of Accommodations Building, West of Mooring Bitt 10
NORTHING (FT): 687953 **EASTING (FT):** 651193
TOTAL DEPTH (FT): 107.0
DRILLED BY: Boart Longyear / Dell Cunningham
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, J. Morin, R. Marshall
DATE START / END: 5/25/2010 - 5/27/2010
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.
GENERAL NOTE: **SPT sampled first, then SC over sampled through SPT zone and then virgin soil.

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0	G1	96/96		PID= 0.0*			Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') NARROWLY GRADED GRAVEL (GP); 3/8" crushed gravel and filter fabric. G1B (0.5'- 3') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~55% sand, fine to coarse, ~35% gravel, fine to coarse, ~10% fines; max. size 10", moist, dark brown, some debris. No odor or staining observed. FILL.
10					PID= 0.0*			
					PID= 0.0*			G1C (3'- 6') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, ~10% fines; max. size 3", moist, dark brown, some debris. No odor observed. FILL.
	5						Env. Sample ID= GPEC-SB-104 (4-5)	
					PID= 0.0*			G1D (6'- 8') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, ~10% fines; max. size 12", moist, dark brown, some cobbles and debris. No odor observed. FILL.
5					PID= 0.0*			
		SC1	84/36	2 min	PID= 0.0*			SC1 (8'- 15') SILTY SAND WITH GRAVEL (SM); ~65% fines, ~20% gravel, fine to coarse, rounded, ~15% sand, fine to coarse; moist to wet, orange brown to dark brown, first 3' of sample (5'-8') resampled on hand cleared area. FILL.
	10							
0								
	15							

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BORING LOG

GPEC-SB104

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
		SC2	120/22	2 min	PID= 0.0* PID= 0.0*			SC2 (15'- 20') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse; ~30% gravel , fine to coarse, and cobbles, ~15% fines, max. size 4", wet, dark brown, riprap at 18'. FILL.
-5							(17'- 20') Some resistance.	
	20							SC2 (20'- 25') NO RECOVERY.
-10								
	25	SC3	60/14	2 min	PID= 0.5* PID= 0.7*		(25'- 30') Resistance and grinding throughout sampling.	SC3 (25'- 30') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, ~10% fines; max. size 3", wet, dark brown, FILL.
-15								
	30	SC4	60/55	2 min	PID= 8.0* PID= 85.6* PID= 11.3* PID= 24.0*		(30'- 35') Resistance and grinding throughout sampling. Env. Sample ID= GPEC-SB-104 (32.5-33)	SC4A (30'- 33') SILTY GRAVEL WITH SAND (GM); ~50% gravel, fine to coarse, ~25% sand, fine to coarse, ~25% fines; max. size 3", wet, pulverized riprap, Manhattan Schist. SC4B (33'- 35') PEAT (PT); ~35% organics, ~30% clayey fines, medium plasticity, ~30% sand, fine, very moist, brown, soft.
-20								

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S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

GEI Consultants

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

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BORING LOG

GPEC-SB104

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
					PID= 3.0*			
	35	SC5	60/38	1 min	PID= 0.0*			SC5A (35'- 35.6') SILTY SAND (SM); ~65% sand, fine to coarse, ~15% fines, ~10% gravel, fine to coarse; ~10% organics, dark brown, FILL.
					PID= 0.0*			SC5B (35.6'- 40') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, medium, ~10% fines; gray green.
-25					PID= 0.0*			
	40	SC6	60/35	1 min	PID= 0.0*			SC6 (40'- 45') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium; ~5% silty fines, very moist, gray black.
					PID= 0.0*			
-30					PID= 0.0*			
					PID= 0.0*			
	45	SC7	60/44	<1 min	PID= 0.0*			SC7 (45'- 50') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium; ~5% silty fines, very moist, gray black.
					PID= 0.0*			
-35					PID= 0.0*			
					PID= 0.0*			
	50	SC8	60/39	<1 min	PID= 0.0*			SC8 (50'- 55') NARROWLY GRADED SAND (SP); non plastic, ~95% sand, fine to medium; ~5% silty fines, moist, gray, gravel and silt lenses in bottom 14" of sample with two large cobbles (4").
					PID= 0.0*			
-40								

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					PID= 0.0*			
					PID= 0.0*			
	55	SC9	60/48	1 min	PID= 0.0*			SC9 (55'- 60') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; moist, gray.
					PID= 0.0*			
-45					PID= 0.0*			
					PID= 0.0*			
	60	SC10	60/48	1 min	PID= 0.0*			SC10 (60'- 65') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; moist, gray.
					PID= 0.0*			
-50					PID= 0.0*			
					PID= 0.0*			
	65	SC11	60/47	<1 min	PID= 0.0*			SC11 (65'- 70') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; moist, gray.
					PID= 0.0*			
-55					PID= 0.0*			
					PID= 0.0*			
	70	SC12	60/41	<1 min	PID= 0.0*			SC12A (70'- 72.8') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, ~10% fines; gray.

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BORING LOG
PAGE 5 of 6
GPEC-SB104

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					PID= 0.0*			
-60					PID= 0.0*			
					PID= 0.0*			SC12B (72.8'- 75') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, rounded, ~10% fines; max. size 1", moist, black gray.
	75	S1	24/11	3-4-3-3	PID= 0.0*			S1 (75'- 77') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, rounded, ~10% fines; max. size 1", moist, black gray.
-65					PID= 0.0*			
		SC13**	36/44	<1 min	PID= 0.0*			SC13 (77'- 80') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, non plastic, ~5% gravel, fine to coarse; max. size 3", moist, gray, silt content increases with depth.
					PID= 0.0*			
					PID= 0.0*			
	80	S2	24/1	2-2-2-10	PID= 0.0*			S2 (80'- 82') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, non plastic, ~5% gravel, fine to coarse; max. size 3", moist, gray, silt content increases with depth.
-70		SC14**	36/16	<1 min	PID= 0.0*			SC14 (82'- 85') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines, non plastic; max. size 0.5", wet, gray.
					PID= 0.0*			
	85	S3	24/10	2-2-12-15	PID= 0.0*			S3 (85'- 87') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine, ~10% fines; max. size 0.5", moist, gray.
-75					PID= 0.0*			
		SC15**	36/47	1 min	PID= 0.0*			SC15 (87'- 90') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, ~10% fines; max. size 3", wet, gray.
					PID= 0.0*			

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BORING LOG
PAGE 6 of 6
GPEC-SB104

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	90	S4	24/19	2-11-6-6	PID= 0.0* PID= 0.0*			S4 (90'- 92') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to coarse, ~20% gravel, fine to coarse, ~15% fines; max. size 1.5", wet, gray.
-80		SC16**	36/43	5 min	PID= 0.0* PID= 0.0* PID= 0.0* PID= 0.0*			SC16 (92'- 95') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to coarse, ~20% gravel, fine to coarse, ~15% fines; max. size 1.5", wet, gray, medium dense.
	95	S5	24/22	6-9-12-21	PID= 0.0* PID= 0.0*			S5 (95'- 97') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% gravel, fine to coarse, ~15% fines; max. size 1.5", wet, gray.
-85		SC17**	36/42	5 min	PID= 0.0* PID= 0.2* PID= 0.1* PID= 0.1*		(98') Drilling resistance, cobbles present.	SC17 (97'- 100') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~25% gravel, fine to coarse, ~20% fines; wet, gray, increasing silt content.
	100	S6	24/6	8-14-26-28	PID= 0.0* PID= 0.3*			S6 (100'- 102') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~25% gravel, fine to coarse, ~20% fines; wet, gray, increasing silt content.
-90		SC18**	36/60	2 min	PID= 9.3* Q_P= 4.5 S_V= 1.5 PID= 11.3* PID= 18.0* PID= 11.5*		Env. Sample ID= GPEC-SB-104 (103-105)	SC18 (102'- 105') GRAVELLY FAT CLAY WITH SAND (CH); ~65% fines, ~20% gravel, fine to coarse, ~15% sand, fine to coarse; gray green black, glauconitic sand, lignite. GARDINER'S CLAY.
	105	S7	24/0	1-1-1-1	PID= NA		(105'- 107') Split spoon failed, slough in casing captued SPT, successfully overdrilled and removed spoon. S7: Blow counts not accurate.	S7 (105'- 107') NO RECOVERY.
-95								End of Boring at 107 feet. Borehole grouted upon completion.

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BORING LOG
PAGE 1 of 6
GPEC-SB105/MW-02D

GROUND SURFACE ELEVATION (FT): 11.62 **LOCATION:** Southeast of LNG Dock House, Between Mooring Bitts 12 &13
NORTHING (FT): 688041 **EASTING (FT):** 651161 **TOTAL DEPTH (FT):** 105.0
DRILLED BY: Boart Longyear / Dell Cunningham **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K. Kucher, R. Marshall **DATE START / END:** 6/2/2010 - 6/3/2010
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.
GENERAL NOTE: **SPT sampled first, then SC over sampled through SPT zone and then virgin soil.

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0	G1	96/96		PID= 0.0*				Env. Sample ID= GPEC-SB-105 (4-5)	Note: 0'- 8': HAND CLEARED. G1A (0'- 0.5') ASPHALT and 3/8" base. G1B (0.5'- 1') CONCRETE slab. G1C (1'- 6') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, ~10% fines; moist, brown, some cobbles, brick, and concrete. FILL.	
5	5									G1D (6'- 8') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, ~10% fines; moist to wet, brown, some cobbles, brick, and concrete. Wet at 7'. Cobble at 7.5'. FILL.	
	10	SC1	24/0	1 min	PID= NA					SC1 (8'- 10') NO RECOVERY.	
0		SC2	60/7	1 min	PID= 0.0*					SC2 (10'- 15') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~35% gravel, fine to coarse, ~15% fines; wet, brown, loose. FILL.	
	15										

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GPEC-SB105/MW-02D

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	15	SC3	60/12	1 min	PID= 2.1*			TLO		SC3 (15'- 20') SILTY SAND (SM); ~80% sand, fine to coarse, ~15% fines, ~5% gravel, fine to coarse; slight tar-like odor, wet, brown, tar blebs and globs. FILL.	
-5											
	20	SC4	60/41	1 min	PID= 0.0* PID= 0.0* PID= 0.0* PID= 0.0*			TLO		SC4A (20'- 23.5') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines; slight tar-like odor, slight sulfur-like odor, wet, brown, FILL. SC4B (23.5'- 25') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~65% gravel, fine to coarse, crushed, ~25% sand, fine to coarse, ~10% fines; wet, brownish gray, RIPRAP.	
-10											
	25	SC5	60/0	2 min	PID= NA					SC5 (25'- 30') NO RECOVERY. RIPRAP.	
-15											
	30	SC6	60/33	10 min	PID= 25.8* PID= 48.0*			TLO	(31') Difficult drilling on cobble.	SC6 (30'- 35') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, ~35% sand, fine to medium, ~5% fines; moderate tar-like odor, wet, gray, pulverized riprap.	
-20											

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BORING LOG

GPEC-SB105/MW-02D

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					PID= 61.4*			TLO			
	35	SC7	60/10	2 min	PID= 267* PID= 220*				Difficult drilling through rip rap.	SC7 (35'- 40') SILTY SAND WITH GRAVEL (SM); ~45% sand, fine to coarse; ~25% gravel, coarse, and riprap, ~15% timber, ~15% fines, strong tar-like odor, strong creosote-like odor, very moist, tan to black.	
-25								TLO			
	40	SC8	60/0	1 min	PID= NA				Env. Sample ID= GPEC-SB-105 (39-40) with duplicate	SC8 (40'- 45') NO RECOVERY.	
-30											
	45	SC9	60/9	1 min	PID= 0.0*					SC9 (45'- 50') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine to medium, ~10% gravel, fine, ~10% fines; wet, gray brown.	
-35											
	50	SC10	60/40	1 min	PID= 0.0* PID= 0.0*					SC10 (50'- 55') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; wet, gray.	
-40											

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GPEC-SB105/MW-02D

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					PID= 0.0*						
					PID= 0.0*						
	55	SC11	60/18	1 min	PID= 2.0*					SC11 (55'- 60') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, ~10% fines; max. size 3", wet, gray brown, layered silty fines and gravel.	
-45					PID= 1.8*						
	60	SC12	60/0	1 min	PID= NA					SC12 (60'- 65') NO RECOVERY.	
-50											
	65	SC13	60/0	1 min	PID= NA					SC13 (65'- 70') NO RECOVERY.	
-55											
	70				PID= 0.0*						

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-60		SC14	60/42	1 min	PID= 3.0* PID= 46.0* PID= 58.0*			TLO		SC14 (70'- 75') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; max. size 3", moderate tar-like odor, wet, gray to black at base. Staining and odor in bottom 1' of sample.
	75	S1	24/1	4-7-4-4	PID= 0.0*			TLO		S1 (75'- 80') NO RECOVERY; fine to coarse gravel wash in spoon, max. size 1".
-65		SC15**	36/18	1 min	PID= 100* PID= 168*			TLO	Env. Sample ID= GPEC-SB-105 (79-80)	SC15 (77'- 80') WIDELY GRADED SAND WITH GRAVEL (SW); ~50% sand, fine to coarse, ~45% gravel, fine to coarse, ~5% fines; max. size 3", moderate tar-like odor, wet, gray brown, tar saturated and tar coated grains.
	80	S2	24/1	1-5-5-8	PID= NM					SC2 (80'- 82') NO RECOVERY; fine to coarse gravel wash in spoon, max. size 1".
-70		SC16**	36/38	NM	PID= 0.6* PID= 0.2* PID= 0.0*					SC16 (82'- 85') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, ~5% fines; wet, gray.
	85	S3	24/0	20-18-12-9	PID= NA					S3 (85'- 87') NO RECOVERY.
-75		SC17**	36/38	NM	PID= 26.1* PID= 71.1*				Env. Sample ID= GPEC-SB-105 (88-89)	SC17A (87'- 88.7') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, ~5% fines; max. size 1", wet, gray.

color removed

WELL DETAILS

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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: 093260-1-1101

BORING LOG
PAGE 6 of 6
GPEC-SB105/MW-02D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
					PID= 13.5*					SC17B (88.7'- 90') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% fines, ~65% sand, fine to medium, ~25% gravel; max. size 2.5", tar saturated 22-29".	
	90	S4	24/0	14-21-14-20	PID= NA					S4 (90'- 92') NO RECOVERY.	
-80		SC18**	36/44	NM	PID= 0.0*					SC18A (92'- 93.6') SANDY SILT WITH GRAVEL (ML); ~50% fines, low plasticity, ~30% sand, fine to coarse, ~20% gravel, subrounded; max. size 2", wet, gray, stiff to hard.	
					PID= 0.0* Q_P= >4.5 S_V= >2.5					SC18B (93.6'- 95') SANDY FAT CLAY (CH); ~50% fines, medium plasticity, ~30% sand, fine to coarse, ~20% gravel; wet, gray.	
	95	S5	24/4	17-22-26-24	PID= NM					S5 (95'- 97') SANDY CLAY WITH GRAVEL (CL); ~50% fines, ~40% sand, fine to coarse, ~10% gravel, fine; gray.	
-85		SC19**	36/35	1 min	PID= 0.0*					S19 (97'- 100') WIDELY GRADED SAND WITH CLAY AND GRAVEL (SW-SC); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, ~10% fines; layered, max. size 2", wet, gray.	
					PID= 0.0*						
					PID= 0.0*						
	100	S6	24/20	12-27-54-58	PID= 0.0*					S6 (100'- 102') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, ~10% fines; max. size 1", moist, orange gray.	
-90					PID= 0.0*						
		SC20**	36/53	1 min	PID= 0.0* Q_P= >4.5 S_V= 1.75				Env. Sample ID= GPEC-SB-105 (103-105)	S20 (102'- 105') SANDY FAT CLAY WITH GRAVEL (CH); ~60% clayey and silty layers, low to high plasticity, ~25% sand, fine to coarse, ~15% gravel, fine to coarse, max. size 3", moist, GARDINER'S CLAY.	
					PID= 0.0*						
					PID= 0.0*						
					PID= 0.0*						
	105									End of Boring at 105 feet. Monitoring well installed upon completion. Screened 75'- 90'.	

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG
PAGE 1 of 6
GPEC-SB106/MW-03WT

GROUND SURFACE ELEVATION (FT): 9.95 **LOCATION:** West of Mooring Bitt 16, South of Fence
NORTHING (FT): 688297 **EASTING (FT):** 651075 **TOTAL DEPTH (FT):** 107.0
DRILLED BY: Boart Longyear / Dell Cunningham **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, J. Morin, K. Kucher **DATE START / END:** 6/7/2010 - 6/9/2010
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.
GENERAL NOTE: **SPT sampled first, then SC over sampled through SPT zone and then virgin soil.

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	G1	96/96		PID= 0.0*				Env. Sample ID= GPEC-SB-106 (4-5)	Note: 0'- 8': HAND CLEARED. G1A (0'- 1') NARROWLY GRADED GRAVEL (GP); 1/4" gravel base. G1B (1'- 3') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); fine to coarse, ~60% sand, fine to coarse; ~30% gravel and cobbles, ~10% fines, max. size 10", dark brown, FILL. G1C (3'- 6') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% sand, medium, ~20% gravel, fine to coarse, ~10% fines; max. size 3", moist, orange brown, FILL. G1D (6'- 8') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% sand, medium, ~20% gravel, fine to coarse, ~10% fines; max. size 6", wet, orange brown, groundwater at 7'. Rocks and cobbles at 7.5'. FILL.	
5	5										
		SC1	24/0							SC1 (8'- 10') NO RECOVERY.	
0	10	SC2	60/30	1 min	PID= 0.0* PID= 0.0* PID= 0.0*					SC2 (10'- 15') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, ~15% fines; wet, brown to dark brown.	
-5	15										

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BORING LOG

PAGE 2 of 6

GPEC-SB106/MW-03WT

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
		SC3	60/39	2 min	PID= 0.0*				(15'- 20') Some coring resistance.	SC3A (15'- 17') SILTY SAND WITH GRAVEL (SM); ~70% sand, ~15% gravel, ~15% fines; wet, brown to dark brown.	
					PID= 0.4*					SC3B (17'- 20') SILTY GRAVEL (GM); ~70% gravel, ~15% sand, fine to coarse, ~15% fines; wet, brown to dark brown, pulverized riprap.	
					PID= 0.2*						
-10	20	SC4	60/10	5 min	PID= 0.0*			TLO	(20'- 30') Drilling resistance.	SC4 (20'- 25') SILTY SAND (SM); ~85% sand, fine to coarse, ~15% fines; moderate tar-like odor, wet, riprap.	
-15	25	SC5	60/60		PID= 0.0*					SC5 (25'- 30') SILTY GRAVEL (GM); ~70% gravel and cobbles, ~15% sand, fine to coarse, ~15% silty fines, max. size 4", slight tar-like odor, wet, gray, pulverized riprap.	
					PID= 2.0*						
					PID= 1.9*			TLO			
					PID= 5.0*						
-20	30	SC6	60/39	5 min	PID= NM				(30') Drilling resistance.	SC6 (30'- 35') CLAYEY GRAVEL (GC); ~70% gravel, ~15% sand, fine to coarse, ~15% fines; moderate tar-like odor, black - brown, sheen and staining.	
								TLO			

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BORING LOG
PAGE 3 of 6
GPEC-SB106/MW-03WT

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
								TLO			
-25	35	SC7	60/51	3 min	PID= NM					SC7A (35'- 37') SANDY SILT (ML); ~50% sand, fine, ~50% fines, low plasticity; wet, black tan.	
										SC7B (36.8'- 40') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine to medium, ~10% gravel; ~10% silty fines, max. size 1", moist, black to orange.	
-30	40	SC8	60/46	1 min	PID= 0.0*					SC8 (40'- 45') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine to medium, ~10% gravel; ~10% silty fines, max. size 1", moist, black to orange.	
					PID= 0.0*						
					PID= 0.0*						
					PID= 0.0*						
-35	45	SC9	60/38	1 min	PID= 0.0*					SC9 (45'- 50') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse; ~10% silty fines, max. size 2", moist, brown.	
					PID= 0.0*						
					PID= 0.0*						
-40	50	SC10	60/50	1 min	PID= 0.0*					SC10 (50'- 55') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine; ~5% silty fines, moist, brown tan.	
					PID= 0.0*						

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG

GPEC-SB106/MW-03WT

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
					PID= 0.0*						
					PID= 0.0*						
-45	55	SC11	60/46	1 min	PID= 0.0*					SC11 (55'- 60') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel; ~10% silty fines, max. size 2", moist, orange brown.	
					PID= 0.0*						
					PID= 0.0*						
					PID= 0.0*						
					PID= 0.0*						
-50	60	SC12	60/39	1 min	PID= 0.0*				Core 60'- 70'.	SC12 (60'- 65') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, medium to coarse, ~20% gravel, fine to coarse; ~5% silty fines, max. size 2", moist, orange brown.	
					PID= 0.0*						
					PID= 0.0*						
					PID= 0.0*						
-55	65	SC13	60/44	1 min	PID= 0.0*					SC13 (65'- 70') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse; ~10% silty fines, max. size 3", moist, orange brown, loose, fining downward.	
					PID= 0.0*						
					PID= 0.0*						
					PID= 0.0*						
-60	70	SC14	60/28		PID= 0.0*					SC14 (70'- 75') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to	

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BORING LOG

GPEC-SB106/MW-03WT

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
					PID= 0.0*					coarse, ~25% gravel, fine to coarse; ~5% silty fines, max. size 3", wet, brown.	
-65	75	S1	24/0	8-6-5-6	PID= NA					S1 (75'- 77') NO RECOVERY; fine to coarse gravel wash.	
		SC15**	36/25	1 min	PID= 0.0* PID= 0.0*					S15 (77'- 80') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, ~5% fines; max. size 3", wet, brown.	
-70	80	S2	24/9	3-9-9-9	PID= 0.0*					S2 (80'- 82') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, ~5% fines; max. size 3", wet, brown.	
		SC16**	36/48	1 min	PID= 0.0* PID= 0.0* PID= 0.0*					S16 (82'- 85') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, fine to medium, ~15% gravel, fine; moist, brown.	
-75	85	S3	24/3	10-13-11-13	PID= NM					S3 (85'- 87') SILTY SAND (SM); ~85% sand, fine to medium, ~15% fines; wet, brown.	
		SC17**	36/42	1 min	PID= 0.0* PID= 0.4* PID= 0.6*					S17 (87'- 90') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; moist to wet, light brown.	

