NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau C
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December 3, 2020

Mrs. Reeti Doshi
Lead Project Manager – Downstate New York
Site Investigation and Remediation
National Grid
One Metrotech Center, 14th Floor
Brooklyn, NY 11201

Re: Ballfield Underground Storage Tank Investigation Summary Report
Greenpoint Energy Center Former MGP
Site #224052

Dear Mrs. Doshi:

The New York State Department of Environmental Conservation (the "Department") and the New York State Department of Health (NYSDOH) have reviewed the Ballfield Underground Storage Tank (UST) Investigation Summary Report submitted for the Greenpoint Energy Center (GPEC) Former Manufactured Gas Plant (MGP) site (the "Site) located at 287 Maspeth Avenue in Brooklyn, New York, submitted by GEI Consultants, Inc. on behalf of National Grid, dated November 20, 2020. The Report is hereby approved. The Department awaits National Grid's UST removal work plan.

If you have any questions, please feel free to contact me at 518-402-2029 or email: greta.white@dec.ny.gov.

Sincerely,

Greta White, P.G.
Project Manager
Remedial Action Bureau C
Division of Environmental Remediation

EC: C. Morris, GEI
D. Eaton, J. Brown & E. Kim, NYSDEC
S. Surani & S. McLaughlin, NYSDOH

RE: Review -- Greenpoint MGP -- 224052 -- Ballfield UST Invest Summ Rep

Surani, Shaun J (HEALTH) <Shaun.Surani@health.ny.gov>

Tue 11/24/2020 1:19 PM

To: White, Greta L (DEC) <Greta.White@dec.ny.gov>
Cc: McLaughlin, Scarlett E (HEALTH) <scarlett.mclaughlin@health.ny.gov>

Hi Greta,

I have reviewed the referenced report and I have no health related comments or concerns.

Thank You,

Shaun J Surani
Bureau of Environmental Exposure Investigation
New York State Department of Health
Empire State Plaza
Corning Tower, Room 1787
Albany, New York, 12237
518-402-7866

From: White, Greta L (DEC) <Greta.White@dec.ny.gov>
Sent: Friday, November 20, 2020 1:40 PM
To: Surani, Shaun J (HEALTH) <Shaun.Surani@health.ny.gov>
Subject: Review -- Greenpoint MGP -- 224052 -- Ballfield UST Invest Summ Rep

Hi Shaun!

We just received the attached report for the Greenpoint site. Please let me know any comments you have or if you have none.

Thanks and have a great weekend,
Greta

Greta White, P.G.

Assistant Geologist, Division of Environmental Remediation

New York State Department of Environmental Conservation

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Reeti Doshi
Program Manager
Site Investigation & Remediation

nationalgrid

November 20, 2020

Ms. Greta White P.G.
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7014

Ballfield Underground Storage Tank Investigation Summary Report
Greenpoint Energy Center Former Manufactured Gas Plant
287 Maspeth Avenue, Brooklyn, New York
Order on Consent Index No. A2-0552-0606

Dear Ms. White:

National Grid is submitting this summary report of the investigation of underground storage tanks (USTs) in the former ballfield area at the Greenpoint Former Manufactured Gas Plant (MGP) site (the Site). The investigation was conducted to evaluate the presence and extent of contamination and to determine the appropriate closure method prior to a planned Gas Operations facilities upgrade in the vicinity of the UST area. The investigation was conducted in accordance with the NYSDEC approved UST Investigation Work Plan dated February 12, 2020. National Grid intends to complete the closure of the USTs during the upcoming winter.

Background

Seven USTs were identified in the former ball field area along the western boundary of the Site during the remedial investigation (RI) as shown on **Figure 1**. The USTs are believed to be associated with the Aetna Varnish Company (Aetna) that was previously located in the area of the Site prior to acquisition of the property and development of the Greenpoint Energy Center by Brooklyn Union Gas (predecessor of National Grid). The USTs are not related to former MGP operations.

Test pits GPEC-TPUST1 and GPEC-TPUST2 were excavated in 2014 during the RI. Four of the USTs were listed as turpentine tanks on the 1933 Sanborn Fire Insurance (Sanborn) map of the area. Four valve ports on each end of the USTs (total of eight) were noted within the GPEC-TPUST1 excavation and three similar ports on each end of the USTs (total of six) were noted within the GPEC-TPUST2 excavation. Concrete, which was thought to be part of a vault surrounding each UST area, was also noted below the base of the valve ports structures and around the outside of the UST areas. The USTs were not opened during the RI. No visual impacts or odors were noted within the test pits. The test pit logs from the RI are included as **Attachment 1**. Four soil samples, two from each test pit, were collected from the interval directly above the water table, which was encountered at approximately five-and-a-half (5.5) feet below ground surface (ft bgs). The RI test pit and sample locations are shown on **Figure 2**. Exceedances of the NYSDEC Part 375-6.8 Restricted Use (Industrial) Soil Cleanup Objectives (SCOs) were limited to benzo(a)pyrene in one sample, as well as arsenic in all four of the samples and mercury in three of the four samples collected from the UST test pits. Shallow soil in the area is primarily comprised of fill and may be the source of these exceedances.

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T: 718.963.5607 reeti.doshi@nationalgrid.com www.nationalgrid.com

UST Investigation

The primary objective of the UST investigation was to determine whether the USTs could be abandoned in-place, or if removal of the USTs would be the recommended method of closure. The recommendations will primarily be based on the presence of soils that have been directly impacted from the USTs, as well as potential restrictions to removal which include the presence of a nearby high-pressure gas main and a public sidewalk.

In order to meet this objective, the investigation of the USTs included:

- A geophysical investigation;
- Excavation of test holes with a vacuum truck around the perimeter of the tanks and in the vicinity of the valve ports;
- Excavation around the perimeter of the USTs and on top of the USTs with a backhoe; and
- Advancement of borings below the bottom depths of the USTs on each side surrounding the two USTs areas (total of eight borings).

A photo log of the investigation is included as **Attachment 2**.

Investigation Summary

The geophysical investigation was conducted prior to the start of intrusive work on September 21, 2020 to better determine the location and orientation of the tanks, as well as the location of any utilities present in the area. The investigation roughly identified the outer edges of the two UST areas (see photos 1 and 2), as well as the location of the high-pressure gas main and an electric line in the area. The general layout of the tanks and vaults are shown on **Figure 3** and the excavation and sample locations and other relevant details from the investigation are provided on **Figure 4**. The electric line was located above the westernmost UST in the UST-1 area and several of USTs in the UST-2 area. The electric line likely provided power to the light poles formerly present in the ballfield area and is believed to be inactive.

Following the completion of the geophysical investigation, intrusive activities with the vacuum truck were conducted on September 21 and 22, 2020. The vacuum truck was primarily used to determine the location of eastern edge of the tanks or vaults and the approximate distance to the high-pressure gas main located to the east of the UST areas in order to safely use a backhoe for further investigation. The vacuum truck was also used to locate the western edges in the vicinity of the public sidewalk, to uncover the valve ports present near the northern and southern edges of each UST, and to pre-clear the boring locations for utilities to a depth of five ft bgs. The backhoe was mobilized to the site on September 23, 2020 and initially excavated to the south of each of the UST areas to obtain information regarding the construction and depths of the two UST areas. Additional excavations were performed on top of the USTs in order to inspect the tanks and gain access to determine the contents (if any), and to the north of the UST-2 area to investigate the findings as discussed below.

Description of UST Areas

The investigation discovered that the top portion of the valve ports were constructed of a metal casing, which was enclosed within brick structure beneath the metal casing (see photos 3, 4 and 5). The brick enclosure extended to the top of concrete present above the outer portion the USTs (photo 4). Concrete blocks were also present in most areas beginning on top of and extending outward from the brick enclosure (photo 3). Two-inch diameter pipes that may have been fill or

vent pipes were also found adjacent to the valve port structures near the south end of the UST-1 area and near the north end of the UST-2 area (photos 3, 6 and 7). Many of these pipes were blocked with soil or fill, excluding the pipes extending from the two westernmost tanks in the UST-1 area, which were clear. The tanks in each UST area also appeared to be connected to each other by piping extending between each valve port, although that could not definitively be determined (photo 5).

The investigation determined that in each of the two UST areas, the USTs are oriented north-south and are encased in concrete vaults that extend around the perimeter of each UST area (**Figure 3**). The concrete also is present above the north and south ends of the USTs near the location of the valve ports and extends approximately three feet inward from the end of each tank. No concrete is present in the center area of the tanks in each UST area, as visually confirmed during the investigation. The top of the valve ports were present near the surface on the eastern edge of the two UST areas and were buried as deep as approximately two feet on the western edges, where the grade of the Site slopes upward to meet the perimeter fence and public sidewalk along Vandervoort Avenue. The tops of the USTs were exposed and determined to be between approximately four and six ft bgs depending on Site grade (photo 8). The USTs were generally rectangular in shape and were each approximately four feet in width. Historical figures show the measurement of the tanks in the UST-1 area and UST-2 areas to be approximately 10.4 feet long and 10.9 feet long, respectively. Measurement of the tanks was not possible due to the presence of concrete above the ends of each of the tanks, however, the historical measurements appeared to be correct based on the lengths of the vault structures. The vaults or concrete encasement for the UST-1 and UST-2 areas measured approximately 12 feet in length. Based on the length and width of the tanks, they are each believed to be approximately 1,000 gallons in capacity. Groundwater was encountered at approximately six to seven feet below grade in the excavated areas which prevented visual identification of the bottom of the USTs or vaults.

The edge of the westernmost tank in the southern UST area (UST-1), which contains four USTs, appears to be present near the edge of the Site boundary and the public sidewalk; however, the edge of the vault likely extends beyond the Site boundary and under the public sidewalk. Based on the dimension measured from the top of the valve port to the edge of the vault on the eastern edges of the tanks, the edge of the vault in this area likely extends approximately one foot beyond the site boundary to the area adjacent to the public sidewalk. The western edge of the vault for the northern UST area (UST-2) which contains three USTs, appears to be present at the edge of the Site boundary.

As shown on the 1933 Sanborn map, the two UST areas were present within the outline of the Aetna building. The concrete blocks identified at the top of the brick valve port enclosures were likely associated with the former Aetna building. Portions of the foundation of the former building appear to be present approximately three feet to the south of the UST-1 area (photo 9) and four feet to the north of the UST-2 area. Piping was also identified leading north from the UST-2 vault and into the foundation wall located to the north (photo 10). This area to the north of the foundation wall was investigated for other USTs, structures or potential impacts. Additional concrete structures that may have been part of the foundation were identified, but no additional USTs were discovered. The foundation may also be present to the east and west; however, these areas were not investigated due to the presence of a high-pressure gas main and the public sidewalk area to the east and west, respectively.

Physical Impact Summary

No impacts were identified above the water table during the vacuum truck or backhoe excavation, where the soil generally consisted of silty sand with gravel, cobbles and fill (brick, concrete, metal scraps and pieces of wood). Impacts were identified near the vicinity of the groundwater table which generally corresponded with a layer of coarse fill. The coarse fill layer was approximately one foot thick and consisted of gravel, recycled concrete aggregate and crumbled brick. The impacts in the excavation adjacent to the south side of the UST-1 area included odors beginning at the water table and extending to the base of the excavation (approximately 9 ft bgs). The odors consisted of a mix of a weathered fuel-oil odor with a possible solvent-like odor. An interval of soil staining from approximately 7.5 ft bgs to 8 ft bgs was also identified which corresponded with a maximum photoionization detector (PID) reading of 6.0 parts-per-million (ppm). A slight sheen was noted on the groundwater once it had infiltrated the excavation in the area (photo 11). Impacts on the south side of the UST-2 area included a solvent-like odor beginning at the water table and extending to the base of the excavation at approximately 9 ft bgs. The maximum PID reading in the soil to the south of the UST-2 area was approximately 300 ppm at 8.5 ft bgs. The excavation just to the north of the UST-2 area was only excavated to a depth of approximately five ft bgs due to the piping located in the area, but the excavation located farther and beyond the foundation wall was dug to approximately 9 ft bgs. No impacts were identified in these excavations or those conducted above the USTs.

