

Mr. Patrick Van Rossem
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Date: May 13, 2022
Our Ref: 30004014.00002
Subject: Post-Remediation DNAPL Monitoring Status Report
Former Citizens Gas Works Manufactured Gas Plant Site
Borough of Brooklyn, Kings County, New York
NYSDEC Site Nos. C224012 and C224012B

Dear Mr. Van Rossem,

This letter has been prepared by Arcadis of New York, Inc. (Arcadis), on behalf of National Grid, to present the initial dense non-aqueous phase liquid (DNAPL) monitoring results and proposed scope of the interim post-remediation DNAPL monitoring program for the former Citizens Gas Works manufactured gas plant (MGP) site (hereinafter, the "Site") in Brooklyn, New York (Figure 1). As you are aware, the recently-completed remediation activities at the Site included the installation of several new DNAPL recovery wells on Block 471, Lot 1 (hereinafter, "Parcel I"), Block 471, Lot 100 (hereinafter, "Parcel II"), and Block 471, Lot 200 (hereinafter, "Parcel III"). These new wells, together with the existing recovery wells that remain, will be used to monitor and remove recoverable DNAPL from intermediate and deep soils at the Site. The new and existing recovery well locations are shown on Figure 2.

The remainder of this letter summarizes the: (1) recovery well installation activities on Parcels I, II, and III of the Site; (2) initial DNAPL monitoring results through the end of March 2022; and (3) proposed scope of the interim post-remediation DNAPL monitoring program through the end of September 2022.

Recovery Well Installation

New recovery wells CGRW-08 through CGRW-18, CGRW-19I, CGRW-19D, CGRW-20I, CGRW-20D, CGRW-21I, CGRW-21D, CGRW-22I, and CGRW-22D (Figure 2) were installed by Aquifer Drilling and Testing, Inc., under contract with Creamer Environmental, Inc. and with the supervision of Arcadis, in general accordance with the *100% Remedial Design Report* (Arcadis 2017) and *Remedial Design Addendum No. 5* (National Grid 2021). New recovery wells CGRW-08 through CGRW-12 (Parcel I) were installed between October 21 and October 24, 2019 and were constructed of nominal 4-inch diameter Schedule 40 polyvinyl chloride riser and screen. Each of the new Parcel I recovery wells included a 30-foot long screen and a 15-foot long sump.

The new recovery wells on Parcel II (CGRW-13 through CGRW-18) and Parcel III (CGRW-19I, CGRW-19D, CGRW-20I, CGRW-20D, CGRW-21I, CGRW-21D, CGRW-22I, and CGRW-22D) were installed between November 22, 2021 and February 15, 2022 and were constructed of nominal 6-inch diameter Schedule 10 stainless steel riser and continuous-slot, wire-wound stainless steel screen. Each well also included a 15-foot long stainless steel sump. In addition, while drilling the boreholes for the new recovery wells on Parcels II and III, soil

Mr. Patrick Van Rossem
National Grid
May 13, 2022

samples were generally collected in continuous intervals from approximately 20 feet below ground surface to the bottom of the well screen. Each sample was screened for volatile organic compound vapors with a photoionization detector and was visually examined and logged by Arcadis field personnel. Based on the observations made during those soil sampling activities and discussions in the field with the New York State Department of Environmental Conservation's (NYSDEC's) on-Site representative, the well screens for new recovery wells CGRW-16 (Parcel II), CGRW-19I (Parcel III), and CGRW-22I (Parcel III) were extended by 10 feet, for a total screen length of 40 feet. The remaining new recovery wells on Parcels II and III were each installed with a 30-foot long screen.

With the exceptions of recovery wells CGRW-21I, CGRW-21D, CGRW-22I, and CGRW-22D¹, each well was finished with a flush-mounted well manhole set in a concrete pad. In conjunction with these activities, the above-grade surface completion for existing recovery well CGRW-02 (Parcel I) was also removed and replaced on December 20, 2021 with a flush-mounted well manhole set in a concrete pad. The flush-mounted surface completion for existing recovery well CGRW-203 (Parcel I), which had been damaged during the remediation project, was also replaced on March 25, 2022. Following installation, each new recovery well was developed and surveyed to record its actual ground surface elevation, measuring point elevation, and horizontal location, referenced to Site datum. The new and existing recovery well locations are shown on Figure 2 and the soil boring and well construction logs for the new recovery wells are provided in Attachment A. Table 1 summarizes the soil boring locations for the new recovery wells, including the visible impacts observed at each location. Recovery well construction details are summarized in Table 2.

Finally, it should be noted that new recovery well CGRW-11 was decommissioned with NYSDEC's approval on February 16, 2022 to facilitate the remedial excavation and pipe removal work on Parcel I. A copy of the decommissioning log for recovery well CGRW-11 is provided in Attachment B.

Initial DNAPL Monitoring

In February 2022, following the completion of the recovery well installation work, Arcadis began monitoring and periodically removing DNAPL accumulations from the new and existing recovery wells at the Site. Table 3 summarizes the recovery well fluid level measurements collected on March 31, 2022 as well as the total estimated volume of fluids (DNAPL and groundwater) removed from the recovery wells between February 10 and March 31, 2022. As indicated in Table 3, approximately 404 gallons of fluids in total were recovered during this period from recovery wells CGRW-04 (Parcel II), CGRW-06I (Parcel III), CGRW-06D (Parcel III), CGRW-08 through CGRW-10 (Parcel I), CGRW-13 (Parcel II), CGRW-16 through CGRW-18 (Parcel II), CGRW-20I (Parcel III), CGRW-21I (Parcel III), CGRW-21D (Parcel III), CGRW-22I (Parcel III), and CGRW-22D (Parcel III).

¹ New recovery wells CGRW-21I, CGRW-21D, CGRW-22I, and CGRW-22D, as well as existing recovery wells CGRW-06I and CGRW-06D, are located on Parcel III within the active staging area currently being used by Cashman Dredging & Marine Contracting Co., LLC to support the remediation of the Gowanus Canal Superfund Site. These wells will each be finished with flush-mounted surface completions in late 2022 in conjunction with the removal/restoration of the Parcel III staging area.

Mr. Patrick Van Rossem
National Grid
May 13, 2022

Interim Post-Remediation DNAPL Monitoring Program

The DNAPL recovery wells will continue to be monitored on a weekly or more frequent basis for the first six months after the completion of the Site remediation project (i.e., through September 2022) to: (1) assess the presence and recoverability of remaining DNAPL in intermediate and deep soils at the Site; (2) determine initial DNAPL recovery rates; and (3) refine required monitoring and DNAPL removal frequencies. During this initial study period, the results of the interim post-remediation DNAPL monitoring and recovery operations will be reported to NYSDEC on a monthly basis, along with any proposed modifications to the monitoring program. As appropriate, such information will also be incorporated into the Interim Site Management Plans. Thereafter, interim post-remediation DNAPL monitoring and recovery operations will be conducted in accordance with the NYSDEC-approved Interim Site Management Plans.

Please let me know if you have any questions regarding the information presented herein.

Sincerely,
Arcadis of New York, Inc.



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Principal Environmental Engineer

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CC. Andrew Prophete, National Grid
John Alonzo, de maximis
Terry Young, PE, Arcadis

Enclosures:

Tables:

- Table 1. Soil Boring Summary for New Recovery Wells
- Table 2. Recovery Well Construction Summary
- Table 3. Recovery Well Gauging and Product Recovery Summary for March 31, 2022

Figures:

- Figure 1. Site Location Map
- Figure 2. Site Plan

Attachments:

- Attachment A. Soil Boring and Well Construction Logs
- Attachment B. Decommissioning Log for New Recovery Well CGRW-11

Mr. Patrick Van Rossem
National Grid
May 13, 2022

References:

Arcadis. 2017. *100% Remedial Design Report*. Former Citizens Gas Works MGP Site, Carroll Gardens/Public Place, Brooklyn, New York. Prepared for National Grid. November.

National Grid. 2021. *Remedial Design Addendum No. 5*. Former Citizens Gas Works MGP Site, Carroll Gardens/Public Place, Brooklyn, New York. July 29.

Tables

Table 1
Soil Boring Summary for New Recovery Wells
Post-Remediation DNAPL Monitoring Status Report

National Grid
Former Citizens Gas Works Manufactured Gas Plant Site
Borough of Brooklyn, Kings County, New York
NYSDEC Site Nos. C224012 and C224012B

Location ID	Date Completed	Easting (feet NAD83)	Northing (feet NAD83)	Ground Surface Elevation (feet NAVD88)	Total Depth (feet bgs)	Visual Impacts Observed		
						Depth Interval (feet bgs)	Elevation Interval (feet NAVD88)	Description
Parcel I								
CGRW-08	10/24/2019	631902.84	671826.90	30.19	95.10	NO LOGGING AT THIS LOCATION		
CGRW-09	10/23/2019	631945.16	671800.56	30.28	95.10	NO LOGGING AT THIS LOCATION		
CGRW-10	10/23/2019	632029.75	671747.24	23.82	89.00	NO LOGGING AT THIS LOCATION		
CGRW-11	10/22/2019	632072.18	671721.10	20.48	85.00	NO LOGGING AT THIS LOCATION		
CGRW-12	10/21/2019	632105.42	671728.64	19.68	84.00	NO LOGGING AT THIS LOCATION		
Parcel II								
CGSB-P2RA-02/CGRW-13	12/29/2021	632648.03	671637.19	8.03	71.92	40.00 - 41.00	-31.97 - -32.97	Sheen and staining throughout.
						50.00 - 52.30	-41.97 - -44.27	Scattered sheen throughout.
CGSB-P2RA-03/CGRW-14	1/3/2022	632585.34	671638.65	7.93	72.44	26.20 - 27.50	-18.27 - -19.57	Light NAPL coating, NAPL blebs on wood debris, sheen.
						31.20 - 31.50	-23.27 - -23.57	Sheen.
						33.60 - 33.80	-25.67 - -25.87	Staining.
						34.00 - 34.20	-26.07 - -26.27	Staining.
						34.20 - 35.20	-26.27 - -27.27	Light NAPL coating.
						40.00 - 42.70	-32.07 - -34.77	Moderate NAPL coating.
						42.70 - 43.30	-34.77 - -35.37	Light NAPL coating.
CGSB-P2RA-04/CGRW-15	1/5/2022	632509.28	671632.75	7.86	83.50	30.00 - 31.90	-22.14 - -24.04	Scattered NAPL blebs.
						31.90 - 32.00	-24.04 - -24.14	Moderate NAPL coating.
						32.00 - 32.70	-24.14 - -24.84	Light NAPL coating in sand layers.
						32.70 - 34.50	-24.84 - -26.64	Scattered NAPL blebs on sand.
						34.50 - 34.90	-26.64 - -27.04	Heavy NAPL coating.
						34.90 - 35.30	-27.04 - -27.44	Scattered NAPL blebs on sand.
						35.30 - 37.00	-27.44 - -29.14	Staining.
						40.00 - 43.00	-32.14 - -35.14	Scattered sheen.
						43.00 - 43.40	-35.14 - -35.54	Heavy NAPL coating.
						43.40 - 44.90	-35.54 - -37.04	Light to moderate NAPL coating.
CGSB-P2RA-05/CGRW-16	1/7/2022	632414.49	671627.33	10.13	85.54	21.30 - 22.30	-11.17 - -12.17	Black viscous NAPL coating on wood fragments.
						30.00 - 31.00	-19.87 - -20.87	Light to moderate NAPL coating.
						40.00 - 40.40	-29.87 - -30.27	Sheen.
						40.40 - 40.50	-30.27 - -30.37	Heavy NAPL coating, sheen.
						40.50 - 40.80	-30.37 - -30.67	Staining.
						40.80 - 40.90	-30.67 - -30.77	Light NAPL coating, staining.

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						Depth Interval (feet bgs)	Elevation Interval (feet NAVD88)	Description
Parcel II (continued)								
CGSB-P2RA-05/CGRW-16	1/7/2022	632414.49	671627.33	10.13	85.54	40.90 - 41.30	-30.77 - -31.17	Staining.
						41.30 - 41.60	-31.17 - -31.47	Heavy NAPL coating, staining.
						41.60 - 41.80	-31.47 - -31.67	Staining.
						51.10 - 52.30	-40.97 - -42.17	Heavy NAPL coating.
						60.00 - 60.70	-49.87 - -50.57	Sheen.
						66.30 - 66.40	-56.17 - -56.27	Heavy NAPL coating.
CGSB-P2RA-06/CGRW-17	2/10/2022	632260.34	671567.13	11.65	77.00	30.70 - 31.00	-19.05 - -19.35	Scattered NAPL blebs.
						35.30 - 36.00	-23.65 - -24.35	Moderate NAPL coating.
						36.00 - 37.40	-24.35 - -25.75	Partings of moderate NAPL coating with scattered sheen.
						40.00 - 40.50	-28.35 - -28.85	Scattered light NAPL coating.
						40.50 - 40.60	-28.85 - -28.95	Heavy NAPL coating.
						41.60 - 41.70	-29.95 - -30.05	Moderate NAPL coating.
						41.70 - 41.80	-30.05 - -30.15	Scattered NAPL blebs.
						41.80 - 42.00	-30.15 - -30.35	Saturated with NAPL.
						42.00 - 42.80	-30.35 - -31.15	Light NAPL coating and scattered NAPL blebs.
						42.80 - 43.50	-31.15 - -31.85	Heavy NAPL coating.
						43.50 - 43.90	-31.85 - -32.25	Scattered NAPL blebs.
						43.90 - 44.60	-32.25 - -32.95	Saturated with NAPL.
						44.60 - 45.30	-32.95 - -33.65	Scattered NAPL blebs and sheen.
						50.00 - 50.90	-38.35 - -39.25	Saturated with NAPL.
50.90 - 54.30	-39.25 - -42.65	Scattered sheen.						
CGSB-P2RA-07/CGRW-18	2/15/2022	632227.16	671548.68	11.79	77.00	10.00 - 12.80	1.79 - -1.01	Scattered NAPL blebs.
						20.00 - 21.80	-8.21 - -10.01	Scattered NAPL blebs, staining.
						40.00 - 40.80	-28.21 - -29.01	Scattered sheen.
						40.80 - 40.90	-29.01 - -29.11	Heavy NAPL coating and scattered sheen.
						40.90 - 43.30	-29.11 - -31.51	Scattered sheen.
						43.30 - 43.80	-31.51 - -32.01	Moderate NAPL coating and scattered sheen.
						43.80 - 44.00	-32.01 - -32.21	Scattered sheen.
						45.00 - 47.00	-33.21 - -35.21	Scattered sheen, staining.
						47.00 - 47.40	-35.21 - -35.61	Heavy NAPL coating.
						47.40 - 48.10	-35.61 - -36.31	Scattered sheen.
50.00 - 50.80	-38.21 - -39.01	Moderate NAPL coating.						