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG
PAGE 6 of 6
GPEC-SB106/MW-03WT

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-80	90	S4	24/11	5-8-6-7	PID= 0.0* PID= 0.0*					S4 (90'- 92') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; wet, light brown.	
		SC18**	36/41	<1 min	PID= 13.3 PID= 1.9			PLO		S18A (92'- 93.8') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; slight petroleum-like odor, wet, light brown, interbedded clay layer. S18B (93.8'- 95') SILTY SAND (SM); ~75% sand, fine to medium, ~20% fines, ~5% gravel; max. size 3", wet, brown.	
-85	95	S5	24/13	4-5-5-10	PID= 0.0* PID= 0.0*					S5 (95'- 97') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine to medium, ~15% gravel, fine to coarse, ~10% fines; ~10% silty fines, non plastic, max. size 2", moist, brown , gray.	
		SC19**	36/36	<1 min	PID= 11.2			PLO		SC19 (97'- 100') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, ~10% fines; slight petroleum-like odor, wet, brown, interbedded silt layers.	
-90	100	S6	24/15	13-20-24-32	PID= 0.4* PID= 6.0*			PLO		S6 (100'- 102') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, ~10% fines; slight petroleum-like odor, wet, brown, interbedded silt layers.	
		SC20**	36/56	1 min	PID= 102* PID= 138* PID= 347* Q_P= 4.5 S_V= 1.5 PID= 5.4*				Env. Sample ID= GPEC-SB106 (102-103) Env. Sample ID= GPEC-SB106 (104-105)	SC20A (102'- 103.4') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, ~10% fines; max. size 3", tar coated grains throughout. SC20B (103.4'- 105') FAT CLAY WITH GRAVEL (CH); ~85% fines, ~15% gravel; max. size 1", gray.	
-95	105	S7**	24/8	7-14-20-29	PID= 0.0* PID= 0.0*					S7 (105'- 107') FAT CLAY WITH GRAVEL (CH); ~85% fines, ~15% gravel; max. size 1", gray.	
										End of Boring at 107 feet. Monitoring well installed upon completion. Screened 3'- 13'.	

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S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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: 093260-1-1101

BORING LOG
PAGE 1 of 6
GPEC-SB107/MW-11D

GROUND SURFACE ELEVATION (FT): 17.16 **LOCATION:** South of LNG Tank 2 Area
NORTHING (FT): 687995 **EASTING (FT):** 650043 **TOTAL DEPTH (FT):** 100.0
DRILLED BY: Boart Longyear / Dell Cunningham **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: J. Morin, K. Kucher **DATE START / END:** 6/9/2010 - 6/10/2010
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.
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	G1	96/NM					Note: 0'- 8': HAND CLEARED. G1A (0'- 1') NARROWLY GRADED GRAVEL (GP); 0.5" gravel base. G1B (1'- 2') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, ~10% fines; max. size 2", brown, some debris. FILL. G1C (2'- 8') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, ~5% fines; gray brown, some debris. Cannot extract the soil below 7'. FILL.	
15									
	5						Env. Sample ID= GPEC-SB107 (4-5)		
10		SC1	24/0	1 min	PID= NA			SC1 (8'- 10') NO RECOVERY.	
	10	SC2	60/52	1 min	PID= 0.0*			SC2A (10'- 11.1') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~20% gravel, ~20% fines; max. size 1", moist, dark gray.	
					PID= 0.1*			SC2B (11.1'- 13.8') SANDY SILT (ML); ~70% fines, ~30% sand, fine; moist, gray.	
5					PID= 0.2*				
					PID= 0.0*			SC2C (13.8'- 15') PEAT (PT); brown, highly fibrous.	
	15								

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT 7/6/11

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BORING LOG

GPEC-SB107/MW-11D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15	SC3	60/42	1 min	PID= 0.0*		Env. Sample ID= GPEC-SB107 MW 11D (15-16)	SC3A (15'- 16.1') SANDY SILT (ML); ~65% fines, ~35% sand, fine; wet, light brown.	
					PID= 0.0*			SC3B (16.1'- 20') SILTY SAND (SM); ~75% sand, fine, ~25% fines; moist, gray to dark gray.	
0					PID= 0.0*				
					PID= 0.0*				
	20	SC4	60/43	1 min	PID= 0.0*			SC4 (20'- 25') SILTY SAND (SM); ~80% sand, fine to medium, ~15% fines, ~5% gravel, fine; wet, dark gray.	
					PID= 0.0*				
-5					PID= 0.0*				
					PID= 0.0*				
	25	SC5	60/42	1 min	PID= 0.0*			SC5 (25'- 30') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, ~15% fines; max. size 4", moist, gray.	
					PID= 0.0*				
-10					PID= 0.0*				
					PID= 0.0*				
	30	SC6	60/43	1 min	PID= 0.0*			SC6 (30'- 35') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, ~5% fines; max. size 3", moist, gray - brown.	
					PID= 0.0*				
-15					PID= 0.0*				

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BORING LOG

GPEC-SB107/MW-11D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
					PID= 0.1*				
	35	SC7	60/34	1 min	PID= 0.0*			SC7 (35'- 40') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, ~5% fines; max. size 3", moist, black / dark gray, silt layer 13-15".	
					PID= 0.1*				
-20					PID= 0.1*				
					PID= 0.0*				
	40	SC8	60/45	1 min	PID= 0.3*			SC8 (40'- 45') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, ~5% fines; max. size 3", moist, gray.	
					PID= 0.3*				
-25					PID= 0.5*				
					PID= 0.5*				
	45	SC9	60/39	1 min	PID= 1.1*			SC9 (45'- 50') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, ~5% fines; max. size 3", moist, gray.	
					PID= 0.8*				
-30					PID= 1.7*				
					PID= 3.2*				
	50	SC10	60/41	1 min	PID= NM			SC10A (50'- 52.3') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, ~5% fines; max. size 3", moist, gray.	

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BORING LOG

GPEC-SB107/MW-11D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-35								SC10B (52.3'- 55') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% fines, ~15% gravel; max. size 3", wet, brown.	
	55	SC11	60/39	<1 min	PID= NM			SC11 (55'- 60') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% fines, ~15% gravel; max. size 3", wet, brown.	
-40									
	60	SC12	60/29		PID= 0.0*			SC12A (60'- 63.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, ~5% fines; max. size 3", wet, brown.	
-45					PID= 0.0*				
					PID= 0.0*			SC12B (63.3'- 65') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine, ~20% gravel, ~20% fines.	
	65	SC13	60/42	NM	PID= 0.0*			SC13A (65'- 68.7') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine, ~25% fines, ~15% gravel, fine; wet, brown.	
					PID= 0.0*				
-50					PID= 0.0*				
					PID= 0.0*			SC13B (68.7'- 70') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, ~5% fines; max. size 3", wet, brown.	
	70				PID= NM				

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BORING LOG

GPEC-SB107/MW-11D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
		SC14	60/47	<1 min				SC14 (70'- 75') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, ~5% fines; max. size 1", moist, brown.	
-55	75	SC15	60/46	<1 min	PID= 0.0* PID= 0.0* PID= 0.0*			SC15 (75'- 80') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~35% gravel, ~5% fines; max. size 2", moist, brown.	
-60	80	SC16	60/43	<1 min	PID= 0.5* PID= 0.5* PID= 9.2* PID= 0.0*			SC16 (80'- 85') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines; wet, brown.	
-65	85	SC17	60/52	<1 min	PID= 0.0* Q_P= 1.25 S_V= 0.8 PID= 0.0* PID= 0.0*			SC17A (85'- 85.9') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines; wet, brown. SC17B (85.9'- 90') SANDY LEAN CLAY (CL); ~60% fines, ~35% sand, fine, ~5% gravel; wet, light brown.	
-70									

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BORING LOG

PAGE 6 of 6

GPEC-SB107/MW-11D

ELEV. FT.	DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN/REC IN./IN.	BLOWS /6 in.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
					PID= 0.0*				
	90	SC18	60/47	<1 min	PID= 0.0*		Env. Sample ID= GPEC-SB107/ MW11D (90-91)	SC18A (90'- 91.6') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines; wet, brown.	
-75					PID= 0.0* Q_P= 4.0 S_V= 0.9			SC18B (91.6'- 95') FAT CLAY WITH SAND (CH); ~80% fines, ~20% sand, fine.	
					PID= 0.0*				
	95	SC19	60/66	<1 min	PID= 0.0* Q_P= 2.5 S_V= 0.5			SC19 (95'- 100') FAT CLAY WITH SAND (CH); ~80% fines, ~20% sand, fine.	
-80					PID= 0.0*				
					PID= 0.0*				
	100							End of Boring at 100 feet. Monitoring well installed upon completion. Screened 80'-90'.	

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BORING LOG
PAGE 1 of 1
GPEC-SB108/MW-101I (SB-101C)

GROUND SURFACE ELEVATION (FT): 16.06 **LOCATION:** Southeast of the Stores Building, Northeast of the Transportation Building
NORTHING (FT): 687714 **EASTING (FT):** 650838 **TOTAL DEPTH (FT):** 85.0
DRILLED BY: Boart Longyear / Dell Cunningham **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 6/18/2010 - 6/18/2010
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: Boring ID during utility clearance: GPEC-SB101C
GENERAL NOTE: *PID readings are screened readings made at discreet locations over the soil sample.

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
15	0	G1	96/96	PID= 0.0*			Note: 0'- 8': HAND CLEARED.	
10	5			PID= 0.0*		Env. Sample ID= GPEC-SB-101C (4-5)	G1A (0'- 0.5') ASPHALT.	
5	10						G1B (0.5'- 1.5') NARROWLY GRADED GRAVEL WITH SAND (GP); ~80% gravel, coarse, ~20% sand, fine to coarse; max. size 6", gray brown, FILL.	
0	15						G1C (1.5'- 4') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, rounded, ~10% fines; max. size 2", dark brown, FILL.	
-5	20						G1D (4'- 6') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% gravel, fine to coarse, rounded, ~15% fines; moist, dark brown, FILL.	
-10	25						G1E (6'- 8') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~50% gravel, fine to coarse, ~40% sand, fine to coarse, ~10% fines; max. size 8", moist, brown, some cobbles. FILL.	
-15	30						Straight drill to 75' due to proximity to GPEC-SB101A/ GPEC-MW-101D.	
-20	35						Core through concrete foundation from 8.5'-10'.	
-25	40							
-30	45							
-35	50							
-40	55							
-45	60							
-50	65					(65'- 75') Slow drilling; possibly a cobble in sonic casing.		
-55	70							
-60	75	SC1	60/23	PID= 0.0*			SC1 (75'- 80') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to coarse; ~30% clayey fines, ~15% gravel, fine to coarse, wet, gray, stiff.	
-65	80	SC2	60/48	PID= 0.0*			SC2 (80'- 85') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~25% gravel, fine to coarse; ~25% silty fines, wet, gray.	
	85						End of Boring at 85 feet.	
							Monitoring well installed upon completion. Screened 65'- 75'.	

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BORING LOG
PAGE 1 of 1
GPEC-SB109/MW-101WT (SB-101B)

GROUND SURFACE ELEVATION (FT): 16.23
LOCATION: Southeast of the Stores Building, Northeast of the Transportation Building
NORTHING (FT): 687716 **EASTING (FT):** 650829
TOTAL DEPTH (FT): 20.0
DRILLED BY: Boart Longyear / Dell Cunningham
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet
DATE START / END: 6/18/2010 - 6/18/2010
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: Boring ID during utility clearance: GPEC-SB101B
GENERAL NOTE: *PID readings are screened readings made at discreet locations over the soil sample.

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
15	0	G1	96/96				Note: 0'- 8': HAND CLEARED.	
							G1A (0'- 0.5') ASPHALT.	
							G1B (0.5'- 1') Concrete and gravel/road base to 0.5", brick and debris. FILL.	
							G1C (1'- 4') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, ~10% fines; max. size 3", gray / brown, some cobbles and debris, bricks, tile, and cement block. FILL.	
10	5			PID= 0.0*		Env. Sample ID= GPEC-SB-101B (4-5)	G1D (4'- 6') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, ~10% fines; max. size 3", moist, gray / brown, some cobbles and debris, bricks, tile, and cement block. FILL.	
5	10						G1E (6'- 8') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% sand, fine to coarse, ~40% gravel, fine to coarse, ~10% fines; max. size 10", moist, brown, some cobbles, brick and concrete fragments, and debris. Large mortared piece of bricks at 7.5'. FILL.	
0	15						Straight drill to 20' due to proximity to GPEC-SB101A/ GPEC-MW-101D.	
	20						End of Boring at 20 feet.	
							Monitoring well installed upon completion. Screened 8'- 18'.	

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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 1 of 1
GPEC-SB-115

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Greenpoint, Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K. Kucher **DATE START / END:** 4/25/2011 - 4/25/2011
DRILLING DETAILS: Air knife, Vac Master, hand auger
WATER LEVEL DEPTHS (FT): ▼ 4.00 ;
GENERAL NOTE: Ground surface elevation estimated from ground contours.
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0			PID= 0.0		Env. Sample ID= GPEC-SB-115 (0-2)	(0'- 0.5') dry, Asphalt. (0.5'- 2') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~50% gravel, fine to coarse, ~40% sand, fine to coarse, ~10% fines; moist to saturated, blackish gray. (2'- 6') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% sand, fine to coarse, ~40% gravel, fine to coarse, ~10% fines; saturated to wet, gray.
▼							
5	5			PID= 0.0		Env. Sample ID= GPEC-SB-115 (5-6)	
							End of Boring at 6 feet. Backfill with excavated material

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
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BORING LOG
PAGE 1 of 1
GPEC-SB-116

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Greenpoint, Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K. Kucher **DATE START / END:** 4/26/2011 - 4/26/2011
DRILLING DETAILS: Air knife, Vac Master, hand auger
WATER LEVEL DEPTHS (FT): ▼ 4.00 ;
GENERAL NOTE: Ground surface elevation estimated from ground contours.
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0			PID= 0.0		Env. Sample ID= GPEC-SB-116 (0-2)	(0'- 4') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~50% gravel, fine to coarse, ~40% sand, fine to coarse, ~10% fines; moist, gray brown.
▼							
5	5			PID= 0.0		Env. Sample ID= GPEC-SB-116 (5-6)	(4'- 6') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% gravel, fine to coarse, ~20% fines; wet, gray.
							End of Boring at 6 feet. Backfill with excavated material

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BORING LOG

PAGE 1 of 1

GPEC-SB-117

GROUND SURFACE ELEVATION (FT): 10.00
LOCATION: Greenpoint, Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____
TOTAL DEPTH (FT): 6.0
DRILLED BY: Zebra Environmental
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K. Kucher
DATE START / END: 4/26/2011 - 4/26/2011
DRILLING DETAILS: Air knife, Vac Master, hand auger
WATER LEVEL DEPTHS (FT): ▼ 4.00 ;
GENERAL NOTE: Ground surface elevation estimated from ground contours.
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0			PID= 0.0		Env. Sample ID= GPEC-SB-117 (0-2)	(0'- 4') WIDELY GRADED SAND WITH SILT AND GRAVEL; ~60% sand, fine to coarse, ~30% gravel, fine to coarse, ~10% fines; saturated, brown.
▼							
5	5			PID= 0.0		Env. Sample ID= GPEC-SB-117 (5-6)	(4'- 6') SILTY SAND WITH GRAVEL; ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines; wet, gray.
							End of Boring at 6 feet. Backfill with excavated material

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BORING LOG
PAGE 1 of 1
GPEC-SB-118

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Greenpoint, Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K. Kucher **DATE START / END:** 4/26/2011 - 4/26/2011
DRILLING DETAILS: Air knife, Vac Master, hand auger
WATER LEVEL DEPTHS (FT): ▼ 4.00 ;
GENERAL NOTE: Ground surface elevation estimated from ground contours.
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0			PID= 0.0		Env. Sample ID= GPEC-SB-118 (0-2) DUP & MS/MSD	(0'- 4') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~35% gravel, fine to coarse, ~15% fines; moist, dark brown, few cobbles 2-4'.
▼							
5	5			PID= 0.0		Env. Sample ID= GPEC-SB-118 (5-6)	(4'- 6') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, ~10% fines; wet, gray brown, relocated at 4' bgs due to obstruction. Completed interval 5' NE of original location.
							End of Boring at 6 feet. Backfill with excavated material

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BORING LOG

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GPEC-SB-119

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Greenpoint, Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 5.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K. Kucher **DATE START / END:** 4/25/2011 - 4/25/2011
DRILLING DETAILS: Air knife, Vac Master, hand auger
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: Ground surface elevation estimated from ground contours.
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0			PID= 0.0		Env. Sample ID= GPEC-SB-119 (0-2)	(0'- 5') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, ~10% fines; moist to saturated, brown, concrete slab at 5'.
5	5						End of Boring at 5 feet. Backfill with excavated material

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

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BORING LOG

PAGE 1 of 1

GPEC-SB-120

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Greenpoint, Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 5.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K. Kucher **DATE START / END:** 4/25/2011 - 4/25/2011
DRILLING DETAILS: Air knife, Vac Master, hand auger
WATER LEVEL DEPTHS (FT): ▼ 5.00 ;
GENERAL NOTE: Ground surface elevation estimated from ground contours.
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0			PID= 0.0		Env. Sample ID= GPEC-SB-120 (0-2)	(0'- 5') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~50% gravel, fine to coarse, ~40% sand, fine to coarse, ~10% fines; saturated to wet, brown black to gray, very rocky and submerged in water at 5'.
				PID= 0.0		Env. Sample ID= GPEC-SB-120 (4-5)	
▼ 5	5						End of Boring at 5 feet. Backfill with excavated material

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Q_P = POCKET PENETROMETER IN TSF
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BORING LOG
PAGE 1 of 1
GPEC-SB-121

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Greenpoint, Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 8.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K. Kucher **DATE START / END:** 4/25/2011 - 4/25/2011
DRILLING DETAILS: Air knife, Vac Master, hand auger
WATER LEVEL DEPTHS (FT): ▼ 5.00 ;
GENERAL NOTE: Ground surface elevation estimated from ground contours.
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0			PID= 0.0		Env. Sample ID= GPEC-SB-121 (0-2)	(0'- 6') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, ~20% fines; max. size 8, moist to wet, brown, Fill: bricks, tile, fibers, rock; cobbles present 2-4'; wet at 5' (groundwater table). No visual inspection below 5' due to water, air knife clears to 8'.
▼ 5	5			PID= 0.0		Env. Sample ID= GPEC-SB-121 (5-6)	
							End of Boring at 8 feet. Backfill with excavated material

NOTES:

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG
PAGE 1 of 1
GPEC-SB-122

GROUND SURFACE ELEVATION (FT): 10.00 **LOCATION:** Greenpoint, Maspeth
NORTHING (FT): _____ **EASTING (FT):** _____ **TOTAL DEPTH (FT):** 6.0
DRILLED BY: Zebra Environmental **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet, K. Kucher **DATE START / END:** 4/26/2011 - 4/26/2011
DRILLING DETAILS: Air knife, Vac Master, hand auger
WATER LEVEL DEPTHS (FT): _____
GENERAL NOTE: Ground surface elevation estimated from ground contours.
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
	0			PID= 0.0		Env. Sample ID= GPEC-SB-122 (0-2)	(0'- 6') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); fine to coarse, fine to coarse; moist to wet, brown to gray.
5	5			PID= 0.0		Env. Sample ID= GPEC-SB-122 (5-6)	
							End of Boring at 6 feet. Backfill with excavated material

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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BORING LOG
PAGE 1 of 1
GPEC-SIS1

GROUND SURFACE ELEVATION (FT): 18.44 **LOCATION:** West of Stores Building
NORTHING (FT): 687772 **EASTING (FT):** 650752 **TOTAL DEPTH (FT):** 10.5
DRILLED BY: Summit Drilling **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer, K. Kucher **DATE START / END:** 7/8/2009 - 7/9/2009
DRILLING DETAILS: Geoprobe
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO TYPE and NO.	SAMPLE INFO PEN/REC IN./IN.	STRATA	SOIL / BEDROCK DESCRIPTION
	0	S1	12/NM		S1 (0'- 1') ASPHALT and crushed gravel.
		S2	12/NM		S2 (1'- 2') CONCRETE, hard, uneven surface. No rebar.
		S3	12/NM		S3 (2'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, medium to coarse, ~15% gravel, fine to coarse, ~5% fines; moist, brown, some concrete cobbles.
15		S4	24/NM		S4 (3'- 5') Unable to sample due to concrete from 2'-3'.
	5	S5	60/NM		S5 (4'- 10') WIDELY GRADED GRAVEL (GW); ~85% gravel, subangular, ~10% sand, fine to coarse, ~5% fines; max. size 2", some concrete. Minimal recovery.
10					
	10		6/NM		Soil was not logged below 10'.
					End of Boring at 10.5 feet. Abandoned at 10.5' due to concrete obstruction.