Since impacts to the soil were noted in each UST area, and slight sheen was identified on the water table outside the UST-1 area, a spill was reported in accordance with NYSDEC regulations on October 2, 2020. Spill number 2006012 was assigned.

Sample Collection

Three of the four USTs in the UST-1 area and two of three USTs in the UST-2 area were accessed during the investigation. Water was identified in each UST in the UST-1 area that was accessed (eastern, western and second UST from the west side) at thicknesses ranging from seven inches in the east tank to 11 inches in the west tank. Water was also identified in the two tanks accessed in the UST-2 area at thicknesses of four inches and one inch in the east and west tanks, respectively. A small amount of product or sludge (one to two inches) was also identified in each tank that was accessed (photo 12). The product/sludge was yellowish to brown and appeared similar to hydraulic oil in color and viscosity; however, the odors were generally similar to those observed in adjacent soils and described above for each respective UST area. Attempts were made to collect samples through the two-inch potential fill or vent pipes that were not clogged or through one-inch diameter access points identified on the tops of several USTs using a peristaltic pump, which were unsuccessful. Two wider access points were identified on the two easternmost tanks in each UST area (**Figure 4**), which allowed the tanks to be accessed with a bailer for sampling. However, due to the limited amount of product/sludge in the tanks, the samples consisted primarily of water. These samples were analyzed for the following:

- Volatile Organic Compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260C;
- Fingerprint analysis by USEPA Method 8015B; and
- Diesel Range Organics by USEPA Method 8015D - DRO.

Following the completion of the vacuum truck and backhoe investigation, the area was restored using the backhoe. The two, unclogged two-inch diameter potential fill or vent ports to the

westernmost two tanks in the UST-1 area were left accessible for future access, if necessary. These fill or vent ports are currently capped.

Soil Borings

A total of eight boreholes (four around each UST area) were advanced using Geoprobe drilling rig. (**Figure 4**). A summary of the boring locations and depths is provided in the table below. The soil from each boring was inspected for visual or olfactory impacts and screened with a PID. The borings to the west of the two UST areas were advanced approximately three feet west of the Site boundary adjacent to the public sidewalk on Vandervoort Avenue. Each of the two borings advanced to the north of the two UST areas (UST-1-BN and UST-2-BN) encountered refusal prior to reaching the planned termination depth of 15 ft bgs. Several locations were attempted in the area of each of these boreholes, but the borings could only be advanced to approximately 5.5 ft bgs and 7 ft bgs, respectively. The remaining borings were advanced to the 15 ft bgs. A summary of the boring locations and depths is provided in the table below.

TABLE 1.a

Boring ID	Location (Relative to UST Area)	Total Depth*	Sampling Interval*
UST-1 Area			
UST-1-BN	North	5.5	--
UST-1-BE	East	15	7-9
UST-1-BS	South	15	6-7
UST-1-BW	West	15	11-13
UST-2 Area			
UST-2-BN	North	7	6-7
UST-2-BE	East	15	10-12
UST-2-BS	South	15	11-13
UST-2-BW	West	15	12-14

*: feet below ground surface

A total of seven soil samples (one from each boring excluding UST-1-BN) were collected from the intervals exhibiting apparent worst-case impacts based on visual observation, PID readings, and presence of staining, or from the groundwater table interval if no impacts were identified. Soil samples were analyzed for:

- VOCs by USEPA Method 8260C;
- Semi-volatile Organic Compounds (SVOCs) by USEPA Method 8270D;
- Target Analyte List (TAL) Metals by USEPA Method 6000/7000; and
- Polychlorinated Biphenyls (PCBs) by USEPA Method 8082.

A summary of the physical impacts in the borings are described below and summarized in the following table.

Ballfield UST Investigation Summary Report
Greenpoint Energy Center Former MGP Site
Brooklyn, New York

TABLE 1.b

Boring ID	Impacts Identified	Impacted Zone	Description of Impacts
UST-1 Area			
UST-1-BN*	No	--	--
UST-1-BE	Yes	7 -10'	Odors, elevated PID readings (Max 585 ppm)
UST-1-BS	No	--	--
UST-1-BW	Yes	7-15'	Odors, elevated PID readings (Max 1,972 ppm)
UST-2 Area			
UST-2-BN*	No	--	--
UST-2-BE	Yes	5-15'	Odors, elevated PID readings (Max 198 ppm)
UST-2-BS	Yes	10-15'	Odors, staining, elevated PID readings (Max 465 ppm)
UST-2-BW	Yes	12-15'	Odors, staining, elevated PID readings (Max 736 ppm)

*: Boring not advanced to planned termination depth due to refusal.

Physical impacts noted in the borings around the UST-1 area generally began in the vicinity of the groundwater table which ranged from approximately 5.5 ft bgs near the eastern edge of the UST-1 area to 9 ft bgs to the west of the UST-2 area. The impacts generally consisted of elevated PID readings and odors, similar to those identified during the excavation portion of the investigation. Impacts were noted on the east and west sides of UST-1 area (UST-1-BE and UST-1-BW). No impacts were noted to the south side (UST-1-BS) and refusal was encountered at approximately 5.5 ft bgs on the north side of the area (UST-1-BN). The most significant impacts were identified in the boring to the west of the UST-1 area (UST-1-BW) adjacent to the public sidewalk area. These impacts consisted of strong odors with a maximum PID reading of 1,972 ppm at approximately 11.5 ft bgs. Impacts were identified in UST-1-BE to a depth of approximately 10 ft bgs, while those in the UST-1-BW continued to the termination depth of 15 ft bgs; but were diminishing significantly near the base of the boring.

In the UST-2 area, physical impacts were identified in each of the borings, excluding UST-2-BN, where refusal was encountered at approximately 7 ft bgs. The impacts began in the vicinity of the water table at UST-2-BW but were not identified until approximately 10 ft bgs in UST-2-BS and 12 ft bgs in UST-2-BW. The impacts included some minor staining near the base of UST-2-BS and UST-2-BW, as well as strong odors consisting of a mix between weathered fuel-oil and solvent-like odor. PID readings reached a maximum of 736 ppm in UST-2-BW at a depth of approximately 13 ft bgs, corresponding to the interval of staining. It is noted that the grade to the west of the two UST areas is approximately two to three feet higher than the area to the east of the USTs. Similar to the borings in the UST-1 area, the impacts (where identified) appeared to be diminishing at the boring termination depth.

It is possible that an off-Site source may be contributing to the impacts in the ballfield UST area, since there are numerous industrial properties in the surrounding area. Off-Site areas, including those upgradient or in the vicinity of the ballfield USTs, were not investigated as part of this investigation or the RI.

Boring logs are included as **Attachment 3**.

Analytical results

Detections in the soil samples collected from the borings included VOCs, SVOCs and metals (**Table 1**). No PCBs were detected during the investigation. Exceedances of the Industrial Use SCOs were limited to benzo(a)pyrene in one boring (UST-1-BS) at a depth of six to seven ft bgs with a concentration of 1.5 milligrams per kilogram (mg/Kg), as well as arsenic in four borings with a maximum concentration of 26.1 mg/Kg in UST-1-BS (six to seven ft bgs) and mercury in four borings with a maximum concentration of 27.7 mg/Kg in UST-2-BE (10 to 12 ft bgs). The Industrial Use SCOs for benzo(a)pyrene, arsenic and mercury are 1.1 mg/Kg, 16 mg/Kg and 5.7 mg/Kg, respectively. A summary of the exceedances is provided below.

TABLE 1.c

	Sample ID	UST-1-BS	UST-2-BN	UST-2-BE	UST-2-BS	UST-2-BW
	Sample Date	9/25/2020	9/25/2020	9/25/2020	9/25/2020	9/25/2020
	Sample Depth (ft bgs)	6-7’	6-7’	10-12’	11-13’	12-14’
Analyte	Industrial SCOs					
SVOCs mg/Kg						
Benzo[a]pyrene	1.1	1.5	0.34	0.38	0.64	0.13
Metals mg/Kg						
Arsenic	16	26.1	14.8	18.2	24.6	22.7
Mercury	5.7	9.2	16.4	27.7	7.5	3.4

Note: Shaded concentrations exceed the NYSDEC Industrial SCO to which it was compared.

The results from the liquid samples taken from the USTs are provided on **Table 2**. The fingerprint analysis conducted on the liquid samples taken from the westernmost UST in each respective area concluded that the liquid sampled within UST-1 mostly closely resembles heavy mineral oil and the liquid sampled in UST-2 most closely resembles #2 diesel fuel/heavy mineral oil. Several VOCs were detected in the other analyses conducted on the liquid samples. The VOC detections included BTEX (benzene, toluene, ethylbenzene and xylenes) compounds in each sample. Each of the individual BTEX compounds were detected in both GPEC-UST-1 and GPEC-UST-2; however, with maximum concentrations for each BTEX compound were identified in GPEC-UST-2. Other (non-BTEX) detections included acetone, 2-butanone, 4-methyl-2-pentanone and styrene in both samples, and 2-hexanone and isopropylbenzene in GPEC-UST-2. Similar to the BTEX results, the maximum concentrations were identified in the GPEC-UST-2 sample. The elevated detections of acetone (12,000 µg/L) and 2-butanone (1,300 µg/L) in GPEC-UST-2 may be indicative of the historical use by Aetna, as these compounds are common ingredients in varnish. The detections discussed above along with the results from the diesel range organics (DRO) analysis are provided in the table below.

Ballfield UST Investigation Summary Report
Greenpoint Energy Center Former MGP Site
Brooklyn, New York

TABLE 1.d

Sample Name	**GPEC-UST-1**	**GPEC-UST-2**
Sample Date	**9/23/2020**	**9/23/2020**
Analyte		
BTEX (ug/L)		
Benzene	**13**	**24**
Toluene	**6.3**	**57**
Ethylbenzene	**1.4**	**26**
o-Xylene	**3.5**	**50**
m/p-Xylene	**5.6**	**72**
Other VOCs (ug/L)		
Acetone	**88**	**12000**
Isopropylbenzene	1 U	**5.3**
Methyl ethyl ketone (2-Butanone)	**19**	**1300**
Styrene	**3.8**	**16**
Other (mg/L)		
Diesel Range Organics	**630 J**	**310**

Recommendations

Based on the findings of the investigation, it is recommended that the USTs be removed, and the impacted soils be removed to the extent feasible. National Grid will submit a work plan detailing the UST removal plan to NYSDEC for review and approval.

If you have any questions, feel free to contact me at (718) 963-5607 or by email at reeti.doshi@nationalgrid.com.