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						Depth Interval (feet bgs)	Elevation Interval (feet NAVD88)	Description
Parcel II (continued)								
CGSB-P2RA-07/CGRW-18	2/15/2022	632227.16	671548.68	11.79	77.00	50.80 - 51.60	-39.01 - -39.81	Saturated with NAPL.
						51.60 - 53.00	-39.81 - -41.21	Staining.
						53.00 - 53.30	-41.21 - -41.51	Light NAPL coating.
						53.30 - 53.50	-41.51 - -41.71	Moderate NAPL coating.
						55.00 - 55.60	-43.21 - -43.81	Moderate NAPL coating.
						55.60 - 56.50	-43.81 - -44.71	Scattered sheen.
						56.50 - 56.80	-44.71 - -45.01	Heavy NAPL coating.
						60.00 - 60.90	-48.21 - -49.11	Moderate NAPL coating.
Parcel III								
CGSB-P3RA-03/CGRW-19I	12/27/2021	632140.38	671472.64	9.89	89.29	24.20 - 25.10	-14.31 - -15.21	Staining.
						25.10 - 26.20	-15.21 - -16.31	Heavy black viscous NAPL coating on wood fragments.
						26.20 - 26.80	-16.31 - -16.91	Staining.
						26.80 - 27.70	-16.91 - -17.81	Staining on wood fragments.
						30.25 - 30.27	-20.36 - -20.38	Moderate NAPL coating.
						30.58 - 30.60	-20.69 - -20.71	Moderate NAPL coating.
						31.25 - 31.29	-21.36 - -21.40	Heavy NAPL coating.
						32.00 - 32.80	-22.11 - -22.91	Light NAPL coating.
						32.80 - 33.50	-22.91 - -23.61	Heavy NAPL coating.
						33.50 - 34.30	-23.61 - -24.41	Moderate NAPL coating.
						34.30 - 35.50	-24.41 - -25.61	Light NAPL coating.
						41.00 - 41.30	-31.11 - -31.41	Heavy NAPL coating.
						41.80 - 41.90	-31.91 - -32.01	Heavy NAPL coating.
						42.40 - 42.42	-32.51 - -32.53	Heavy NAPL coating.
						43.00 - 43.10	-33.11 - -33.21	Heavy NAPL coating.
						43.50 - 43.52	-33.61 - -33.63	NAPL blebs.
						43.70 - 44.30	-33.81 - -34.41	Scattered sheen.
						44.30 - 44.70	-34.41 - -34.81	Light NAPL coating.
						44.70 - 45.50	-34.81 - -35.61	Scattered sheen.
						50.40 - 52.80	-40.51 - -42.91	Moderate NAPL coating.
						52.80 - 53.50	-42.91 - -43.61	Light NAPL coating.
						53.80 - 53.90	-43.91 - -44.01	Scattered sheen.
						54.40 - 54.50	-44.51 - -44.61	Scattered sheen.

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Parcel III (continued)								
CGSB-P3RA-04/CGRW-19D	12/21/2021	632136.11	671467.64	9.98	118.45	20.00 - 20.80	-10.02 - -10.82	Sheen.
						20.80 - 23.00	-10.82 - -13.02	Saturated with viscous NAPL.
						23.00 - 23.80	-13.02 - -13.82	Trace sheen.
						23.80 - 26.00	-13.82 - -16.02	Moderate NAPL coating.
						32.20 - 36.30	-22.22 - -26.32	Moderate NAPL coating.
						36.30 - 38.00	-26.32 - -28.02	Moderate to heavy NAPL coating.
						40.00 - 44.50	-30.02 - -34.52	Layers of moderate to heavy NAPL coating and sheen.
						44.50 - 44.90	-34.52 - -34.92	Heavy NAPL coating.
						44.90 - 45.50	-34.92 - -35.52	Layers of moderate to heavy NAPL coating and sheen.
						45.50 - 49.00	-35.52 - -39.02	Trace NAPL blebs.
						52.00 - 53.00	-42.02 - -43.02	Sheen.
						53.00 - 53.50	-43.02 - -43.52	Moderate NAPL coating, sheen.
						53.50 - 57.30	-43.52 - -47.32	Heavy NAPL coating, sheen.
						57.30 - 58.00	-47.32 - -48.02	Moderate NAPL coating, sheen.
						CGSB-P3RA-05/CGRW-20I	12/14/2021	632064.28
30.40 - 31.20	-20.50 - -21.30	Viscous NAPL blebs on some wood fractures.						
33.90 - 34.10	-24.00 - -24.20	Moderate NAPL coating.						
34.50 - 34.80	-24.60 - -24.90	Sheen.						
43.80 - 43.90	-33.90 - -34.00	Heavy NAPL coating.						
44.30 - 44.40	-34.40 - -34.50	Light NAPL coating.						
51.50 - 51.60	-41.60 - -41.70	Light NAPL coating.						
53.20 - 53.40	-43.30 - -43.50	Heavy NAPL coating in sand layers.						
54.70 - 54.80	-44.80 - -44.90	Moderate NAPL coating.						
54.80 - 55.10	-44.90 - -45.20	Heavy NAPL coating.						
58.10 - 58.50	-48.20 - -48.60	Saturated with NAPL.						
60.00 - 61.10	-50.10 - -51.20	Scattered sheen.						
67.50 - 67.70	-57.60 - -57.80	Light NAPL coating.						
72.00 - 72.20	-62.10 - -62.30	Moderate to heavy NAPL coating.						

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Parcel III (continued)								
CGSB-P3RA-06/CGRW-20D	12/10/2022	632060.61	671385.05	9.97	118.21	31.30 - 31.50	-21.33 - -21.53	Light to moderate NAPL coating, NAPL blebs.
						32.40 - 32.90	-22.43 - -22.93	Moderate to heavy NAPL coating.
						32.90 - 33.50	-22.93 - -23.53	Sheen.
						41.60 - 41.80	-31.63 - -31.83	Sheen.
						42.10 - 42.30	-32.13 - -32.33	Moderate to heavy NAPL coating.
						44.80 - 45.10	-34.83 - -35.13	Light NAPL coating.
						52.80 - 53.20	-42.83 - -43.23	Heavy NAPL coating to saturated with NAPL.
						54.30 - 54.40	-44.33 - -44.43	Heavy NAPL coating to saturated with NAPL.
						54.40 - 55.20	-44.43 - -45.23	Moderate NAPL coating.
						55.20 - 55.30	-45.23 - -45.33	Heavy NAPL coating to saturated with NAPL.
						56.00 - 56.04	-46.03 - -46.07	Heavy NAPL coating to saturated with NAPL.
						56.20 - 56.50	-46.23 - -46.53	Sheen.
						56.80 - 56.90	-46.83 - -46.93	Heavy NAPL coating to saturated with NAPL.
						60.50 - 60.60	-50.53 - -50.63	Saturated with NAPL.
						60.60 - 61.80	-50.63 - -51.83	Sheen.
						64.30 - 66.50	-54.33 - -56.53	Sheen.
						70.00 - 70.30	-60.03 - -60.33	Saturated with NAPL.
74.75 - 76.20	-64.78 - -66.23	Light NAPL coating.						
80.00 - 81.30	-70.03 - -71.33	Saturated with NAPL.						
83.60 - 84.10	-73.63 - -74.13	Moderate NAPL coating.						
CGSB-P3RA-07/CGRW-21I	12/1/2021	632008.62	671308.14	9.19	86.42	20.00 - 22.40	-10.81 - -13.21	Channels of viscous NAPL.
						23.30 - 23.32	-14.11 - -14.13	Moderate NAPL coating.
						24.80 - 24.82	-15.61 - -15.63	Moderate NAPL coating.
						25.10 - 25.12	-15.91 - -15.93	Moderate NAPL coating.
						25.90 - 25.92	-16.71 - -16.73	Heavy NAPL coating.
						32.10 - 32.20	-22.91 - -23.01	Moderate NAPL coating.
						32.70 - 33.30	-23.51 - -24.11	Heavy NAPL coating.
						33.30 - 33.60	-24.11 - -24.41	Sheen.
						33.60 - 35.30	-24.41 - -26.11	Heavy NAPL coating.
						35.70 - 36.20	-26.51 - -27.01	Light NAPL coating.
						40.00 - 42.10	-30.81 - -32.91	Trace NAPL blebs and trace sheen.
42.10 - 42.30	-32.91 - -33.11	Moderate NAPL coating.						

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						Depth Interval (feet bgs)	Elevation Interval (feet NAVD88)	Description
Parcel III (continued)								
CGSB-P3RA-07/CGRW-21I	12/1/2021	632008.62	671308.14	9.19	86.42	42.30 - 43.20	-33.11 - -34.01	Scattered sheen and staining.
						43.20 - 44.70	-34.01 - -35.51	Moderate NAPL coating.
						50.00 - 51.90	-40.81 - -42.71	Light to moderate NAPL coating.
						51.90 - 53.90	-42.71 - -44.71	Scattered sheen.
						53.90 - 54.80	-44.71 - -45.61	Black heavy NAPL coating to saturated with NAPL.
CGSB-P3RA-08/CGRW-21D	12/2/2022	632004.49	671302.25	9.32	117.71	20.00 - 20.75	-10.68 - -11.43	Saturated with viscous NAPL.
						21.40 - 21.90	-12.08 - -12.58	Saturated with NAPL.
						40.00 - 41.90	-30.68 - -32.58	Scattered sheen.
						41.90 - 42.30	-32.58 - -32.98	Heavy NAPL coating.
						42.30 - 43.40	-32.98 - -34.08	Sheen.
						43.90 - 44.70	-34.58 - -35.38	Scattered sheen.
						51.30 - 51.40	-41.98 - -42.08	Sheen.
						51.70 - 51.80	-42.38 - -42.48	Heavy NAPL coating to saturated with NAPL.
						52.40 - 52.50	-43.08 - -43.18	Saturated with NAPL.
						52.80 - 53.60	-43.48 - -44.28	Scattered sheen.
						54.00 - 54.10	-44.68 - -44.78	Heavy NAPL coating to saturated with NAPL.
						54.50 - 54.80	-45.18 - -45.48	Heavy NAPL coating to saturated with NAPL.
						60.00 - 60.80	-50.68 - -51.48	Moderate NAPL coating.
						60.80 - 60.90	-51.48 - -51.58	Saturated with NAPL.
						61.50 - 61.80	-52.18 - -52.48	Saturated with NAPL.
						61.80 - 62.00	-52.48 - -52.68	Sheen.
						63.30 - 63.70	-53.98 - -54.38	Near vertical seam saturated with NAPL.
						80.00 - 83.00	-70.68 - -73.68	Saturated with NAPL.
						83.00 - 83.90	-73.68 - -74.58	Moderate NAPL coating.
						83.90 - 85.00	-74.58 - -75.68	Scattered sheen.
85.00 - 85.30	-75.68 - -75.98	NAPL blebs, scattered sheen.						
85.30 - 85.80	-75.98 - -76.48	Scattered sheen.						
85.80 - 85.90	-76.48 - -76.58	NAPL blebs, scattered sheen.						
85.90 - 87.00	-76.58 - -77.68	Scattered sheen.						
90.00 - 90.60	-80.68 - -81.28	Saturated with NAPL.						
91.20 - 91.30	-81.88 - -81.98	Saturated with NAPL.						
92.80 - 93.90	-83.48 - -84.58	Saturated with NAPL.						

Table 1
Soil Boring Summary for New Recovery Wells
Post-Remediation DNAPL Monitoring Status Report

National Grid
Former Citizens Gas Works Manufactured Gas Plant Site
Borough of Brooklyn, Kings County, New York
NYSDEC Site Nos. C224012 and C224012B

Location ID	Date Completed	Easting (feet NAD83)	Northing (feet NAD83)	Ground Surface Elevation (feet NAVD88)	Total Depth (feet bgs)	Visual Impacts Observed		
						Depth Interval (feet bgs)	Elevation Interval (feet NAVD88)	Description
Parcel III (continued)								
CGSB-P3RA-08/CGRW-21D	12/2/2022	632004.49	671302.25	9.32	117.71	94.10 - 94.30	-84.78 - -84.98	Saturated with NAPL.
						100.00 - 101.40	-90.68 - -92.08	Moderate NAPL coating.
						102.40 - 102.50	-93.08 - -93.18	Heavy NAPL coating.
						105.30 - 106.70	-95.98 - -97.38	Heavy NAPL coating.
CGSB-P3RA-09/CGRW-22I	12/7/2022	631952.18	671227.89	8.86	85.67	20.00 - 20.30	-11.14 - -11.44	Saturated with black viscous NAPL.
						30.00 - 30.40	-21.14 - -21.54	Heavy NAPL coating in sand layers.
						31.30 - 31.80	-22.44 - -22.94	Sheen.
						31.80 - 32.10	-22.94 - -23.24	Heavy NAPL coating.
						40.00 - 41.80	-31.14 - -32.94	Light to moderate NAPL coating.
						42.00 - 42.10	-33.14 - -33.24	Saturated with NAPL.
						42.50 - 42.60	-33.64 - -33.74	Saturated with NAPL.
						42.70 - 42.80	-33.84 - -33.94	Saturated with NAPL.
						43.20 - 43.30	-34.34 - -34.44	Saturated with NAPL.
						50.00 - 50.30	-41.14 - -41.44	Heavy NAPL coating.
						50.30 - 53.30	-41.44 - -44.44	NAPL blebs and sheen.
						53.30 - 53.80	-44.44 - -44.94	Saturated with NAPL.
						54.30 - 54.40	-45.44 - -45.54	Saturated with NAPL.
						54.80 - 54.90	-45.94 - -46.04	Saturated with NAPL.
CGSB-P3RA-10/CGRW-22D	11/29/2021	631948.96	671222.22	8.97	120.00	20.50 - 21.50	-11.53 - -12.53	Trace sheen.
						31.10 - 35.00	-22.13 - -26.03	Saturated with NAPL.
						35.00 - 35.90	-26.03 - -26.93	Trace sheen.
						40.00 - 42.60	-31.03 - -33.63	Heavy NAPL coating.
						42.60 - 43.30	-33.63 - -34.33	Staining.
						43.30 - 43.80	-34.33 - -34.83	Saturated with NAPL.
						50.00 - 51.00	-41.03 - -42.03	Light NAPL coating.
						51.00 - 51.30	-42.03 - -42.33	Saturated with NAPL.
						51.60 - 52.30	-42.63 - -43.33	Saturated with NAPL, sheen.
						52.70 - 52.90	-43.73 - -43.93	Heavy NAPL coating and sheen.
						54.20 - 54.30	-45.23 - -45.33	Moderate NAPL coating, sheen.
						54.30 - 54.40	-45.33 - -45.43	Heavy NAPL coating, sheen.
						54.40 - 54.50	-45.43 - -45.53	Sheen.
55.30 - 55.50	-46.33 - -46.53	Saturated with NAPL.						

Table 1
Soil Boring Summary for New Recovery Wells
Post-Remediation DNAPL Monitoring Status Report

National Grid
Former Citizens Gas Works Manufactured Gas Plant Site
Borough of Brooklyn, Kings County, New York
NYSDEC Site Nos. C224012 and C224012B

Location ID	Date Completed	Easting (feet NAD83)	Northing (feet NAD83)	Ground Surface Elevation (feet NAVD88)	Total Depth (feet bgs)	Visual Impacts Observed		
						Depth Interval (feet bgs)	Elevation Interval (feet NAVD88)	Description
Parcel III (continued)								
CGSB-P3RA-10/CGRW-22D	11/29/2021	631948.96	671222.22	8.97	120.00	55.50 - 55.80	-46.53 - -46.83	Light NAPL coating and sheen.
						60.00 - 60.30	-51.03 - -51.33	Some staining on silt.
						60.30 - 60.50	-51.33 - -51.53	Saturated with NAPL.
						60.70 - 60.80	-51.73 - -51.83	Saturated with NAPL.
						60.90 - 61.00	-51.93 - -52.03	Sheen.
						61.20 - 61.30	-52.23 - -52.33	Saturated with NAPL.
						61.67 - 61.71	-52.70 - -52.74	Sheen.
						63.10 - 63.30	-54.13 - -54.33	Sheen.
						70.75 - 70.79	-61.78 - -61.82	NAPL blebs.
						71.17 - 71.21	-62.20 - -62.24	NAPL blebs.
						80.00 - 80.80	-71.03 - -71.83	Trace sheen, orange staining.
						80.80 - 83.20	-71.83 - -74.23	Saturated with NAPL.
						90.70 - 91.30	-81.73 - -82.33	Trace sheen.

Notes:

1. Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone.
2. Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).
3. bgs: below ground surface.
4. NAPL: non-aqueous phase liquid.