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BORING LOG
PAGE 1 of 2
GPEC-SIS2 (PZ)

GROUND SURFACE ELEVATION (FT): 17.66 **LOCATION:** West/Northwest of Stores Building
NORTHING (FT): 687839 **EASTING (FT):** 650729 **TOTAL DEPTH (FT):** 18.0
DRILLED BY: Summit Drilling **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 7/7/2009 - 7/7/2009
DRILLING DETAILS: Geoprobe
WATER LEVEL DEPTHS (FT): ▽ 10.00 7/7/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO TYPE and NO.	SAMPLE INFO PEN/REC IN./IN.	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	S1	12/NM		S1 (0'- 1') ASPHALT and crushed gravel.	
		S2	12/NM		S2 (1'- 2') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, angular, ~35% sand, fine to coarse, ~5% fines; moist, brown.	
15		S3	24/NM		S3 (3'- 5') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, angular, ~10% fines; moist, brown.	
	5	S4	48/NM		S4 (5'- 9') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, angular, ~10% fines; moist, brown to black, coal-like material.	
10		S5	36/NM		S5 (9'- 12') WIDELY GRADED SAND (SW); ~85% sand, medium to coarse, ~10% gravel, fine, ~5% fines; wet.	
▽	10					
5					Soil was not logged below 12'.	
	15					

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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: 093260-1-1101

BORING LOG

GPEC-SIS2 (PZ)

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	15					
0						
					End of Boring at 18 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.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 7/6/11

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: 093260-1-1101

BORING LOG
PAGE 1 of 2
GPEC-SIS3 (PZ)

GROUND SURFACE ELEVATION (FT): 16.09 **LOCATION:** Northwest of Stores Building
NORTHING (FT): 687882 **EASTING (FT):** 650715 **TOTAL DEPTH (FT):** 18.0
DRILLED BY: Summit Drilling **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 7/7/2009 - 7/7/2009
DRILLING DETAILS: Geoprobe
WATER LEVEL DEPTHS (FT): ▽ 10.00 7/7/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO TYPE and NO.	SAMPLE INFO PEN/REC IN./IN.	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	S1	84/NM		S1 (0'- 7') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, angular, ~35% sand, fine to coarse, ~5% fines; moist, dark brown.	
15						
	5					
10		S2	18/NM		S2 (7'- 8.5') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, angular, ~10% fines; moist, tan to dark brown.	
		S3	78/NM		S3 (8.5'- 15') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, tan to brown.	
	10	▽				
5						
	15					

NOTES:

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

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

GEI Consultants

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455 Winding Brook Road
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CLIENT: National Grid
PROJECT: Greenpoint Energy Center
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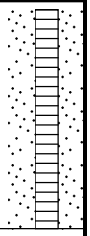
GEI PROJECT NUMBER: 093260-1-1101

BORING LOG

GPEC-SIS3 (PZ)

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
0	15				Soil was not logged below 15'.	
					End of Boring at 18 feet.	

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

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

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PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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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: 093260-1-1101

BORING LOG
PAGE 1 of 2
GPEC-SIS4 (PZ)

GROUND SURFACE ELEVATION (FT): 16.25 **LOCATION:** Northwest of Stores Building
NORTHING (FT): 687908 **EASTING (FT):** 650704 **TOTAL DEPTH (FT):** 18.0
DRILLED BY: Summit Drilling **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer, K. Kucher **DATE START / END:** 7/8/2009 - 7/9/2009
DRILLING DETAILS: Geoprobe
WATER LEVEL DEPTHS (FT): ▽ 10.00 7/9/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	S1	12/NM			S1 (0'- 1') ASPHALT and crushed gravel.	
15		S2	36/NM	PID= 0.2		S2 (1'- 4') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subangular to subrounded, ~5% fines; moist, brown.	
	5	S3	60/NM			S3 (5'- 10') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, medium to coarse, ~25% gravel, subrounded, ~10% fines; max. size 1.5", moist, brown to dark brown, shell fragments.	
10							
	10	S4	60/16			S4 (10'- 15') WIDELY GRADED GRAVEL WITH SAND (GW); ~65% gravel, fine to coarse, ~35% sand, fine to coarse; top 8" moist, light brown; bottom 16" wet, gray.	
5							
	15						

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FT. = FEET
TSF = TONS PER SQUARE FOOT
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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
NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT 7/6/11

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CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093260-1-1101

BORING LOG

PAGE 2 of 2

GPEC-SIS4 (PZ)

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
0	15					Soil was not logged below 15'.	

End of Boring at 18 feet.

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GPEC_ENVIRONMENTAL BORING LOG GREENPOINT BORINGS.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 7/6/11

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PROJECT: Greenpoint Energy Center
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GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 1 of 1
GPEC-SIS5 (PZ)

GROUND SURFACE ELEVATION (FT): 11.57 **LOCATION:** North/Northwest of Stores Building
NORTHING (FT): 688004 **EASTING (FT):** 650674 **TOTAL DEPTH (FT):** 14.0
DRILLED BY: Summit Drilling **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer **DATE START / END:** 7/7/2009 - 7/7/2009
DRILLING DETAILS: Geoprobe
WATER LEVEL DEPTHS (FT): ▽ 6.80 7/7/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	S1	24/NM	PID= 2.0			S1 (0'- 2') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine to coarse, ~5% fines; moist, black, stained.	
10		S2	36/NM	PID= 0.5			S2 (2'- 5') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~35% gravel, fine to coarse, ~5% fines; moist, dark brown, some cobbles, metal. FILL.	
	5	S3	22/NM	PID= 0.2			S3 (5'- 6.8') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% gravel, coarse, ~20% fines; moist, brown to orange, some cobbles.	
▽ 5		S4	14/NM	PID= 0.0			S4 (6.8'- 8') WIDELY GRADED GRAVEL WITH SAND (GW); ~60% gravel, fine to coarse, ~35% sand, fine to coarse, ~5% fines; wet, gray.	
		S5	12/NM	PID= 0.3			S5 (8'- 9') ORGANIC SOIL (OL-OH); ~90% fines/organics, ~10% sand, fine to medium, dark brown.	
		S6	12/NM	PID= 0.0			S6 (9'- 10') SILTY SAND (SM); light brown, some organics.	
	10						Soil was not logged below 10'.	
0								

End of Boring at 14 feet.

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FT. = FEET
TSF = TONS PER SQUARE FOOT

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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: 093260-1-1101

BORING LOG
PAGE 1 of 2
GPEC-SIS6 (PZ)

GROUND SURFACE ELEVATION (FT): 14.79 **LOCATION:** North of Maspeth Ave. in SNG Area
NORTHING (FT): 687264 **EASTING (FT):** 649901 **TOTAL DEPTH (FT):** 15.0
DRILLED BY: Summit Drilling **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer, K. Kucher **DATE START / END:** 7/8/2009 - 7/9/2009
DRILLING DETAILS: Geoprobe
WATER LEVEL DEPTHS (FT): ▽ 10.00 7/9/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0	S1	12/NM	PID= 0.5		S1 (0'- 1') CRUSHED GRAVEL.	
		S2	48/NM			S2 (1'- 5') SILTY SAND WITH GRAVEL (SM); ~50% sand, ~35% gravel, ~15% fines; moist, brown to orange red, abundance of slag and burnt material.	
10	5	S3	60/NM			S3 (5'- 10') SILTY SAND (SM); ~70% sand, fine to coarse, ~20% fines, ~10% gravel; wet, top 8" dark brown, bottom 16" light brown.	
▽ 5	10	S4	60/60			S4A (10'- 12') SILTY SAND (SM); sand, fine to coarse.	
						S4B (12'- 15') LEAN CLAY (CL); gray brown, some organics.	
0	15						

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FT. = FEET
TSF = TONS PER SQUARE FOOT

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TLO = TAR LIKE ODOR
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MLO = MUSTY LIKE ODOR
SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 7/6/11

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CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093260-1-1101

BORING LOG

GPEC-SIS6 (PZ)

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
						End of Boring at 15 feet.	

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GPEC_ENVIRONMENTAL BORING LOG GREENPOINT BORINGS.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 7/6/11

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CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093260-1-1101

BORING LOG
PAGE 1 of 1
GPEC-SIS7 (PZ)

GROUND SURFACE ELEVATION (FT): 15.39 **LOCATION:** North of Maspeth Ave. in SNG Area
NORTHING (FT): 687193 **EASTING (FT):** 649926 **TOTAL DEPTH (FT):** 12.0
DRILLED BY: Summit Drilling **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer, K. Kucher **DATE START / END:** 7/8/2009 - 7/9/2009
DRILLING DETAILS: Geoprobe
WATER LEVEL DEPTHS (FT): ▽ 3.50 7/8/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
15	0	S1	12/NM			S1 (0'- 1') CRUSHED GRAVEL.	
		S2	48/NM	PID= 0.8		S2 (1'- 5') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~25% gravel, fine to coarse, ~15% fines; brown to black, some slag, burnt material, coal-like material.	
▽							
10	5	S3	60/NM			S3 (5'- 10') SILTY SAND (SM); ~70% sand, fine to coarse, ~30% fines; wet, brown.	
5	10					Soil was not logged below 10'.	
						End of Boring at 12 feet.	

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Q_P = POCKET PENETROMETER IN TSF
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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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: 093260-1-1101

BORING LOG
PAGE 1 of 1
GPEC-SIS8 (PZ)

GROUND SURFACE ELEVATION (FT): 15.46 **LOCATION:** North of Maspeth Ave. in SNG Area
NORTHING (FT): 687155 **EASTING (FT):** 649941 **TOTAL DEPTH (FT):** 11.0
DRILLED BY: Summit Drilling **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: R. Polmanteer, K. Kucher **DATE START / END:** 7/8/2009 - 7/9/2009
DRILLING DETAILS: Geoprobe
WATER LEVEL DEPTHS (FT): ▽ 2.50 7/8/2009 ;
GENERAL NOTE:
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
15	0	S1	12/NM			S1 (0'- 1') CRUSHED GRAVEL.	
		S2	48/NM	PID= 0.4		S2 (1'- 5') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~65% gravel, fine to coarse, ~25% sand, fine to coarse, ~10% fines; wet, brown, some cobbles, some slag and burnt materials.	
▽							
10	5	S3	60/20			S3A (5'- 7') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, ~5% fines; wet, brown.	
						S3B (7'- 10') SILT WITH SAND (ML); ~85% fines, ~15% sand, fine.	
5	10					Soil was not logged below 10'.	
						End of Boring at 11 feet.	

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_7/6/11

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 4
GPEC-SB-201/MW-201

GROUND SURFACE ELEVATION (FT): 16.19
LOCATION: Maspeth Regulator Station
NORTHING (FT): 649960 **EASTING (FT):** 687571
TOTAL DEPTH (FT): 75.0
DRILLED BY: Aquifer Drilling and Testing, Inc.
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet
DATE START / END: 11/13/2011 - 11/13/2011
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 5.00 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0							(0'- 10') Drill through to 10' bgs.	
15									
	5								
10									
	10	S1	120/18	PID= 0.0			Very soft material, sample drops immediately to 20' bgs.	S1 (10'- 20') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, ~10% fines; brick, concrete, tile fragments, etc., wet, dark gray brown, FILL.	
5									
	15								
0									
	20								

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SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

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-SB-201/MW-201

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-5	20	S2	60/60	PID= 265 PID= 917 PID= 397 PID= 1004 PID= 172 PID= 258 PID= 561 PID= 6.4 PID= 98.1		OLO	Env. Sample ID= GPEC-SB201 (22-23)	S2 (20'- 23.3') ORGANIC SOIL (OH); ~50% organic material/peat, ~50% clayey fines, high plasticity, strong organic-like odor, moist, gray brown, stiff. S2 (23.3'- 25') ORGANIC SOIL (OH); ~85% clayey fines, high plasticity, ~15% organic material/peat, moist, gray.	
-10	25	S3	60/50	PID= 115 PID= 896 PID= 47.3 PID= 1.8 PID= 2.1 PID= 23.1 PID= 2.5 PID= 534		OLO		S3 (25'- 28') SILTY SAND (SM); ~65% sand, fine, ~35% fines, low plasticity; moderate organic-like odor, wet to moist, gray. S3 (28'- 30') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; moist, gray, soft, loose.	
-15	30	S4	60/40	PID= 14.3 PID= 175 PID= 80.3 PID= 26.4 PID= 34.6 PID= 75.5		OLO		S4 (30'- 35') SILTY SAND (SM); ~80% sand, fine, ~20% fines, non plastic; moderate organic-like odor, moderate sulfur-like odor, moist, gray.	
-20	35	S5	60/50	PID= 23.6 PID= 12.7 PID= 5.7 PID= 0.9 PID= 0.6 PID= 0.5 PID= 1.1				S5 (35'- 37.5') SILTY SAND (SM); ~80% sand, fine, ~20% fines, non plastic; moist, gray. S5 (37.5'- 40') CLAYEY SAND (SC); ~60% sand, fine, ~40% fines, low to medium; moist, gray brown, moderately stiff.	
-25	40	S6	60/48	PID= 0.0 PID= 4.7 PID= 1.5 PID= 0.8 PID= 0.3 PID= 0.3				S6 (40'- 45') LEAN CLAY WITH SAND (CL); ~75% fines, low plasticity, ~25% sand, fine; very moist, gray brown, moderately stiff.	

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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BORING LOG
PAGE 3 of 4
GPEC-SB-201/MW-201

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	45			PID= 0.9					
		S7	60/60	PID= 0.0				S7 (45'- 50') LEAN CLAY WITH SAND (CL); ~75% fines, low to medium, ~25% sand, fine; varved, very moist, gray brown, stiff.	
-30				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
	50			PID= 0.0					
		S8	60/48	PID= 0.0				S8 (50'- 52.9') LEAN CLAY WITH SAND (CL); ~75% fines, medium plasticity, ~25% sand, fine; moist, gray brown, moderately stiff.	
-35				PID= 0.0					
				PID= 0.0					
				PID= 0.0				S8 (52.9'- 55') SANDY LEAN CLAY WITH GRAVEL (CL); ~50% fines, ~25% gravel, fine to coarse, ~25% sand, fine to coarse; gray, stiff.	
				PID= 0.0					
				PID= 0.0					
	55	S9	120/60	PID= 0.0			Driller overdrives sample for compression in core barrel to keep sample from falling out.	S9 (55'- 65') CLAYEY SAND WITH GRAVEL (SC); ~40% sand, fine to coarse, ~40% fines, ~20% gravel, fine to coarse; layered, moist to wet, gray brown.	
-40				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
	60								
-45									
	65	S10	120/120	PID= NM			Driller drills sample 10' to capture loose interval and keep sample from falling out.	S10 (65'- 73.3') LEAN CLAY (CL); ~90% fines, high plasticity, ~10% sand; very moist, gray brown, moderately stiff.	
-50									

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455 Winding Brook Road
Glastonbury, CT 06033
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BORING LOG

GPEC-SB-201/MW-201

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-55	70								
	75						Env. Sample ID= GPEC-SB201 (74-75)	S10 (73.3'- 75') CLAYEY SAND WITH GRAVEL (SC); low plasticity; brown.	
								End of Boring at 75 feet.	

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455 Winding Brook Road
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BORING LOG

PAGE 1 of 4

GPEC-SB-202/MW-202

GROUND SURFACE ELEVATION (FT): 13.47 **LOCATION:** East of Transportation Building
NORTHING (FT): 687656 **EASTING (FT):** 651061 **TOTAL DEPTH (FT):** 83.0
DRILLED BY: Aquifer Drilling and Testing, Inc. **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 11/12/2011 - 11/13/2011
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 10.00 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0		60/NM	PID= 0.0				(0'- 5') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, ~10% fines; cobbles, brick, concrete, dry, gray brown, FILL.	
5	5	S1	60/37	PID= 0.0				S1 (5'- 10') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); moist, brown, FILL.	
				PID= 0.0					
0 ▽	10	S2	60/18	PID= 0.0			Driller notes that air knife penetrates easily at 8' bgs, may indicate groundwater table is at 8' bgs.	S2 (10'- 13.3') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine, ~30% fines, ~20% gravel, coarse; wet, gray brown, FILL.	
				PID= 0.0				S2 (13.3'- 15') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~50% gravel, fine to coarse, ~40% sand, ~10% fines; wet, black, FILL.	
-5	15	S3	60/44	PID= 0.0				S3 (15'- 17.7') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); tile, gravel, very moist, gray brown, FILL.	
				PID= 0.0					
				PID= 7.3					
				PID= 27.9		SLO		S3 (17.7'- 20') PEAT (PT); ~80% organic material, ~20% fines, low plasticity, moderate sulfur-like odor, soft.	
				PID= 18.5					
	20								

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455 Winding Brook Road
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BORING LOG

GPEC-SB-202/MW-202

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	20	S4	60/48	PID= 239 PID= 920 PID= 131 PID= 516 PID= 914 PID= 329 PID= 120		OLO	Env. Sample ID= GPEC-SB202 (22-23)	S4 (20'- 24.2') PEAT (PT); ~60% organic material, ~40% fines, medium plasticity, strong organic-like odor, moist.	
-10				PID= 230		OLO		S4 (24.2'- 25') SILTY SAND (SM); ~50% sand, fine, ~45% fines, medium plasticity, ~5% gravel, fine; strong organic-like odor, moist, light gray.	
	25	S5	60/60	PID= 307 PID= 19.8 PID= 61.1 PID= 136 PID= 136 PID= 61.1 PID= 39.8 PID= 30.7 PID= 56.2 PID= 18.2 PID= 43.3 PID= 27.5 PID= 8.1 PID= 6.0		OLO OLO		S5 (25'- 25.5') SANDY CLAY (CL); ~60% fines, high plasticity, ~40% sand, fine to coarse; moderate organic-like odor, light gray. S5 (25.5'- 30') LEAN CLAY (CL); ~100% fines, high plasticity; slight organic-like odor, moist, light gray.	
-15									
	30	S6	60/40	PID= 7.2 PID= 1.5 PID= 2.0 PID= 2.2 PID= 1.6 PID= 0.0				S6 (30'- 35') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines, non plastic; dry to moist, gray.	
-20									
	35	S7	60/44	PID= 0.0 PID= 0.5 PID= 0.3 PID= 0.0 PID= 0.1 PID= 0.0 PID= 0.0				S7 (35'- 40') SILTY SAND (SM); ~70% sand, fine, ~30% fines, low plasticity; moist, gray.	
-25									
	40	S8	60/0	PID= NM				S8 (40'- 45') NO RECOVERY.	
-30									

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GEI Consultants

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BORING LOG
PAGE 3 of 4
GPEC-SB-202/MW-202

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	45	S9	60/36	PID= 0.0 PID= 0.5 PID= 0.8 PID= 0.0				S9 (45'- 50') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines, non plastic; moist, light gray.	
-35	50	S10	60/18	PID= 0.7 PID= 2.0 PID= 1.4 PID= 1.0				S10 (50'- 54.7') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines; wet, gray.	
-40	55	S11	60/0	PID= NM			Drilling in loose material; material most likely falling out of 3" diameter casing or core barrel. Drillers begin using a basket in the core barrel.	S10 (54.7'- 55') WIDELY GRADED SAND WITH SILT (SW-SM); wet, red brown, loose. S11 (55'- 60') NO RECOVERY; loose material.	
-45	60	S12	60/0	PID= NM			Attempt sample recovery again with no basket; still no recovery.	S12 (60'- 65') NO RECOVERY.	
-50	65	S13	60/22	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S13 (65'- 70') NARROWLY GRADED SAND (SP); ~95% sand, medium, ~5% fines; wet, gray, loose.	
-55									

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BORING LOG
PAGE 4 of 4
GPEC-SB-202/MW-202

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	70	S14	60/0	PID= NM				S14 (70'- 75') NO RECOVERY; loose material.	
-60	75	S15	96/48	PID= 0.0			Driller overdrives sample for compression in core barrel to keep sample from falling out.	S15 (75'- 80.8') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, ~10% fines; max. size 2.5", moist, gray, loose.	
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
-65				PID= 0.0					
				PID= 0.0					
	80			PID= 0.0			Env. Sample ID= GPEC-SB202 (80-81)		
				PID= 0.0				S15 (80.8'- 83') SANDY LEAN CLAY WITH GRAVEL (CL); ~65% sand, fine to coarse, ~20% fines, medium plasticity, ~15% gravel, fine to coarse; max. size 1.5", moist, stiff, hard; possibly Gardiners Clay formation.	
				PID= 0.0					
				PID= 0.0					
								End of Boring at 83 feet. Grout to surface.	