Very truly yours,

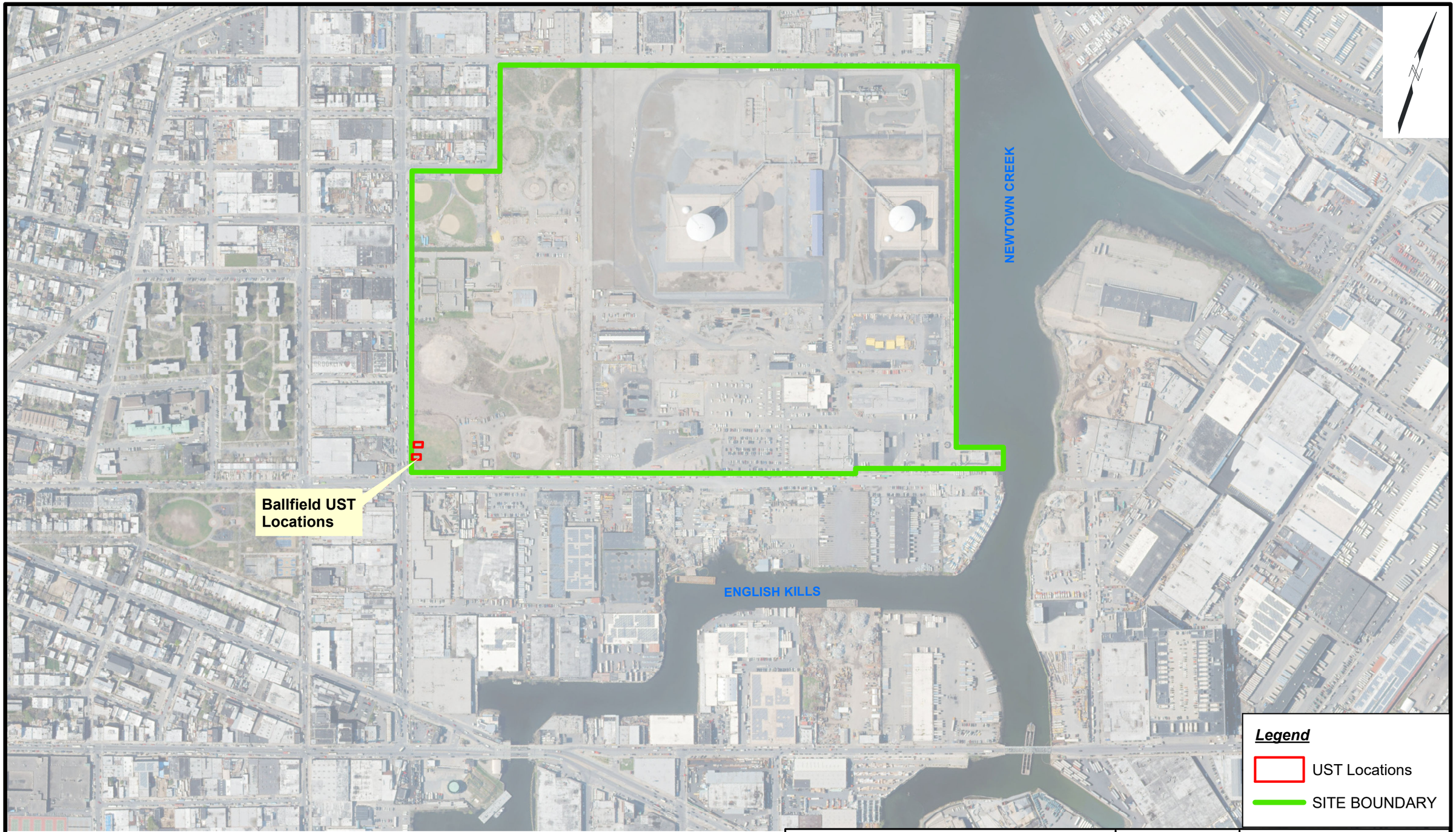
Reeti Doshi

Attachments

cc: W. Ryan (National Grid)
D. Terry (GEI)

CM:gd
Z:\Tech\Projects\National Grid\Greenpoint\IRM\Ballfield USTs\Investigation\Summary Report\UST Investigation Summary Report_11-20.docx

Figures



SOURCES:
1. AERIAL PHOTOGRAPH OBTAINED FROM ESRI WORLD IMAGERY.

0 450 900
SCALE: 1" = 450'

Ballfield UST Investigation Summary Report
Greenpoint Energy Center
Brooklyn, New York

nationalgrid

GEI Consultants

BALLFIELD UST
INVESTIGATION AREA

Project 125180 | November 2020 | Fig. 1

X:\GIS\Projects\National_Grid\Greenpoint\Phase_3_RI\UST Investigation Area.mxd

0 10 20

SCALE: 1" = 10'

LEGEND:

- SOIL SAMPLE
- EXCAVATION AREA
- GAS MAIN
- ELECTRIC LINE
- PROPERTY BOUNDARY

UST LOCATION MAP

0 60 120

SCALE: 1" = 60'

SOURCE:

AERIAL FROM ESRI WORLD IMAGERY LAYER, ACCESSED VIA ARCGIS ONLINE ON 10/15/2020, SOURCES: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY.

Greenpoint Energy Center
Former Manufactured Gas Plant Site
Brooklyn, New York

nationalgrid

GEI Consultants

REMEDIAL INVESTIGATION
(2014)
SAMPLE LOCATIONS

Project 125180 | November 2020 | Fig. 2

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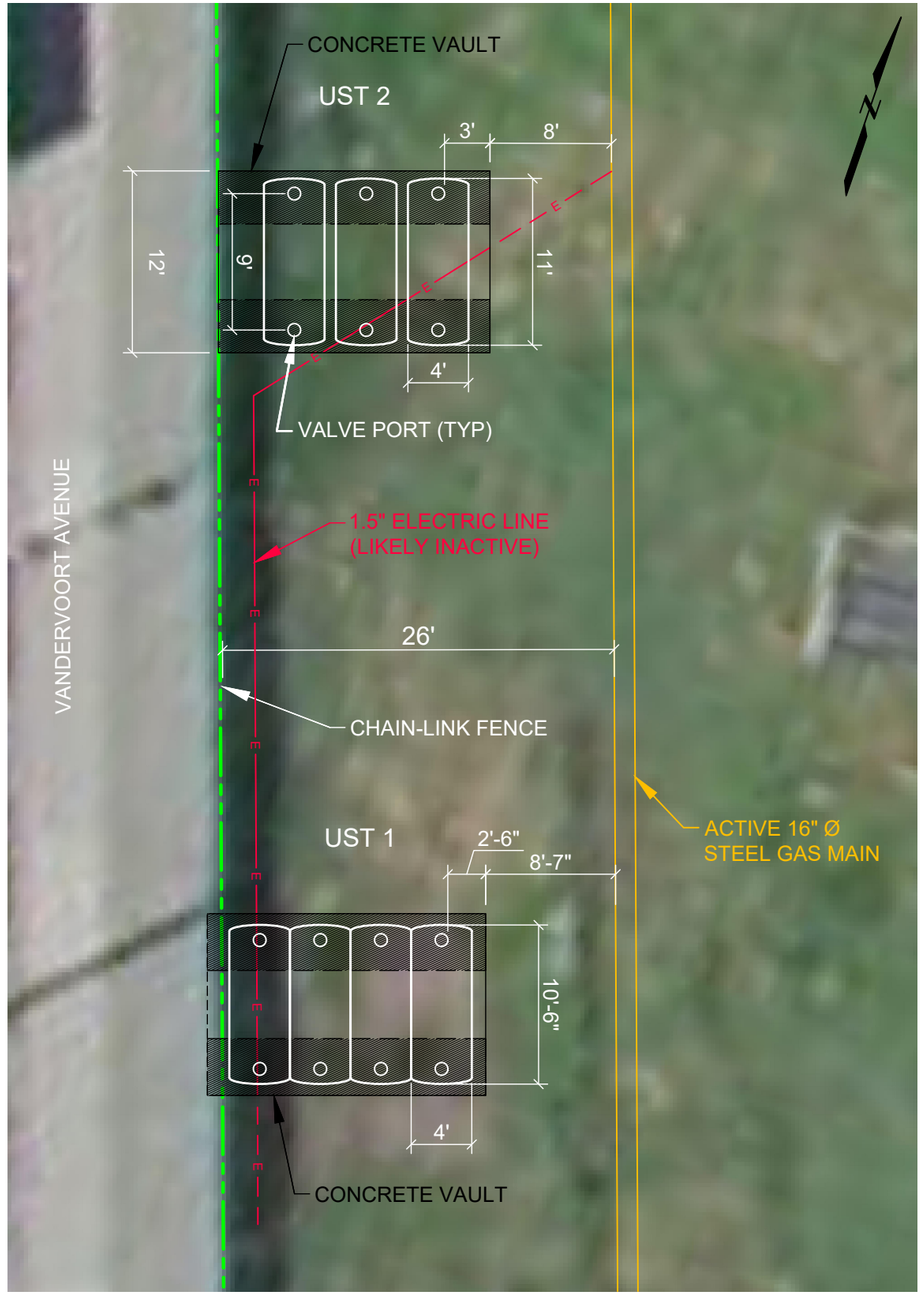
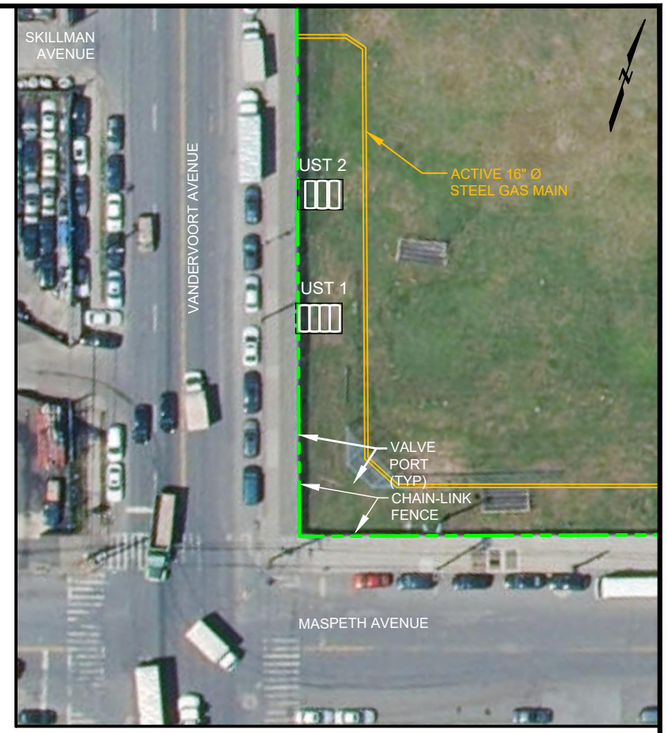


0 10 20

SCALE: 1" = 10'

LEGEND:

- GAS MAIN
- E — ELECTRIC LINE
- PROPERTY BOUNDARY
- UST AREA COVERED BY CONCRETE



UST LOCATION MAP

0 60 120

SCALE: 1" = 60'

SOURCE:

AERIAL FROM ESRI WORLD IMAGERY LAYER, ACCESSED VIA ARCGIS ONLINE ON 10/15/2020, SOURCES: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY.