Table 2
Recovery Well Construction Summary
Post-Remediation DNAPL Monitoring Status Report

National Grid
Former Citizens Gas Works Manufactured Gas Plant Site
Borough of Brooklyn, Kings County, New York
NYSDEC Site Nos. C224012 and C224012B

Well ID	Date Completed	Easting (feet NAD83)	Northing (feet NAD83)	Ground Surface Elevation (feet NAVD88)	Measuring Point Elevation (feet NAVD88)	Casing Type	Screen Type	Nominal Diameter (inches)	Screen Slot Size (inches)	Screen Length (feet)	Screened Interval		Sump Length (feet)	Total Depth of Well (feet bgs)
											Depth (feet bgs)	Elevation (feet NAVD88)		
Parcel I														
Existing Recovery Wells														
CGRW-02	8/27/2009	632130.95	671769.29	18.72	18.24	Sch. 10 SS	SS Vee-Wire	6.00	0.020	15.00	30.43 - 45.43	-11.71 - -26.71	5.00	50.43
CGRW-203	5/23/2012	631987.35	671773.60	28.75	28.51	Sch. 40 PVC	Sch. 40 PVC	4.00	0.020	20.00	39.68 - 59.68	-10.93 - -30.93	2.00	61.68
CGRW-206	7/12/2012	632156.81	671789.36	18.19	17.84	Sch. 40 PVC	Sch. 40 PVC	4.00	0.020	20.00	45.11 - 65.11	-26.92 - -46.92	2.00	67.11
New Recovery Wells														
CGRW-08	10/24/2019	631902.84	671826.90	30.19	29.86	Sch. 40 PVC	Sch. 40 PVC	4.00	0.020	30.00	50.10 - 80.10	-19.91 - -49.91	15.00	95.10
CGRW-09	10/23/2019	631945.16	671800.56	30.28	29.96	Sch. 40 PVC	Sch. 40 PVC	4.00	0.020	30.00	50.10 - 80.10	-19.82 - -49.82	15.00	95.10
CGRW-10	10/23/2019	632029.75	671747.24	23.82	23.55	Sch. 40 PVC	Sch. 40 PVC	4.00	0.020	30.00	44.00 - 74.00	-20.18 - -50.18	15.00	89.00
CGRW-11	10/22/2019	632072.18	671721.10	20.48	20.14	Sch. 40 PVC	Sch. 40 PVC	4.00	0.020	30.00	40.00 - 70.00	-19.52 - -49.52	15.00	85.00
CGRW-12	10/21/2019	632105.42	671728.64	19.68	19.38	Sch. 40 PVC	Sch. 40 PVC	4.00	0.020	30.00	39.00 - 69.00	-19.32 - -49.32	15.00	84.00
Parcel II														
Existing Recovery Wells														
CGRW-03	8/30/2009	632341.72	671624.07	10.61	10.18	Sch. 10 SS	SS Vee-Wire	6.00	0.020	30.00	22.15 - 52.15	-11.54 - -41.54	5.00	57.15
CGRW-04	8/28/2009	632271.48	671595.37	11.42	11.08	Sch. 10 SS	SS Vee-Wire	6.00	0.020	40.00	27.28 - 67.28	-15.86 - -55.86	5.00	72.28
New Recovery Wells														
CGRW-13	12/29/2021	632648.03	671637.19	8.03	7.31	Sch. 10 SS	SS Vee-Wire	6.00	0.020	30.00	26.92 - 56.92	-18.89 - -48.89	15.00	71.92
CGRW-14	1/3/2022	632585.34	671638.65	7.93	7.39	Sch. 10 SS	SS Vee-Wire	6.00	0.020	30.00	27.44 - 57.44	-19.51 - -49.51	15.00	72.44
CGRW-15	1/5/2022	632509.28	671632.75	7.86	7.48	Sch. 10 SS	SS Vee-Wire	6.00	0.020	30.00	38.50 - 68.50	-30.64 - -60.64	15.00	83.50
CGRW-16	1/7/2022	632414.49	671627.33	10.13	9.85	Sch. 10 SS	SS Vee-Wire	6.00	0.020	40.00	30.54 - 70.54	-20.41 - -60.41	15.00	85.54
CGRW-17	2/10/2022	632260.34	671567.13	11.65	11.12	Sch. 10 SS	SS Vee-Wire	6.00	0.020	30.00	32.00 - 62.00	-20.35 - -50.35	15.00	77.00
CGRW-18	2/15/2022	632227.16	671548.68	11.79	11.54	Sch. 10 SS	SS Vee-Wire	6.00	0.020	30.00	32.00 - 62.00	-20.21 - -50.21	15.00	77.00
Parcel III														
Existing Recovery Wells														
CGRW-06I	6/11/2009	631945.95	671273.58	9.38	9.19	Sch. 10 SS	SS Vee-Wire	6.00	0.020	30.00	31.56 - 61.56	-22.18 - -52.18	5.00	66.56
CGRW-06D	7/9/2009	631952.12	671284.41	9.35	9.63	Sch. 10 SS	SS Vee-Wire	6.00	0.030	10.00	79.45 - 89.45	-70.10 - -80.10	5.00	94.45
New Recovery Wells														
CGRW-19I	12/27/2021	632140.38	671472.64	9.89	9.19	Sch. 10 SS	SS Vee-Wire	6.00	0.020	40.00	34.29 - 74.29	-24.40 - -64.40	15.00	89.29
CGRW-19D	12/21/2021	632136.11	671467.64	9.98	9.55	Sch. 10 SS	SS Vee-Wire	6.00	0.020	30.00	73.45 - 103.45	-63.47 - -93.47	15.00	118.45
CGRW-20I	12/14/2021	632064.28	671391.12	9.90	9.30	Sch. 10 SS	SS Vee-Wire	6.00	0.020	30.00	43.00 - 73.00	-33.10 - -63.10	15.00	88.00
CGRW-20D	12/10/2022	632060.61	671385.05	9.97	9.25	Sch. 10 SS	SS Vee-Wire	6.00	0.030	30.00	73.21 - 103.21	-63.24 - -93.24	15.00	118.21
CGRW-21I	12/1/2021	632008.62	671308.14	9.19	9.73	Sch. 10 SS	SS Vee-Wire	6.00	0.020	30.00	41.42 - 71.42	-32.23 - -62.23	15.00	86.42
CGRW-21D	12/2/2022	632004.49	671302.25	9.32	9.49	Sch. 10 SS	SS Vee-Wire	6.00	0.030	30.00	72.71 - 102.71	-63.39 - -93.39	15.00	117.71
CGRW-22I	12/7/2022	631952.18	671227.89	8.86	9.45	Sch. 10 SS	SS Vee-Wire	6.00	0.020	40.00	30.67 - 70.67	-21.81 - -61.81	15.00	85.67
CGRW-22D	11/29/2021	631948.96	671222.22	8.97	9.43	Sch. 10 SS	SS Vee-Wire	6.00	0.030	30.00	72.62 - 102.62	-63.65 - -93.65	15.00	117.62

Table 2
Recovery Well Construction Summary
Post-Remediation DNAPL Monitoring Status Report

National Grid
Former Citizens Gas Works Manufactured Gas Plant Site
Borough of Brooklyn, Kings County, New York
NYSDEC Site Nos. C224012 and C224012B

Notes:

1. Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone.
2. Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).
3. The horizontal locations, ground surface elevations, and measuring point elevations listed in this table for the existing recovery wells reflect surveys conducted by Louis J. Weber & Associates, Inc. on March 31, 2022 and April 18, 2022. Screened intervals and well depths have been adjusted based on the ground surface elevations recorded during those surveys.
4. Recovery well CGRW-11 was decommissioned on February 16, 2022.
5. bgs: below ground surface.
6. PVC: polyvinyl chloride.
7. Sch.: Schedule.
8. SS: stainless steel.

Table 3
Recovery Well Gauging and Product Recovery Summary for March 31, 2022
Post-Remediation DNAPL Monitoring Status Report

National Grid
Former Citizens Gas Works Manufactured Gas Plant Site
Borough of Brooklyn, Kings County, New York
NYSDEC Site Nos. C224012 and C224012B

Well ID	Screened Interval (feet bmp)	Sump Length (feet)	Total Depth of Well (feet bmp)	March 31, 2022					February 10, 2022 to March 31, 2022		
				Depth to Groundwater (feet bmp)	Depth to Product (feet bmp)	Depth to Bottom of Well (feet bmp)	Measured Product Thickness (feet)	Notes	Total Number of Recovery Events	Total Estimated Volume of Fluids Recovered (gallons)	
Parcel I											
CGRW-02	29.95 - 44.95	5.00	49.95	15.32	44.71	48.50	3.79	--		0	0
CGRW-08	49.77 - 79.77	15.00	94.77	26.67	ND	91.60	0.00	Trace product perched on water and at base of well.		1	5
CGRW-09	49.79 - 79.79	15.00	94.79	26.61	ND	94.18	0.00	Trace product observed on probe.		1	11
CGRW-10	43.73 - 73.73	15.00	88.73	20.58	ND	88.45	0.00	Trace product observed on probe.		1	14
CGRW-12	38.69 - 68.69	15.00	83.69	16.42	83.60	84.67	1.07	--		0	0
CGRW-203	39.44 - 59.44	2.00	61.44	24.61	52.55	59.54	6.99	--		0	0
CGRW-206	44.76 - 64.76	2.00	66.76	15.11	61.88	65.46	3.58	--		0	0
										Parcel I Subtotal	30
Parcel II											
CGRW-03	21.72 - 51.72	5.00	56.72	7.46	39.45	55.00	15.55	--		0	0
CGRW-04	26.94 - 66.94	5.00	71.94	8.24	64.44	69.26	4.82	--		1	19
CGRW-13	26.20 - 56.20	15.00	71.20	4.49	68.43	72.13	3.70	--		2	34
CGRW-14	26.90 - 56.90	15.00	71.90	4.42	ND	72.45	0.00	Trace product observed on probe.		0	0
CGRW-15	38.13 - 68.13	15.00	83.13	4.48	ND	83.20	0.00	Trace product observed on probe.		0	0
CGRW-16	30.26 - 70.26	15.00	85.26	5.89	68.74	80.30	11.56	--		1	59
CGRW-17	31.47 - 61.47	15.00	76.47	8.39	61.28	71.19	9.91	--		1	7
CGRW-18	31.75 - 61.75	15.00	76.75	8.82	54.28	70.46	16.18	--		1	36
										Parcel II Subtotal	155
Parcel III											
CGRW-06I	31.37 - 61.37	5.00	66.37	7.81	55.10	66.28	11.18	--		1	19
CGRW-06D	79.73 - 89.73	5.00	94.73	6.92	82.49	95.43	12.94	--		1	31
CGRW-19I	33.60 - 73.60	15.00	88.60	6.43	ND	84.49	0.00	Trace product observed on probe.		0	0
CGRW-19D	73.02 - 103.02	15.00	118.02	6.96	91.87	115.24	23.37	--		0	0
CGRW-20I	42.40 - 72.40	15.00	87.40	6.92	ND	84.02	0.00	Trace product observed on probe.		1	11
CGRW-20D	72.49 - 102.49	15.00	117.49	6.59	95.69	104.04	8.35	--		0	0
CGRW-21I	41.97 - 71.97	15.00	86.97	NM	NM	NM	NM	Well inaccessible at time of gauging.		1	60
CGRW-21D	72.89 - 102.89	15.00	117.89	NM	NM	NM	NM	Well inaccessible at time of gauging.		1	36
CGRW-22I	31.26 - 71.26	15.00	86.26	6.97	68.36	72.20	3.84	--		2	17
CGRW-22D	73.08 - 103.08	15.00	118.08	6.63	85.44	115.03	29.59	--		1	45
										Parcel III Subtotal	220
										SITE TOTAL	404

Table 3
Recovery Well Gauging and Product Recovery Summary for March 31, 2022
Post-Remediation DNAPL Monitoring Status Report

National Grid
Former Citizens Gas Works Manufactured Gas Plant Site
Borough of Brooklyn, Kings County, New York
NYSDEC Site Nos. C224012 and C224012B

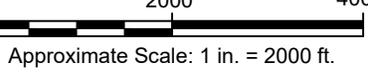
Notes:

1. bmp: below measuring point.
2. Est.: estimated.
3. ND: not detected.
4. NM: not measured.

Figures



REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., BROOKLYN, NY, 2013, AND JERSEY CITY, NY-NJ, 2014.



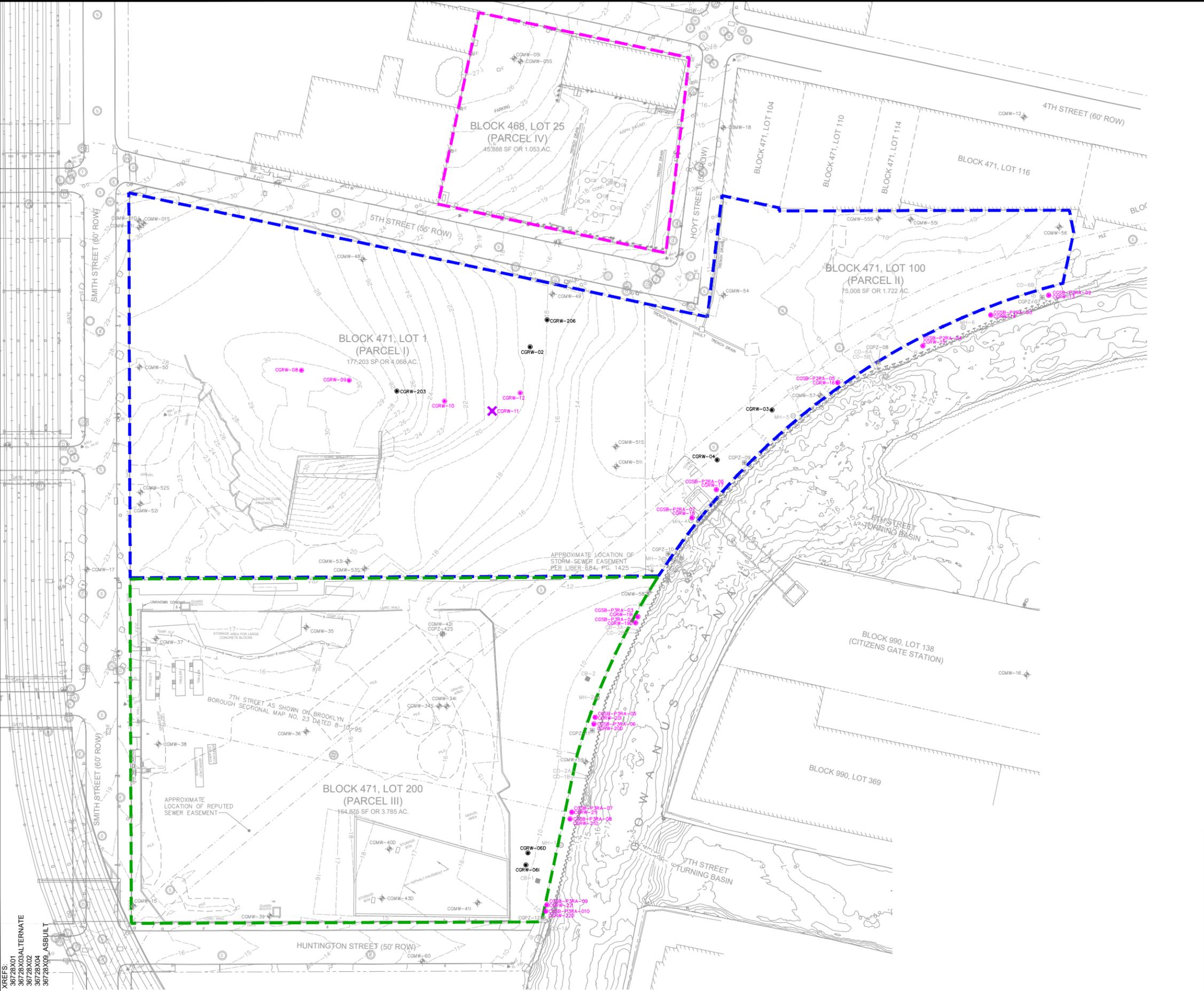
NATIONAL GRID
 FORMER CITIZENS GAS WORKS MANUFACTURED GAS PLANT SITE
 BOROUGH OF BROOKLYN, KINGS COUNTY, NEW YORK
**POST-REMEDATION DNAPL MONITORING STATUS
 REPORT**

SITE LOCATION MAP



FIGURE
1

PROJECTNAME: ---
 IMAGES: Arcadis Logo_2021.PNG
 NJ_Jersey_City_20140403_TM_geo.jpg
 NY_Brooklyn_20130328_TM_geo.jpg
 XREFS:



- LEGEND:**
- LIMIT OF BROWNFIELD CLEANUP PROGRAM SITE NO. C224012 (PARCELS I AND II)
 - LIMIT OF BROWNFIELD CLEANUP PROGRAM SITE NO. C224012B (PARCEL III)
 - LIMIT OF STATE SUPERFUND SITE NO. 224012 (PARCEL IV)
 -
 PROPERTY LINE (APPROXIMATE)
 -
 EASEMENT LINE (APPROXIMATE)
 -
 TOPOGRAPHIC CONTOUR (1-FOOT INTERVAL)
 -
 BATHYMETRIC CONTOUR (1-FOOT INTERVAL)
 -
 EDGE OF WATER
 - ⊙
 TREE
 -
 EDGE OF VEGETATION
 -
 EDGE OF PAVEMENT/CONCRETE
 -
 EDGE OF GRAVEL
 -
 EDGE OF SOIL/AGGREGATE PILE (APPROXIMATE)
 -
 EDGE OF BULKHEAD
 -
 CHAIN-LINK FENCE
 -
 BUILDING
 -
 MTA RAILROAD TRACK
 -
 CONCRETE WALL
 - ⊙
 BOLLARD
 - ⊙
 SIGN
 - ⊙
 UTILITY POLE
 - ⊙
 HYDRANT
 - ⊙
 SANITARY SEWER MANHOLE
 - ⊙
 STORM SEWER MANHOLE
 - ⊙
 WATER MANHOLE
 - ⊙
 GAS MANHOLE
 - ⊙
 TELECOMMUNICATIONS MANHOLE
 - ⊙
 ELECTRICAL MANHOLE
 - ⊙
 MANHOLE (TYPE UNKNOWN)
 - ⊙
 CATCH BASIN
 - ⊙
 ELECTRICAL BOX
 - ⊙
 WATER VALVE
 - ⊙
 GAS VALVE
 - MH-1
 HYDRAULIC RELIEF SYSTEM MANHOLE
 - CO-1A
 HYDRAULIC RELIEF SYSTEM CLEANOUT
 -
 SEALED BULKHEAD BARRIER WALL
 - CPZ-07
 PIEZOMETER
 - CGMW-01S
 MONITORING WELL
 - CGRW-02
 EXISTING RECOVERY WELL
 - CGRW-06
 NEW RECOVERY WELL
 - X
 NEW RECOVERY WELL DECOMMISSIONED DURING SITE REMEDIATION ACTIVITIES



NATIONAL GRID
 FORMER CITIZENS GAS WORKS MANUFACTURED GAS PLANT SITE
 BOROUGH OF BROOKLYN, KINGS COUNTY, NEW YORK
**POST-REMEDIATION DNAPL MONITORING STATUS
 REPORT**

SITE PLAN

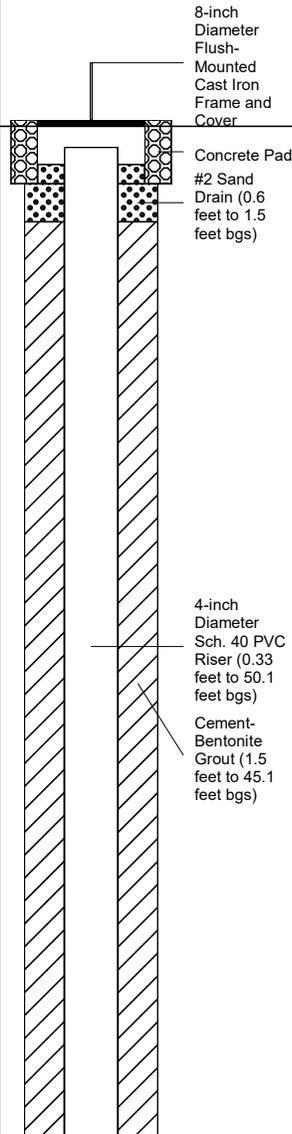


Attachments

Attachment A

Soil Boring and Well Construction Logs

Date Start/Finish: 10/24/2019	Northing: 671826.90	Boring/Well ID: CGRW-08
Drilling Company: Aquifer Drilling and Testing, Inc.	Easting: 631902.84	Client: National Grid
Driller's Name: Dave Moon	Surface Elevation: 30.19 feet	Location: Former Citizens Gas Works MGP Site Parcel I (Block 471, Lot 1) Brooklyn, New York
Drilling Method: Sonic	Casing Elevation: 29.86 feet	
Sampling Method: None	Borehole Depth: 95.1 feet bgs	
Rig Type: Fraste Multidrill XL Max	Borehole Diameter: 10 inches	
	Descriptions By: Coleman King	

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
0	30						Drilled without sampling to 95.1 feet bgs.	 <p>8-inch Diameter Flush-Mounted Cast Iron Frame and Cover</p> <p>Concrete Pad</p> <p>#2 Sand Drain (0.6 feet to 1.5 feet bgs)</p> <p>4-inch Diameter Sch. 40 PVC Riser (0.33 feet to 50.1 feet bgs)</p> <p>Cement-Bentonite Grout (1.5 feet to 45.1 feet bgs)</p>
5	25	NA	NA	NA	NA			
10	20							
15	15							

	Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;
	Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).

Client: National Grid

Boring/Well ID: **CGRW-08**

Site Location:

Borehole Depth: 95.1 feet bgs

Former Citizens Gas Works MGP Site
Parcel I (Block 471, Lot 1)
Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
0							Drilled without sampling to 95.1 feet bgs.	
10								
20								
25		NA	NA	NA	NA			
30								
35								

4-inch Diameter Sch. 40 PVC Riser (0.33 feet to 50.1 feet bgs)
Cement-Bentonite Grout (1.5 feet to 45.1 feet bgs)

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;

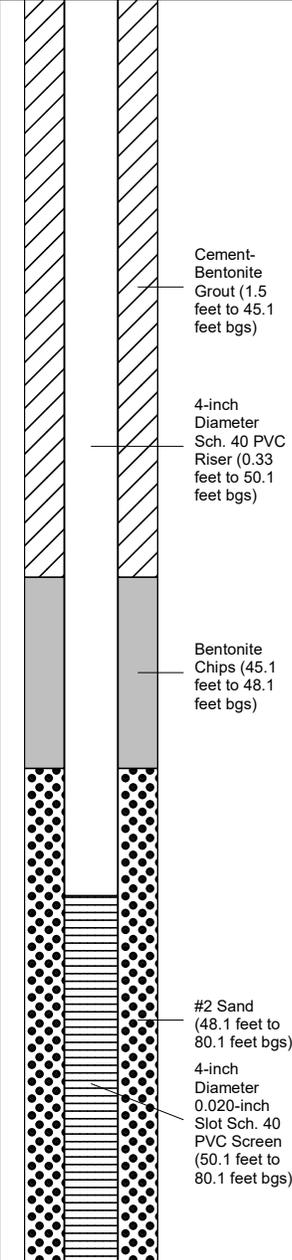
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Site Location:

Borehole Depth: 95.1 feet bgs

Former Citizens Gas Works MGP Site
 Parcel I (Block 471, Lot 1)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
40	-10						Drilled without sampling to 95.1 feet bgs.	
45	-15	NA	NA	NA	NA			
50	-20							
55	-25							

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Client: National Grid

Boring/Well ID: CGRW-08

Site Location:

Borehole Depth: 95.1 feet bgs

Former Citizens Gas Works MGP Site
Parcel I (Block 471, Lot 1)
Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
60	-30						Drilled without sampling to 95.1 feet bgs.	<p>4-inch Diameter 0.020-inch Slot Sch. 40 PVC Screen (50.1 feet to 80.1 feet bgs) #2 Sand (48.1 feet to 80.1 feet bgs)</p>
65	-35	NA	NA	NA	NA			
70	-40							
75	-45							

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



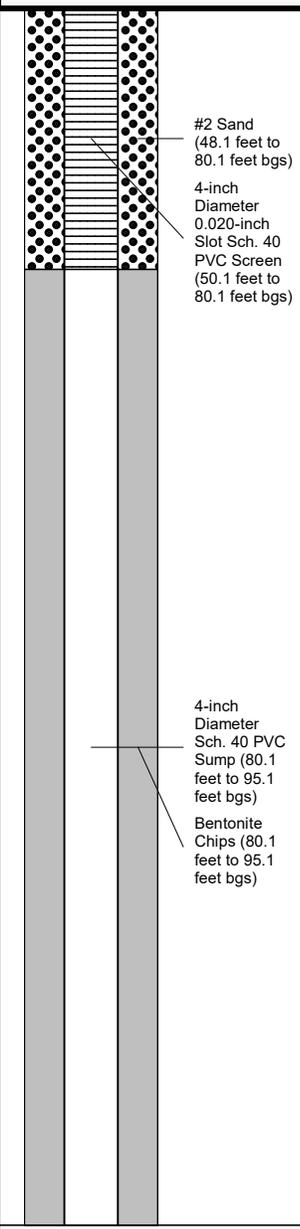
Client: National Grid

Boring/Well ID: CGRW-08

Site Location:

Borehole Depth: 95.1 feet bgs

Former Citizens Gas Works MGP Site
Parcel I (Block 471, Lot 1)
Brooklyn, New York

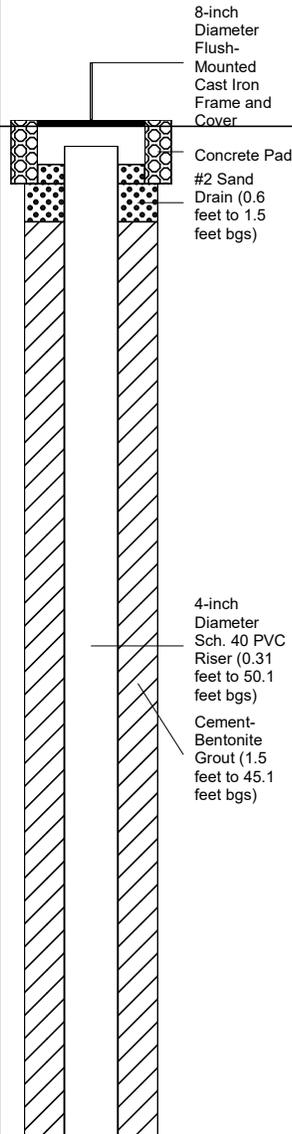
Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
80	-50						Drilled without sampling to 95.1 feet bgs.	 <p>#2 Sand (48.1 feet to 80.1 feet bgs) 4-inch Diameter 0.020-inch Slot Sch. 40 PVC Screen (50.1 feet to 80.1 feet bgs) 4-inch Diameter Sch. 40 PVC Sump (80.1 feet to 95.1 feet bgs) Bentonite Chips (80.1 feet to 95.1 feet bgs)</p>
85	-55	NA	NA	NA	NA			
90	-60							
95	-65						End of boring at 95.1 feet bgs.	

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Date Start/Finish: 10/23/2019	Northing: 671800.56	Boring/Well ID: CGRW-09
Drilling Company: Aquifer Drilling and Testing, Inc.	Easting: 631945.16	Client: National Grid
Driller's Name: Dave Moon	Surface Elevation: 30.28 feet	Location: Former Citizens Gas Works MGP Site Parcel I (Block 471, Lot 1) Brooklyn, New York
Drilling Method: Sonic	Casing Elevation: 29.96 feet	
Sampling Method: None	Borehole Depth: 95.1 feet bgs	
Rig Type: Fraste Multidrill XL Max	Borehole Diameter: 10 inches	
	Descriptions By: Coleman King	

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
0	30						Drilled without sampling to 95.1 feet bgs.	
5	25	NA	NA	NA	NA			
10	20							
15	15							

	Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;
	Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).

Client: National Grid

Boring/Well ID: CGRW-09

Site Location:

Borehole Depth: 95.1 feet bgs

Former Citizens Gas Works MGP Site
Parcel I (Block 471, Lot 1)
Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
0							Drilled without sampling to 95.1 feet bgs.	
10		NA	NA	NA	NA			
20								
25								
30								
35								

4-inch Diameter Sch. 40 PVC Riser (0.31 feet to 50.1 feet bgs)
Cement-Bentonite Grout (1.5 feet to 45.1 feet bgs)

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;

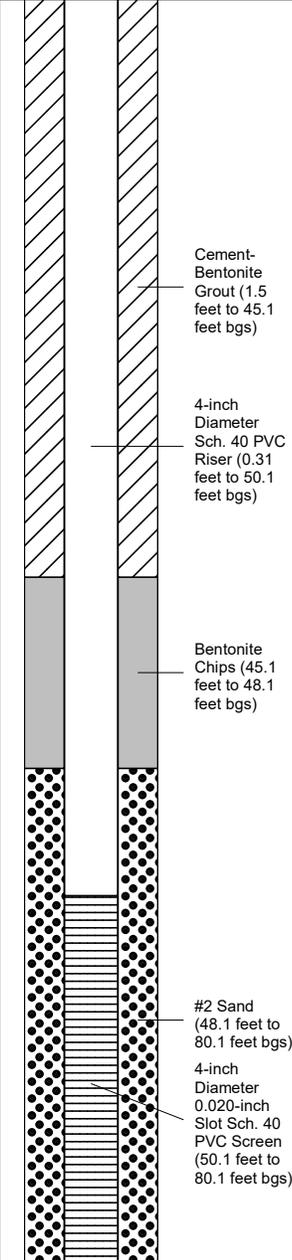
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Site Location:

Borehole Depth: 95.1 feet bgs

Former Citizens Gas Works MGP Site
 Parcel I (Block 471, Lot 1)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
40	-10						Drilled without sampling to 95.1 feet bgs.	
45	-15	NA	NA	NA	NA			
50	-20							
55	-25							

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Client: National Grid

Boring/Well ID: CGRW-09

Site Location:

Borehole Depth: 95.1 feet bgs

Former Citizens Gas Works MGP Site
Parcel I (Block 471, Lot 1)
Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
60	-30						Drilled without sampling to 95.1 feet bgs.	<p>4-inch Diameter 0.020-inch Slot Sch. 40 PVC Screen (50.1 feet to 80.1 feet bgs) #2 Sand (48.1 feet to 80.1 feet bgs)</p>
65	-35	NA	NA	NA	NA			
70	-40							
75	-45							

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



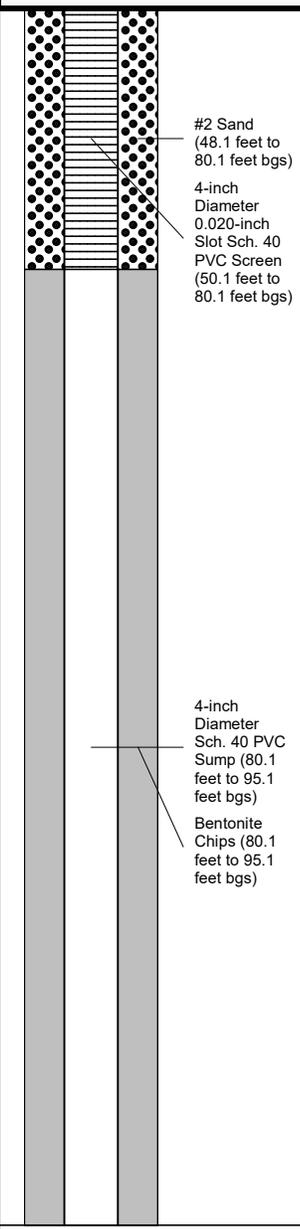
Client: National Grid

Boring/Well ID: CGRW-09

Site Location:

Borehole Depth: 95.1 feet bgs

Former Citizens Gas Works MGP Site
Parcel I (Block 471, Lot 1)
Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
80	-50						Drilled without sampling to 95.1 feet bgs.	 <p>#2 Sand (48.1 feet to 80.1 feet bgs) 4-inch Diameter 0.020-inch Slot Sch. 40 PVC Screen (50.1 feet to 80.1 feet bgs) 4-inch Diameter Sch. 40 PVC Sump (80.1 feet to 95.1 feet bgs) Bentonite Chips (80.1 feet to 95.1 feet bgs)</p>
85	-55	NA	NA	NA	NA			
90	-60							
95	-65						End of boring at 95.1 feet bgs.	