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BORING LOG
PAGE 1 of 4
GPEC-SB-203

GROUND SURFACE ELEVATION (FT): 12.07 **LOCATION:** Bulkhead
NORTHING (FT): 687690 **EASTING (FT):** 651266 **TOTAL DEPTH (FT):** 87.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/11/2012 - 7/11/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 7.50 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
10	0		84/NM					(0'- 1') ASPHALT AND CONCRETE; FILL.
								(1'- 7') WIDELY GRADED SAND WITH GRAVEL (SW-SM); brown, FILL.
	5			PID= 2.9			Env. Sample ID= GPEC-SB-203 (6-7)	
5 ▽		SC1	240/128	PID= 2.8				SC1 (7'- 27') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~25% gravel, fine to coarse, ~20% fines, non plastic; brick, concrete, rubble, max. size 3", wet, dark brown, soft. FILL.
	10			PID= 2.1				
0				PID= 1.6				
	15			PID= 1.5				
-5				PID= 2.2				
	20							

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BORING LOG
PAGE 2 of 4
GPEC-SB-203

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	20			PID= 0.1				
-10				PID= 0.2				
	25							
-15		SC2	120/120	PID= 14.5				SC2 (27'- 28.7') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine, ~20% gravel, fine to coarse, ~20% fines; dark brown.
				PID= 37.5		PLO	Env. Sample ID= GPEC-SB-203 (29-30)	SC2 (28.7'- 29.5') ORGANIC SOIL (OH); ~90% fines, ~10% sand, fine; sediment, moderate petroleum-like odor, moderate organic-like odor, moist, black, soft.
	30			PID= 13.2				SC2 (29.5'- 30.3') SILTY SAND (SM); ~70% sand, fine, ~30% fines; black.
				PID= 5.5				SC2 (30.3'- 32.7') PEAT (PT).
-20				PID= 12.9				
				PID= 7.0				SC2 (32.7'- 35.8') SANDY SILT (ML); ~70% fines, ~30% sand, fine; organics, black.
	35			PID= 6.2				
				PID= 2.8				SC2 (35.8'- 37') NARROWLY GRADED SAND (SP); sand, fine, gray.
-25		SC3	120/82	PID= 0.0				SC3 (37'- 47') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine to medium, ~15% gravel, fine, ~10% fines; wet, gray, loose to medium dense.
				PID= 0.0				
	40			PID= 0.0				
-30				PID= 0.0				
				PID= 0.0				

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TSF = TONS PER SQUARE FOOT

NLO = NAPHTHALENE LIKE ODOR
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Q_P = POCKET PENETROMETER IN TSF
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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

GEI Consultants

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

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

BORING LOG
PAGE 3 of 4
GPEC-SB-203

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	45			PID= 0.0				
-35		SC4	120/94	PID= 0.2				SC4 (47'- 57') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine to medium, ~15% gravel, fine, ~10% fines; wet, gray, loose to medium dense.
				PID= 0.7				
	50			PID= 0.3				
-40				PID= 1.0				
				PID= 0.2				
	55			PID= 0.0				
-45		SC5	120/98	PID= 0.0				SC5 (57'- 67') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; wet, gray, medium dense to loose.
				PID= 0.0				
	60			PID= 0.0				
-50				PID= 0.0				
				PID= 0.0				
	65			PID= 0.0				
-55		SC6	120/95	PID= 0.0				SC6 (67'- 77') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; wet, gray, medium dense to loose.
				PID= 0.2				

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BORING LOG
PAGE 4 of 4
GPEC-SB-203

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	70			PID= 0.1				
-60				PID= 0.3				
				PID= 0.3				
	75			PID= 0.3				
-65		SC7	120/120	PID= 0.3				SC7 (77'- 82.7') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines; wet, gray, loose.
				PID= 0.1				
	80			PID= 0.2				
-70				PID= 0.2				
				PID= 0.3				SC7 (82.7'- 87') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine to coarse, ~15% gravel, fine to coarse, ~15% fines, non plastic; wet, dark gray, medium dense.
	85			PID= 0.2			Env. Sample ID= GPEC-SB-203 (86-87)	
								End of Boring at 87 feet. Grout to ground surface

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BORING LOG
PAGE 1 of 4
GPEC-SB-204

GROUND SURFACE ELEVATION (FT): 12.47 **LOCATION:** Bulkhead
NORTHING (FT): 687740 **EASTING (FT):** 651179 **TOTAL DEPTH (FT):** 87.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/11/2012 - 7/11/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 5.20 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
10	0		96/NM	PID= 12.3				Env. Sample ID= GPEC-SB-204 (1-2)	(0'- 1') ASPHALT; FILL. (1'- 2') WIDELY GRADED SAND WITH GRAVEL (SW); black, FILL. (2'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); coarse; brown, FILL. (3'- 5') FILL.
▽	5			PID= 0.0					
5		SC1	120/70	PID= 0.0					SC1 (7'- 17') SILTY GRAVEL WITH SAND (GM); ~50% gravel, fine to coarse, ~35% sand, fine to coarse, ~15% fines; steel wire, brick, and other fill materials, wet, black, loose; staining. FILL.
	10			PID= 0.0					
0				PID= 0.2					
				PID= 0.3					
	15			PID= 0.2					
				PID= 0.0					
-5		SC2	120/120	PID= 0.0					SC2 (17'- 24.1') PEAT (PT); ~90% fines, low plasticity; ~10% organic material/roots, moderate sulfur-like odor, moderate organic-like odor, moist, dark brown, soft.
				PID= 0.4			SLO		
	20			PID= 198				Env. Sample ID= GPEC-SB-204 (19-20)	

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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455 Winding Brook Road
Glastonbury, CT 06033
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BORING LOG

GPEC-SB-204

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	20			PID= 426					
				PID= 36.9			SLO		
-10				PID= 69.1					
				PID= 262					
	25			PID= 73.2			OLO		SC2 (24.1'- 27') CLAYEY SAND (SC); ~70% sand, fine, ~30% fines, low plasticity; moderate organic-like odor, wet, gray, soft.
				PID= 75.6					
-15		SC3	120/108	PID= 0.0					SC3 (27'- 37') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; trace gravel, coarse, wet, gray, loose.
				PID= 0.0					
	30			PID= 0.0					
-20				PID= 0.0					
				PID= 0.0					
	35			PID= 0.0					
-25		SC4	120/87	PID= 0.0					SC4 (37'- 47') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, ~10% fines; wet, gray, medium dense.
				PID= 0.0					
	40			PID= 0.0					
				PID= 0.0					
-30				PID= 0.0					
				PID= 0.0					

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BORING LOG
PAGE 3 of 4
GPEC-SB-204

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	45			PID= 0.0 PID= 0.0					
-35		SC5	120/100	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0					SC5 (47'- 57') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, medium, ~15% gravel, fine to coarse, ~10% fines; layered, wet, dark gray, loose to medium dense.
	50								
-40									
	55								
-45		SC6	120/40	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0					SC6 (57'- 67') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, ~5% fines; wet, dark gray, loose.
	60								
-50									
	65								
-55		SC7	120/119	PID= 0.0 PID= 0.0					SC7 (67'- 77') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, rounded, ~10% fines; wet, dark gray, loose.

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BORING LOG

PAGE 4 of 4

GPEC-SB-204

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	70			PID= 0.0					
				PID= 0.0					
-60				PID= 0.0					
				PID= 0.0					
	75			PID= 0.0					
				PID= 0.0					
-65		SC8	120/120	PID= 0.0					SC8 (77'- 79.6') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse; wet, brown, loose.
				PID= 0.0					
	80			PID= 0.0					SC8 (79.6'- 82') CLAYEY SAND WITH GRAVEL (SC); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, ~20% fines, low plasticity; wet, gray brown, dense/stiff.
				PID= 0.0					
-70				PID= 0.0					SC8 (82'- 85.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse; wet, brown, loose.
				PID= 0.0					
	85			PID= 0.0					
				PID= 0.0				Env. Sample ID= GPEC-SB-204 (86-87)	SC8 (85.3'- 87') GRAVELLY LEAN CLAY WITH SAND (CL); ~70% fines, plastic, ~15% gravel, fine to coarse, ~15% sand, fine to coarse; wet, gray, hard.
									End of Boring at 87 feet. Grout to ground surface

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BORING LOG

PAGE 1 of 5

GPEC-SB-205/MW-205

GROUND SURFACE ELEVATION (FT): 12.13 **LOCATION:** Bulkhead
NORTHING (FT): 687861 **EASTING (FT):** 651230 **TOTAL DEPTH (FT):** 97.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/2/2012 - 7/2/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 7.00 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	0		84/NM						(0'- 0.5') FILL; sand/stone. FILL. (0.5'- 2') WIDELY GRADED SAND (SW); brown, with rubble. FILL.	
	5								(2'- 7') WIDELY GRADED SAND (SW); moist, brown, FILL.	
5 ▽	10	SC1	120/60	PID= 0.2				Env. Sample ID= GPEC-SB-205 (6-7)	SC1 (7'- 16') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, ~20% fines; wet, brown, loose. FILL.	
0	15			PID= 0.2						
-5	20	SC2	120/78	PID= 0.1					SC1 (16'- 17') CONCRETE AND COBBLES; FILL. SC2 (17'- 19.3') WIDELY GRADED SAND WITH GRAVEL (SW); fine to coarse; brown, FILL.	
				PID= 0.2			TLO		SC2 (19.3'- 27') SILTY GRAVEL WITH SAND (GM);	

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Glastonbury, CT 06033
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BORING LOG

GPEC-SB-205/MW-205

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-10	20			PID= 0.3			TLO		~70% gravel, fine to coarse, ~15% sand, fine to coarse, ~15% fines; cobbles, slight tar-like odor, dark gray, RIP RAP.	
	25			PID= 0.4						
-15		SC3	120/100	PID= 5.1					SC3 (27'- 32.8') SILTY GRAVEL WITH SAND (GM); ~60% gravel, fine to coarse, ~20% sand, fine to coarse, ~20% fines; moderate petroleum-like odor, moderate organic-like odor, wet, dark brown black, staining.	
				PID= 4.9						
	30			PID= 30.1			PLO			
				PID= 106						
-20				PID= 62.2						
				PID= 17.2					SC3 (32.8'- 36') ORGANIC CLAY (OH); ~100% fines, moderate; moist, black, soft.	
	35			PID= 10.8				Env. Sample ID= GPEC-SB-205 (34-35)		
				PID= 5.8			OLO		SC3 (36'- 37') CLAYEY SAND WITH GRAVEL (SC); ~40% sand, fine to coarse, ~30% gravel, fine to coarse, ~30% fines, plastic; moderate organic-like odor, black, soft.	
-25		SC4	120/104	PID= 0.2					SC4 (37'- 47') NARROWLY GRADED SAND WITH GRAVEL (SP); wet, dark gray, loose.	
				PID= 0.4						
	40			PID= 0.5						
-30				PID= 0.4						
				PID= 0.5						

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Glastonbury, CT 06033
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BORING LOG

GPEC-SB-205/MW-205

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	45			PID= 0.5						
-35		SC5	120/86	PID= 0.3					SC5 (47'- 49.8') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium to coarse, ~15% gravel, fine; gray.	
				PID= 0.3						
	50			PID= 0.3					SC5 (49.8'- 57') SILTY SAND (SM); fine, ~75% gravel, ~25% fines, low plasticity; wet, gray, medium dense.	
-40				PID= 0.3						
				PID= 0.3						
	55			PID= 0.3						
-45		SC6	120/84	PID= 15.9					SC6 (57'- 65.6') SILTY SAND (SM); ~75% sand, fine, ~25% fines; moderate tar-like odor, wet, gray, loose; sheen, tar saturated lenses at base.	
				PID= 21.4						
	60			PID= 25.7						
-50				PID= 30.7			TLO			
				PID= 41.3						
	65			PID= 72.6						
							TLO		SC6 (65.6'- 67') NARROWLY GRADED SAND (SP); ~95% sand, medium, ~5% fines; moderate tar-like odor, wet, gray, tar saturated lenses.	
-55		SC7	120/100	PID= 263					SC7 (67'- 73') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~5% gravel, fine, ~5% fines; moderate tar-like odor, wet, brown, loose; tar saturated 68-69'.	
				PID= 365			TLO			

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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 4 of 5

GPEC-SB-205/MW-205

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	70			PID= 139			TLO	Env. Sample ID= GPEC-SB-205 (71-72)		
-60				PID= 493						
				PID= 168			TLO		SC7 (73'- 77') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, medium, ~10% fines; slight tar-like odor, wet, gray, loose.	
	75			PID= 97.8						
-65		SC8	120/120	PID= 12.7					SC8 (77'- 81.6') NARROWLY GRADED SAND (SP); ~90% sand, medium to coarse, ~10% gravel, fine; wet, dark brown, loose.	
				PID= 7.5						
	80			PID= 5.7						
				PID= 9.5						
-70				PID= 6.6					SC8 (81.6'- 87') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine, ~30% gravel, fine to coarse, ~20% fines, non plastic; wet, dark gray, medium dense.	
				PID= 10.1						
	85			PID= 8.1						
				PID= 7.0						
-75		SC9	120/91	PID= 4.5					SC9 (87'- 96') SILTY SAND WITH GRAVEL (SM); ~40% gravel, fine to coarse, ~40% sand, fine, ~20% fines; max. size 3", wet, dark gray, dense.	
				PID= 3.4						
	90			PID= 4.2						
-80				PID= 5.3						

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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BORING LOG

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GPEC-SB-205/MW-205

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	95			PID= 7.0				Env. Sample ID= GPEC-SB-205 (95-96)	SC9 (96'- 97') FAT CLAY WITH SAND (CH); ~85% fines, high dry strength, ~15% sand, fine; dark gray, stiff to hard. End of Boring at 97 feet. Grout to ground surface	

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BORING LOG
PAGE 1 of 4
GPEC-SB-206

GROUND SURFACE ELEVATION (FT): 10.52 **LOCATION:** Bulkhead
NORTHING (FT): 688139 **EASTING (FT):** 651125 **TOTAL DEPTH (FT):** 87.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 6/27/2012 - 6/27/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 6.80 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
10	0		82/NM	PID= 22.5				At 3' bgs, 2" gray PC pipe. Move boring 5' east of original location.	(0'- 6') WIDELY GRADED SAND WITH GRAVEL (SW-SM); brown, FILL.
5	5								
▽		SC1	120/84	PID= 0.0				Env. Sample ID= GPEC-SB-206 (7-8)	SC1 (7'- 17') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine to coarse, ~25% gravel, fine to coarse, ~20% fines; timber, concrete, and asphalt, max. size 4", moderate sulfur-like odor, moist to wet, brown to dark brown, timber, concrete, asphalt, fill. FILL.
				PID= 0.0					
0	10			PID= 0.0					
				PID= 0.0					
				PID= 2.4			SLO		
				PID= 1.3					
-5	15			PID= 0.0					
				PID= 0.0					
		SC2	120/58	PID= 0.0					SC2 (17'- 23.6') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines; dark brown.
	20			PID= 0.0					

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BORING LOG

PAGE 2 of 4

GPEC-SB-206

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-10	20			PID= 0.0					
				PID= 0.8					SC2 (23.6'- 27') WIDELY GRADED GRAVEL WITH SAND (GW); ~50% gravel, fine to coarse, ~45% sand, fine to coarse, ~5% fines; max. size 4", moist to wet, dark gray.
-15	25			PID= 0.0					
		SC3	120/120	PID= 72.5					SC3 (27'- 28.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse; moist, dark gray.
				PID= 116					SC3 (28.5'- 34.5') ORGANIC SILT WITH SAND (OH); ~80% fines, low to medium, ~20% sand, fine; layered sand and silt lenses, moderate tar-like odor, moderate organic-like odor, moist, black, tar coated grains.
				PID= 111					
-20	30			PID= 51.2			TLO	Env. Sample ID= GPEC-SB-206 (30-32)	
				PID= 32.7					
				PID= 21.3					
				PID= 33.6					SC3 (34.5'- 37') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines; moist to wet, black - dark brown, loose.
-25	35			PID= 24.8					
		SC4	120/84	PID= 2.4					SC4 (37'- 47') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine, ~10% fines, ~5% gravel, fine; moist, black gray, loose.
				PID= 6.0					
-30	40			PID= 4.6					

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BORING LOG

GPEC-SB-206

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-35	45			PID= 3.2					
		SC5	120/108	PID= 1.1					SC5 (47'- 55.3') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; dark gray black.
				PID= 1.5					
-40	50			PID= 1.8					
				PID= 0.8					
				PID= 2.0					
-45	55			PID= 0.4					SC5 (55.3'- 57') SILTY SAND (SM); ~85% sand, fine, ~15% fines; dark gray.
		SC6	120/120	PID= 0.4					SC6 (57'- 65.5') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines; wet, dark gray, loose.
				PID= 0.3					
				PID= 0.5					
-50	60			PID= 0.4					
				PID= 3.7					
				PID= 2.7					
				PID= 1.3					
				PID= 1.4					
	65			PID= 0.8					
-55				PID= 0.7					SC6 (65.5'- 67') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, ~5% fines; moist to wet, dark gray black, loose.
		SC7	120/108	PID= 53					SC7 (67'- 68.9') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~35% gravel, fine to coarse; max. size 2", slight tar-like odor, dark gray black, tar-like material, blebs and globs.
				PID= 100			TLO		

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BORING LOG

PAGE 4 of 4

GPEC-SB-206

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-60	70			PID= 287			TLO	Env. Sample ID= GPEC-SB-206 (69-70)	SC7 (68.9'- 71.8') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; moderate tar-like odor, wet, gray to dark gray, loose, tar-like material, blebs and globs.
				PID= 29.5			TLO		
				PID= 5.9					
				PID= 2.9					SC7 (71.8'- 72.7') SILT (ML); ~100% fines; wet, gray, soft.
				PID= 1.4					SC7 (72.7'- 77') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, ~10% fines; tan.
				PID= 0.9					
-65	75			PID= 1.0					
				PID= 1.1					
		SC8	120/110	PID= 0.4					SC8 (77'- 87') NARROWLY GRADED SAND (SP); ~95% sand, medium, ~5% fines; slight tar-like odor, moist to wet, tan gray, loose.
				PID= 0.6					
-70	80			PID= 0.5			TLO		
				PID= 0.4					
				PID= 0.2				Env. Sample ID= GPEC-SB-206 (86-87)	
-75	85								End of Boring at 87 feet. Grout to ground surface

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BORING LOG
PAGE 1 of 4
GPEC-SB-207