Greenpoint Energy Center
Former Manufactured Gas Plant Site
Brooklyn, New York

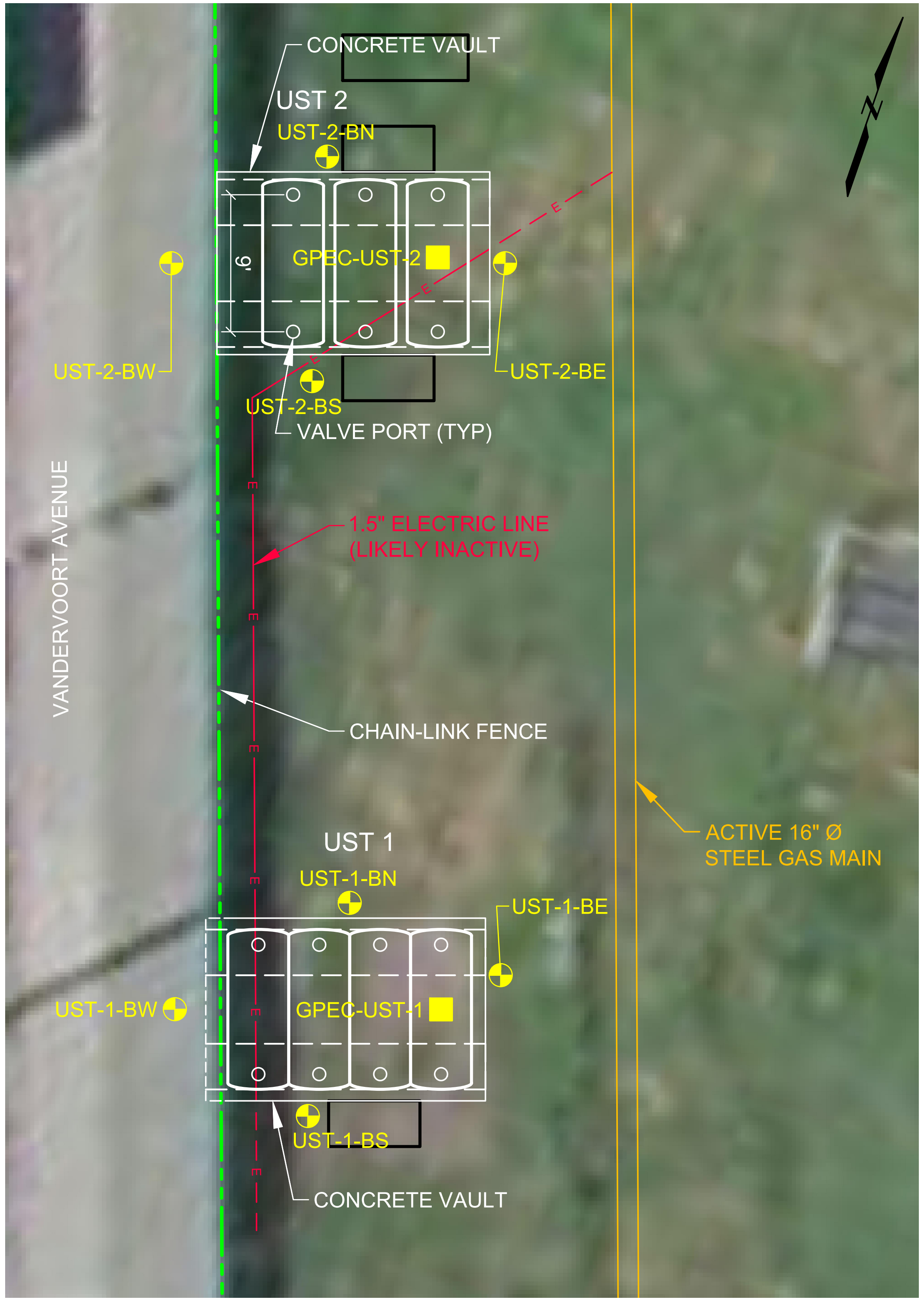
nationalgrid

GEI Consultants

UST AREA DETAILS -
AS IDENTIFIED DURING
2020 INVESTIGATION

Project 125180 | November 2020 | Fig. 3

\\Blm-pzcc-1\ \\Blm-pzcc-1\gtb\CAD\Project\National Grid\Greenpoint\UST\125180_UST_SAMP_FIG3_BMM_recover.dwg - 11/11/2020



0 10 20

SCALE: 1" = 10'

LEGEND:

- SOIL BORING
- LIQUID SAMPLE
- EXCAVATION AREA
- GAS MAIN
- ELECTRIC LINE
- PROPERTY BOUNDARY

UST LOCATION MAP

0 60 120

SCALE: 1" = 60'

SOURCE:

AERIAL FROM ESRI WORLD IMAGERY LAYER, ACCESSED VIA ARCGIS ONLINE ON 10/15/2020, SOURCES: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY.

Greenpoint Energy Center Former Manufactured Gas Plant Site Brooklyn, New York	GEI Consultants	BALLFIELD UST INVESTIGATION (2020) LOCATIONS
nationalgrid	Project 125180	November 2020 Fig. 4

\\Blm-pzcc-1\ \\Blm-pzcc-1\gtb\CAD\Project\National Grid\Greenpoint\UST\125180_UST_SAMP_FIG4_BMM.dwg - 11/10/2020

Tables

Table 1. Ballfield Underground StorageTank Investigation Summary Report
Soil Analytical Results
National Grid
Brooklyn, New York

				Sample Name	UST-1-BE	BD-1	UST-1-BS	UST-1-BW	UST-2-BE	UST-2-BN	UST-2-BS	UST-2-BW
				Sample Date	9/25/2020	9/25/2020	9/25/2020	9/25/2020	9/25/2020	9/25/2020	9/25/2020	9/25/2020
				Parent Sample		UST-1-BE						
Analyte	**Units**	**CAS No.**	**Unrestricted SCO**	**Industrial SCO**								
BTEX	mg/kg											
Benzene		71-43-2	0.06	89	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	**0.0011 J**	**0.00043 J**	0.0011 U
Toluene		108-88-3	0.7	1000	**0.00062 J**	**0.06 J**	0.0012 U	0.11 U	0.0011 U	**0.0018 J**	**0.00097 J**	0.0011 U
Ethylbenzene		100-41-4	1	780	**0.00034 J**	**0.088 J**	0.0012 U	**0.092 J**	0.0011 U	**0.034**	0.0016 U	0.0011 U
o-Xylene		95-47-6	0.26	1000	**0.00027 J**	0.13 U	0.0012 U	0.11 U	0.0011 U	**0.018**	0.0016 U	0.0011 U
m/p-Xylene		179601-23-1	0.26	1000	**0.00069 J**	**0.2**	0.0012 U	**0.18 J**	0.0011 U	**0.0013 JB**	**0.0012 JB**	0.0011 U
Total Xylene		1330-20-7	0.26	1000	**0.00096 J**	**0.2 J**	0.0024 U	**0.18 J**	0.0022 U	**0.019 B**	**0.0012 JB**	0.0021 U
Total BTEX (ND=0)		TBTEX_ND0	NE	NE	**0.00192**	**0.348**	ND	**0.272**	ND	**0.0562**	**0.0026**	ND
Other VOCs	mg/kg											
Acetone		67-64-1	0.05	1000	**0.03**	0.63 U	0.0071 U	0.54 U	0.0066 U	**0.041**	**0.03**	**0.013**
Bromochloromethane		74-97-5	NE	NE	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
Bromodichloromethane		75-27-4	NE	NE	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
Bromoform		75-25-2	NE	NE	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
Bromomethane		74-83-9	NE	NE	0.00099 U	0.13 U	0.0012 U	0.11 UJ	0.0011 U	0.0023 U	0.0016 U	0.0011 U
n-Butylbenzene		104-51-8	12	1000	**0.0051 J**	**0.21**	0.0012 U	**0.83**	0.0011 U	0.0023 U	**0.013**	0.0011 U
sec-Butylbenzene		135-98-8	11	1000	**0.038 J**	**1**	0.0012 U	**1.8**	0.0011 U	**0.061**	**0.057**	0.0011 U
tert-Butylbenzene		98-06-6	5.9	1000	**0.0036**	0.13 U	0.0012 U	**0.24**	0.0011 U	**0.032**	**0.026**	**0.00039 J**
Carbon disulfide		75-15-0	NE	NE	**0.00033 J**	0.13 U	0.0012 U	0.11 U	0.0011 U	**0.0045**	**0.0015 J**	**0.0011**
Carbon tetrachloride		56-23-5	0.76	44	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
Chlorobenzene		108-90-7	1.1	1000	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
Chloroethane		75-00-3	NE	NE	0.00099 U	0.13 U	0.0012 U	0.11 R	0.0011 U	0.0023 U	0.0016 U	0.0011 U
Chloroform (Trichloromethane)		67-66-3	0.37	700	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
Chloromethane		74-87-3	NE	NE	0.00099 U	0.13 U	0.0012 U	0.11 UJ	0.0011 U	0.0023 U	0.0016 U	0.0011 U
Cyclohexane		110-82-7	NE	NE	**0.066 J**	**0.72**	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
p-Cymene (4-Isopropyltoluene)		99-87-6	NE	NE	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	**0.0085**	0.0016 U	0.0011 U
1,2-Dibromo-3-chloropropane		96-12-8	NE	NE	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
Dibromochloromethane		124-48-1	NE	NE	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
1,2-Dibromoethane (EDB)		106-93-4	NE	NE	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
1,2-Dichlorobenzene (o-DCB)		95-50-1	1.1	1000	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
1,3-Dichlorobenzene (m-DCB)		541-73-1	2.4	560	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
1,4-Dichlorobenzene (p-DCB)		106-46-7	1.8	250	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
Dichlorodifluoromethane (Freon 12)		75-71-8	NE	NE	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
1,1-Dichloroethane		75-34-3	0.27	480	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
1,2-Dichloroethane		107-06-2	0.02	60	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
1,1-Dichloroethene		75-35-4	0.33	1000	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
cis-1,2-Dichloroethene		156-59-2	0.25	1000	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
trans-1,2-Dichloroethene		156-60-5	0.19	1000	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
1,2-Dichloropropane		78-87-5	NE	NE	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
cis-1,3-Dichloropropene		10061-01-5	NE	NE	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
trans-1,3-Dichloropropene		10061-02-6	NE	NE	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
2-Hexanone		591-78-6	NE	NE	0.0049 U	0.63 U	0.0059 U	0.54 U	0.0055 U	0.011 U	0.0079 U	0.0053 U
Isopropylbenzene		98-82-8	NE	NE	**0.052 J**	**0.82**	0.0012 U	**1**	0.0011 U	**0.13**	**0.071**	0.0011 U
Methyl acetate		79-20-9	NE	NE	0.0049 U	**0.37 J**	0.0059 U	0.54 U	0.0055 U	0.011 U	0.0079 U	0.0053 U
Methyl ethyl ketone (2-Butanone)		78-93-3	0.12	1000	**0.007**	0.63 U	0.0059 U	0.54 U	0.0055 U	**0.012**	**0.0053 J**	0.0053 U
Methyl tert-butyl ether (MTBE)		1634-04-4	0.93	1000	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U