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Date Start/Finish: 10/23/2019
Drilling Company: Aquifer Drilling and Testing, Inc.
Driller's Name: Dave Moon
Drilling Method: Sonic
Sampling Method: None
Rig Type: Fraste Multidrill XL Max

Northing: 671747.24
Easting: 632029.75
Surface Elevation: 23.82 feet
Casing Elevation: 23.55 feet
Borehole Depth: 89 feet bgs
Borehole Diameter: 10 inches
Descriptions By: Coleman King

Boring/Well ID: CGRW-10
Client: National Grid
Location:
 Former Citizens Gas Works MGP Site
 Parcel I (Block 471, Lot 1)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
0							Drilled without sampling to 89 feet bgs.	<p> 8-inch Diameter Flush-Mounted Cast Iron Frame and Cover Concrete Pad #2 Sand Drain (0.5 feet to 1.5 feet bgs) 4-inch Diameter Sch. 40 PVC Riser (0.27 feet to 44 feet bgs) Cement-Bentonite Grout (1.5 feet to 39 feet bgs) </p>
5		NA	NA	NA	NA			
10								
15								
20								
25								

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Client: National Grid

Boring/Well ID: CGRW-10

Site Location:

Borehole Depth: 89 feet bgs

Former Citizens Gas Works MGP Site
Parcel I (Block 471, Lot 1)
Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
5							Drilled without sampling to 89 feet bgs.	<p>4-inch Diameter Sch. 40 PVC Riser (0.27 feet to 44 feet bgs) Cement-Bentonite Grout (1.5 feet to 39 feet bgs)</p>
20		NA	NA	NA	NA			
25								
30								
35								

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 89 feet bgs

Former Citizens Gas Works MGP Site
 Parcel I (Block 471, Lot 1)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
							Drilled without sampling to 89 feet bgs.	
-15								Cement-Bentonite Grout (1.5 feet to 39 feet bgs)
40								4-inch Diameter Sch. 40 PVC Riser (0.27 feet to 44 feet bgs)
								Bentonite Chips (39 feet to 42 feet bgs)
-20								
45		NA	NA	NA	NA			
-25								#2 Sand (42 feet to 74 feet bgs)
50								4-inch Diameter 0.020-inch Slot Sch. 40 PVC Screen (44 feet to 74 feet bgs)
-30								
55								

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Client: National Grid

Boring/Well ID: CGRW-10

Site Location:

Borehole Depth: 89 feet bgs

Former Citizens Gas Works MGP Site
Parcel I (Block 471, Lot 1)
Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
							Drilled without sampling to 89 feet bgs.	
-35								
60								
-40								
65		NA	NA	NA	NA			4-inch Diameter 0.020-inch Slot Sch. 40 PVC Screen (44 feet to 74 feet bgs) #2 Sand (42 feet to 74 feet bgs)
-45								
70								
-50								
75								Bentonite Chips (74 feet to 89 feet bgs) 4-inch

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Client: National Grid

Boring/Well ID: CGRW-10

Site Location:

Borehole Depth: 89 feet bgs

Former Citizens Gas Works MGP Site
Parcel I (Block 471, Lot 1)
Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-55							Drilled without sampling to 89 feet bgs.	
-60		NA	NA	NA	NA			
-65							End of boring at 89 feet bgs.	
-70								
-75								
-80								
-85								
-90								
-95								

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Date Start/Finish: 10/22/2019	Northing: 671721.10	Boring/Well ID: CGRW-11
Drilling Company: Aquifer Drilling and Testing, Inc.	Easting: 632072.18	Client: National Grid
Driller's Name: Dave Moon	Surface Elevation: 20.48 feet	Location: Former Citizens Gas Works MGP Site Parcel I (Block 471, Lot 1) Brooklyn, New York
Drilling Method: Sonic	Casing Elevation: 20.14 feet	
Sampling Method: None	Borehole Depth: 85 feet bgs	
Rig Type: Fraste Multidrill XL Max	Borehole Diameter: 10 inches	
	Descriptions By: Coleman King	

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
0								8-inch Diameter Flush-Mounted Cast Iron Frame and Cover
20							Drilled without sampling to 85 feet bgs.	Concrete Pad
								#2 Sand Drain (0.6 feet to 1.5 feet bgs)
5								
15		NA	NA	NA	NA			
10								4-inch Diameter Sch. 40 PVC Riser (0.34 feet to 40 feet bgs)
								Cement-Bentonite Grout (1.5 feet to 34 feet bgs)
15								
5								

	Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;
	Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).

Client: National Grid

Boring/Well ID: CGRW-11

Site Location:

Borehole Depth: 85 feet bgs

Former Citizens Gas Works MGP Site
Parcel I (Block 471, Lot 1)
Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
0							Drilled without sampling to 85 feet bgs.	
20								
25	-5	NA	NA	NA	NA			Cement-Bentonite Grout (1.5 feet to 34 feet bgs) 4-inch Diameter Sch. 40 PVC Riser (0.34 feet to 40 feet bgs)
30	-10							
35	-15							Bentonite Chips (34 feet to 38 feet bgs)

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;

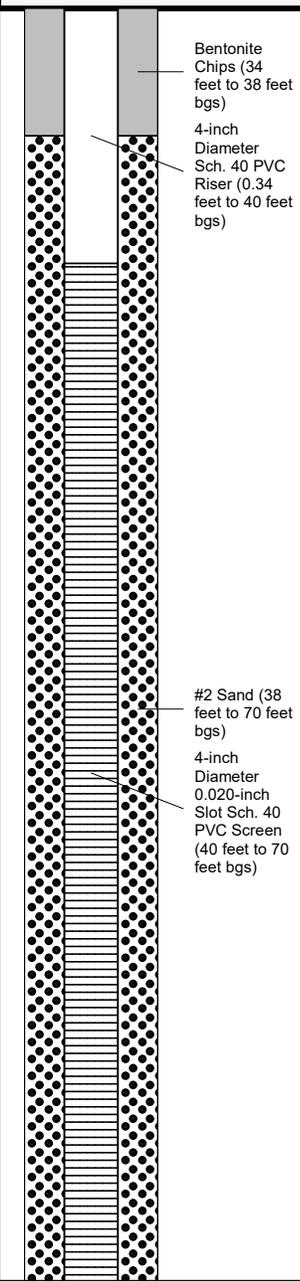
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Site Location:

Borehole Depth: 85 feet bgs

Former Citizens Gas Works MGP Site
 Parcel I (Block 471, Lot 1)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
40	-20						Drilled without sampling to 85 feet bgs.	
45	-25	NA	NA	NA	NA			
50	-30							
55	-35							

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 85 feet bgs

Former Citizens Gas Works MGP Site
 Parcel I (Block 471, Lot 1)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
60	-40						Drilled without sampling to 85 feet bgs.	<p>4-inch Diameter 0.020-inch Slot Sch. 40 PVC Screen (40 feet to 70 feet bgs) #2 Sand (38 feet to 70 feet bgs) Bentonite Chips (70 feet to 85 feet bgs) 4-inch Diameter Sch. 40 PVC Sump (70 feet to 85 feet bgs)</p>
65	-45	NA	NA	NA	NA			
70	-50							
75	-55							

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Client: National Grid

Boring/Well ID: CGRW-11

Site Location:

Borehole Depth: 85 feet bgs

Former Citizens Gas Works MGP Site
Parcel I (Block 471, Lot 1)
Brooklyn, New York

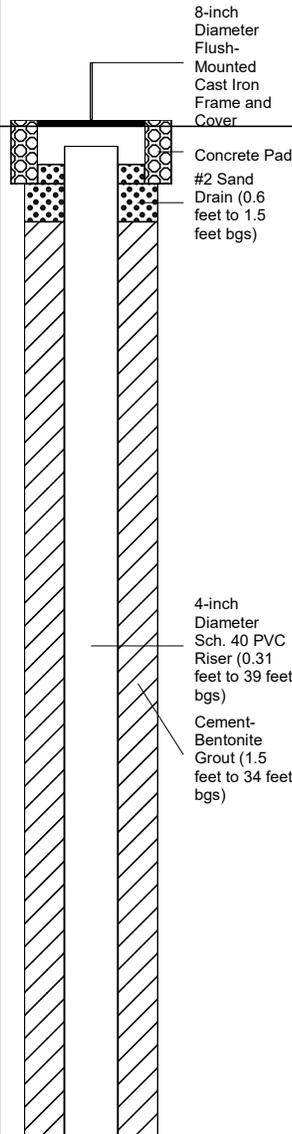
Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
80	-60	NA	NA	NA	NA		Drilled without sampling to 85 feet bgs.	<p>4-inch Diameter Sch. 40 PVC Sump (70 feet to 85 feet bgs) Bentonite Chips (70 feet to 85 feet bgs)</p>
85	-65						End of boring at 85 feet bgs.	
90	-70							
95	-75							

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Date Start/Finish: 10/21/2019	Northing: 671728.64	Boring/Well ID: CGRW-12
Drilling Company: Aquifer Drilling and Testing, Inc.	Easting: 632105.42	Client: National Grid
Driller's Name: Dave Moon	Surface Elevation: 19.68 feet	Location: Former Citizens Gas Works MGP Site Parcel I (Block 471, Lot 1) Brooklyn, New York
Drilling Method: Sonic	Casing Elevation: 19.38 feet	
Sampling Method: None	Borehole Depth: 84 feet bgs	
Rig Type: Fraste Multidrill XL Max	Borehole Diameter: 10 inches	
	Descriptions By: Coleman King	

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
0	20						Drilled without sampling to 84 feet bgs.	
5		NA	NA	NA	NA			
10								
15								

	Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;
	Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).

Client: National Grid

Boring/Well ID: CGRW-12

Site Location:

Borehole Depth: 84 feet bgs

Former Citizens Gas Works MGP Site
Parcel I (Block 471, Lot 1)
Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
0							Drilled without sampling to 84 feet bgs.	
20		NA	NA	NA	NA			
25								Cement-Bentonite Grout (1.5 feet to 34 feet bgs) 4-inch Diameter Sch. 40 PVC Riser (0.31 feet to 39 feet bgs)
30								
35								Bentonite Chips (34 feet to 38 feet bgs)

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;

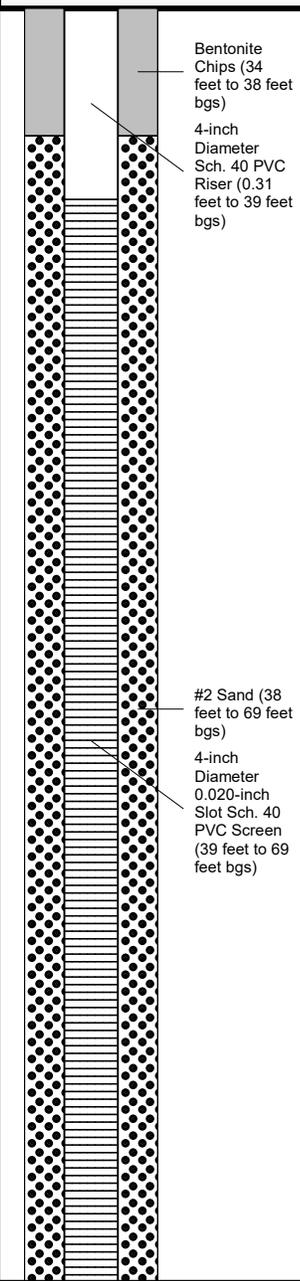
Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 84 feet bgs

Former Citizens Gas Works MGP Site
 Parcel I (Block 471, Lot 1)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
40	-20						Drilled without sampling to 84 feet bgs.	
45	-25	NA	NA	NA	NA			
50	-30							
55	-35							

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Client: National Grid

Boring/Well ID: CGRW-12

Site Location:

Borehole Depth: 84 feet bgs

Former Citizens Gas Works MGP Site
Parcel I (Block 471, Lot 1)
Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
60	-40						Drilled without sampling to 84 feet bgs.	<p>#2 Sand (38 feet to 69 feet bgs) 4-inch Diameter 0.020-inch Slot Sch. 40 PVC Screen (39 feet to 69 feet bgs)</p> <p>Bentonite Chips (69 feet to 84 feet bgs) 4-inch Diameter Sch. 40 PVC Sump (69 feet to 84 feet bgs)</p>
65	-45	NA	NA	NA	NA			
70	-50							
75	-55							

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Client: National Grid

Boring/Well ID: CGRW-12

Site Location:

Borehole Depth: 84 feet bgs

Former Citizens Gas Works MGP Site
Parcel I (Block 471, Lot 1)
Brooklyn, New York

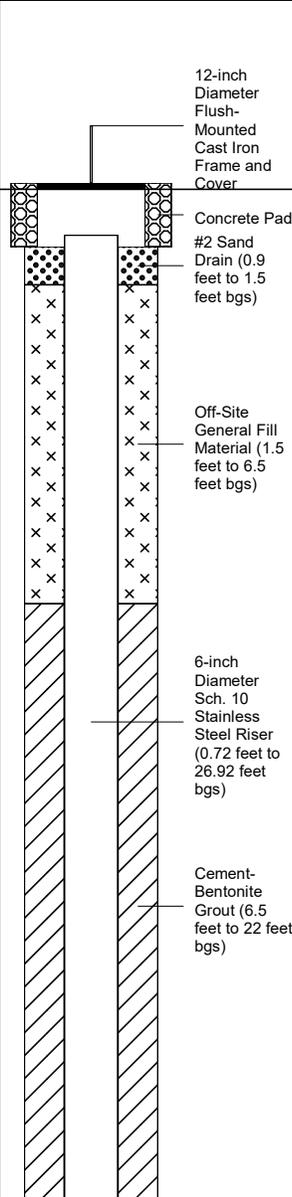
Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
80	-60	NA	NA	NA	NA		Drilled without sampling to 84 feet bgs.	<p>4-inch Diameter Sch. 40 PVC Sump (69 feet to 84 feet bgs) Bentonite Chips (69 feet to 84 feet bgs)</p>
85	-65						End of boring at 84 feet bgs.	
90	-70							
95	-75							

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; PVC = polyvinyl chloride; Sch. = Schedule;

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Date Start/Finish: 12/28/2021 - 12/29/2021	Northing: 671637.19	Boring/Well ID: CGSB-P2RA-02 / CGRW-13
Drilling Company: Aquifer Drilling and Testing, Inc.	Easting: 632648.03	Client: National Grid
Driller's Name: Dave Moon		
Drilling Method: Sonic	Surface Elevation: 8.03 feet	
Sampling Method: 5-inch x 10-foot Core Barrel	Casing Elevation: 7.31 feet	Location:
Rig Type: Fraste Multidrill XL Max	Borehole Depth: 71.92 feet bgs	Former Citizens Gas Works MGP Site
	Borehole Diameter: 10 inches	Parcel II (Block 471, Lot 100)
	Descriptions By: Andrew Gibson	Brooklyn, New York

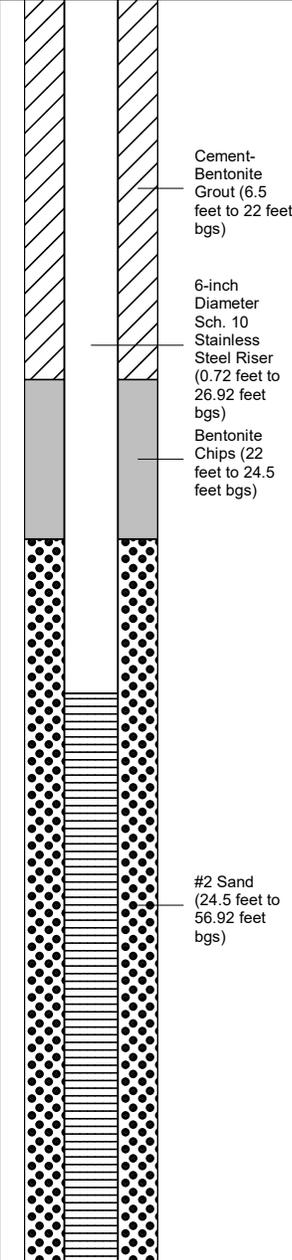
Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
10								
0							Drilled without sampling to 20 feet bgs.	 <p>12-inch Diameter Flush-Mounted Cast Iron Frame and Cover</p> <p>Concrete Pad</p> <p>#2 Sand Drain (0.9 feet to 1.5 feet bgs)</p> <p>Off-Site General Fill Material (1.5 feet to 6.5 feet bgs)</p> <p>6-inch Diameter Sch. 10 Stainless Steel Riser (0.72 feet to 26.92 feet bgs)</p> <p>Cement-Bentonite Grout (6.5 feet to 22 feet bgs)</p>
5								
0		NA	NA	NA	NA			
10								
5								
15								

	Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.
	Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).