GROUND SURFACE ELEVATION (FT): 10.32 **LOCATION:** Bulkhead
NORTHING (FT): 688206 **EASTING (FT):** 651100 **TOTAL DEPTH (FT):** 87.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 6/26/2012 - 6/26/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 6.80 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
10	0		82/NM	PID= 0.0					(0'- 2') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); FILL.
									(2'- 3') COAL ASH; FILL.
									(3'- 6.8') SILTY SAND WITH GRAVEL (SM); FILL.
5	5								
▽								Env. Sample ID= GPEC-SB-207 (6-7)	
		SC1	96/70	PID= 0.0					SC1 (9'- 13') SILTY SAND WITH GRAVEL (SM); brick fragments, slight tar-like odor, moist to wet, black brown, loose. FILL.
0	10			PID= 0.0			TLO		
				PID= 0.0					
				PID= 0.0					SC1 (13'- 17') SANDY ELASTIC SILT WITH GRAVEL (MH); ~70% fines, low plasticity, slow dilatancy, ~15% gravel, fine to coarse, ~15% sand, fine to coarse; coal fragments, brown, FILL.
-5	15			PID= 0.0					
				PID= 0.0					
		SC2	120/74	PID= 0.0					SC2 (17'- 22.5') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine, ~15% gravel, fine, ~15% fines; wet, brown gray, soft.
	20			PID= 0.0					

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GPEC-SB-207

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-10	20			PID= 0.0					
				PID= 0.0					SC2 (22.5'- 27') SILTY GRAVEL WITH SAND (GM); ~60% gravel, fine to coarse, ~25% sand, fine to coarse, ~15% fines; rip rap fragments, mica flakes, max. size 4", brown gray, Manhattan Schist.
				PID= 0.0					
-15	25			PID= 0.0					
		SC3	120/48	PID= 0.0					color removed SC3 (27'- 29.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; max. size 4", wet, dark brown, loose, rip rap.
				PID= 5.9					
-20	30			PID= 6.4					SC3 (29.5'- 37') GRAVELLY SILT (ML); ~50% fines, low plasticity, ~45% gravel, fine to coarse, ~5% sand; rip rap, organic silt, max. size 4", slight tar-like odor, slight petroleum-like odor, moderate organic-like odor, black, black staining.
				PID= 16.3			TLO		
				PID= 37.3				Env. Sample ID= GPEC-SB-207 (36-37)	
-25	35			PID= 54.9					
		SC4	120/110	PID= 0.1					SC4 (37'- 39.2') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, ~5% gravel, fine to coarse; moderate tar-like odor, black, black staining.
				PID= 3.2			TLO		
-30	40			PID= 0.7			TLO		SC4 (39.2'- 40.3') SILTY SAND (SM); ~80% sand, fine to coarse, ~20% fines; moderate tar-like odor, black, black staining. SC4 (40.3'- 46.1') NARROWLY GRADED SAND (SP-SM); ~95% sand, medium, ~5% fines; brown to black, medium dense.
				PID= 0.3					
				PID= 0.2					
				PID= 0.0					

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BORING LOG

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GPEC-SB-207

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-35	45			PID= 0.0 PID= 0.0					SC4 (46.1'- 47') SILT (ML); ~100% fines, non plastic; dry to moist, brown gray.
		SC5	120/120	PID= 30.5 PID= 23.4			TLO		SC5 (47'- 52') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, subangular, ~5% fines; slight tar-like odor, to moderate tar-like odor, moist, gray to dark gray, loose.
-40	50			PID= 0.0 PID= 0.0					
				PID= 0.0 PID= 0.0					SC5 (52'- 57') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; moist, dark gray, loose.
-45	55			PID= 0.0					
		SC6	120/96	PID= 0.0					SC6 (57'- 62') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines; black gray.
-50	60			PID= 0.0					
				PID= 0.0					SC6 (62'- 67') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines; moist, gray brown, loose.
-55	65			PID= 0.0					
		SC7	120/120	PID= 0.0 PID= 0.0					SC7 (67'- 75.5') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; moist, tan brown, loose.

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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 4 of 4
GPEC-SB-207

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-60	70			PID= 0.0					
				PID= 0.4					
				PID= 9.1					
				PID= 42.6					
-65	75			PID= 21.7					
				PID= 246				Env. Sample ID= GPEC-SB-207 (75.5-77)	SC7 (75.5'- 77') SILTY SAND (SM); ~85% sand, fine, ~15% fines; moist, dark brown, tar coated grains to tar saturated at base.
		SC8	120/120	PID= 0.7					SC8 (77'- 87') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; moist, brown, loose.
				PID= 63.4					
-70	80			PID= 1.7					
				PID= 1.2					
				PID= 0.0					
				PID= 0.9					
				PID= 0.7					
-75	85			PID= 0.7				Env. Sample ID= GPEC-SB-207 (86-87)	

End of Boring at 87 feet.
Grout to ground surface

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
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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_5/29/13

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BORING LOG
PAGE 1 of 4
GPEC-SB-208

GROUND SURFACE ELEVATION (FT): 8.54 **LOCATION:** Bulkhead
NORTHING (FT): 688352 **EASTING (FT):** 651042 **TOTAL DEPTH (FT):** 87.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/10/2012 - 7/10/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 7.00 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		96/NM				Env. Sample ID= GPEC-SB-208 (6-7)	(0'- 1') WIDELY GRADED SAND WITH GRAVEL (SW); black, stone. FILL. (1'- 7') WIDELY GRADED SAND WITH GRAVEL (SW); brown, FILL.
5	5							
▽		SC1	120/112	PID= 0.0				SC1 (7'- 14.5') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to coarse, ~20% fines, non plastic, ~15% gravel, fine to coarse; wet, orange brown, medium dense.
0	10			PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				
-5	15			PID= 0.0				SC1 (14.5'- 17') SILTY SAND WITH GRAVEL (SM); gravel, fine to coarse, timber, max. size 4", wet, dark brown.
		SC2	120/98	PID= 0.0				SC2 (17'- 22.5') SILTY SAND WITH GRAVEL (SM); slight naphthalene-like odor, wet, dark brown gray, medium dense.
-10	20			PID= 0.0		NLO		

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT_5/29/13

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BORING LOG

GPEC-SB-208

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	20			PID= 0.0				
				PID= 0.0		NLO		
				PID= 5.9				SC2 (22.5'- 23.5') CLAYEY GRAVEL (GC); ~60% gravel, fine to coarse, ~40% fines; moist, dark brown.
-15				PID= 0.9				SC2 (23.5'- 27') CLAYEY GRAVEL WITH SAND (GC); ~55% gravel, fine to coarse, ~25% sand, fine to coarse, ~20% fines; moist, dark brown gray, loose.
	25			PID= 3.9				
		SC3	120/120	PID= 81.9				SC3 (27'- 29.9') SILTY GRAVEL (GM); ~65% gravel, fine to coarse, ~35% fines; organic soil, moderate petroleum-like odor, wet, black, soft. RIP RAP.
-20				PID= 74		PLO	Env. Sample ID= GPEC-SB-208 (29-30)	
	30			PID= 57.6				SC3 (29.9'- 32.4') GRAVELLY ORGANIC SOIL (OH); ~60% fines, ~40% gravel, fine to coarse; sediment, moderate petroleum-like odor, wet, black, soft.
				PID= 78.4		PLO		
				PID= 38.5				SC3 (32.4'- 34.5') ORGANIC CLAY (OL); ~90% fines, ~10% sand, fine to coarse; moist, black, medium stiff.
-25				PID= 59.1				
	35							SC3 (34.5'- 37') FAT CLAY (CH); ~100% fines; gray.
				PID= 0.9				
		SC4	120/120	PID= 0.0				SC4 (37'- 47') FAT CLAY WITH SAND (CH); ~85% fines, plastic, ~15% sand, fine; layered, wet, gray tan, stiff.
-30								
	40							
-35								

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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BORING LOG

GPEC-SB-208

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	45							
		SC5	120/100	PID= 0.0				SC5 (47'- 57') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines; wet, light brown, loose.
-40				PID= 0.0				
	50			PID= 0.0				
				PID= 0.0				
-45				PID= 0.0				
	55			PID= 0.0				
		SC6	156/120	PID= 0.0				SC6 (57'- 70') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, fine to medium, ~10% fines, ~5% gravel, fine to coarse; wet, brown, loose.
-50				PID= 0.0				
	60			PID= 0.0				
-55				PID= 0.0				
	65			PID= 0.0				
-60				PID= 0.0				

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BORING LOG

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GPEC-SB-208

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	70	SC7	204/120	PID= 0.3				SC7 (70'- 87') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, brown, loose.
				PID= 0.5				
-65								
				PID= 1.0				
	75							
				PID= 0.7				
-70				PID= 0.1				
	80							
				PID= 0.0				
				PID= 0.3				
-75								
	85			PID= 1.3			Env. Sample ID= GPEC-SB-208 (86-87)	

End of Boring at 87 feet.
Grout to ground surface

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BORING LOG
PAGE 1 of 4
GPEC-SB-209

GROUND SURFACE ELEVATION (FT): 9.54 **LOCATION:** Bulkhead
NORTHING (FT): 688446 **EASTING (FT):** 651017 **TOTAL DEPTH (FT):** 87.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/9/2012 - 7/9/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 7.00 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		84/NM						(0'- 1') WIDELY GRADED SAND (SW); dark brown, FILL.
									(1'- 7') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); moist, light brown, FILL.
5	5								
								Env. Sample ID= GPEC-SB-209 (6-7)	
		SC1	120/99	PID= 0.0					SC1 (7'- 12.3') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~20% gravel, fine to coarse, rounded, ~20% fines, non plastic; max. size 4", wet, orange brown, soft.
0	10			PID= 0.0					
				PID= 0.0					
				PID= 0.0					SC1 (12.3'- 17') SILTY GRAVEL WITH SAND (GM); ~50% gravel, fine to coarse, ~30% sand, fine to coarse, ~20% fines; rip rap, max. size 4", wet, dark brown purple, medium dense.
-5	15			PID= 0.0					
				PID= 0.0					
		SC2	120/27	PID= NM					SC2 (17'- 27') NARROWLY GRADED GRAVEL (GP); ~100% gravel, fine to coarse; Manhattan Schist, garnet, pyrite, mica, rip rap, boulder 15-21', dark gray to light gray, dense, hard.
-10	20								

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Q_P = POCKET PENETROMETER IN TSF
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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC.GEI DATA TEMPLATE.GDT_5/29/13

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BORING LOG

GPEC-SB-209

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	20								
-15	25								
		SC3	120/100	PID= 9.2			TLO	Env. Sample ID= GPEC-SB-209 (28-29)	SC3 (27'- 29.6') GRAVELLY FAT CLAY WITH SAND (CH); ~60% fines, plastic, ~20% gravel, fine to coarse, ~20% sand, fine to coarse; organic-rich clay, max. size 5", slight tar-like odor, moderate organic-like odor, wet, black, medium stiff.
-20	30			PID= 1.4					SC3 (29.6'- 37') FAT CLAY (CH); ~100% fines, high plasticity; moist to wet, gray tan, stiff to hard.
				PID= 1.5					
				PID= 0.8					
-25	35			PID= 0.5					
		SC4	120/110	PID= 0.0					SC4 (37'- 42.2') FAT CLAY (CH); ~100% fines, high plasticity; gray tan, stiff to hard.
-30	40			PID= 0.0					
				PID= 0.0					
				PID= 0.0					SC4 (42.2'- 46.1') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; wet, tan, loose.

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BORING LOG

GPEC-SB-209

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	45			PID= 0.0					SC4 (46.1'- 47') LEAN CLAY (CL); ~100% fines; brown.
		SC5	120/94	PID= 0.0					SC5 (47'- 48.3') SILTY SAND (SM); ~70% sand, fine, ~30% fines; moist, brown.
-40	50			PID= 0.0					SC5 (48.3'- 57') WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, fine to coarse, ~10% gravel, fine, ~10% fines; wet, brown, loose.
				PID= 0.0					
				PID= 0.0					
-45	55			PID= 0.0					
				PID= 0.0					
		SC6	120/104	PID= 0.0					SC6 (57'- 67') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine, ~15% gravel, fine, ~10% fines; moist to wet, brown, loose.
-50	60			PID= 0.0					
				PID= 0.0					
				PID= 0.0					
-55	65			PID= 0.0					
				PID= 0.0					
		SC7	120/100	PID= 0.0					SC7 (67'- 77') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; moist to wet, brown, loose.

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BORING LOG

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ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-60	70			PID= 0.0					
				PID= 0.0					
-65	75			PID= 0.0					
		SC8	120/120	PID= 0.2					SC8 (77'- 87') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; wet, light brown, loose.
				PID= 0.3					
-70	80			PID= 0.4					
				PID= 0.8					
				PID= 0.3					
-75	85			PID= 1.1				Env. Sample ID= GPEC-SB-209 (86-87)	

End of Boring at 87 feet.
Grout to ground surface

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BORING LOG
PAGE 1 of 4
GPEC-SB-210

GROUND SURFACE ELEVATION (FT): 10.38 **LOCATION:** Bulkhead
NORTHING (FT): 688622 **EASTING (FT):** 650977 **TOTAL DEPTH (FT):** 87.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/9/2012 - 7/9/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 5.00 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
10	0		69/NM				NLO	Env. Sample ID= GPEC-SB-210 (1-2)	(0'- 1') FILL; moderate naphthalene-like odor, old tar deposit. FILL.
									(1'- 5') WIDELY GRADED SAND WITH GRAVEL (SW); bricks, brown, FILL.
5 ▽	5								(5'- 5.75') WIDELY GRADED GRAVEL (GW); FILL.
									(5.75'- 7') FILL.
		SC1	120/120	PID= NA					SC1 (7'- 17') TIMBER; entire core recovery was a timber pile, possibly drilling through a pile. FILL.
0	10								
-5	15	SC2	156/62	PID= 15.7					SC2 (17'- 21.2') WOOD CHIPS; wet, FILL.
	20								

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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
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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-SB-210

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-10	20			PID= 0.0					SC2 (21.2'- 30') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW); ~70% gravel, fine to coarse, ~20% sand, fine to coarse, ~10% fines; cobbles, max. size 6", wet, dark gray, loose. FILL.
-15	25			PID= 0.9					
-20	30	SC3	84/30	PID= 1.9				Env. Sample ID= GPEC-SB-210 (29-30) While drilling 30-37', timber from pile packed in between 6" casing and 4" core barrel, binding up. While releasing the tooling, heat was generate and burnt through 4" casing threads.	SC3 (30'- 37') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, angular, ~10% fines; wet, dark gray, loose; sheen. FILL.
-25	35			PID= 8.0					
		SC4	120/94	PID= 2.6			PLO	Env. Sample ID= GPEC-SB-210 (37-38)	SC4 (37'- 39.6') CLAYEY SAND WITH GRAVEL (SC); ~65% sand, fine, ~20% fines, low plasticity, ~15% gravel, fine to coarse; slight petroleum-like odor, wet, black, soft.
-30	40			PID= 3.0					SC4 (39.6'- 42.1') SILTY SAND (SM); ~75% sand, fine, ~15% fines, ~10% gravel, fine to coarse; wet, gray black, loose.
				PID= 2.4					
				PID= 4.4					SC4 (42.1'- 47') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, medium, ~10% fines; moist to wet, gray tan, loose.
				PID= 0.6					

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BORING LOG
PAGE 3 of 4
GPEC-SB-210

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-35	45			PID= 0.5					
		SC5	120/114	PID= 0.0					SC5 (47'- 57') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, medium, ~15% gravel, fine, ~10% fines; moist to wet, gray tan, loose; sample gets coarser towards the bottom.
				PID= 0.0					
-40	50			PID= 0.0					
				PID= 0.0					
-45	55			PID= 0.0					
		SC6	120/120	PID= 0.0					SC6 (57'- 67') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines; moist to wet, gray tan, loose.
				PID= 0.0					
-50	60			PID= 0.0					
				PID= 0.0					
-55	65			PID= 0.0					
		SC7	120/95	PID= 0.0					SC7 (67'- 77') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; moist, gray tan, loose.

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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BORING LOG

GPEC-SB-210

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-60	70			PID= 0.0					
				PID= 0.0					
				PID= 0.0					
-65	75			PID= 0.0					
		SC8	120/120	PID= 0.0					SC8 (77'- 85.8') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines; moist, gray tan, loose.
				PID= 0.4					
-70	80			PID= 1.6					
				PID= 4.2					
				PID= 1.3					
-75	85			PID= 1.8				Env. Sample ID= GPEC-SB-210 (86-87)	SC8 (85.8'- 87') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine to medium, ~15% gravel, rounded, ~10% fines; max. size 1", moist, tan, loose.
									End of Boring at 87 feet.
									Grout to ground surface

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BORING LOG
PAGE 1 of 4
GPEC-SB-211

GROUND SURFACE ELEVATION (FT): 10.16 **LOCATION:** Bulkhead
NORTHING (FT): 688747 **EASTING (FT):** 650932 **TOTAL DEPTH (FT):** 80.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/18/2012 - 7/18/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
10	0		60/NM						(0'- 1') WIDELY GRADED SAND (SW); with cobbles, dark brown, FILL. (1'- 4') WIDELY GRADED SAND WITH GRAVEL (SW); moist, light brown, FILL.
5	5							Env. Sample ID= GPEC-SB-211 (4-5) 5-15' bgs not sampled due to wood/fill materials, drill through fill and start sampling at 15' bgs.	(4'- 15') TIMBER; wood decking/piling, FILL.
0	10								
-5	15	SC1	60/60	PID= NM					SC1 (15'- 20') TIMBER; wet, RIP RAP.
	20								

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BORING LOG

GPEC-SB-211

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-10	20	SC2	60/24	PID= NM					SC2 (20'- 25') TIMBER; FILL.
-15	25	SC3	120/36	PID= 15.8					SC3 (25'- 35') SILTY SAND (SM); ~75% sand, fine to coarse, ~15% fines, ~10% gravel; timber and wood, moderate creosote-like odor, wet, loose; sheen. FILL.
-20	30			PID= 7.2			CrLO	Env. Sample ID= GPEC-SB-211 (33-34)	
-25	35	SC4	120/94	PID= 35.2			PLO		SC4 (35'- 36.9') ORGANIC SOIL (OH); ~60% fines, ~20% sand, fine; ~20% timber/organics, moderate petroleum-like odor, wet, black, soft.
				PID= 10.9				Env. Sample ID= GPEC-SB-211 (37-38)	SC4 (36.9'- 45') SILTY SAND (SM); ~75% sand, fine, ~25% fines; wet, gray, loose to medium dense.
-30	40			PID= 0.0					
				PID= 0.0					
				PID= 0.0					

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BORING LOG

PAGE 3 of 4

GPEC-SB-211

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-35	45	SC5	120/120	PID= 0.0					SC5 (45'- 51.7') SILTY SAND (SM); ~80% sand, fine, ~20% fines, non plastic; wet, gray, loose.
				PID= 0.0					
				PID= 0.0					
-40	50			PID= 0.0					
				PID= 0.0					SC5 (51.7'- 55') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine, ~10% fines; max. size 1", moist to wet, gray brown, loose.
				PID= 0.0					
-45	55	SC6	120/67	PID= 0.0					SC6 (55'- 65') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine, ~10% fines; max. size 1", wet, dark brown, loose.
				PID= 0.0					
				PID= 0.0					
-50	60			PID= 0.0					
				PID= 0.0					
-55	65	SC7	180/120	PID= 0.6					SC7 (65'- 80') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, ~10% fines; max. size 4", wet, gray brown, loose.
				PID= 0.4					
				PID= 0.5					

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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BORING LOG

GPEC-SB-211

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-60	70			PID= 0.3					
				PID= 0.1					
				PID= 0.0					
-65	75			PID= 0.0					
				PID= 0.0					
	80							Env. Sample ID= GPEC-SB-211 (79-80)	End of Boring at 80 feet. Grout to ground surface

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BORING LOG
PAGE 1 of 4
GPEC-SB-212

GROUND SURFACE ELEVATION (FT): 9.76 **LOCATION:** Bulkhead
NORTHING (FT): 688868 **EASTING (FT):** 650892 **TOTAL DEPTH (FT):** 87.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/10/2012 - 7/10/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		84/NM				Env. Sample ID= GPEC-SB-212 (1-2)	(0'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); brown, FILL.
5	5							(3'- 7') WIDELY GRADED GRAVEL (GW); FILL.
		SC1	120/24	PID= NM				SC1 (7'- 17') TIMBER; and wood chips, FILL.
0	10							
-5	15							
		SC2	120/40	PID= 0.5				SC2 (17'- 27') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~75% gravel, fine to coarse, ~15% sand, fine to coarse, ~10% fines; max. size 6", wet, gray, loose. RIP RAP.
-10	20							