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				Sample Date	9/25/2020	9/25/2020	9/25/2020	9/25/2020	9/25/2020	9/25/2020	9/25/2020	9/25/2020
				Parent Sample		UST-1-BE						
Analyte	**Units**	**CAS No.**	**Unrestricted SCO**	**Industrial SCO**								
4-Methyl-2-pentanone (MIBK)		108-10-1	NE	NE	0.0049 U	0.63 U	0.0059 U	0.54 U	0.0055 U	0.011 U	0.0079 U	0.0053 U
Methylcyclohexane		108-87-2	NE	NE	**0.45 J**	**8.7**	0.0012 U	**2.6**	0.0011 U	**0.17**	**0.074**	0.0011 U
Methylene chloride		75-09-2	0.05	1000	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
Naphthalene		91-20-3	12	1000	0.0015 U	**0.31 B**	0.0018 U	0.32 UJ	0.0016 U	0.0034 U	**0.0072**	0.0016 U
n-Propylbenzene		103-65-1	3.9	1000	**0.037 J**	**0.83**	0.0012 U	**1.7**	0.0011 U	**0.11**	**0.049**	**0.0014**
Styrene		100-42-5	NE	NE	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
1,1,2,2-Tetrachloroethane		79-34-5	NE	NE	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
Tetrachloroethene (PCE)		127-18-4	1.3	300	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		76-13-1	NE	NE	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
1,2,3-Trichlorobenzene		87-61-6	NE	NE	0.00099 U	0.13 U	0.0012 U	0.11 UJ	0.0011 U	0.0023 U	0.0016 U	0.0011 U
1,2,4-Trichlorobenzene		120-82-1	NE	NE	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
1,1,1-Trichloroethane (TCA)		71-55-6	0.68	1000	**0.00058 J**	0.13 U	0.0012 U	0.11 U	0.0011 U	**0.0032**	0.0016 U	0.0011 U
1,1,2-Trichloroethane		79-00-5	NE	NE	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
Trichloroethene (TCE)		79-01-6	0.47	400	0.00099 U	0.13 U	0.0012 U	0.11 U	0.0011 U	0.0023 U	0.0016 U	0.0011 U
Trichlorofluoromethane (Freon 11)		75-69-4	NE	NE	0.00099 U	0.13 U	0.0012 U	0.11 UJ	0.0011 U	0.0023 U	0.0016 U	0.0011 U
1,2,4-Trimethylbenzene		95-63-6	3.6	380	**0.00096 J**	**0.12 J**	0.0012 U	**0.16**	0.0011 U	**0.16**	0.0016 U	0.0011 U
1,3,5-Trimethylbenzene		108-67-8	8.4	380	0.00099 U	0.13 U	0.0012 U	**0.047 J**	0.0011 U	0.0023 U	0.0016 U	0.0011 U
Vinyl chloride		75-01-4	0.02	27	0.00099 U	0.13 U	0.0012 U	0.11 UJ	0.0011 U	0.0023 U	0.0016 U	0.0011 U
PAH17	mg/kg											
Acenaphthene		83-32-9	20	1000	**0.2 J**	**0.099 J**	**0.49**	**0.094 J**	**0.038 J**	**0.071 J**	**0.065 J**	**0.044 J**
Acenaphthylene		208-96-8	100	1000	0.4 U	0.41 U	**0.11 J**	**0.0089 J**	0.4 U	0.59 U	**0.16 J**	**0.03 J**
Anthracene		120-12-7	100	1000	**0.022 J**	**0.018 J**	**0.73**	**0.084 J**	**0.13 J**	**0.17 J**	**0.22 J**	**0.041 J**
Benzo(a)anthracene		56-55-3	1	11	**0.083**	**0.056**	**1.4**	**0.19 J**	**0.36**	**0.44**	**0.56**	**0.12**
Benzo(b)fluoranthene		205-99-2	1	11	**0.11**	**0.093**	**1.5**	**0.23**	**0.4**	**0.37**	**0.72**	**0.16**
Benzo(k)fluoranthene		207-08-9	0.8	110	**0.052**	**0.026 J**	**0.65**	**0.089 J**	**0.17**	**0.17**	**0.29**	**0.067**
Benzo(g,h,i)perylene		191-24-2	100	1000	**0.072 J**	**0.055 J**	**0.81**	**0.12 J**	**0.21 J**	**0.2 J**	**0.47**	**0.083 J**
Benzo(a)pyrene		50-32-8	1	1.1	**0.098**	**0.07**	**1.5**	**0.21**	**0.38**	**0.34**	**0.64**	**0.13**
Chrysene		218-01-9	1	110	**0.083 J**	**0.068 J**	**1.4**	**0.17 J**	**0.37 J**	**0.44 J**	**0.55**	**0.12 J**
Dibenz(a,h)anthracene		53-70-3	0.33	1.1	0.04 U	0.041 U	**0.23**	**0.031 J**	**0.06**	**0.063**	**0.1**	**0.024 J**
Fluoranthene		206-44-0	100	1000	**0.14 J**	**0.1 J**	**3.7**	**0.4 J**	**0.7**	**0.73**	**1.2**	**0.29 J**
Fluorene		86-73-7	30	1000	**0.06 J**	**0.021 J**	**0.58**	**0.11 J**	**0.058 J**	**0.077 J**	**0.1 J**	**0.027 J**
Indeno(1,2,3-cd)pyrene		193-39-5	0.5	11	**0.064**	**0.047**	**0.81**	**0.12**	**0.21**	**0.18**	**0.42**	**0.079**
2-Methylnaphthalene		91-57-6	NE	NE	0.4 U	0.41 U	**0.18 J**	**0.027 J**	**0.013 J**	0.59 U	**0.19 J**	0.4 U
Naphthalene		91-20-3	12	1000	**0.085 J**	**0.093 J**	**0.45**	**0.12 J**	0.4 U	0.59 U	**0.24 J**	**0.037 J**
Phenanthrene		85-01-8	100	1000	**0.087 J**	**0.086 J**	**4.9**	**0.38 J**	**0.57**	**0.6**	**0.74**	**0.11 J**
Pyrene		129-00-0	100	1000	**0.15 J**	**0.13 J**	**3.2**	**0.41 J**	**0.72**	**0.9**	**1**	**0.26 J**
Total PAH (17) (ND=0)		TPAH17_ND0	NE	NE	**1.306**	**0.962**	**22.64**	**2.7939**	**4.389**	**4.751**	**7.665**	**1.622**
PAH17 Other SVOCs	mg/kg											
Acetophenone		98-86-2	NE	NE	0.4 U	0.41 U	0.42 U	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
Atrazine		1912-24-9	NE	NE	0.16 U	0.16 U	0.17 U	0.16 U	0.16 U	0.24 U	0.16 U	0.16 U
Benzaldehyde		100-52-7	NE	NE	0.4 UJ	0.41 U	0.42 U	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
Biphenyl (1,1-Biphenyl)		92-52-4	NE	NE	0.4 U	0.41 U	**0.068 J**	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
Bis(2-chloroethoxy)methane		111-91-1	NE	NE	0.4 U	0.41 U	0.42 U	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
Bis(2-chloroethyl)ether		111-44-4	NE	NE	0.04 U	0.041 U	0.042 U	0.039 UJ	0.04 U	0.059 U	0.041 U	0.04 U

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				Sample Date	9/25/2020	9/25/2020	9/25/2020	9/25/2020	9/25/2020	9/25/2020	9/25/2020	9/25/2020
				Parent Sample		UST-1-BE						
Analyte	Units	CAS No.	Unrestricted SCO	Industrial SCO								
2,2-oxybis(1-Chloropropane)		108-60-1	NE	NE	0.4 U	0.41 U	0.42 U	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
Bis(2-ethylhexyl)phthalate		117-81-7	NE	NE	0.4 U	0.41 U	0.42 U	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
4-Bromophenyl phenyl ether		101-55-3	NE	NE	0.4 U	0.41 U	0.42 U	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
Butyl benzyl phthalate		85-68-7	NE	NE	0.4 U	0.41 U	0.42 U	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
Caprolactam		105-60-2	NE	NE	0.4 U	0.41 U	0.42 U	0.39 U	0.4 U	0.59 U	0.41 U	0.4 U
Carbazole		86-74-8	NE	NE	0.4 U	0.41 U	**0.37 J**	0.39 UJ	**0.032 J**	0.59 U	**0.071 J**	0.4 U
4-Chloro-3-methylphenol		59-50-7	NE	NE	0.4 U	0.41 U	0.42 U	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
4-Chloroaniline		106-47-8	NE	NE	0.4 U	0.41 U	0.42 U	0.39 U	0.4 U	0.59 U	0.41 U	0.4 U
2-Chloronaphthalene		91-58-7	NE	NE	0.4 U	0.41 U	0.42 U	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
2-Chlorophenol		95-57-8	NE	NE	0.4 U	0.41 U	0.42 U	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
4-Chlorophenyl phenyl ether		7005-72-3	NE	NE	0.4 U	0.41 U	0.42 U	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
Dibenzofuran		132-64-9	7	1000	**0.013 J**	0.41 U	**0.44**	**0.051 J**	**0.027 J**	**0.025 J**	**0.075 J**	**0.026 J**
3,3-Dichlorobenzidine		91-94-1	NE	NE	0.16 U	0.16 U	0.17 U	0.16 U	0.16 U	0.24 U	0.16 U	0.16 U
2,4-Dichlorophenol		120-83-2	NE	NE	0.16 U	0.16 U	0.17 U	0.16 UJ	0.16 U	0.24 U	0.16 U	0.16 U
Diethyl phthalate		84-66-2	NE	NE	0.4 U	0.41 U	0.42 U	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
Dimethyl phthalate		131-11-3	NE	NE	0.4 U	0.41 U	0.42 U	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
2,4-Dimethylphenol		105-67-9	NE	NE	0.4 U	0.41 U	0.42 U	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
Di-n-butyl phthalate		84-74-2	NE	NE	0.4 U	0.41 U	0.42 U	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
4,6-Dinitro-2-methylphenol		534-52-1	NE	NE	0.33 U	0.33 U	0.34 U	0.32 UJ	0.32 U	0.48 U	0.33 U	0.32 U
2,4-Dinitrophenol		51-28-5	NE	NE	0.33 U	0.33 U	0.34 U	0.32 R	0.32 U	0.48 U	0.33 U	0.32 U
2,4-Dinitrotoluene		121-14-2	NE	NE	0.082 U	0.083 U	0.085 U	0.08 UJ	0.082 U	0.12 U	0.083 U	0.082 U
2,6-Dinitrotoluene		606-20-2	NE	NE	0.082 U	0.083 U	0.085 U	0.08 UJ	0.082 U	0.12 U	0.083 U	0.082 U
Di-n-octyl phthalate		117-84-0	NE	NE	0.4 U	0.41 U	0.42 U	0.39 U	0.4 U	0.59 U	0.41 U	0.4 U
1,4-Dioxane		123-91-1	0.1	250	0.12 U	0.12 U	0.13 U	0.12 UJ	0.12 U	0.18 U	0.12 U	0.12 U
Hexachlorobenzene		118-74-1	0.33	12	0.04 U	0.041 U	0.042 U	0.039 UJ	0.04 U	0.059 U	0.041 U	0.04 U
1,3-Hexachlorobutadiene (C-46)		87-68-3	NE	NE	0.082 U	0.083 U	0.085 U	0.08 UJ	0.082 U	0.12 U	0.083 U	0.082 U
Hexachlorocyclopentadiene		77-47-4	NE	NE	0.4 UJ	0.41 U	0.42 U	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
Hexachloroethane		67-72-1	NE	NE	0.04 U	0.041 U	0.042 U	0.039 UJ	0.04 U	0.059 U	0.041 U	0.04 U
Isophorone		78-59-1	NE	NE	0.16 U	0.16 U	0.17 U	0.16 UJ	0.16 U	0.24 U	0.16 U	0.16 U
2-Methylnaphthalene		91-57-6	NE	NE	0.4 U	0.41 U	**0.18 J**	**0.027 J**	**0.013 J**	0.59 U	**0.19 J**	0.4 U
2-Methylphenol (o-Cresol)		95-48-7	0.33	1000	0.4 U	0.41 U	0.42 U	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
4-Methylphenol (p-Cresol)		106-44-5	0.33	1000	0.4 U	0.41 U	**0.028 J**	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
2-Nitroaniline		88-74-4	NE	NE	0.4 U	0.41 U	0.42 U	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
3-Nitroaniline		99-09-2	NE	NE	0.4 U	0.41 U	0.42 U	0.39 U	0.4 U	0.59 U	0.41 U	0.4 U
4-Nitroaniline		100-01-6	NE	NE	0.4 U	0.41 U	0.42 U	0.39 U	0.4 U	0.59 U	0.41 U	0.4 U
Nitrobenzene		98-95-3	NE	NE	0.04 U	0.041 U	0.042 U	0.039 UJ	0.04 U	0.059 U	0.041 U	0.04 U
2-Nitrophenol		88-75-5	NE	NE	0.4 U	0.41 U	0.42 U	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
4-Nitrophenol		100-02-7	NE	NE	0.82 U	0.83 U	0.85 U	0.8 U	0.82 U	1.2 U	0.83 U	0.82 U
N-Nitrosodiphenylamine (NDFA)		86-30-6	NE	NE	0.4 U	0.41 U	**0.0081 J**	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
N-Nitrosodi-n-propylamine (NDPA)		621-64-7	NE	NE	0.04 U	0.041 U	0.042 U	0.039 UJ	0.04 U	0.059 U	0.041 U	0.04 U
Pentachlorophenol		87-86-5	0.8	55	0.33 UJ	0.33 U	0.34 U	0.32 UJ	0.32 U	0.48 U	0.33 U	0.32 U
Phenol		108-95-2	0.33	1000	0.4 U	0.41 U	**0.015 J**	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
1,2,4,5-Tetrachlorobenzene		95-94-3	NE	NE	0.4 U	0.41 U	0.42 U	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
2,3,4,6-Tetrachlorophenol		58-90-2	NE	NE	0.4 U	0.41 U	0.42 U	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U