Site Location:

Borehole Depth: 71.92 feet bgs

Former Citizens Gas Works MGP Site
 Parcel II (Block 471, Lot 100)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-10	NA	NA	NA	NA	NA		Drilled without sampling to 20 feet bgs.	
-20							NO RECOVERY.	
-25	1	20-30	NR	NA			NO RECOVERY.	
-25	2	30-40	NR	NA			NO RECOVERY.	

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 71.92 feet bgs

Former Citizens Gas Works MGP Site
 Parcel II (Block 471, Lot 100)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-30		2	30-40	NR	NA		NO RECOVERY.	
40				1.2	32.5 10.7 39.5		Very dark grayish brown fine SAND, some Silt, little Clay, trace medium to coarse Sand and fine angular to subangular low to medium sphericity Gravel, soft, wet, sheen and staining throughout, faint naphthalene-like odor. Very dark gray CLAY, some fine Sand and Silt, soft, wet, faint naphthalene-like odor.	<p>6-inch Diameter 0.020-inch Continuous Slot Stainless Steel Screen (26.92 feet to 56.92 feet bgs)</p> <p>#2 Sand (24.5 feet to 56.92 feet bgs)</p>
-35								
45		3	40-50					
-40								
50				3.4	32.0 35.9 57.3 22.0 31.2 18.0 10.9		Dark grayish brown fine SAND, little silt, soft, slight liquefaction, wet, scattered sheen throughout, moderate naphthalene-like odor. Brown SILT and fine SAND, soft, very slight plasticity, moist to wet, faint naphthalene-like odor.	
-45		4	50-57					
55								

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 71.92 feet bgs

Former Citizens Gas Works MGP Site
 Parcel II (Block 471, Lot 100)
 Brooklyn, New York

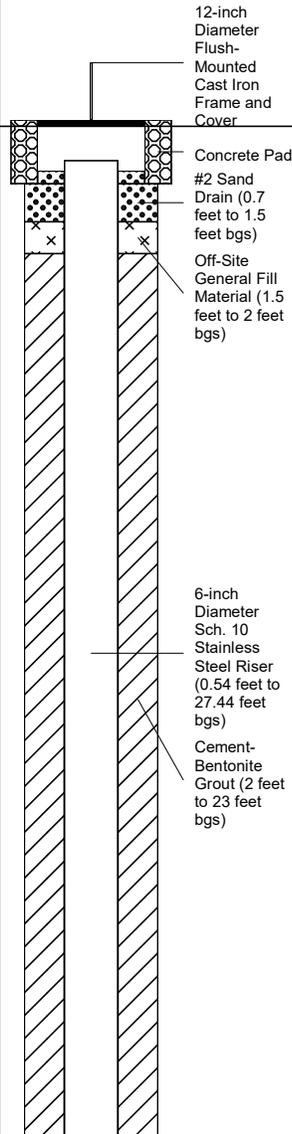
Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
		4	50-57					<p>#2 Sand (24.5 feet to 56.92 feet bgs) 6-inch Diameter 0.020-inch Continuous Slot Stainless Steel Screen (26.92 feet to 56.92 feet bgs) Bentonite Chips (56.92 feet to 71.92 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Sump (56.92 feet to 71.92 feet bgs)</p>
-50							Drilled without sampling to 71.92 feet bgs.	
-60								
-55								
-65		NA	NA	NA	NA			
-60								
-70								
-65							End of boring at 71.92 feet bgs.	
-75								

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Date Start/Finish: 12/30/2021 - 1/3/2022	Northing: 671638.65	Boring/Well ID: CGSB-P2RA-03 / CGRW-14
Drilling Company: Aquifer Drilling and Testing, Inc.	Easting: 632585.34	Client: National Grid
Driller's Name: Dave Moon		
Drilling Method: Sonic	Surface Elevation: 7.93 feet	
Sampling Method: 5-inch x 10-foot Core Barrel	Casing Elevation: 7.39 feet	Location:
Rig Type: Fraste Multidrill XL Max	Borehole Depth: 72.54 feet bgs	Former Citizens Gas Works MGP Site
	Borehole Diameter: 10 inches	Parcel II (Block 471, Lot 100)
	Descriptions By: Andrew Gibson	Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
1.0								
0							Drilled without sampling to 20 feet bgs.	
5								
0		NA	NA	NA	NA			
10								
-5								
15								

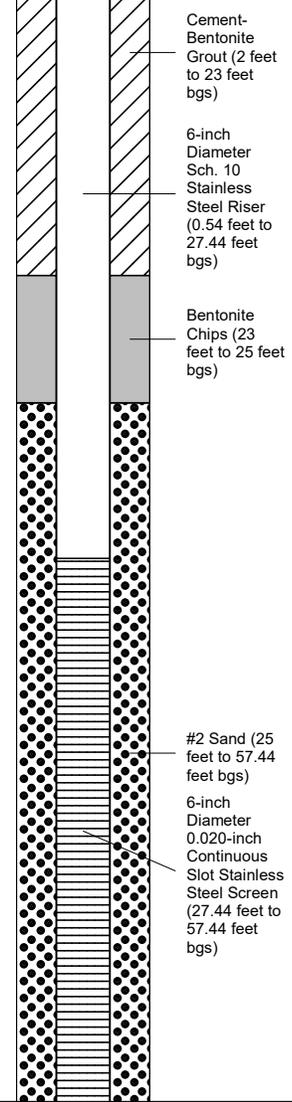
	Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.
	Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).

Site Location:

Borehole Depth: 72.54 feet bgs

Former Citizens Gas Works MGP Site
 Parcel II (Block 471, Lot 100)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-10	NA	NA	NA	NA	NA		Drilled without sampling to 20 feet bgs.	
-20							Dark gray CLAY, little Silt, soft, sticky, slight plasticity, wet.	
-15				7.5			Little Organics (Shell fragments) and Debris (weathered Wood), moist.	
-25		1	20-30				Trace Silt, medium stiff, moderate plasticity.	
-20							Dark gray interbedded CLAY and fine SAND, some medium Sand, little Silt, trace Debris (Wood), medium stiff, slight plasticity, moist to wet, light NAPL coating, NAPL blebs on wood debris, sheen, faint naphthalene-like odor.	
-30							Dark gray SILT, little fine Sand, medium stiff, wet, faint naphthalene-like odor.	
-25		2	30-40	5.2			Dark gray fine SAND, some Silt, trace medium to coarse Sand and fine subround low to medium sphericity Gravel, soft, wet, sheen, faint naphthalene-like odor.	
-35							Dark gray SILT, little fine Sand, medium stiff, wet, faint naphthalene-like odor.	
							Dark gray fine SAND, some medium Sand, little coarse Sand, soft, wet, moderate naphthalene-like odor. 2-inch thick stained layers at 33.6 feet and 34.0 feet bgs.	
							Little Silt, soft, wet, light NAPL coating, moderate naphthalene-like odor.	



Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 72.54 feet bgs

Former Citizens Gas Works MGP Site
 Parcel II (Block 471, Lot 100)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-30		2	30-40					
-40				5.5	237.5 265.8 228.3 187.5 165.9		Very dark gray fine SAND, little medium Sand, little Silt, soft, wet, moderate NAPL coating, moderate naphthalene-like odor.	<p>#2 Sand (25 feet to 57.44 feet bgs) 6-inch Diameter 0.020-inch Continuous Slot Stainless Steel Screen (27.44 feet to 57.44 feet bgs)</p>
-35					175.1 61.5 71.8		Very dark gray very fine SAND, some Silt, soft, wet, light NAPL coating, moderate naphthalene-like odor.	
-45		3	40-50		20.3 25.5 27.1		Brown SILT, little very fine Sand, medium stiff, slight liquefaction, wet, faint naphthalene-like odor.	
-40							Brown very fine SAND and SILT, medium stiff, moist to wet, faint naphthalene-like odor.	
-50				4.5	18.5 25.1 15.3 12.5 10.8 13.5 8.6 9.5 10.9		Brown very fine SAND, some Silt, soft, wet.	
-45		4	50-57				Brown fine SAND, little medium Sand, soft, wet.	
-55								

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

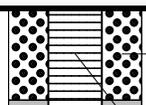
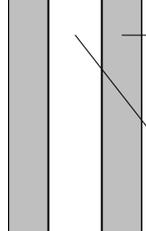
Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 72.54 feet bgs

Former Citizens Gas Works MGP Site
 Parcel II (Block 471, Lot 100)
 Brooklyn, New York

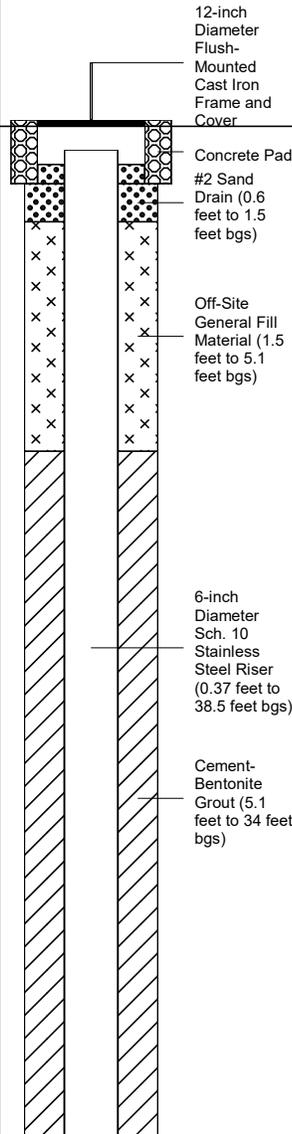
Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
		4	50-57					 <p>#2 Sand (25 feet to 57.44 feet bgs) 6-inch Diameter 0.020-inch Continuous Slot Stainless Steel Screen (27.44 feet to 57.44 feet bgs)</p>
-50							Drilled without sampling to 72.54 feet bgs.	
-60								
-65		NA	NA	NA	NA			 <p>Bentonite Chips (57.44 feet to 72.54 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Sump (57.44 feet to 72.54 feet bgs)</p>
-70								
-75							End of boring at 72.54 feet bgs.	

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Date Start/Finish: 1/4/2022 - 1/5/2022	Northing: 671632.75	Boring/Well ID: CGSB-P2RA-04 / CGRW-15
Drilling Company: Aquifer Drilling and Testing, Inc.	Easting: 632509.28	Client: National Grid
Driller's Name: Dave Moon		
Drilling Method: Sonic	Surface Elevation: 7.86 feet	
Sampling Method: 5-inch x 10-foot Core Barrel	Casing Elevation: 7.48 feet	Location:
Rig Type: Fraste Multidrill XL Max	Borehole Depth: 83.5 feet bgs	Former Citizens Gas Works MGP Site
	Borehole Diameter: 10 inches	Parcel II (Block 471, Lot 100)
	Descriptions By: Andrew Gibson	Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
10								
0							Drilled without sampling to 20 feet bgs.	
5								
5								
0		NA	NA	NA	NA			
10								
-5								
15								

	Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.
	Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).

Site Location:

Borehole Depth: 83.5 feet bgs

Former Citizens Gas Works MGP Site
 Parcel II (Block 471, Lot 100)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-10	NA	NA	NA	NA	NA		Drilled without sampling to 20 feet bgs.	
-20							NO RECOVERY. Some dark gray CLAY, sticky, wet, covering gray Cobble stuck in nose.	
-25		1	20-30	NR	NA			
-30								
-35		2	30-40	7.0				
					196.4			
					147.6		Grayish brown fine SAND, some Silt, little medium Sand, soft, wet, scattered NAPL blebs, moderate naphthalene-like odor.	
					382.5		Little Silt, soft, wet, scattered NAPL blebs, moderate naphthalene-like odor.	
					397.4		Moderate NAPL coating from 31.9 feet to 32.0 feet bgs.	
					370.0		Very dark grayish brown SILT, small interbedded fine Sand layers, medium stiff, moist to wet, light NAPL coating in Sand layers, moderate naphthalene-like odor.	
					392.0		Little fine Sand, trace medium to coarse Sand and fine subangular low to medium sphericity Gravel, medium stiff, moist to wet, scattered NAPL blebs on Sand, moderate naphthalene-like odor.	
					250.0		Dark grayish brown SILT, stiff, moderate liquefaction, faint to moderate naphthalene-like odor.	
					168.2		Heavy NAPL coating from 34.5 feet to 34.9 feet bgs.	
					174.2			
					30.4			
					14.0			
					13.3		Dark grayish brown very fine SAND, some Silt, soft, wet, staining, faint naphthalene-like odor.	

Cement-Bentonite Grout (5.1 feet to 34 feet bgs)
 6-inch Diameter Sch. 10 Stainless Steel Riser (0.37 feet to 38.5 feet bgs)

Bentonite Chips (34 feet to 36 feet bgs)

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 83.5 feet bgs

Former Citizens Gas Works MGP Site
 Parcel II (Block 471, Lot 100)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-30		2	30-40	7.0	14.7 15.8		Dark grayish brown very fine SAND, some Silt, soft, wet, staining, faint naphthalene-like odor. Dark grayish brown fine SAND, little medium Sand, soft, wet.	6-inch Diameter Sch. 10 Stainless Steel Riser (0.37 feet to 38.5 feet bgs)
-40								
-35				5.7	4.0 7.9 54.8 68.6 95.9 158.3 296.7 276.5 183.8 287.3 137.3 145.9		Very dark gray fine SAND, some medium Sand, little coarse Sand, trace Silt, soft, wet, scattered sheen, faint naphthalene-like odor. Heavy NAPL coating and strong naphthalene-like odor from 43.0 feet to 43.4 feet bgs. Dark brown fine SAND, some medium Sand, soft, wet, light to moderate NAPL coating, moderate naphthalene-like odor.	#2 Sand (36 feet to 68.5 feet bgs) 6-inch Diameter 0.020-inch Continuous Slot Stainless Steel Screen (38.5 feet to 68.5 feet bgs)
-45		3	40-50				Brown SILT, stiff, slight liquefaction, wet, faint naphthalene-like odor. 1-inch layer of dark gray Clay, medium stiff, moderate plasticity, moist at 45.1 feet bgs.	
-50								
-45		4	50-60	5.6	54.6 39.7 41.5 9.8 10.2 8.4 6.8 7.5 9.1 6.5 8.1 8.3		Dark gray very fine SAND, some Silt, soft, slight liquefaction, wet, faint to moderate naphthalene-like odor. NAPL blebs from 50.0 feet to 50.3 feet bgs.	
-55							Gray SILT, stiff, moist.	