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BORING LOG
PAGE 2 of 4
GPEC-SB-212

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	20			PID= 1.0				
				PID= 0.5				
-15	25							
		SC3	120/120	PID= 21.8			Env. Sample ID= GPEC-SB-212 (28-29)	SC3 (27'- 28') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, ~10% fines; max. size 4", wet, dark brown, loose. RIP RAP.
				PID= 31.6		PLO		SC3 (28'- 29.7') ORGANIC SOIL (OH); ~100% fines; moderate petroleum-like odor, moderate organic-like odor, wet, black, soft.
-20	30			PID= 31.9		PLO		SC3 (29.7'- 33') PEAT (PT); ~85% fines, low plasticity, ~15% sand, fine; roots, organic soil, moderate petroleum-like odor, moderate organic-like odor, black brown, soft.
				PID= 5.0				
				PID= 4.9				SC3 (33'- 37') FAT CLAY (CH); ~100% fines, high plasticity; wet, gray tan, stiff.
-25	35			PID= 3.9				
		SC4	120/110	PID= 0.3				SC4 (37'- 44.1') FAT CLAY (CH); ~90% fines, high plasticity, ~10% sand, fine; wet, gray, stiff.
				PID= 1.0				
-30	40			PID= 1.4				
				PID= 1.2				
				PID= 3.4				
				PID= 4.1				SC4 (44.1'- 47') SANDY LEAN CLAY (CL); ~50% sand, fine, ~50%

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BORING LOG
PAGE 3 of 4
GPEC-SB-212

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-35	45			PID= 5.2				fines, low plasticity; wet, gray, soft.
		SC5	120/112	PID= 10.2				SC5 (47'- 53.8') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; moist to wet, gray brown, loose.
-40	50			PID= 9.4				
				PID= 10.1				
								SC5 (53.8'- 57') TIMBER.
-45	55			PID= 4.6				
		SC6	120/102	PID= 0.5				SC6 (57'- 67') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; wet, gray brown, loose.
				PID= 5.2				
-50	60			PID= 1.5				
				PID= 4.5				
				PID= 0.2				
				PID= 0.0				
-55	65			PID= 0.0				
		SC7	120/96	PID= 0.0				SC7 (67'- 77') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines; wet, gray brown, medium dense.
				PID= 0.0				

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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

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GPEC-SB-212

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-60	70			PID= 0.0				
				PID= 0.0				
				PID= 0.0				
-65	75			PID= 0.0				
		SC8	120/115	PID= 6.4				SC8 (77'- 85.7') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, ~10% fines; max. size 2", wet, gray brown, medium dense.
				PID= 0.0				
-70	80			PID= 0.1				
				PID= 0.0				
				PID= 0.0				
-75	85			PID= 0.0			Env. Sample ID= GPEC-SB-212 (86-87)	SC8 (85.7'- 87') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine, ~25% fines, ~15% gravel, fine to coarse; moist, dark gray, dense.
								End of Boring at 87 feet.
								Grout to ground surface

NOTES:

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FT. = FEET
TSF = TONS PER SQUARE FOOT

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BORING LOG
PAGE 1 of 4
GPEC-SB-213

GROUND SURFACE ELEVATION (FT): 8.69 **LOCATION:** Bulkhead
NORTHING (FT): 689037 **EASTING (FT):** 650683 **TOTAL DEPTH (FT):** 87.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/2/2012 - 7/2/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 5.17 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		84/NM						(0'- 1') WIDELY GRADED SAND WITH SILT (SW-SM); concrete, brown, FILL.
								Env. Sample ID= GPEC-SB-213 (1-2)	(1'- 7') WIDELY GRADED SAND (SW); rubble, black / brown, FILL.
5									
	5							Env. Sample ID= GPEC-SB-214 (5-6)	
		SC1	120/72	PID= 1.3					SC1 (7'- 17') WIDELY GRADED GRAVEL (GW); ~90% gravel, fine to coarse, ~5% sand, fine to coarse; ~5% timber, rip rap, brick and concrete, moderate tar-like odor, wet, black, loose. FILL.
0									
	10			PID= 10.5					
							TLO		
-5				PID= 2.6					
								Env. Sample ID= GPEC-SB-214 (14-15)	
	15								
		SC2	120/100	PID= 0.1					SC2 (17'- 21.8') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~50% gravel, fine to coarse, ~40% sand, fine, ~10% fines; rip rap, moderate tar-like odor, wet, black, loose.
-10							TLO		
				PID= 2.7					
	20								

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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

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BORING LOG

GPEC-SB-213

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	20			PID= 0.2			TLO		
				PID= 0.2					SC2 (21.8'- 27') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% sand, fine to coarse, ~40% gravel, fine to coarse, rounded, ~10% fines; max. size 3", slight tar-like odor, wet, dark brown, loose; black staining.
-15									
	25			PID= 0.2			TLO		
		SC3	120/102	PID= 4.6					SC3 (27'- 29.9') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to coarse, ~25% gravel, fine to coarse, rounded, ~25% fines, plastic; layered, timber, max. size 4", moderate tar-like odor, black, soft; black staining.
-20				PID= 11.2			TLO		
	30			PID= 14.1					SC3 (29.9'- 32.4') SILTY SAND (SM); ~75% sand, fine, ~20% fines, ~5% gravel, fine to coarse; moderate tar-like odor, moist to wet, black, black staining.
				PID= 5.1			TLO		
				PID= 2.6					SC3 (32.4'- 37') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium, ~15% gravel, fine to coarse, rounded, ~5% fines; moist, black to light brown, loose.
-25				PID= 2.6					
	35			PID= 2.1					
		SC4	120/114	PID= 0.2					SC4 (37'- 47') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; max. size 2", moist to wet, brown.
-30									
	40			PID= 0.1					
-35				PID= 0.1					

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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

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BORING LOG

GPEC-SB-213

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	45								
		SC5	120/86	PID= 0.1					SC5 (47'- 52.9') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse; brown.
-40				PID= 0.0					
	50			PID= 0.0					
				PID= 0.0					SC5 (52.9'- 54.8') WIDELY GRADED GRAVEL WITH SAND (GW); ~50% gravel, fine to coarse, ~50% sand, fine to coarse; wet, loose.
-45				PID= 0.0					SC5 (54.8'- 57') NARROWLY GRADED SAND WITH GRAVEL (SP); moist to wet, brown, loose.
	55	SC6	120/120	PID= 0.0					SC6 (57'- 67') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded; max. size 3", wet, brown, loose.
-50				PID= 0.0					
	60			PID= 0.0					
-55				PID= 0.0					
	65			PID= 0.0					
		SC7	120/80	PID= 0.0					SC7 (67'- 77') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded; max. size 3", moist to wet, brown, loose.
-60									

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BORING LOG
PAGE 4 of 4
GPEC-SB-213

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	70			PID= 0.0					
				PID= 0.0					
				PID= 0.0					
-65	75			PID= 0.0					
		SC8	120/113	PID= 1.1					SC8 (77'- 81.9') NARROWLY GRADED SAND WITH GRAVEL (SP); ~15% gravel, fine to coarse; max. size 1", brown.
				PID= 3.1					
-70	80			PID= 0.4					
				PID= 0.0					SC8 (81.9'- 86.3') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded, ~10% fines; max. size 2", wet, brown, loose.
-75				PID= 0.0					
	85			PID= 0.2				Env. Sample ID= GPEC-SB-214 (85-86)	SC8 (86.3'- 87') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% gravel, fine to coarse, ~20% fines; cobbles, max. size 5", wet, brown, medium dense.
									End of Boring at 87 feet.
									Grout to ground surface

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455 Winding Brook Road
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BORING LOG
PAGE 1 of 4
GPEC-SB-214

GROUND SURFACE ELEVATION (FT): 9.57 LOCATION: Bulkhead
NORTHING (FT): 689180 EASTING (FT): 650746 TOTAL DEPTH (FT): 87.0
DRILLED BY: Boart Longyear DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet DATE START / END: 7/14/2012 - 7/15/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 7.00 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	0		96/NM						(0'- 1') WIDELY GRADED GRAVEL (GW); FILL.
									(1'- 2') WIDELY GRADED SAND WITH SILT (SW-SM); light brown, FILL.
									(2'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); black / gray, FILL.
									(3'- 6') WIDELY GRADED SAND WITH GRAVEL (SW); moderate naphthalene-like odor, black / gray, FILL.
5	5						NLO		
									(6'- 7') WIDELY GRADED SAND WITH GRAVEL (SW); black / gray, FILL.
▽		SC1	120/62	PID= 0.1				Env. Sample ID= GPEC-SB-214 (7-8)	SC1 (7'- 17') CLAYEY SAND WITH GRAVEL (SC); ~65% sand, fine to coarse, ~20% fines, low plasticity, ~15% gravel, fine to coarse; max. size 5", wet, dark gray, soft.
0	10			PID= 0.8					
				PID= 0.6					
-5	15			PID= 04					
		SC2	120/48	PID= 0.0					SC2 (17'- 22') BOULDER; rip rap.
-10	20			PID= 0.0					

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_5/29/13

GEI Consultants

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455 Winding Brook Road
Glastonbury, CT 06033
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CLIENT: National Grid
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GEI PROJECT NUMBER: 125180-1-1102

BORING LOG
PAGE 2 of 4
GPEC-SB-214

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	20			PID= 0.0					
				PID= 0.0					SC2 (22'- 27') NARROWLY GRADED GRAVEL (GP); ~100% gravel; rip rap, max. size >6", wet, Fordham gneiss, garnet, biotite, muscovite, chlorite foliations.
-15	25			PID= 0.0					
		SC3	120/60	PID= 1.3					SC3 (27'- 37') SILTY GRAVEL WITH SAND (GM); ~50% gravel, fine to coarse, ~35% fines, ~15% sand, fine to coarse; sediment-like material, max. size 6", slight petroleum-like odor, black, soft, loose; black staining. RIP RAP.
				PID= 980					
-20	30							Env. Sample ID= GPEC-SB-214 (30-31)	
				PID= 6403			PLO		
				PID= ER					
-25	35			PID= 0.3					
		SC4	120/33	PID= 0.0					SC4 (37'- 43') BOULDER; rip rap, possibly Fordham gneiss.
				PID= 0.0					
-30	40			PID= 0.0					
				PID= 0.0					SC4 (43'- 47') ROCK; likely the same boulder as above, possibly Fordham gneiss.

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BORING LOG

GPEC-SB-214

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	45			PID= 0.0					
		SC5	120/95	PID= 0.8					SC5 (47'- 53.3') LEAN CLAY WITH SAND (CL); ~85% fines, medium plasticity, ~15% sand, fine to medium; greenish gray, soft.
-40	50			PID= 0.0					
				PID= 0.0					
				PID= 0.0					SC5 (53.3'- 57') CLAYEY SAND WITH GRAVEL (SC); ~70% sand, fine to medium, ~15% gravel, fine to coarse, ~15% fines; gray.
-45	55			PID= 0.0					
		SC6	120/113	PID= 3.1					SC6 (57'- 63.5') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, fine to medium, ~15% gravel, fine to coarse; wet, brown, loose.
-50	60			PID= 9.4					
				PID= 1.5					
				PID= 0.5					SC6 (63.5'- 64') LEAN CLAY (CL); ~90% fines, plastic, ~10% sand, fine; gray.
-55	65			PID= 0.3					SC6 (64'- 67') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% gravel; wet, brown, loose.
		SC7	120/98	PID= 0.0					SC7 (67'- 73.8') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines, non plastic; wet, brown, loose.

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BORING LOG
PAGE 4 of 4
GPEC-SB-214

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-60	70			PID= 0.0					
				PID= 0.0					
				PID= 0.0					
-65	75			PID= 0.0					SC7 (73.8'- 77') SANDY LEAN CLAY WITH GRAVEL (CL); ~50% fines, medium plasticity, ~30% sand, fine to medium, ~20% gravel, fine to coarse; wet, brownish gray, soft.
		SC8	120/120	PID= 0.0					SC8 (77'- 87') SANDY LEAN CLAY WITH GRAVEL (CL); ~50% fines, medium plasticity, ~35% sand, fine to medium, ~15% gravel, fine to coarse; wet, brownish gray, loose.
-70	80			PID= 0.0					
				PID= 0.0					
				PID= 0.0					
-75	85			PID= 0.0				Env. Sample ID= GPEC-SB-214 (86-87)	

End of Boring at 87 feet.
Grout to ground surface

NOTES:

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_5/29/13

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BORING LOG
PAGE 1 of 4
GPEC-SB-215

GROUND SURFACE ELEVATION (FT): 10.87 **LOCATION:** Bulkhead
NORTHING (FT): 689349 **EASTING (FT):** 650689 **TOTAL DEPTH (FT):** 87.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/16/2012 - 7/16/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 4.00 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
10	0		54/NM				Env. Sample ID= GPEC-SB-215 (3-4) Env. Sample ID= GPEC-SB-215 (4-5)	(0'- 1') NARROWLY GRADED GRAVEL (GP); max. size 0.75", geo-fabric. FILL. (1'- 4.5') WIDELY GRADED SAND WITH GRAVEL (SW); moist, black.
5	5							
0	10	SC1	120/94	PID= 2.0 PID= 0.5 PID= 0.3 PID= 0.1 PID= 0.1 PID= 0.1		TLO		SC1 (7'- 9.6') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~50% gravel, fine to coarse, ~40% sand, fine to coarse, ~10% fines; rip rap, dark gray. SC1 (9.6'- 17') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, low plasticity, ~20% gravel, fine to coarse; max. size 5", slight tar-like odor, wet, gray brown, soft.
-5	15	SC2	120/73	PID= 0.0 PID= 0.0				SC2 (17'- 27') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~60% gravel, fine to coarse, ~30% sand, fine to coarse, ~10% fines; rip rap, wet, brown gray, soft, loose, possibly disturbed sample.
	20							

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FT. = FEET
TSF = TONS PER SQUARE FOOT

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PLO = PETROLEUM LIKE ODOR
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MLO = MUSTY LIKE ODOR
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NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_5/29/13

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 2 of 4
GPEC-SB-215

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-10	20			PID= 0.0				
				PID= 0.0				
-15	25			PID= 0.0				
		SC3	120/57	PID= 9.3				SC3 (27'- 37') SILTY GRAVEL WITH SAND (GM); ~50% gravel, fine to coarse, ~30% fines, ~20% sand, fine to coarse; cobbles, max. size 5", slight petroleum-like odor, wet, black, soft, loose. RIP RAP.
				PID= 8.6				
-20	30			PID= 9.8				
				PID= 6.8		PLO		
				PID= 4.2				
				PID= 4.3				
-25	35			PID= 3.2			Env. Sample ID= GPEC-SB-215 (36-37)	
		SC4	120/110	PID= 6.8		PLO	Env. Sample ID= GPEC-SB-215 (37-38)	SC4 (37'- 38.1') SILTY GRAVEL WITH SAND (GM); ~50% gravel, fine to coarse, ~30% fines, ~20% sand, fine to coarse; cobbles, max. size 5", slight petroleum-like odor, wet, black, soft, loose. RIP RAP.
				PID= 4.2				SC4 (38.1'- 43.5') CLAYEY SAND (SC); ~50% sand, fine, ~40% fines, ~10% gravel, fine to coarse; interbedded, slight petroleum-like odor, gray, soft.
-30	40					PLO		
				PID= 4.3				
								SC4 (43.5'- 47') NARROWLY GRADED SAND (SP); ~95% sand, medium, ~5% fines; trace gravel, fine, moist to wet, brown, loose.

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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BORING LOG
PAGE 3 of 4
GPEC-SB-215

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	45			PID= 3.2				
-35								
		SC5	120/98	PID= 0.1				SC5 (47'- 57') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~5% gravel, fine, ~5% fines; wet, brown, loose.
	50			PID= 0.1				
-40				PID= 0.2				
				PID= 0.2				
	55			PID= 0.1				
-45		SC6	120/120	PID= 0.1				SC6 (57'- 67') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wet, brown, loose.
	60			PID= 0.4				
				PID= 0.6				
-50				PID= 0.4				
				PID= 0.1				
	65			PID= 0.1				
-55		SC7	120/108	PID= 1.0				SC7 (67'- 69.2') CLAYEY SAND WITH GRAVEL (SC); ~55% sand, fine to coarse, ~25% gravel, fine to coarse, ~20% fines, low plasticity; wet, dark gray, stiff.
				PID= 1.0				

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BORING LOG
PAGE 4 of 4
GPEC-SB-215

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	70			PID= 0.0				SC7 (69.2'- 73.7') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine, ~20% fines, ~15% gravel, fine to coarse; wet, gray, medium dense.
-60				PID= 0.0				
				PID= 1.0				
				PID= 1.0				SC7 (73.7'- 75.3') CLAYEY SAND WITH GRAVEL (SC); ~55% sand, fine to coarse, ~25% gravel, fine to coarse, ~20% fines, low plasticity; wet, dark gray, stiff.
	75							
-65				PID= 0.1				SC7 (75.3'- 77') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine, ~20% fines, ~15% gravel, fine to coarse; wet, dark brown, medium dense.
		SC8	120/94	PID= 0.0				SC8 (77'- 79.6') SANDY FAT CLAY WITH GRAVEL (CH); ~50% fines, ~25% gravel, fine to coarse, ~25% sand, fine to coarse; interbedded, wet, dark gray brown, stiff.
				PID= 0.0				
	80							SC8 (79.6'- 82.1') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to coarse, ~25% gravel, fine to coarse, ~25% fines; wet, dark brown, medium dense.
-70				PID= 0.0				
				PID= 0.0				SC8 (82.1'- 84.7') SANDY FAT CLAY WITH GRAVEL (CH); ~50% fines, ~25% gravel, fine to coarse, ~25% sand, fine to coarse; interbedded, wet, dark gray brown, stiff.
				PID= 0.0				
	85							SC8 (84.7'- 87') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse; wet, brown, loose.
-75				PID= 0.3			Env. Sample ID= GPEC-SB-215 (86-87)	
								End of Boring at 87 feet. Grout to ground surface

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_5/29/13

GEI Consultants, Inc.
455 Winding Brook Road
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GEI PROJECT NUMBER: 125180-1-1102

BORING LOG
PAGE 1 of 4
GPEC-SB-216

GROUND SURFACE ELEVATION (FT): 10.41 **LOCATION:** Bulkhead
NORTHING (FT): 689443 **EASTING (FT):** 650656 **TOTAL DEPTH (FT):** 87.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/15/2012 - 7/15/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 5.00 ;
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
10	0		60/NM						(0'- 1') NARROWLY GRADED GRAVEL (GP); max. size 0.75", FILL.
									(1'- 5') WIDELY GRADED SAND WITH GRAVEL (SW-SM); dark brown.
▽	5							Env. Sample ID= GPEC-SB-216 (4-5)	
5									
		SC1	120/88	PID= 25.7					SC1 (7'- 17') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~35% fines, low plasticity, ~15% gravel, fine to coarse; slight tar-like odor, wet, brown, loose; sheen, tar coated grains.
				PID= 18.7				Env. Sample ID= GPEC-SB-216 (7-8)	
0	10			PID= 5.5					
				PID= 2.4			TLO		
				PID= 0.7					
-5	15			PID= 0.9					
		SC2	120/110	PID= 29.8					SC2 (17'- 25') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to medium, ~35% fines, low plasticity, ~15% gravel, fine to coarse; slight tar-like odor, wet, brown, loose; sheen, tar coated grains.
				PID= 28.2			TLO		
	20								

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BORING LOG

GPEC-SB-216

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-10	20			PID= 5.6					
				PID= 2.9			TLO		
				PID= 1.8					
				PID= 3.5					
-15	25			PID= 2.1			TLO		SC2 (25'- 26') WIDELY GRADED GRAVEL WITH SAND (GW); ~70% gravel, fine to coarse, ~25% sand, fine to medium, ~5% fines, non plastic; slight tar-like odor, brown, slight sheen.
		SC3	120/6	PID= 1.6				Driller indicated the majority of the sample slid out of the core barrel upon retrieval.	SC2 (26'- 27') NARROWLY GRADED GRAVEL (GP); ~90% gravel, coarse, ~5% sand, ~5% fines; wet, dark gray, loose; slight sheen. RIP RAP. SC3 (27'- 37') LARGE COBBLE; moderate tar-like odor, small amount of sand and gravel; petroleum sheen.
-20	30						TLO		
-25	35								
		SC4	120/120	PID= 0.0					SC4 (37'- 47') LEAN CLAY WITH SAND (CL); ~85% fines, medium plasticity, ~15% sand, fine; minor sand lenses, moist, olive gray, soft.
				PID= 0.0					
-30	40			PID= 0.0					
				PID= 0.0					

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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BORING LOG

GPEC-SB-216

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-35	45			PID= 0.0					
		SC5	120/110	PID= 0.0					SC5 (47'- 53.5') LEAN CLAY WITH SAND (CL); ~85% fines, medium plasticity, ~15% sand, fine; minor sand lenses, moist, olive gray, soft.
				PID= 0.0					
-40	50			PID= 0.0					
				PID= 0.0					
				PID= 0.0					SC5 (53.5'- 57') CLAYEY SAND (SC); ~70% sand, fine, ~30% fines, medium plasticity; moist, gray, loose.
-45	55			PID= 0.0					
		SC6	120/112	PID= 0.0					SC6 (57'- 65') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines; wet, brown, loose.
				PID= 0.0					
-50	60			PID= 0.0					
				PID= 0.0					
				PID= 0.0					SC6 (65'- 67') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% sand, fine to coarse, ~30% gravel, fine to coarse, ~10% fines; wet, brown, loose.
-55	65			PID= 0.0					
		SC7	120/98	PID= 0.0					SC7 (67'- 73.5') SILTY SAND WITH GRAVEL (SW); ~50% sand, fine to coarse, ~30% fines, non plastic, ~20% gravel, fine to coarse; wet, brown, loose.