Table 1. Ballfield Underground StorageTank Investigation Summary Report
Soil Analytical Results
National Grid
Brooklyn, New York

				Sample Name	UST-1-BE	BD-1	UST-1-BS	UST-1-BW	UST-2-BE	UST-2-BN	UST-2-BS	UST-2-BW
				Sample Date	9/25/2020	9/25/2020	9/25/2020	9/25/2020	9/25/2020	9/25/2020	9/25/2020	9/25/2020
				Parent Sample		UST-1-BE						
Analyte	**Units**	**CAS No.**	**Unrestricted SCO**	**Industrial SCO**								
2,4,5-Trichlorophenol		95-95-4	NE	NE	0.4 U	0.41 U	0.42 U	0.39 UJ	0.4 U	0.59 U	0.41 U	0.4 U
2,4,6-Trichlorophenol		88-06-2	NE	NE	0.16 U	0.16 U	0.17 U	0.16 UJ	0.16 U	0.24 U	0.16 U	0.16 U
PCB Aroclors	mg/kg											
Aroclor 1016		12674-11-2	NE	NE	0.082 U	0.083 U	0.085 U	0.08 U	0.082 U	0.12 U	0.083 U	0.082 U
Aroclor 1221		11104-28-2	NE	NE	0.082 U	0.083 U	0.085 U	0.08 U	0.082 U	0.12 U	0.083 U	0.082 U
Aroclor 1232		11141-16-5	NE	NE	0.082 U	0.083 U	0.085 U	0.08 U	0.082 U	0.12 U	0.083 U	0.082 U
Aroclor 1242		53469-21-9	NE	NE	0.082 U	0.083 U	0.085 U	0.08 U	0.082 U	0.12 U	0.083 U	0.082 U
Aroclor 1248		12672-29-6	NE	NE	0.082 U	0.083 U	0.085 U	0.08 U	0.082 U	0.12 U	0.083 U	0.082 U
Aroclor 1254		11097-69-1	NE	NE	0.082 U	0.083 U	0.085 U	0.08 U	0.082 U	0.12 U	0.083 U	0.082 U
Aroclor 1260		11096-82-5	NE	NE	0.082 U	0.083 U	0.085 U	0.08 U	0.082 U	0.12 U	0.083 U	0.082 U
Aroclor 1262		37324-23-5	NE	NE	0.082 U	0.083 U	0.085 U	0.08 U	0.082 U	0.12 U	0.083 U	0.082 U
Aroclor 1268		11100-14-4	NE	NE	0.082 U	0.083 U	0.085 U	0.08 U	0.082 U	0.12 U	0.083 U	0.082 U
Total PCBs (Lab calculated)		1336-36-3	0.1	25	0.082 U	0.083 U	0.085 U	0.08 U	0.082 U	0.12 U	0.083 U	0.082 U
Total PCB Aroclors (ND=0)		TPCB-AR_ND0	0.1	25	ND	ND	ND	ND	ND	ND	ND	ND
Total Metals	mg/kg											
Aluminum		7429-90-5	NE	NE	**9200**	**9860**	**6050**	**8980**	**8480**	**744**	**7060**	**4250**
Antimony		7440-36-0	NE	NE	**2.3 J**	**1.9 J**	**2.7 J**	**2.2 J**	**4 J**	**54.4**	**4.4 J**	**26.1**
Arsenic		7440-38-2	13	16	**6.6 J**	**6**	**26.1**	**4.7 J**	**18.2**	**14.8**	**24.6**	**22.7**
Barium		7440-39-3	350	10000	**86**	**82.3**	**76.2**	**71.1**	**205**	**317**	**207**	**76.2**
Beryllium		7440-41-7	7.2	2700	**0.19 J**	**0.21 J**	**0.18 J**	0.48 U	**0.37 J**	0.68 U	**0.33 J**	0.47 U
Cadmium		7440-43-9	2.5	60	**0.17 J**	**0.22 J**	**0.92 J**	**0.17 J**	**0.31 J**	**0.23 J**	**0.38 J**	**0.43 J**
Calcium		7440-70-2	NE	NE	**2720**	**3000**	**8310**	**10800**	**9540**	**206000**	**5960**	**4800**
Chromium		7440-47-3	30	6800	**16.9**	**17.6**	**30.9**	**24.5**	**17**	**2.7 J**	**23**	**11.8**
Cobalt		7440-48-4	NE	NE	**6 J**	**5.6 J**	**5.9 J**	**6.5 J**	**6.4 J**	17 U	**5.7 J**	**8.5 J**
Copper		7440-50-8	50	10000	**34.6**	**35.8**	**165**	**21**	**89.6**	**126**	**134**	**47.1**
Iron		7439-89-6	NE	NE	**16300**	**17200**	**15900**	**18900**	**19100**	**3530**	**18100**	**14700**
Lead		7439-92-1	63	3900	**174 J**	**213**	**246**	**147 J**	**220**	**474**	**379**	**259**
Magnesium		7439-95-4	NE	NE	**1780**	**1720**	**1940**	**2180**	**1980**	**921 J**	**1720**	**1420**
Manganese		7439-96-5	1600	10000	**186 J**	**205**	**240**	**233 J**	**471**	**142**	**260**	**147**
Mercury		7439-97-6	0.18	5.7	**0.68**	**0.52**	**9.2**	**0.43**	**27.7**	**16.4**	**7.5**	**3.4**
Nickel		7440-02-0	30	10000	**12.2**	**12.1**	**14.2**	**12.6**	**16.2**	**2.3 J**	**15.1**	**16.7**
Potassium		7440-09-7	NE	NE	**649 J**	**638 J**	**656 J**	**1180 J**	**768 J**	8480 U	**655 J**	**733 J**
Selenium		7782-49-2	3.9	6800	**2.4 J**	**0.88 J**	**2.2 J**	4.8 U	4.8 U	6.8 U	4.7 U	**3.4 J**
Silver		7440-22-4	2	6800	2.3 U	2.3 U	2.5 U	2.4 U	2.4 U	3.4 U	2.4 U	2.3 U
Sodium		7440-23-5	NE	NE	1170 U	1140 U	**547 J**	**704 J**	**236 J**	**877 J**	**156 J**	**180 J**
Thallium		7440-28-0	NE	NE	4.7 U	4.6 U	4.9 U	4.8 U	4.8 U	6.8 U	4.7 U	4.7 U
Vanadium		7440-62-2	NE	NE	**23.7**	**24.1**	**24.8**	**29.8**	**27**	**3.6 J**	**26.2**	**23.7**
Zinc		7440-66-6	109	10000	**85.9**	**106**	**473**	**95**	**382**	**100**	**286**	**170**

Table 1. Ballfield Underground Storage Tank Investigation Summary Report
National Grid
Brooklyn, NY

Notes:
mg/kg = milligrams/kilogram or parts per million (ppm)

BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes
PAH = Polycyclic Aromatic Hydrocarbon
PCB = Polychlorinated Biphenyl
SVOC = Semi-Volatile Organic Compound
VOC = Volatile Organic Compound

Total BTEX, Total PAHs, and Total PCBs are calculated using detects only.
Total PAH17 is calculated using the list of analytes: Acenaphthene, Acenaphthylene, Anthracene, Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Chrysene, Dibenz[a,h]anthracene, Fluoranthene, Fluorene, Indeno[1,2,3-cd]pyrene, Naphthalene, 2-Methylnaphthalene, Phenanthrene, and Pyrene

6 NYCRR = New York State Register and Official Compilation of Codes, Rules and Regulations of the State of New York
Comparison of detected results are performed against one or more of the following NYCRR, Chapter IV, Part 375-6 Soil Cleanup Objectives (SCO)s: Unrestricted Use, Residential, Restricted-Residential, Commercial, Industrial, Protection of Ecological Resources, or Protection

CAS No. = Chemical Abstracts Service Number
ND = Not Detected

Bolding indicates a detected result concentration
Shading and bolding indicates that the detected concentration is above the NYSDOH guidance it was compared to

Data Qualifiers:
B = The analyte was detected in the associated method blank.
J = The result is an estimated value.
R = The result is rejected.
U = The result was not detected above the reporting limit.

Table 2. Ballfield Underground Storage Tank Investigation Summary Report
Liquid Analytical Results
National Grid
Brooklyn, NY

		Sample Name	GPEC-UST-1	GPEC-UST-2
		Sample Date	9/23/2020	9/23/2020
Analyte	**Units**	**CAS No.**		
BTEX	µg/L			
Benzene		71-43-2	**13**	**24**
Toluene		108-88-3	**6.3**	**57**
Ethylbenzene		100-41-4	**1.4**	**26**
o-Xylene		95-47-6	**3.5**	**50**
m/p-Xylene		179601-23-1	**5.6**	**72**
Total BTEX (ND=0)		TBTEX_ND0	**29.8**	**229**
Other VOCs	µg/L			
Acetone		67-64-1	**88**	**12000**
Bromochloromethane		74-97-5	1 U	5 U
Bromodichloromethane		75-27-4	1 U	5 U
Bromoform		75-25-2	1 UJ	5 U
Bromomethane		74-83-9	1 UJ	5 U
Carbon disulfide		75-15-0	1 U	5 U
Carbon tetrachloride		56-23-5	1 U	5 U
Chlorobenzene		108-90-7	1 U	5 U
Chloroethane		75-00-3	1 U	5 U
Chloroform (Trichloromethane)		67-66-3	1 U	5 U
Chloromethane		74-87-3	1 UJ	5 U
Cyclohexane		110-82-7	1 U	5 U
1,2-Dibromo-3-chloropropane		96-12-8	1 UJ	5 U
Dibromochloromethane		124-48-1	1 U	5 U
1,2-Dibromoethane (EDB)		106-93-4	1 U	5 U
1,2-Dichlorobenzene (o-DCB)		95-50-1	1 U	5 U
1,3-Dichlorobenzene (m-DCB)		541-73-1	1 U	5 U
1,4-Dichlorobenzene (p-DCB)		106-46-7	1 U	5 U
Dichlorodifluoromethane (Freon 12)		75-71-8	1 U	5 U
1,1-Dichloroethane		75-34-3	1 U	5 U
1,2-Dichloroethane		107-06-2	1 U	5 U
1,1-Dichloroethene		75-35-4	1 U	5 U
cis-1,2-Dichloroethene		156-59-2	1 U	5 U
trans-1,2-Dichloroethene		156-60-5	1 U	5 U
1,2-Dichloropropane		78-87-5	1 U	5 U
cis-1,3-Dichloropropene		10061-01-5	1 U	5 U
trans-1,3-Dichloropropene		10061-02-6	1 UJ	5 U
2-Hexanone		591-78-6	5 U	**26**
Isopropylbenzene		98-82-8	1 U	**5.3**
Methyl acetate		79-20-9	5 U	25 U
Methyl ethyl ketone (2-Butanone)		78-93-3	**19**	**1300**
Methyl tert-butyl ether (MTBE)		1634-04-4	1 U	5 U
4-Methyl-2-pentanone (MIBK)		108-10-1	**3.2 J**	**26**
Methylcyclohexane		108-87-2	1 U	5 U
Methylene chloride		75-09-2	1 U	5 U
Styrene		100-42-5	**3.8**	**16**
1,1,2,2-Tetrachloroethane		79-34-5	1 UJ	5 U
Tetrachloroethene (PCE)		127-18-4	1 U	5 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		76-13-1	1 U	5 U
1,2,3-Trichlorobenzene		87-61-6	1 U	5 U
1,2,4-Trichlorobenzene		120-82-1	1 U	5 U
1,1,1-Trichloroethane (TCA)		71-55-6	1 U	5 U