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 83.5 feet bgs

Former Citizens Gas Works MGP Site
 Parcel II (Block 471, Lot 100)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-50		4	50-60					
60					2.8		Dark grayish brown SILT, medium stiff, moderate liquefaction, wet.	
					2.5		Brown fine SAND, some medium Sand, little coarse Sand and Silt, trace fine subangular to subrounded low sphericity Gravel, soft, wet.	
					2.2			
					1.8		Brown SILT, little medium to coarse Sand, trace fine to medium subangular to subrounded low sphericity Gravel, soft, wet. [TILL]	
					1.5			
-55				5.7	1.4			
					1.6			
					1.9			
					1.4			
					1.8			
					1.6			
					1.5			
-60							Drilled without sampling to 83.5 feet bgs.	
70								
-65		NA	NA	NA	NA			
75								

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 83.5 feet bgs

Former Citizens Gas Works MGP Site
 Parcel II (Block 471, Lot 100)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-70							Drilled without sampling to 83.5 feet bgs.	<p>6-inch Diameter Sch. 10 Stainless Steel Sump (68.5 feet to 83.5 feet bgs) Bentonite Chips (68.5 feet to 83.5 feet bgs)</p>
-80		NA	NA	NA	NA			
-75							End of boring at 83.5 feet bgs.	
-85								
-90								
-85								
-95								

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

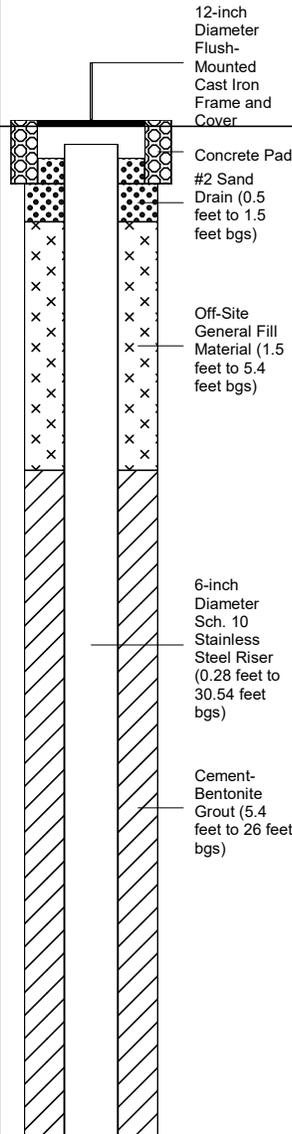
Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Date Start/Finish: 1/6/2022 - 1/7/2022
Drilling Company: Aquifer Drilling and Testing, Inc.
Driller's Name: Dave Moon
Drilling Method: Sonic
Sampling Method: 5-inch x 10-foot Core Barrel
Rig Type: Fraste Multidrill XL Max

Northing: 671627.33
Easting: 632414.49
Surface Elevation: 10.13 feet
Casing Elevation: 9.85 feet
Borehole Depth: 85.54 feet bgs
Borehole Diameter: 10 inches
Descriptions By: Andrew Gibson

Boring/Well ID: CGSB-P2RA-05 / CGRW-16
Client: National Grid
Location:
 Former Citizens Gas Works MGP Site
 Parcel II (Block 471, Lot 100)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
0	10						Drilled without sampling to 20 feet bgs.	
5	5	NA	NA	NA	NA			
10	0							
15	-5							

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 85.54 feet bgs

Former Citizens Gas Works MGP Site
 Parcel II (Block 471, Lot 100)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
		NA	NA	NA	NA		Drilled without sampling to 20 feet bgs.	
-20	-10			2.3	8.7 9.5 10.1 9.6 8.5		Gray GRAVEL coated with Silt, some Debris (Wood fragments). Black GRAVEL and COBBLES coated with Silt and Sand, some Debris (Wood fragments) coated with black viscous NAPL, soft, wet.	Cement-Bentonite Grout (5.4 feet to 26 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Riser (0.28 feet to 30.54 feet bgs)
-25	-15	1	20-30					Bentonite Chips (26 feet to 28 feet bgs)
-30	-20			1.0	96.5 128.6		Dark gray fine SAND, some Silt, trace medium Sand, trace Clay, soft, wet, light to moderate NAPL coating, moderate naphthalene-like odor.	#2 Sand (28 feet to 70.54 feet bgs) 6-inch Diameter 0.020-inch Continuous Slot Stainless Steel Screen (30.54 feet to 70.54 feet bgs)
-35	-25	2	30-40					

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 85.54 feet bgs

Former Citizens Gas Works MGP Site
 Parcel II (Block 471, Lot 100)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
40	-30	2	30-40	1.8	257.6 178.2 223.2 195.3			<p>#2 Sand (28 feet to 70.54 feet bgs) 6-inch Diameter 0.020-inch Continuous Slot Stainless Steel Screen (30.54 feet to 70.54 feet bgs)</p>
45	-35	3	40-50					
50	-40	4	50-60	6.9	320.9 415.1 354.9 276.5 336.9 288.4 258.8 90.2 49.4 43.3 45.1 115.8			
55	-45							

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 85.54 feet bgs

Former Citizens Gas Works MGP Site
 Parcel II (Block 471, Lot 100)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
60	-50	4	50-60	6.9	43.0		Brown SILT, little very fine Sand, medium stiff, moist to wet.	
					110.2		Brown fine SAND, little medium Sand, soft, wet, faint naphthalene-like odor.	
65	-55	5	60-70	6.8	27.2		Brown fine SAND, little medium Sand, soft, wet, faint naphthalene-like odor. Sheen from 60.0 feet to 60.7 feet bgs.	
					33.7		Brown very fine SAND, some Silt, stiff, slight liquifaction, wet.	
					115.9			
					162.0			
					62.6			
					66.6			
58.7								
92.8								
296.8								
328.1								
218.7								
410.1								
308.1								
126.5								
							At 66.3 feet bgs, 1-inch layer of black fine SAND, little medium Sand, trace Silt, soft, wet, heavy NAPL coating, moderate naphthalene-like odor.	
70	-60						Drilled without sampling to 85.54 feet bgs.	
75	-65	NA	NA	NA	NA			

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 85.54 feet bgs

Former Citizens Gas Works MGP Site
 Parcel II (Block 471, Lot 100)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
80 -70		NA	NA	NA	NA		Drilled without sampling to 85.54 feet bgs.	<p>Bentonite Chips (70.54 feet to 85.54 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Sump (70.54 feet to 85.54 feet bgs)</p>
85 -75							End of boring at 85.54 feet bgs.	
90 -80								
95 -85								

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Date Start/Finish: 2/9/2022 - 2/10/2022
Drilling Company: Aquifer Drilling and Testing, Inc.
Driller's Name: Dave Moon
Drilling Method: Sonic
Sampling Method: 5-inch x 10-foot Core Barrel
Rig Type: Fraste Multidrill XL Max

Northing: 671567.13
Easting: 632260.34
Surface Elevation: 11.65 feet
Casing Elevation: 11.12 feet
Borehole Depth: 77 feet bgs
Borehole Diameter: 10 inches
Descriptions By: Andrew Gibson

Boring/Well ID: CGSB-P2RA-06 / CGRW-17
Client: National Grid
Location:
 Former Citizens Gas Works MGP Site
 Parcel II (Block 471, Lot 100)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
0								12-inch Diameter Flush-Mounted Cast Iron Frame and Cover
0.8				1.8	0.0		Fine to coarse angular low sphericity GRAVEL, soft, wet.	Concrete Pad
1.5					0.0		Gray ultralightweight foamed glass aggregate, soft, moist.	#2 Sand Drain (0.8 feet to 1.5 feet bgs)
10		1	0-10					
10							NO RECOVERY.	6-inch Diameter Sch. 10 Stainless Steel Riser (0.53 feet to 32 feet bgs)
10		2	10-20	NR	NA			Cement-Bentonite Grout (1.5 feet to 27 feet bgs)
15								

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).

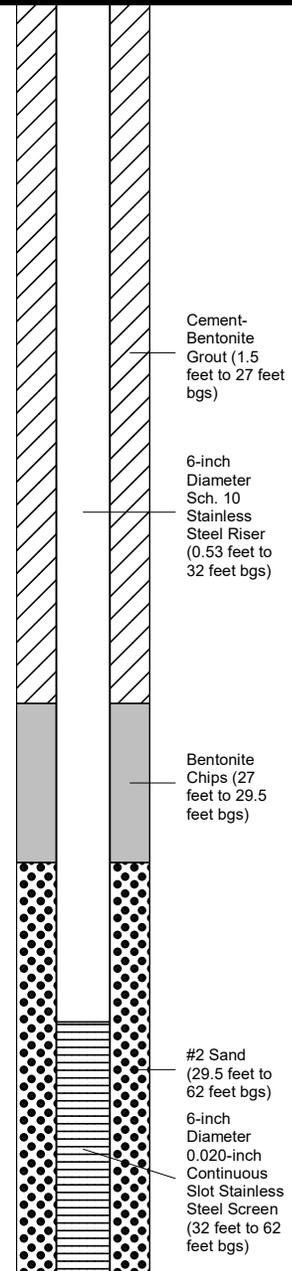


Site Location:

Borehole Depth: 77 feet bgs

Former Citizens Gas Works MGP Site
 Parcel II (Block 471, Lot 100)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-5		2	10-20	NR	NA			
-20					53.7		Black fine to medium subangular to subrounded low to medium sphericity GRAVEL, little Silt and fine to coarse Sand, trace Debris (Wood fragments), soft, wet, moderate petroleum-like odor.	
					15.6		Dark gray CLAY, trace Silt, soft, low to moderate plasticity, moist.	
-10				8.3	15.5			
					72.8			
					23.6			
					12.6			
					17.7			
					38.3			
-25		3	20-30		6.3		Shell fragments from 24.7 feet to 25.0 feet bgs.	
					39.8			
					6.4			
					44.5			
-15					24.3			
					67.8			
					9.8			
					35.3			
					12.5			
-30					81.3		Dark gray CLAY, trace Silt, soft, moist, faint naphthalene-like odor. Scattered NAPL blebs from 30.7 feet to 31.0 feet bgs.	
					117.0			
-20					50.0		Dark gray SILT, some Clay, little to trace fine Sand, soft, moist, faint to moderate sulfur-like odor.	
					34.5			
					54.3			
					78.1			
					104.5		At 33.7 feet bgs, 1-inch layer of dark gray fine SAND, some Silt, little medium Sand, soft, wet, faint to moderate sulfur-like odor.	
					115.3			
					177.2		Dark gray SILT and very fine SAND, soft, moist to wet, faint naphthalene-like odor.	
-35					196.5			
					276.8			
					256.6		Very dark gray fine SAND, some Silt, little medium to coarse Sand, trace fine angular to subangular low to high sphericity Gravel, soft, wet, moderate NAPL coating, moderate naphthalene-like odor.	



Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 77 feet bgs

Former Citizens Gas Works MGP Site
 Parcel II (Block 471, Lot 100)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-25		4	30-40	7.4	391.5		Dark gray very fine SAND, some Silt, soft, slight liquefaction, wet, partings of moderate NAPL coating with scattered sheen throughout, moderate naphthalene-like odor.	
	407.0							
	356.9							
-40		5	40-50	5.3	607.0		Dark gray very fine SAND and SILT, soft, wet, moderate naphthalene-like odor. Scattered light NAPL coating from 40.0 feet to 40.5 feet bgs, scattered NAPL blebs from 41.7 feet to 41.8 feet bgs, and light NAPL coating and scattered NAPL blebs from 42.0 feet to 42.8 feet bgs. At 40.5 feet bgs, 1-inch layer of very dark gray fine SAND, some Silt, soft, wet, heavy NAPL coating, moderate naphthalene-like odor. At 41.6 feet bgs, 1-inch layer of very dark gray fine SAND, some Silt, soft, wet, moderate NAPL coating. At 41.8 feet bgs, 2-inch layer of very dark gray fine SAND, some Silt, soft, wet, saturated with NAPL, strong naphthalene-like odor.	
	366.2							
-30	328.4							
	415.1							
	531.8							
	427.6							
	615.3							
-45		6	50-60	4.3	383.8		Dark gray SILT and very fine SAND, soft, moderate liquefaction, wet, scattered NAPL blebs, moderate naphthalene-like odor.	
	299.1							
	353.4							
	401.9							
-50					258.9		Very dark gray fine SAND, some Silt, soft, wet, saturated with NAPL, strong naphthalene-like odor.	
	381.2							
	375.3							
	315.5							
-40	289.1							
	257.6							
	283.8							
	31.5		Dark gray SILT, some very fine Sand, medium stiff, wet, scattered sheen, moderate naphthalene-like odor.					
	24.2							
-55								

6-inch Diameter
 0.020-inch Continuous Slot Stainless Steel Screen (32 feet to 62 feet bgs)
 #2 Sand (29.5 feet to 62 feet bgs)

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 77 feet bgs

Former Citizens Gas Works MGP Site
 Parcel II (Block 471, Lot 100)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-45		6	50-60					<p>#2 Sand (29.5 feet to 62 feet bgs) 6-inch Diameter 0.020-inch Continuous Slot Stainless Steel Screen (32 feet to 62 feet bgs) Bentonite Chips (62 feet to 77 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Sump (62 feet to 77 feet bgs) 6-inch Diameter</p>
60		7	60-62	1.8	10.8		Gray SILT, medium stiff, wet.	
					13.3		At 60.6 feet bgs, 1-inch layer of dark gray CLAY, soft, sticky, slight plasticity, wet.	
-50					9.3		Dark gray fine SAND, little Silt, trace medium Sand, soft, wet.	
					10.1		Drilled without sampling to 77 feet bgs.	
65		NA	NA	NA	NA			
-55								
70								
-60								
75								

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Client: National Grid

Boring/Well ID: CGSB-P2RA-06 / CGRW-17

Site Location:

Borehole Depth: 77 feet bgs

Former Citizens Gas Works MGP Site
 Parcel II (Block 471, Lot 100)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-65	NA	NA	NA	NA	NA		Drilled without sampling to 77 feet bgs.	Sch. 10 Stainless Steel Sump (62 feet to 77 feet bgs)
80							End of boring at 77 feet bgs.	Bentonite Chips (62 feet to 77 feet bgs)
-70								
85								
-75								
90								
-80								
95								

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Date Start/Finish: 2/11/2022 - 2/15/2022	Northing: 671548.68	Boring/Well ID: CGSB-P2RA-07 / CGRW-18
Drilling Company: Aquifer Drilling and Testing, Inc.	Easting: 632227.16	Client: National Grid
Driller's Name: Dave Moon		
Drilling Method: Sonic	Surface Elevation: 11.79 feet	
Sampling Method: 5-inch x 10-foot Core Barrel	Casing Elevation: 11.54 feet	Location:
Rig Type: Fraste Multidrill XL Max	Borehole Depth: 77 feet bgs	Former Citizens Gas Works MGP Site
	Borehole Diameter: 10 inches	Parcel II (Block 471, Lot 100)
	Descriptions By: Andrew Gibson	Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
0							NO RECOVERY.	12-inch Diameter Flush-Mounted Cast Iron Frame and Cover
10		1	0-10	NR	NA			Concrete Pad
5								#2 Sand Drain (0.5 feet to 1.5 feet bgs)
5								6-inch Diameter Sch. 10 Stainless Steel Riser (0.25 feet to 32 feet bgs)
10				2.8	56.2		Black DEBRIS (WOOD fragments), little Silt and fine to coarse angular to subangular low sphericity Gravel, Cobbles, fine to coarse Sand, soft, wet, scattered NAPL blebs, petroleum-like odor.	Cement-Bentonite Grout (1.5 feet to 28 feet bgs)
0				43.1				
				39.5				
				28.7				
				59.6				
15		2	10-20		62.1			

	Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.
	Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).