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BORING LOG
PAGE 4 of 4
GPEC-SB-216

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
-60	70			PID= 0.0					
				PID= 0.0					
				PID= 0.0					SC7 (73.5'- 76') SANDY LEAN CLAY (CL); ~70% fines, plastic, ~30% sand, fine; moist, gray, stiff.
-65	75			PID= 0.0					SC7 (76'- 77') SILTY SAND WITH GRAVEL (SW); ~50% sand, fine to coarse, ~30% fines, non plastic, ~20% gravel, fine to coarse; wet, brown, loose.
		SC8	120/110	PID= 0.0					SC8 (77'- 87') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to medium, ~30% fines, plastic, ~20% gravel, fine to coarse; wet, grayish brown, loose, stiff clay interval 78.7-82.7'.
-70	80			PID= 0.0					
				PID= 0.0					
				PID= 0.0					
-75	85			PID= 0.0				Env. Sample ID= GPEC-SB-216 (86-87)	

End of Boring at 87 feet.
Grout to ground surface

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BORING LOG
PAGE 1 of 4
GPEC-SB-217/MW-217S/I/D

GROUND SURFACE ELEVATION (FT): 25.52
LOCATION: Northeast Part LNG Process Area
NORTHING (FT): 688824 **EASTING (FT):** 6500049
TOTAL DEPTH (FT): 87.0
DRILLED BY: Boart Longyear
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet
DATE START / END: 7/1/2012 - 7/1/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 47.00 ;
GENERAL NOTE: The elevation noted is measured at the plate

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
25	0		90/NM						(0'- 7') WIDELY GRADED SAND WITH GRAVEL (SW-SM); bricks and cobbles, light brown, FILL.	
20	5							Env. Sample ID= GPEC-SB-217 (6-7)		
		SC1	120/100	PID= 0.1					SC1 (7'- 11') CLAYEY SAND (SC); ~50% sand, fine, ~40% fines, low plasticity, ~10% gravel, fine to coarse; moderate tar-like odor, wet, brown, sheen.	
				PID= 0.0			TLO			
				PID= 5.0						
15	10			PID= 142				Env. Sample ID= GPEC-SB-217 (10-11)		
				PID= 49.5					SC1 (11'- 12') SILTY SAND (SM); ~80% sand, fine, ~20% fines; moist to wet, dark brown, tar coated grains, viscous.	
				PID= 12.9					SC1 (12'- 17') FAT CLAY (CH); ~100% fines, high plasticity; very moist, orange brown, hard.	
				PID= 34.1						
10	15			PID= 15.3						
				PID= 13.4						
		SC2	120/70	PID= 3.5					SC2 (17'- 25.6') SILTY SAND WITH GRAVEL (SM); ~40% sand, fine, ~30% gravel, fine to coarse, angular, ~30% fines; brown.	
				PID= 3.1						
	20									

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

BORING LOG

GPEC-SB-217/MW-217S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
5	20			PID= 4.9						
				PID= 5.2						
0	25			PID= 7.2					SC2 (25.6'- 37') WIDELY GRADED GRAVEL WITH SAND (GW); ~50% gravel, fine to coarse, ~50% sand, fine to coarse; max. size 4", wet, brown, loose.	
		SC3	120/81	PID= 27.3					SC3 (27'- 37') WIDELY GRADED GRAVEL WITH SAND (GW); ~50% gravel, fine to coarse, ~50% sand, fine to coarse; max. size 6", slight tar-like odor, moist to wet, brown.	
-5	30			PID= 4.1						
				PID= 6.4			TLO			
				PID= 2.7						
-10	35			PID= 1.8						
		SC4	120/120	PID= 0.4					SC4 (37'- 47') NARROWLY GRADED SAND WITH GRAVEL (SP); ~70% sand, medium, ~30% gravel, fine to coarse; moist to wet, brown, loose.	
				PID= 0.4						
	40			PID= 0.5						
-15				PID= 0.7						
				PID= 0.4						
				PID= 0.6						

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
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ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
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SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

GEI Consultants

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

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BORING LOG
PAGE 3 of 4
GPEC-SB-217/MW-217S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-20	45			PID= 0.5 PID= 0.4						
		SC5	120/90	PID= 0.4 PID= 0.3 PID= 0.3 PID= 0.4 PID= 0.3 PID= 0.3 PID= 0.3 PID= 0.4					SC5 (47'- 57') NARROWLY GRADED SAND WITH GRAVEL (SP); ~70% sand, fine to medium, ~30% gravel, fine to coarse; max. size 4", moist to wet, brown, loose.	
-25	50									
-30	55									
		SC6	120/90	PID= 0.9 PID= 0.6 PID= 0.2 PID= 0.3 PID= 0.4					SC6 (57'- 65') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, fine to coarse, ~25% gravel, fine to coarse, ~10% fines; layered silt lenses, moist to wet, brown.	
-35	60									
-40	65			PID= 0.6					SC6 (65'- 67') SILTY SAND (SM); ~80% sand, fine, ~20% fines, non plastic; wet, brown, loose.	
		SC7	120/102	PID= 0.2 PID= 0.2					SC7 (67'- 71.9') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine, ~10% fines; layered silt, max. size 1", wet, brown, loose.	

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

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GEI PROJECT NUMBER: 125180-1-1102

BORING LOG
PAGE 4 of 4
GPEC-SB-217/MW-217S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-45	70			PID= 0.1						
				PID= 0.0					SC7 (71.9'- 74.3') SILTY SAND (SM); ~70% sand, fine, ~30% fines, non plastic; moist, brown, loose.	
				PID= 0.0				Env. Sample ID= GPEC-SB-217 (74-75)		
-50	75			PID= 0.0					SC7 (74.3'- 77') FAT CLAY WITH GRAVEL (CH); ~85% fines, ~15% gravel, fine to coarse; mottled, gravel lenses, max. size 2", moist, dark gray, hard.	
		SC8	120/100	PID= 0.2					SC8 (77'- 87') FAT CLAY (CH); ~100% fines, high plasticity, high dry strength; moist, gray to black, hard, organic rich layer with fissile texture.	
				PID= 0.0						
	80			PID= 0.0						
-55				PID= 0.0						
				PID= 0.2						
				PID= 0.2						
				PID= 0.1						
	85								End of Boring at 87 feet.	
-60				PID= 0.1				Env. Sample ID= GPEC-SB-217 (86-87)	Grout to ground surface	

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

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GEI PROJECT NUMBER: 125180-1-1102

BORING LOG

PAGE 1 of 5

GPEC-SB-218/MW-218I/D

GROUND SURFACE ELEVATION (FT): 54.77 **LOCATION:** Next to Lombardy Avenue
NORTHING (FT): 688790 **EASTING (FT):** 649214 **TOTAL DEPTH (FT):** 117.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 6/30/2012 - 6/30/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: The elevation noted is measured at the riser

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0		96/NM				(0'- 7') WIDELY GRADED SAND WITH SILT (SW-SM); light brown.	
50	5					Env. Sample ID= GPEC-SB-218 (6-7)		
		SC1	120/115	PID= NM			SC1 (7'- 11.2') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; dry, brown, loose.	
45	10						SC1 (11.2'- 17') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, ~10% fines; moist, brown, loose.	
40	15	SC2	120/60	PID= 1.8			SC2 (17'- 27') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, rounded, ~5% fines; dry, brown, loose.	
35	20			PID= 0.0				

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_5/29/13

GEI Consultants

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

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BORING LOG

GPEC-SB-218/MW-218I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	20			PID= 0.0				
				PID= 0.0				
30	25			PID= 0.0				
		SC3	120/75	PID= 0.0			SC3 (27'- 37') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, fine to coarse, ~15% gravel, fine to coarse, rounded, ~10% fines; dry to moist, brown.	
25	30			PID= 0.0				
				PID= 0.0				
				PID= 0.0				
20	35			PID= 0.0				
		SC4	120/80	PID= NM		Difficult drilling.	SC4 (37'- 47') SILTY SAND WITH GRAVEL (SM); ~65% sand, fine to coarse, ~20% fines, ~15% gravel, fine to coarse; silty pulverized rock, dry to moist, brown, loose.	
15	40							

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(860) 368-5300

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BORING LOG

GPEC-SB-218/MW-218I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
10	45							
		SC5	120/80	PID= 0.0			SC5 (47'- 57') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, ~10% fines; wet, brown, loose.	
				PID= 0.0				
5	50			PID= 0.0		Env. Sample ID= GPEC-SB-218 (50-51)		
				PID= 0.0				
0	55			PID= 0.0				
		SC6	120/108	PID= 0.0			SC6 (57'- 67') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, rounded, ~10% fines; wet, brown, loose.	
				PID= 0.1				
-5	60			PID= 0.2				
				PID= 0.0				
				PID= 0.3				
-10	65			PID= 0.0				
		SC7	120/88	PID= 0.0			SC7 (67'- 77') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~5% gravel, fine, rounded, ~5% fines; wet, brown, loose.	

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Q_P = POCKET PENETROMETER IN TSF
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BORING LOG

GPEC-SB-218/MW-218I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-15	70			PID= 0.7				
				PID= 0.3				
				PID= 0.1				
-20	75			PID= 0.2				
		SC8	120/120	PID= 0.3			SC8 (77'- 87') NARROWLY GRADED SAND (SP); ~90% sand, medium, ~5% gravel, fine, ~5% fines; wet, brown, loose.	
				PID= 0.3				
-25	80			PID= 0.3				
				PID= 0.5				
-30	85			PID= 0.3				
		SC9	120/120	PID= 1.4			SC9 (87'- 96.5') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, medium, ~15% gravel, fine to coarse, ~10% fines; wet, brown orange, loose.	
-35	90			PID= 0.4				
				PID= 0.4				
				PID= 0.4				

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Glastonbury, CT 06033
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GEI PROJECT NUMBER: 125180-1-1102

BORING LOG

PAGE 5 of 5

GPEC-SB-218/MW-218I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-40	95			PID= 0.4 PID= 0.4			SC9 (96.5'- 97') WIDELY GRADED SAND WITH GRAVEL (SW); fine to coarse, fine to coarse; cobbles, max. size 4", dark brown, loose. SC10 (97'- 104.5') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine, ~30% gravel, fine to coarse, ~15% fines; wet, orange brown, medium dense.	
		SC10	120/24	PID= 1.4				
-45	100			PID= 0.5				
				PID= 0.6				
-50	105						SC10 (104.5'- 107') LEAN CLAY (CL); ~100% fines, moderate; moist to wet, gray, stiff to hard.	
		SC11	120/120	PID= 0.0			SC11 (107'- 117') FAT CLAY (CH); ~100% fines, high plasticity; mottled, layered, saprolite, mica, moist, dark gray to black, hard.	
-55	110			PID= 0.0				
				PID= 0.0				
-60	115					Env. Sample ID= GPEC-SB-218 (116-117)		

End of Boring at 117 feet.
Grout to ground surface

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BORING LOG

PAGE 1 of 6

GPEC-SB-219/MW-219S/I/D

GROUND SURFACE ELEVATION (FT): 43.19 **LOCATION:** Tank Farm
NORTHING (FT): 688284 **EASTING (FT):** 648863 **TOTAL DEPTH (FT):** 133.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 6/28/2012 - 6/28/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT):
GENERAL NOTE: The elevation noted is measured at the riser

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0		84/NM					(0'- 7') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); brown, FILL.	
40				PID= 0.0					
	5								
		SC1	120/120	PID= 0.3				SC1 (7'- 10.6') SANDY SILT WITH GRAVEL (ML); ~50% fines, ~25% gravel, fine to coarse, ~25% sand, fine to coarse; cobbles, max. size 6", moist to wet, reddish brown, FILL.	
35				PID= 5.1					
	10			PID= 9.8				SC1 (10.6'- 17') SILTY GRAVEL WITH SAND (GM); ~50% gravel, fine to coarse, ~30% fines, ~20% sand, fine to coarse; cobbles, max. size >6", light.	
30				PID= 0.0					
				PID= 0.0					
	15			PID= 0.0					
		SC2	120/84	PID= NM				SC2 (17'- 26.2') SILTY GRAVEL WITH SAND (GM); ~60% gravel, fine to coarse, ~20% sand, fine to coarse, ~20% fines; cobbles, max. size >6", moist, tan.	
25									
	20								

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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 2 of 6

GPEC-SB-219/MW-219S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
20	20								
	25							SC2 (26.2'- 27') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse; moist, red brown, loose. SC3 (27'- 37') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine to coarse, ~5% fines; moist, orange brown, loose.	
15		SC3	120/52	PID= NM					
	30								
10									
	35								
5		SC4	120/95	PID= 0.7				SC4 (37'- 42.9') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; moist to wet, brown.	
	40			PID= 0.4					
				PID= 0.2					
0								SC4 (42.9'- 47') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, fine to medium, ~15% gravel, fine, ~5% fines; moist to wet, brown.	

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

NA = NOT APPLICABLE
NM = NOT MEASURED

Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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-SB-219/MW-219S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	45			PID= 0.5					
		SC5	120/90	PID= 2.4				SC5 (47'- 51.7') NARROWLY GRADED SAND (SP); ~100% sand, medium; moist to wet, brown, loose.	
-5				PID= 1.5					
	50			PID= 1.4			Env. Sample ID= GPEC-SB-219 (50-51)		
								SC5 (51.7'- 57') WIDELY GRADED SAND (SW); ~100% sand, fine to coarse; moist to wet, brown, wet at 80" (~55.9').	
-10				PID= 1.1					
	55			PID= 0.6					
		SC6	120/108	PID= 1.0				SC6 (57'- 67') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse; wet, brown, loose.	
-15				PID= 1.4					
	60			PID= 1.1					
				PID= 0.6					
				PID= 0.6					
-20				PID= 0.6					
	65			PID= 0.5					
				PID= 0.4					
		SC7	120/93	PID= NM				SC7 (67'- 77') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium to coarse, ~15% gravel, fine to coarse; wet, brown.	
-25									

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FT. = FEET
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Glastonbury, CT 06033
(860) 368-5300

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BORING LOG

GPEC-SB-219/MW-219S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	70								
-30									
	75								
		SC8	120/120	PID= 0.0				SC8 (77'- 87') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, fine, ~15% gravel, fine; wet, brown, loose.	
-35				PID= 0.0					
	80			PID= 0.0					
-40				PID= 0.0					
	85			PID= 0.0					
		SC9	120/93	PID= 0.0				SC9 (87'- 93') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% sand, fine, ~10% gravel, fine, ~10% fines; brown.	
-45				PID= 0.0					
	90			PID= 0.0					
-50				PID= 0.0		MLO		SC9 (93'- 97') WIDELY GRADED SAND WITH GRAVEL	

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GPEC_ENVIRONMENTAL BORING LOG GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

GEI Consultants, Inc.
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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 5 of 6

GPEC-SB-219/MW-219S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	95			PID= 0.0		MLO		(SW); ~100% sand, fine to coarse; mottled, moderate musty-like odor, wet, orange brown, oxidation.	
-55		SC10	120/120	PID= 4.8				SC10 (97'- 97.5') SANDY SILT (ML); ~50% sand, fine, ~50% fines; dark gray tan. SC10 (97.5'- 107') FAT CLAY (CH); ~100% fines, plastic; dark gray, very stiff to hard.	
	100			PID= 0.0					
				PID= 0.0					
-60				PID= 0.0					
	105			PID= 0.0					
		SC11	120/120	PID= 0.5				SC11 (107'- 116') FAT CLAY (CH); ~100% fines, plastic; dark gray, very stiff to hard.	
-65				PID= 0.7					
	110			PID= 0.5					
				PID= 0.3					
-70				PID= 0.4					
				PID= 0.3					
	115			PID= 0.4				SC11 (116'- 117') SANDY CLAY (CL); ~50% sand, fine, ~50% fines, non plastic; wet, dark gray.	
		SC12	120/120	PID= 0.8				SC12 (117'- 127') FAT CLAY (CH); ~100% fines, plastic; mottled, gray to gray red tan, hard, oxidation.	

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT_5/29/13

GEI Consultants

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455 Winding Brook Road
Glastonbury, CT 06033
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BORING LOG

GPEC-SB-219/MW-219S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	120			PID= 1.9					
				PID= 2.6					
				PID= 0.5					
-80				PID= 1.4					
				PID= 0.5					
	125			PID= 0.6					
		SC13	72/72	PID= 0.5				SC13 (127'- 133') FAT CLAY (CH); ~100% fines, plastic; mottled, red orange gray, hard.	
-85				PID= 0.4					
				PID= 0.3			Env. Sample ID= GPEC-SB-219 (129-130)		
	130			PID= 0.8					
				PID= 0.7					
								End of Boring at 133 feet. Grout to ground surface	

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

GEI Consultants, Inc.
455 Winding Brook Road
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GEI PROJECT NUMBER: 125180-1-1102

BORING LOG
PAGE 1 of 5
GPEC-SB-220/MW-220S/I/D

GROUND SURFACE ELEVATION (FT): 25.56 **LOCATION:** Meter Building Parking Lot
NORTHING (FT): 687493 **EASTING (FT):** 648659 **TOTAL DEPTH (FT):** 97.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/13/2012 - 7/13/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 17.00 ;
GENERAL NOTE: The elevation noted is measured at the plate

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
25	0		96/NM				(0'- 0.5') ASPHALT; FILL. (0.5'- 2') NARROWLY GRADED SAND (SP); sand, medium, brick fragments, moist, brown, FILL.	
							(2'- 3') NARROWLY GRADED SAND (SP); sand, medium, with pebbles, some silt, dark brown - gray, FILL. (3'- 7') SILTY SAND (SM); ~5% pebbles, dark brown, FILL.	
20	5					Env. Sample ID= GPEC-SB-220 (5-5.5) Env. Sample ID= GPEC-SB-220 (6-7)		
		SC1	60/54	PID= 0.8			SC1 (7'- 12') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~75% sand, fine, ~15% gravel, fine to coarse, ~10% fines; max. size 4", dry, orange brown, FILL.	
				PID= 1.9				
15	10			PID= 3.3				
		SC2	60/60	PID= 4.9			SC2 (12'- 17') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine, ~20% gravel, fine to coarse, ~20% fines; moist, orange brown, loose.	
				PID= 0.0				
	15			PID= 2.5				
10				PID= 0.7				
▽		SC3	120/100	PID= 14.4		Env. Sample ID= GPEC-SB-220 (17-18)	SC3 (17'- 18.2') SILTY SAND WITH GRAVEL (SM); ~55% sand, fine, ~25% gravel, fine to coarse, ~20% fines; wet, orange brown, loose.	
				PID= 5.3			SC3 (18.2'- 23.4') SANDY LEAN CLAY WITH GRAVEL (CL); ~50% fines, plastic, ~30% sand, fine, ~20% gravel, fine to coarse; moist, brown, stiff to hard.	
	20							

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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

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GEI PROJECT NUMBER:	125180-1-1102

BORING LOG

PAGE 2 of 5

GPEC-SB-220/MW-220S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
5	20			PID= 0.5				
				PID= 0.5			SC3 (23.4'- 27') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~50% gravel, fine to coarse, ~40% sand, fine to coarse, ~10% fines; moist to wet, brown, loose.	
0	25			PID= 0.2				
		SC4	120/70	PID= 0.0			SC4 (27'- 37') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, ~10% fines; max. size 5", wet, orange brown, loose.	
				PID= 0.0				
-5	30			PID= 0.0				
				PID= 0.0				
				PID= 0.0				
				PID= 0.0				
-10	35			PID= 0.0				
		SC5	120/120	PID= 0.0			SC5 (37'- 47') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% sand, fine to coarse, ~20% gravel, fine to coarse, ~10% fines; max. size 5", wet, brown, loose.	
				PID= 0.0				
-15	40			PID= 0.0				
				PID= 0.0				
				PID= 0.0				

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ_ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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455 Winding Brook Road
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BORING LOG

PAGE 3 of 5

GPEC-SB-220/MW-220S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-20	45			PID= 0.0				
		SC6	120/48	PID= 0.0			SC6 (47'- 52') NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% sand, medium, ~15% gravel, fine to coarse, ~5% fines; max. size 1", wet, brown, loose.	
				PID= 5.8				
	50							
-25				PID= 4.1				
				PID= 5.6			SC6 (52'- 57') NO RECOVERY; bottom 5' fell out of core barrel.	
				PID= 5.6				
	55							
-30				PID= 3.7				
		SC7	120/115	PID= 0.0			SC7 (57'- 67') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse; max. size 1", wet, brown, loose.	
				PID= 0.1				
	60			PID= 0.2				
-35								
				PID= 0.4				
				PID= 0.1				
				PID= 0.2				
	65							
-40				PID= 0.1				
		SC8	120/82	PID= 0.2			SC7 (67'- 73.7') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse; max. size 1", wet, brown, loose.	
				PID= 0.0				

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BORING LOG

GPEC-SB-220/MW-220S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-45	70			PID= 0.0				
				PID= 0.0				
				PID= 0.0			SC7 (73.7'- 77') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% sand, medium, ~10% fines, ~5% gravel, fine to coarse; wet, orange brown, loose, oxidation.	
-50	75			PID= 0.0				
		SC9	120/120	PID= 0.0			SC8 (77'- 79') NARROWLY GRADED SAND (SP); wet, orange brown, loose.	
				PID= 0.0			SC8 (79'- 87') FAT CLAY (CH); ~95% fines, high plasticity, high dry strength; ~5% organics (shell fragments), moist, gray, hard.	
-55	80			PID= 0.0				
				PID= 0.0				
				PID= 0.0				
-60	85			PID= 0.0				
		SC10	120/98	PID= 0.0			SC9 (87'- 95.2') FAT CLAY (CH); ~100% fines, high plasticity, high dry strength; moist, gray, hard.	
				PID= 0.0				
-65	90			PID= 0.0				
				PID= 0.0				

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BORING LOG

GPEC-SB-220/MW-220S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-70	95			PID= 0.0 PID= 0.0		Env. Sample ID= GPEC-SB-220 (96-97)	SC10 (95.2'- 97') LEAN CLAY WITH SAND (CL); ~75% fines, ~25% sand, fine to coarse; layered, wet, gray, soft, medium stiff.	