Table 2. Ballfield Underground Storage Tank Investigation Summary Report
Liquid Analytical Results
National Grid
Brooklyn, NY

		Sample Name	GPEC-UST-1	GPEC-UST-2
		Sample Date	9/23/2020	9/23/2020
Analyte	**Units**	**CAS No.**		
1,1,2-Trichloroethane		79-00-5	1 U	5 U
Trichloroethene (TCE)		79-01-6	1 U	5 U
Trichlorofluoromethane (Freon 11)		75-69-4	1 U	5 U
Vinyl chloride		75-01-4	1 U	5 U
Other				
Diesel Range Organics	mg/L	DRO	**630 J**	**310**

Notes:

mg/L = milligrams/liter
µg/L = micrograms per liter or parts per billion (ppb)

BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes
VOC = Volatile Organic Compound

Total BTEX is calculated using detects only.

NYS AWQS = New York State Ambient Water Quality Standards and Guidance Values for GA
* indicates the value is a guidance value and not a standard

CAS No. = Chemical Abstracts Service Number
MGP = Manufactured Gas Plant
NE = Not Established

Bolding indicates a detected result concentration
Shading and bolding indicates that the detected concentration is above the NYS AWQS it was

Data Qualifiers:

J = The result is an estimated value.
U = The result was not detected above the reporting limit.
UJ = The results was not detected at or above the reporting limit shown and the reporting limit is

Attachment 1

TEST PIT LOG

				TEST PIT NUMBER	
PROJECT	Greenpoint Energy Center Phase 2 RI			**GPEC-TP UST 1**	
LOCATION	287 Maspeth Ave, Brooklyn. NY 11211			1 OF 2	
CLIENT	National Grid			PROJECT NO.	125180-2-1202
EQUIPMENT	Vac Truck (Guzzler ACE 317C) and Backhoe (CAT 430D)			ELEVATION	~14.91ft
WEATHER	Cloudy 71°F - 83°F			NORTHING	686829.68
CONTRACTOR	Island Pump & Tank	OPERATOR	Ashton Ali.	EASTING	648818.83
OBSERVED BY	Akin Adegbayi	DATE	11/6/2014	DATE STARTED	8/6/2014
CHECKED BY	Matt Sweet	DATE	11/7/2014	DATE FINISHED	8/8/2014

Depth Below Ground Surface (ft)	Sample Depth, No., and Type	PID (ppm)	Soil Description
		0.0	(0' - 5.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% fine to coarse brown sand, ~35% fine to coarse gravel. Maximum gravel grain size 6 inch. Concrete fragments, some cobbles and red brick fragments. No visual impact observed. Groundwater encountered at ~5.5feet
5	GPEC-UST1A (5' - 5.5') GPEC-UST1B (5' - 5.5')		Bottom of test pit at 5.5 feet.
10			
15			
20			

DRAFT

NOTES:

Test pit to investigate former structure, east of Vandervoort Avenue.
Datum: New York State Plane NAVD 88.

GEI Consultants

TEST PIT DIMENSIONS:	
LENGTH	18 ft.
WIDTH	5 ft.
DEPTH	5.5 ft.

TEST PIT LOG

PROJECT	Greenpoint Energy Center Phase 2 RI				
LOCATION	287 Maspeth Ave, Brooklyn. NY 11211				
CLIENT	National Grid				
EQUIPMENT	Vac Truck (Guzzler ACE 317C) and Backhoe (CAT 430D)				
WEATHER	Cloudy 71°F - 83°F				
CONTRACTOR	Island Pump & Tank	OPERATOR	Ashton Ali		
OBSERVED BY	Akin Adegbayi	DATE	11/6/2014		
CHECKED BY	Matt Sweet	DATE	11/7/2014		

TEST PIT NUMBER

GPEC-TP UST 2

1 OF 2

PROJECT NO.	125180-2-1202
ELEVATION	~15.76 ft
NORTHING	686877.78
EASTING	648808.42
DATE STARTED	8/12/2014
DATE FINISHED	8/13/2014

Depth Below Ground Surface (ft)	Sample Depth, No., and Type	PID (ppm)	Soil Description
			(0' - 5.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% fine to coarse brown sand, ~35% fine to coarse gravel. Maximum gravel grain size 6 inch. Concrete fragments, some cobbles and red brick fragments. No visual impact observed. Groundwater encountered at ~5.5 ft.
5	GPEC-UST2 A (5' - 5.5') GPEC-UST2 B (5' - 5.5')	0.0	
			Bottom of test pit at 5.5 feet.
10			
15			
20			

DRAFT

NOTES:

Test pit to investigate former structure, east of Vandervoort Avenue.
Datum: New York State Plane NAVD 88.

GEI Consultants

TEST PIT DIMENSIONS:

LENGTH	18 ft.
WIDTH	5 ft.
DEPTH	5.5 ft.

Attachment 2

Ballfield UST Investigation: Photo Log

Photo 1 – UST-1 area prior to investigation. Outline of tank area and electric line in area are shown. Shows grade rising to west toward site boundary fence and sidewalk along Vandervoort Avenue.	
Photo 2 – UST-2 area prior to investigation. Outline of tank area and electric line in area are shown. Shows grade rising to west toward site boundary fence and sidewalk along Vandervoort Avenue	

Ballfield UST Investigation: Photo Log

Photo 3 – Top of buried valve port and vent fill pipe in UST-2 area. Concrete block floor also shown.	
Photo 4 – Side of the valve port and southeast edge of vault on southeast corner of UST-2 area.	

Ballfield UST Investigation: Photo Log

Photo 5 – Exposed valve ports and brick enclosures on north side of UST-1 area. Piping connecting the structures also shown.	
Photo 6 – Top westernmost valve port and fill or vent pipe on southern side of UST-1 area near site boundary fence and Vandervoort Avenue. Tank is accessible through small pipe visible in photo. Top of concrete vault approximately 4 feet below the top of the valve port.	

Ballfield UST Investigation: Photo Log

Photo 7 – Excavation to the south of UST-1 area. Wall of vault shown in center of photo and part of building foundation shown near bottom of photo.	
Photo 8 – Sheen shown on water in excavation south of UST-1 area.	

Ballfield UST Investigation: Photo Log

Photo 9 – Excavation above and between the south side of the two westernmost tanks in the UST-1 area.	
Photo 10 – Sludge from westernmost tank in UST-1 area shown on measuring tape.	

Ballfield UST Investigation: Photo Log

Photo 11 – Excavation to the north of UST-2 area. Photo shows piping extending north from UST area (on right) towards concrete wall to the north. The area farther north was investigated and no additional USTs were found.	
Photo 12 – Top of westernmost UST in UST-2 area near perimeter fence. Top of UST approximately 6 feet below grade.	

Attachment 3

GEI Consultants

GEI Consultants, Inc. P.C.
1000 New York Avenue
Suite B
Huntington Station,
New York 11746

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

BORING LOG
PAGE 1 of 1
UST-1-BE

LOCATION: Former Ball Field
NORTHING (FT): _____ **EASTING (FT):** _____
TOTAL DEPTH (FT): 15.0
DRILLED BY: Aarco / D. Pacheco
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: C. Morris
DATE START / END: 9/25/2020 - 9/25/2020
DRILLING DETAILS: Direct Push / Geoprobe
WATER LEVEL DEPTHS (FT): ▼ 5.50
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			0.0				(0-5.5') VACUUM/HAND CLEARED. NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~60% fine to medium sand; ~30% fine to coarse angular to subrounded gravel up to 4-inches; cobbles; ~10% nonplastic fines; dark brown; dry; contains red brick, concrete, metal, glass, and wood; FILL.
▼	5	S1	5/3.8	0.0 0.0 0.4 585 154 24.5 1.2			UST-1-BE (7-9)	(5.5-7') SILTY SAND (SM); ~70% fine to medium sand; ~20% nonplastic fines; ~10% fine gravel; brown; wet; contains brick and pieces of ceramic pipe; FILL. (7-10.1') SANDY SILT (MLS); ~50% nonplastic fines; ~40% fine to medium sand; ~10% fine gravel; organic matter (roots); tight; strong weathered fuel oil-like odor mixed with a solvent-like odor.
	10		5/2.9	0.0				(10.1-10.3') WIDELY GRADED GRAVEL (GW); ~100% fine to coarse subrounded to subangular gravel. (10.3-11.5') NARROWLY GRADED SAND (SP); ~90% fine to medium sand; ~10% fine gravel; brown. (11.5-13.3') WIDELY GRADED GRAVEL WITH SAND (GW); ~70% fine to coarse subrounded to subangular gravel; ~30% fine to medium sand; brown to black; contains brick; FILL. (13.3-15') SILTY SAND (SM); ~70% fine to medium sand; ~25% nonplastic fines; ~5% fine gravel; brown.
	15							End of Boring at 15 feet. Backfilled with cuttings.

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

ENVIRONMENTAL BORING LOG BALLFIELD UST LOGS.GPJ GEI TEMPLATE 11-7-13.GDT 10/28/20

GEI Consultants

GEI Consultants, Inc. P.C.
1000 New York Avenue
Suite B
Huntington Station,
New York 11746

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

BORING LOG
PAGE 1 of 1
UST-1-BS

LOCATION: Former Ball Field
NORTHING (FT): _____ **EASTING (FT):** _____
TOTAL DEPTH (FT): 15.0
DRILLED BY: Aarco / D. Pacheco
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: C. Morris
DATE START / END: 9/25/2020 - 9/25/2020
DRILLING DETAILS: Direct Push / Geoprobe
WATER LEVEL DEPTHS (FT): ▼ 6.50
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			0.0				(0-5') VACUUM/HAND CLEARED. NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~60% fine to medium sand; ~30% fine to coarse angular to subrounded gravel up to 4-inches; cobbles; ~10% nonplastic fines; dark brown; dry; contains red brick, concrete, metal, glass, and wood; FILL.
▼	5	S1	5/3.8	0.0			UST-1-BS (6-7)	(5-7.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% fine to coarse sand; ~30% fine to coarse angular to subrounded gravel; reddish-brown; wet at base.
	10	S2	5/3.4	0.0				(7.5-8.8') SILTY SAND WITH GRAVEL (SM); ~60% fine to medium sand; ~25% nonplastic fines; ~15% coarse gravel; brown. Drilled through cobbles. (8.8-10') SILTY SAND (SM); ~60% fine sand; ~30% nonplastic fines; ~10% coarse gravel; dark brown; some organic matter; slight organic-like odor. Drilled through cobbles. (10-10.2') FILL; brick. (10.2-13.5') SILTY SAND (SM); ~70% fine to medium sand; ~20% nonplastic fines; ~10% fine to coarse subrounded gravel; brown. (13.5-13.6') COBBLE. (13.6-15') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% fine to medium sand; ~10% nonplastic fines; ~5% fine gravel; red-brown; dry; tight.
	15							End of Boring at 15 feet. Backfilled with cuttings.

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
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ENVIRONMENTAL BORING LOG BALLFIELD UST LOGS.GPJ GEI TEMPLATE 11-7-13.GDT 10/28/20

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New York 11746

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

BORING LOG
PAGE 1 of 1
UST-1-BW

LOCATION: Former Ball Field
NORTHING (FT): _____ **EASTING (FT):** _____
TOTAL DEPTH (FT): 15.0
DRILLED BY: Aarco / D. Pacheco
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: C. Morris
DATE START / END: 9/25/2020 - 9/25/2020
DRILLING DETAILS: Direct Push / Geoprobe
WATER LEVEL DEPTHS (FT): ▼ 7.50
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			0.0				(0-5') HAND CLEARED. (0-0.2') ASPHALT. (0.2-6.9') SILTY SAND (SM); ~70% fine to medium sand; ~20% nonplastic fines; ~10% fine to coarse gravel; brown; contains concrete and brick; FILL.
	5	S1	5/3.5	0.0				
				0.0				
▼				6.0				(6.9-9.2') SILTY SAND (SM); ~50% fine to medium sand; ~40% nonplastic fines; ~10% fine gravel; gray-green with some black bands; strong weathered fuel oil-like odor mixed with a solvent-like odor. Wet at 7.5'.
				75.8				
				892				
				59.6				(9.2-10') NARROWLY GRADED SAND (SP); ~85% fine to medium sand; ~10% fine gravel; ~5% nonplastic fines; red-brown; dry; tight; moderate fuel oil-like odor mixed with a solvent-like odor.
	10	S2	5/4	392			UST-1-BW (11-13)	(10-10.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% fine to coarse sand; ~15% fine to coarse gravel; ~5% nonplastic fines; brown-gray; wet; loose.
				1715				(10.3-13.5') SILTY SAND (SM); ~70% fine to medium sand; ~20% nonplastic fines; ~10% fine gravel; gray; strong fuel oil-like odor.
				1972				
				299				
				209				(13.5-14.6') SILT WITH SAND (ML); ~70% nonplastic fines; ~25% fine sand; ~5% fine gravel; gray; very strong fuel oil-like odor.
				56				(14.6-15') SANDY SILT WITH GRAVEL (MLS); ~50% nonplastic fines; ~30% fine sand; ~20% fine to coarse gravel; gray-black; slight fuel-oil like odor.
	15			25				End of Boring at 15 feet. Backfilled with cuttings.

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IN. = INCHES
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ENVIRONMENTAL BORING LOG BALLFIELD UST LOGS.GPJ GEI TEMPLATE 11-7-13.GDT 10/28/20

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Huntington Station,
New York 11746

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

BORING LOG
PAGE 1 of 1
UST-2-BE

LOCATION: Former Ball Field
NORTHING (FT): _____ **EASTING (FT):** _____
TOTAL DEPTH (FT): 15.0
DRILLED BY: Aarco / D. Pacheco
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: C. Morris
DATE START / END: 9/25/2020 - 9/25/2020
DRILLING DETAILS: Direct Push / Geoprobe
WATER LEVEL DEPTHS (FT): ▼ 6.00
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			0.0				(0-5') VACUUM/HAND CLEARED. NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~60% fine to medium sand; ~30% fine to coarse angular to subrounded gravel up to 4-inches; cobbles; ~10% nonplastic fines; dark brown; dry; contains red brick, concrete, metal, glass, and wood; FILL.
	5	S1	5/1.8	4.9				(5-7') SILT (ML); ~70% nonplastic fines; ~20% peat and organic matter; ~10% fine gravel; dark brown; moderate organic-like odor.
▼				5.2				(7-10.2') FILL; ~90% bluestone, brick, and gravel; ~10% fine to medium sand; wet; moderate weathered solvent-like odor.
	10	S2	5/5	97.7 192 198 145 3.3 5.8 45.5 0.4 0.2			UST-2-BE (10-12)	(10.2-10.6') FILL; white putty like material. (10.6-12') LEAN CLAY (CL); ~100% silty clay; gray; wet; very loose; moderate weathered solvent-like odor. (12-12.6') ORGANIC SOIL (OL); ~100% peat; dark brown; moderate organic-like odor mixed with a weathered solvent-like odor. (12.6-13.3') CLAYEY SAND WITH GRAVEL (SC); ~60% fine to medium sand; ~20% silty clay; ~20% fine to coarse gravel; loose; slight weathered solvent-like odor. (13.3-14.1') SILTY SAND (SM); ~70% fine to medium sand; ~25% nonplastic fines; ~5% coarse gravel; dark brown; loose; strong weathered solvent-like odor. (14.1-15') SILTY SAND (SM); ~70% fine to medium sand; ~30% nonplastic fines; black; some organic matter; slight weathered solvent-like odor. End of Boring at 15 feet. Backfilled with cuttings.
	15							

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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 BALLFIELD UST LOGS.GPJ GEI TEMPLATE 11-7-13.GDT 10/28/20

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1000 New York Avenue
Suite B
Huntington Station,
New York 11746

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

BORING LOG
PAGE 1 of 1
UST-2-BN

LOCATION: Former Ball Field
NORTHING (FT): _____ **EASTING (FT):** _____
TOTAL DEPTH (FT): 7.0
DRILLED BY: Aarco / D. Pacheco
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: C. Morris
DATE START / END: 9/25/2020 - 9/25/2020
DRILLING DETAILS: Direct Push / Geoprobe
WATER LEVEL DEPTHS (FT): ▼ 6.00
GENERAL NOTE: Refusal at 7'. Several other locations attempted in area with the same result. May be part of a building foundation.

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			0.0				(0-5') VACUUM/HAND CLEARED. NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~60% fine to medium sand; ~30% fine to coarse angular to subrounded gravel up to 4-inches; cobbles; ~10% nonplastic fines; dark brown; dry; contains red brick, concrete, metal, glass, and wood; FILL.
▼	5	S1	2/2	0.0			UST-2-BN (6-7)	(5-5.4') NARROWLY GRADED SAND (SP); ~70% fine to medium sand; ~30% fine gravel; brown; contains mostly brick and concrete; FILL. (5.4-5.7') FILL; RCA, gravel, brick, and concrete fragments. (5.7-7') SILTY SAND (SM); ~60% fine to medium sand; ~30% nonplastic fines; ~10% fine gravel; brown; wet; contains brick; FILL. End of Boring at 7 feet. Backfilled with cuttings.

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S_V = TORVANE PEAK

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ENVIRONMENTAL BORING LOG BALLFIELD UST LOGS.GPJ GEI TEMPLATE 11-7-13.GDT 10/28/20

GEI Consultants, Inc. P.C. 1000 New York Avenue Suite B Huntington Station, New York 11746	CLIENT: National Grid - Greenpoint PROJECT: UST Investigation CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-3.1302	BORING LOG PAGE 1 of 1 UST-2-BS

LOCATION: Former Ball Field
NORTHING (FT): _____ EASTING (FT): _____
TOTAL DEPTH (FT): 15.0
DRILLED BY: Aarco / D. Pacheco
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: C. Morris
DATE START / END: 9/25/2020 - 9/25/2020
DRILLING DETAILS: Direct Push / Geoprobe
WATER LEVEL DEPTHS (FT): ▼ 6.00
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			0.0				(0-6') VACUUM/HAND CLEARED. NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~60% fine to medium sand; ~30% fine to coarse angular to subrounded gravel up to 4-inches; cobbles; ~10% nonplastic fines; dark brown; dry; contains red brick, concrete, metal, glass, and wood; FILL.
	5							
▼		S1	4/2.7	0.0				(6-8.9') SILTY SAND (SM); ~70% fine to medium sand; ~20% nonplastic fines; ~10% fine to coarse gravel; brown; wet; contains brick, concrete, and glass; FILL.
	10	S2	5/1.8	5.8 33.9 465 398			UST-2-BS (11-13)	(8.9-9.3') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% fine to medium sand; ~10% nonplastic fines; ~10% fine gravel; red-brown. (9.3-10') WIDELY GRADED GRAVEL WITH SAND (GW); ~70% fine to coarse gravel; ~30% fine to coarse sand; brown; contains glass and asphalt; FILL. (10-12.9') SILTY SAND (SM); ~60% fine to medium sand; ~30% nonplastic fines; ~10% fine to coarse gravel; brown; very loose. (12.9-15') SILTY SAND (SM); ~75% fine to medium sand; ~15% nonplastic fines; ~10% fine to coarse gravel; black staining from 12.9-14', brown from 14-15'; strong fuel oil-like odor mixed with a solvent-like odor; contains brick; FILL. End of Boring at 15 feet. Backfilled with cuttings.
	15							

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

BORING LOG
PAGE 1 of 1
UST-2-BW

LOCATION: Former Ball Field
NORTHING (FT): _____ **EASTING (FT):** _____
TOTAL DEPTH (FT): 15.0
DRILLED BY: Aarco / D. Pacheco
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: C. Morris
DATE START / END: 9/25/2020 - 9/25/2020
DRILLING DETAILS: Direct Push / Geoprobe
WATER LEVEL DEPTHS (FT): ▼ 9.00
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			0.0				(0-5') HAND CLEARED. (0-0.2') ASPHALT. (0.2-5.9') SILTY SAND (SM); ~70% fine to medium sand; ~20% nonplastic fines; ~10% fine to coarse gravel; brown; contains concrete and brick; FILL.
	5	S1	5/3.3	0.0				(5.9-8.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~50% fine to coarse sand; ~50% fine to coarse gravel; brown; contains asphalt, brick, amd stone; FILL.
▼								(8.3-8.6') NARROWLY GRADED SAND (SP); ~85% fine to medium sand; ~10% fine gravel; ~5% nonplastic fines; red-brown; dry; tight.
	10	S2	5/4.5	0.0 0.0 0.0 3.4 328 736 56.8 18.8 11.0			UST-2-BW (12-14)	(8.6-9.4') SILTY SAND (SM); ~60% fine to medium sand; ~30% nonplastic fines; ~10% fine gravel; brown; wet. (9.4-10') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% fine to coarse sand; ~20% fine gravel; ~10% nonplastic fines; dark brown; wet. (10-11.7') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% fine to coarse sand; ~20% fine gravel; ~10% nonplastic fines; dark brown; wet; contains glass; FILL. (11.7-12.8') SILTY SAND (SM); ~60% fine to medium sand; ~30% nonplastic fines; ~10% fine gravel; brown; loose; slight weathered fuel oil-like odor mixed with a solvent-like odor. (12.8-14.5') WIDELY GRADED GRAVEL WITH SAND (GW); ~80% fine to coarse gravel; ~20% fine to coarse sand; brown; black staining; strong fuel oil-like odor mixed with a solvent-like odor; contains asphalt, glass, stone, and slag; FILL. (14.5-15') LEAN CLAY (CL); ~100% clay with some organic matter; gray; loose; slight fuel oil-like odor mixed with a solvent-like odor. End of Boring at 15 feet. Backfilled with cuttings.
	15							

NOTES:

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