End of Boring at 97 feet.
Grout to Ground Surface

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BORING LOG
PAGE 1 of 5
GPEC-SB-221/MW-221S/I/D

GROUND SURFACE ELEVATION (FT): 18.35 **LOCATION:** Storage Building
NORTHING (FT): 687635 **EASTING (FT):** 649585 **TOTAL DEPTH (FT):** 95.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 7/12/2012 - 7/12/2012
DRILLING DETAILS: Sonic Coring / Prosonic M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 5.75 ;
GENERAL NOTE: The elevation noted is measured at the plate

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
15	0		96/NM				Env. Sample ID= GPEC-SB-221 (2-2.5)	(0'- 0.5') ASPHALT; FILL. (0.5'- 2.5') WIDELY GRADED SAND (SW); slag pieces, brown, FILL.
								(2.5'- 7') FILL; whiteish gray, soft, mendable bentonite-like material. Note: Ken Nelsen thinks it was applied to prevent from sink hole formation frequently occuring in this area.
5	10	SC1	120/72	PID= 0.4				SC1 (7'- 8.9') ASPHALT; and gravel. FILL.
				PID= 1.9				SC1 (8.9'- 13.9') LEAN CLAY (CL); ~90% fines, ~10% gravel, fine to coarse; mottled, moderate sulfur-like odor, wet, gray white tan, soft. FILL.
				PID= 0.7		SLO		
				PID= 5.7				
				PID= 5.3				SC1 (13.9'- 17') WIDELY GRADED GRAVEL WITH SAND (GW); ~80% gravel, fine to coarse, angular, ~20% sand, fine to coarse; moderate sulfur-like odor, wet, loose.
0	15			PID= 35.7		SLO	Env. Sample ID= GPEC-SB-221 (16-17)	
		SC2	120/120	PID= 332				SC2 (17'- 25.6') PEAT (PT); ~80% fines, plastic; ~20% organic material, strong sulfur-like odor, moist, dark gray brown.
				PID= 450		SLO		
				PID= 879				
	20			PID= 1075				

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

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-SB-221/MW-221S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
	20			PID= 846				
				PID= 668				
				PID= 491		SLO	Env. Sample ID= GPEC-SB-221 (23-24)	
-5				PID= 269				
				PID= 1052				
	25			PID= 371				
				PID= 309		SLO		SC2 (25.6'- 27') ORGANIC SOIL (OL); low plasticity; strong sulfur-like odor, moist, dark brown, soft, crumbles.
		SC3	120/120	PID= 563				SC3 (27'- 32.7') SILTY SAND (SM); ~60% sand, fine, ~40% fines, low plasticity; moderate sulfur-like odor, wet, gray, soft.
-10				PID= 592				
	30			PID= 54.1		SLO		
				PID= 4.9				
-15				PID= 2.3				SC3 (32.7'- 37') FAT CLAY (CH); ~90% fines, high plasticity, ~10% sand, fine; gray orange, stiff to hard.
	35			PID= 1.4				
		SC4	120/110	PID= 0.9				SC4 (37'- 47') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; wet, brown, loose.
-20				PID= 1.2				
	40			PID= 2.6				
				PID= 1.5				
-25				PID= 1.1				

WELL DETAILS

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BORING LOG

GPEC-SB-221/MW-221S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	45			PID= 1.0					
		SC5	120/94	PID= 3.2				SC5 (47'- 55.2') SILTY SAND (SM); ~80% sand, fine, ~20% fines; moist, light brown, loose.	
-30				PID= 1.1					
	50			PID= 0.9					
				PID= 1.0					
-35				PID= 1.0					
	55			PID= 1.4				SC5 (55.2'- 57') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~25% gravel, fine to coarse; wet, brown, loose.	
		SC6	120/102	PID= 0.6				SC6 (57'- 60.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~30% gravel, fine to coarse; brown.	
-40				PID= 0.8					
	60							SC6 (60.3'- 67') SILTY SAND WITH GRAVEL (SM); ~70% sand, fine, ~15% gravel, fine to coarse, ~15% fines, non plastic; wet, light brown, soft.	
				PID= 0.7					
-45				PID= 0.5					
	65			PID= 0.6					
		SC7	120/92	PID= 0.7				SC7 (67'- 77') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine, ~20% gravel, fine to coarse, subangular, ~20% fines, non plastic; wet, light brown, soft.	
-50									

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BORING LOG
PAGE 4 of 5
GPEC-SB-221/MW-221S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	70			PID= 0.6					
				PID= 0.4					
-55				PID= 0.1					
	75			PID= 0.2					
		SC8	120/120	PID= 0.1				SC8 (77'- 84.5') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine, ~20% gravel, fine to coarse, ~20% fines; wet, light brown, soft.	
-60				PID= 0.2					
	80			PID= 0.2					
-65									
	85			PID= 0.1				SC8 (84.5'- 87') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to coarse, ~35% fines, ~15% gravel, fine to coarse; mottled, wet, orange brown, stiff, oxidation.	
		SC9	96/90	PID= 0.4				SC9 (87'- 91.3') WIDELY GRADED SAND WITH GRAVEL (SW); wet, brown, loose.	
-70							Env. Sample ID= GPEC-SB-221 (89-90)		
	90			PID= 0.3					
				PID= 0.4				SC9 (91.3'- 95') FAT CLAY (CH); ~100% fines; trace gravel, gray, hard, micaceous, saprolite.	
-75									

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BORING LOG

GPEC-SB-221/MW-221S/I/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	95							End of Boring at 95 feet. Grout to ground surface	

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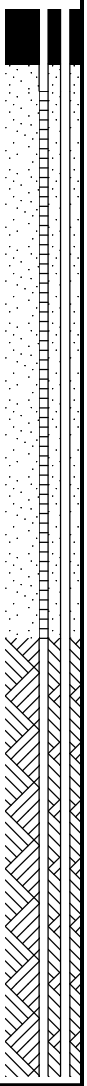
BORING LOG
PAGE 1 of 5
GPEC-SB-222/MW-222S/D

GROUND SURFACE ELEVATION (FT): 17.46
LOCATION: South Maspeth Holder
NORTHING (FT): 686986 **EASTING (FT):** 649226
TOTAL DEPTH (FT): 100.0
DRILLED BY: Boart Longyear
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet
DATE START / END: 6/29/2012 - 6/29/2012
DRILLING DETAILS: Sonic Coring / Prosonc M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 5.50 ;
GENERAL NOTE: The elevation noted is measured at the plate

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
15	0		96/NM	PID= 1.6					(0'- 1') CONCRETE (SW); slab and rubble. FILL. (1'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); wet, black / gray, FILL.
	5						PLO		(3'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); slight petroleum-like odor, wet, black / gray, FILL.
10		SC1	120/48	PID= 5.8					SC1 (7'- 17') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, low plasticity, ~20% gravel, fine to coarse; moderate tar-like odor, wet, black green, staining, sheen. FILL.
5	10			PID= 35.0					
				PID= 24.3			TLO		
	15			PID= 5.6					
0				PID= 5.4					
		SC2	120/120	PID= 0.0					SC2 (17'- 18.5') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to coarse, ~30% fines, plastic, ~20% gravel, fine to coarse; moderate tar-like odor, wet, black, soft; sheen.
				PID= 7.6			TLO	Env. Sample ID= GPEC-SB-222 (18-19)	
	20			PID= 0.0					SC2 (18.5'- 21') PEAT (PT); ~100% fines, plastic; organic rich, dark gray brown, soft.

WELL DETAILS



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BORING LOG

GPEC-SB-222/MW-222S/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	20			PID= 0.0						
				PID= 0.0					SC2 (21'- 27') LEAN CLAY (CL); ~100% fines, medium plasticity; shell fragments, moderate organic-like odor, moist to very moist, dark gray, soft.	
-5				PID= 0.0						
				PID= 6.4			OLO			
	25			PID= 79.3						
				PID= 161						
-10		SC3	120/120	PID= 375			OLO		SC3 (27'- 29') FAT CLAY (CH); ~90% fines, high plasticity; ~10% organics, moderate organic-like odor, dark gray, soft to medium stiff.	
				PID= 164						
								Env. Sample ID= GPEC-SB-222 (29-30)	SC3 (29'- 30') PEAT (PT); organic soil, dark brown.	
	30			PID= 183					SC3 (30'- 37') CLAYEY SAND (SC); ~50% sand, fine, ~45% fines, low plasticity; ~5% organics, moderate organic-like odor, moderate sulfur-like odor, moist to wet, dark gray, soft.	
				PID= 9.0						
-15				PID= 0.0			OLO			
				PID= 0.0						
	35			PID= 0.0						
-20		SC4	120/120	PID= 0.0					SC4 (37'- 47') FAT CLAY (CH); ~100% fines, high plasticity; very moist, light gray, stiff to hard.	
				PID= 0.0						
	40			PID= 0.0						
				PID= 0.0						
-25				PID= 0.0						

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BORING LOG

GPEC-SB-222/MW-222S/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	45			PID= 0.0						
-30		SC5	120/120	PID= 0.0					SC5 (47'- 57') FAT CLAY (CH); ~100% fines, high plasticity; some silt layering, very moist, light gray, stiff to hard.	
	50			PID= 0.0						
				PID= 0.0						
-35				PID= 0.0						
	55			PID= 0.0						
-40		SC6	144/102	PID= 0.0					SC6 (57'- 62.1') FAT CLAY (CH); ~100% fines, high plasticity; moist to wet, light gray, stiff.	
				PID= 0.0						
	60			PID= 0.0						
-45				PID= 0.0					SC6 (62.1'- 69') SANDY LEAN CLAY (CL); ~60% fines, low plasticity, ~40% sand, fine to coarse; interbedded clays and sands, wet, light gray brown, soft to loose.	
	65			PID= 0.0						
-50				PID= 0.0						

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GEI Consultants, Inc.
455 Winding Brook Road
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BORING LOG

PAGE 4 of 5

GPEC-SB-222/MW-222S/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	70	SC7	120/120	PID= 0.0					SC7 (70'- 76.7') CLAYEY SAND (SC); ~50% sand, fine, ~40% fines, low plasticity, ~10% gravel; wet, light gray brown, medium stiffness, dense.	
-55				PID= 0.0						
				PID= 0.0						
	75			PID= 0.0						
-60									SC7 (76.7'- 77.7') NARROWLY GRADED SAND (SP); orange brown, loose.	
				PID= 0.0					SC7 (77.7'- 80') LEAN CLAY (CL); organic soil, moist to wet, dark brown, hard, brittle.	
	80	SC8	120/120	PID= 0.0					SC8 (80'- 81.2') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium, ~15% gravel, fine to coarse; max. size 2", wet, orange brown, loose.	
-65				PID= 0.0			OLO		SC8 (81.2'- 83.2') LEAN CLAY (CL); ~100% fines, low plasticity; organic rich, moderate organic-like odor, moderate sulfur-like odor, black.	
				PID= 0.0					SC8 (83.2'- 90') LEAN CLAY (CL); ~100% fines, low plasticity; mica rich, weathered schist, gray, stiff, possibly saprolite.	
	85			PID= 0.0						
-70				PID= 0.0						
	90	SC9	120/120	PID= 0.0					SC9 (90'- 100') FAT CLAY (CH); ~100% fines, high plasticity; mica flakes, weathered schist, gray, hard, possibly saprolite.	
-75				PID= 0.0						

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BORING LOG

GPEC-SB-222/MW-222S/D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
-80	95			PID= 0.0 PID= 0.0				Env. Sample ID= GPEC-SB-222 (98-99)	End of Boring at 100 feet. Grout to ground surface	
	100									

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GPEC_ENVIRONMENTAL BORING LOG_GREENPOINT BORINGS_GEI 05-54-13.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 5/29/13

GEI Consultants

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

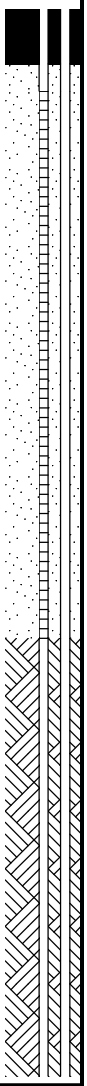
CLIENT: National Grid
PROJECT: Greenpoint Energy Center
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-1-1102

BORING LOG
PAGE 1 of 5
GPEC-SB-222S/D

GROUND SURFACE ELEVATION (FT): 17.46 **LOCATION:** South Maspeth Holder
NORTHING (FT): 686986 **EASTING (FT):** 649226 **TOTAL DEPTH (FT):** 100.0
DRILLED BY: Boart Longyear **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY East Zone
LOGGED BY: M. Sweet **DATE START / END:** 6/29/2012 - 6/29/2012
DRILLING DETAILS: Sonic Coring / Prosonc M300 Truck Mounted
WATER LEVEL DEPTHS (FT): ▽ 5.50 ;
GENERAL NOTE: The elevation noted is measured at the plate

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
15	0		96/NM	PID= 1.6					(0'- 1') CONCRETE (SW); slab and rubble. FILL. (1'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); wet, black / gray, FILL.
	5						PLO		(3'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); slight petroleum-like odor, wet, black / gray, FILL.
10		SC1	120/48	PID= 5.8					SC1 (7'- 17') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, low plasticity, ~20% gravel, fine to coarse; moderate tar-like odor, wet, black green, staining, sheen. FILL.
5	10			PID= 35.0					
				PID= 24.3			TLO		
	15			PID= 5.6					
0				PID= 5.4					
		SC2	120/120	PID= 0.0					SC2 (17'- 18.5') CLAYEY SAND WITH GRAVEL (SC); ~50% sand, fine to coarse, ~30% fines, plastic, ~20% gravel, fine to coarse; moderate tar-like odor, wet, black, soft; sheen.
	20			PID= 7.6			TLO	Env. Sample ID= GPEC-SB-222 (18-19)	
				PID= 0.0					SC2 (18.5'- 21') PEAT (PT); ~100% fines, plastic; organic rich, dark gray brown, soft.

WELL DETAILS



NOTES:

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	20			PID= 0.0						
				PID= 0.0					SC2 (21'- 27') LEAN CLAY (CL); ~100% fines, medium plasticity; shell fragments, moderate organic-like odor, moist to very moist, dark gray, soft.	
-5				PID= 0.0						
				PID= 6.4			OLO			
	25			PID= 79.3						
				PID= 161						
-10		SC3	120/120	PID= 375			OLO		SC3 (27'- 29') FAT CLAY (CH); ~90% fines, high plasticity; ~10% organics, moderate organic-like odor, dark gray, soft to medium stiff.	
				PID= 164						
								Env. Sample ID= GPEC-SB-222 (29-30)	SC3 (29'- 30') PEAT (PT); organic soil, dark brown.	
	30			PID= 183					SC3 (30'- 37') CLAYEY SAND (SC); ~50% sand, fine, ~45% fines, low plasticity; ~5% organics, moderate organic-like odor, moderate sulfur-like odor, moist to wet, dark gray, soft.	
				PID= 9.0						
-15				PID= 0.0			OLO			
				PID= 0.0						
	35			PID= 0.0						
-20		SC4	120/120	PID= 0.0					SC4 (37'- 47') FAT CLAY (CH); ~100% fines, high plasticity; very moist, light gray, stiff to hard.	
				PID= 0.0						
	40			PID= 0.0						
				PID= 0.0						
-25				PID= 0.0						

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	45			PID= 0.0						
-30		SC5	120/120	PID= 0.0					SC5 (47'- 57') FAT CLAY (CH); ~100% fines, high plasticity; some silt layering, very moist, light gray, stiff to hard.	
	50			PID= 0.0						
				PID= 0.0						
-35				PID= 0.0						
	55			PID= 0.0						
-40		SC6	144/102	PID= 0.0					SC6 (57'- 62.1') FAT CLAY (CH); ~100% fines, high plasticity; moist to wet, light gray, stiff.	
				PID= 0.0						
	60			PID= 0.0						
-45				PID= 0.0					SC6 (62.1'- 69') SANDY LEAN CLAY (CL); ~60% fines, low plasticity, ~40% sand, fine to coarse; interbedded clays and sands, wet, light gray brown, soft to loose.	
				PID= 0.0						
	65			PID= 0.0						
-50				PID= 0.0						

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	70	SC7	120/120	PID= 0.0					SC7 (70'- 76.7') CLAYEY SAND (SC); ~50% sand, fine, ~40% fines, low plasticity, ~10% gravel; wet, light gray brown, medium stiffness, dense.	
-55				PID= 0.0						
				PID= 0.0						
	75									
				PID= 0.0						
-60									SC7 (76.7'- 77.7') NARROWLY GRADED SAND (SP); orange brown, loose.	
				PID= 0.0					SC7 (77.7'- 80') LEAN CLAY (CL); organic soil, moist to wet, dark brown, hard, brittle.	
	80	SC8	120/120	PID= 0.0					SC8 (80'- 81.2') NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% sand, medium, ~15% gravel, fine to coarse; max. size 2", wet, orange brown, loose.	
-65				PID= 0.0			OLO		SC8 (81.2'- 83.2') LEAN CLAY (CL); ~100% fines, low plasticity; organic rich, moderate organic-like odor, moderate sulfur-like odor, black.	
				PID= 0.0					SC8 (83.2'- 90') LEAN CLAY (CL); ~100% fines, low plasticity; mica rich, weathered schist, gray, stiff, possibly saprolite.	
	85									
				PID= 0.0						
-70										
				PID= 0.0						
	90	SC9	120/120	PID= 0.0					SC9 (90'- 100') FAT CLAY (CH); ~100% fines, high plasticity; mica flakes, weathered schist, gray, hard, possibly saprolite.	
-75				PID= 0.0						

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-80	95			PID= 0.0 PID= 0.0				Env. Sample ID= GPEC-SB-222 (98-99)	End of Boring at 100 feet. Grout to ground surface	
	100									

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