Site Location:

Borehole Depth: 77 feet bgs

Former Citizens Gas Works MGP Site
 Parcel II (Block 471, Lot 100)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-5		2	10-20					
-20				1.8	68.9 90.2 70.1 93.1		Black SILT, little Clay and fine Sand, trace medium to coarse Sand, Cobbles, and Debris (Wood fragments), soft, wet, scattered NAPL blebs, staining, petroleum-like odor.	
-10								
-25		3	20-30					
-15								
-30				1.3	NA		DEBRIS (WOOD fragments).	
-20								
-35		4	30-40					

Cement-Bentonite Grout (1.5 feet to 28 feet bgs)

6-inch Diameter Sch. 10 Stainless Steel Riser (0.25 feet to 32 feet bgs)

Bentonite Chips (28 feet to 30 feet bgs)

#2 Sand (30 feet to 62 feet bgs)

6-inch Diameter 0.020-inch Continuous Slot Stainless Steel Screen (32 feet to 62 feet bgs)

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 77 feet bgs

Former Citizens Gas Works MGP Site
 Parcel II (Block 471, Lot 100)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-25		4	30-40					
40		5	40-45	4.0	172.6		Very dark gray SILT and very fine SAND, soft, slight liquefaction, wet, scattered sheen throughout, faint naphthalene-like odor. Fine Sand dominated layer, heavy NAPL coating from 40.8 feet to 40.9 feet bgs. Moderate NAPL coating from 43.3 feet to 43.8 feet bgs.	
	317.8							
-30	357.1							
	235.1							
	393.1							
	251.7							
	191.5							
45		6	45-50	4.0	256.2		Very dark gray very fine SAND and SILT, soft, wet, scattered sheen throughout, staining, faint naphthalene-like odor. Black fine SAND, little Silt, soft, wet, heavy NAPL coating, moderate naphthalene-like odor. Very dark gray very fine SAND and SILT, soft, slight liquefaction, wet, scattered sheen throughout, faint naphthalene-like odor. Black fine SAND, little Silt, soft, wet, moderate naphthalene-like odor.	
	193.1							
-35	271.3							
	503.1							
	178.2							
	193.3							
	205.8							
	159.8							
50		7	50-55	3.5	252.7		Very dark gray fine SAND, little medium Sand, little Silt, soft, wet, moderate NAPL coating, moderate naphthalene-like odor. Black fine SAND, little medium Sand and Silt, soft, wet, saturated with NAPL, strong naphthalene-like odor. Very dark gray very fine SAND and SILT, soft, wet, staining, faint naphthalene-like odor. Light NAPL coating from 53.0 feet to 53.3 feet bgs. Black fine SAND, little Silt, soft, wet, moderate NAPL coating, moderate naphthalene-like odor.	
	512.8							
-40	212.8							
	195.3							
	176.1							
	109.1							
	99.3							
55		8	55-60	4.0	389.1		Very dark gray fine SAND, little Silt, soft, wet, moderate NAPL coating, moderate naphthalene-like odor. Dark grayish brown SILT and very fine SAND, soft, wet, scattered sheen.	
	276.5							

6-inch Diameter
 0.020-inch Continuous Slot Stainless Steel Screen (32 feet to 62 feet bgs)
 #2 Sand (30 feet to 62 feet bgs)

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 77 feet bgs

Former Citizens Gas Works MGP Site
 Parcel II (Block 471, Lot 100)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-45		8	55-60	4.0	220.8		Dark grayish brown SILT and very fine SAND, soft, wet, scattered sheen, faint naphthalene-like odor.	
	197.5							
	223.5							
	151.2							
	123.3							
	109.8							
-60		9	60-62	2.0	218.5		Very dark gray fine SAND, little Silt, soft, wet, moderate NAPL coating, moderate naphthalene-like odor.	
	227.3							
	138.3							
	115.1							
-50							Drilled without sampling to 77 feet bgs.	
-65		NA	NA	NA	NA			
-55								
-70								
-60								
-75								

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Client: National Grid

Boring/Well ID: CGSB-P2RA-07 / CGRW-18

Site Location:

Borehole Depth: 77 feet bgs

Former Citizens Gas Works MGP Site
Parcel II (Block 471, Lot 100)
Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-65		NA	NA	NA	NA		Drilled without sampling to 77 feet bgs.	Sch. 10 Stainless Steel Sump (62 feet to 77 feet bgs)
80							End of boring at 77 feet bgs.	Bentonite Chips (62 feet to 77 feet bgs)
-70								
85								
-75								
90								
-80								
95								

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Date Start/Finish: 12/21/2021 - 12/27/2021
Drilling Company: Aquifer Drilling and Testing, Inc.
Driller's Name: Dave Moon
Drilling Method: Sonic
Sampling Method: 5-inch x 10-foot Core Barrel
Rig Type: Fraste Multidrill XL Max

Northing: 671472.64
Easting: 632140.38
Surface Elevation: 9.89 feet
Casing Elevation: 9.19 feet
Borehole Depth: 89.29 feet bgs
Borehole Diameter: 10 inches
Descriptions By: Andrew Gibson

Boring/Well ID: CGSB-P3RA-03 / CGRW-191
Client: National Grid
Location:
 Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
0	1.0							12-inch Diameter Flush-Mounted Cast Iron Frame and Cover
							Drilled without sampling to 20 feet bgs.	Concrete Pad
								#2 Sand Drain (0.9 feet to 1.5 feet bgs)
5	5							Off-Site General Fill Material (1.5 feet to 7.1 feet bgs)
		NA	NA	NA	NA			6-inch Diameter Sch. 10 Stainless Steel Riser (0.69 feet to 34.29 feet bgs)
10	0							Cement-Bentonite Grout (7.1 feet to 27 feet bgs)
15	-5							

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 89.29 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
20	-10	NA	NA	NA	NA		Drilled without sampling to 20 feet bgs.	
25	-15	1	20-30	7.7		9.7 x x x 18.6 x x x 21.5 x x x 17.5 x x x 10.1 x x x 9.5 x x x 385.0 x x x 289.2 x x x 211.9 x x x 286.9 x x x 155.8 x x x 261.4 x x x 65.1 x x x 257.4 x x x 345.0 x x x 148.4 x x x	Very dark gray ROCK, light sheen in water within sample sleeve. [FILL] At 21.2 feet bgs, 1-inch layer of very dark gray CLAY, some fine Sand, some Silt, little crushed Rock fragments, soft, sticky, moist to wet. At 21.7 feet bgs, 3-inch layer of very dark gray CLAY, some fine Sand, some Silt, little crushed Rock fragments, soft, sticky, moist to wet. Black CLAY, little Silt, trace fine Sand, soft, sticky, wet, staining. Black DEBRIS (WOOD fragments), heavily coated with black viscous NAPL. Black SILT, some Clay, trace fine Sand, soft, moist, staining. Black to brown DEBRIS (WOOD fragments), black staining at top transitioning downward to presumed natural color at bottom.	Cement-Bentonite Grout (7.1 feet to 27 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Riser (0.69 feet to 34.29 feet bgs) Bentonite Chips (27 feet to 29.5 feet bgs)
30	-20	2	30-40	7.3		330.1 x x x 329.6 x x x 293.1 x x x 146.0 x x x 386.0 x x x 167.1 x x x 284.0 x x x 334.7 x x x 354.2 x x x 253.9 x x x 89.0 x x x 293.2 x x x	Black SILT, some fine Sand, trace medium Sand, soft, wet, moderate NAPL coating in Sand dominated layers at 30.3 feet at 30.6 feet bgs, moderate naphthalene-like odor. Dark gray SILT, trace fine Sand, medium stiff, moist, faint naphthalene-like odor. At 31.3 feet bgs, 0.5-inch layer of black fine SAND, some medium Sand, little coarse Sand, trace subangular to subrounded low to medium sphericity fine Gravel and Silt, soft, wet, heavy NAPL coating, moderate naphthalene-like odor. Dark grayish brown fine SAND, some medium Sand, little coarse Sand, soft, wet, light NAPL coating, moderate naphthalene-like odor. Black fine SAND, some medium Sand, little coarse Sand, soft, wet, heavy NAPL coating, moderate naphthalene-like odor. Black fine SAND, some Silt, little medium Sand, soft, slight liquefaction, wet, moderate NAPL coating, moderate naphthalene-like odor. Very dark grayish brown fine SAND, some medium Sand, little coarse Sand, trace medium subrounded low sphericity Gravel, soft, wet, light NAPL coating, moderate naphthalene-like odor. Dark grayish brown SILT, little fine Sand, trace medium to coarse Sand and fine	#2 Sand (29.5 feet to 74.29 feet bgs) 6-inch Diameter 0.020-inch Continuous Slot Stainless Steel Screen (34.29 feet to

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 89.29 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
40	-30	2	30-40	7.3	102.3 352.0 102.6		Dark grayish brown SILT, little fine Sand, trace medium to coarse Sand and fine subangular to subrounded low to medium sphericity Gravel, stiff, moist, faint naphthalene-like odor. Grayish brown SILT, stiff, moist.	
				6.6	279.8 194.8 260.0 313.9 398.3 267.2 170.0 174.0 148.3 255.2	Grayish brown SILT, stiff, moist, faint naphthalene-like odor. Dark grayish brown SILT, some very fine Sand, medium stiff, slight to moderate liquefaction, wet, moderate naphthalene-like odor. Heavy NAPL coating from 41.0 feet to 41.3 feet bgs. Heavy NAPL coating from 41.8 feet to 41.9 feet bgs and at 42.4 feet bgs. Heavy NAPL coating from 43.0 feet to 43.1 feet bgs. NAPL blebs at 43.5 feet bgs. Scattered sheen from 43.7 feet to 44.3 feet bgs. Dark grayish brown fine SAND, little Silt, trace medium Sand, soft, wet, light NAPL coating, moderate naphthalene-like odor. Grayish brown very fine SAND, some Silt, little fine Sand, soft, slight liquefaction, wet, moderate naphthalene-like odor. Scattered sheen from 44.7 feet to 45.5 feet bgs.		
45	-35	3	40-50		86.2 87.7 56.1 77.1		Olive brown and dark greenish gray CLAY, some Silt, trace very fine Sand, medium soft, slight plasticity, moist.	
				5.7	348.3 335.9 337.2 264.8 300.6 353.9 325.9 162.2 97.5 58.7 80.3 70.1	Grayish brown fine SAND, some very fine Sand, little Silt, trace medium Sand, soft, wet, faint naphthalene-like odor. Black fine SAND, some medium Sand, little coarse Sand, soft, wet, moderate NAPL coating, moderate naphthalene-like odor. Brown very fine SAND, some fine Sand, some Silt, soft, wet, light NAPL coating, moderate naphthalene-like odor. Brown very fine SAND and SILT, soft, slight liquefaction, wet. Scattered sheen from 53.8 feet to 53.9 feet bgs and 54.4 feet to 54.5 feet bgs.		

#2 Sand (29.5 feet to 74.29 feet bgs)
 6-inch Diameter
 0.020-inch Continuous Slot Stainless Steel Screen (34.29 feet to 74.29 feet bgs)

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 89.29 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
60	-50	4	50-60					
				5.0	4.7 3.8 5.3 3.9 3.0 2.7 2.5 3.1 4.6 9.1		Dark grayish brown fine SAND, little Silt, soft, wet. Dark gray SILT, medium stiff, moderate liquefaction, wet.	<p>#2 Sand (29.5 feet to 74.29 feet bgs) 6-inch Diameter 0.020-inch Continuous Slot Stainless Steel Screen (34.29 feet to 74.29 feet bgs) Bentonite Chips (74.29 feet to 89.29 feet bgs)</p>
65	-55	5	60-70					
70	-60	6	70-73	1.3	30.3 18.7 10.2		Dark gray fine SAND, some very fine Sand, little Silt, soft, wet.	
75	-65	NA	NA	NA	NA		Drilled without sampling to 89.29 feet bgs.	

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 89.29 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

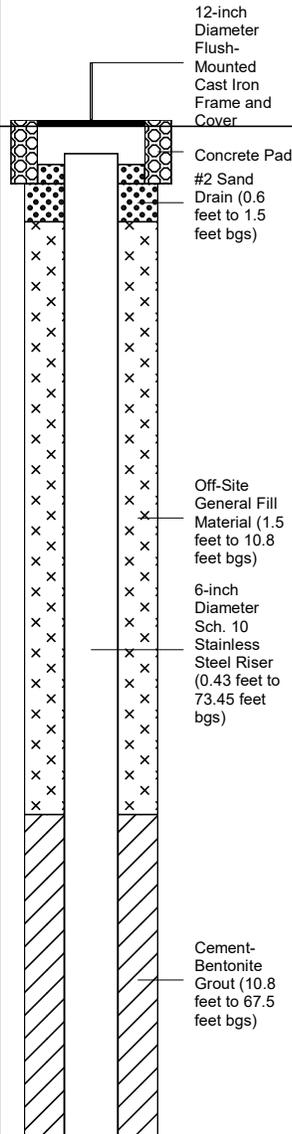
Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
80	-70	NA	NA	NA	NA		Drilled without sampling to 89.29 feet bgs.	6-inch Diameter Sch. 10 Stainless Steel Sump (74.29 feet to 89.29 feet bgs) Bentonite Chips (74.29 feet to 89.29 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Sump (74.29 feet to 89.29 feet bgs)
90	-80						End of boring at 89.29 feet bgs.	
95	-85							

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Date Start/Finish: 12/14/2021 - 12/21/2021	Northing: 671467.64	Boring/Well ID: CGSB-P3RA-04 / CGRW-19D
Drilling Company: Aquifer Drilling and Testing, Inc.	Easting: 632136.11	Client: National Grid
Driller's Name: Dave Moon		
Drilling Method: Sonic	Surface Elevation: 9.98 feet	
Sampling Method: 5-inch x 10-foot Core Barrel	Casing Elevation: 9.55 feet	Location:
Rig Type: Fraste Multidrill XL Max	Borehole Depth: 118.45 feet bgs	Former Citizens Gas Works MGP Site
	Borehole Diameter: 10 inches	Parcel III (Block 471, Lot 200)
	Descriptions By: Austin George	Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
0	10						Drilled without sampling to 20 feet bgs.	
5	5	NA	NA	NA	NA			
10	0							
15	-5							

	Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.
	Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).

Site Location:

Borehole Depth: 118.45 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
		NA	NA	NA	NA		Drilled without sampling to 20 feet bgs.	
20	-10	1	20-30	6.0	117.1		Black fine to coarse SAND and angular to subangular GRAVEL, wet, sheen, moderate naphthalene-like odor.	<p>Cement-Bentonite Grout (10.8 feet to 67.5 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Riser (0.43 feet to 73.45 feet bgs)</p>
	95.1					Black fine SAND, some Silt, little Clay, trace Gravel, wet, saturated with viscous NAPL, strong naphthalene-like odor.		
	256.4							
	156.9							
	145.0							
	117.8					Dark gray to black CLAY, some Silt, little fine Sand, little Debris (Wood fragments), stiff, trace sheen, faint naphthalene-like odor.		
	75.0							
	66.4					Dark brown to brown DEBRIS (WOOD fragments), moderate NAPL coating, moderate naphthalene-like odor.		
	100.1							
	132.0							
25	-15	2	30-40	8.0	251.7			
	360.4							
	343.0					Very dark gray CLAY, trace Silt, moderate stiffness, moist.		
	259.1							
	297.5							
	339.5							
	297.1					Dark gray to brown fine SAND, little Silt, little medium Sand, soft, loose, moist, moderate NAPL coating, moderate naphthalene-like odor.		
	396.4							
	294.3							
	251.0							
35	-25				170.9			
					155.0			
					151.4			
					129.2			

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Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 118.45 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
40	-30	2	30-40	8.0	122.6		Brown fine SAND and SILT, little medium Sand, moist, moderate to heavy NAPL coating, moderate naphthalene-like odor.	
					117.9			
					104.3			
45	-35	3	40-50	9.0	313.8		Brown to gray SAND and SILT, little medium Sand, trace Clay, moderate stiffness, moist, layers of moderate to heavy NAPL coating and sheen, strong naphthalene-like odor.	
					115.7			
					213.6			
					222.9			
					215.7			
					117.6			
					114.0			
					201.0			
					217.4			
					356.9			
					241.3			
					117.3			
141.7								
72.3								
40.9								
22.0								
17.4								
44.1								
50	-40	4	50-60	8.0	30.9		Brown fine SAND and SILT, some medium Sand, moderately stiff, moist.	
					40.7			
					19.4			
					22.0			
					44.8			
					142.1			
					117.9			
					159.0			
					204.3			
					255.3			
317.4								
322.0								
55	-45						Brown fine SAND, some Silt, sheen, moderate naphthalene-like odor.	

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Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 118.45 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
60	-50	4	50-60	8.0	301.4		Brown fine SAND, some Silt, sheen, moderate naphthalene-like odor. Heavy NAPL coating from 53.5 feet to 57.3 feet bgs.	
					277.7			
					176.4			
					189.3			
65	-55	5	60-70	8.3	3.4		Grayish brown fine SAND, some Silt, trace Clay, moist to wet.	
					3.0			
					2.3			
					2.1			
					3.5			
					3.6			
					3.3			
					4.4			
					4.8			
					5.2			
					5.1			
					4.9			
5.7								
4.8								
2.4								
1.7								
70	-60	6	70-80	5.3	63.6		Grayish brown fine SAND, some medium Sand, loose, moist, moderate naphthalene-like odor.	
					44.7			
					66.8			
					32.6			
					90.9			
					171.7			
					356.1			
					342.0			
75	-65						Trace Silt, moderate to heavy NAPL coating, strong naphthalene-like odor from 74.5 feet to 75.3 feet bgs.	

Cement-Bentonite Grout (10.8 feet to 67.5 feet bgs)

6-inch Diameter Sch. 10 Stainless Steel Riser (0.43 feet to 73.45 feet bgs)

Bentonite Chips (67.5 feet to 70 feet bgs)

#2 Sand (70 feet to 103.45 feet bgs)

6-inch Diameter 0.020-inch Continuous Slot Stainless Steel Screen (73.45 feet to 103.45 feet bgs)

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 118.45 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
80	-70	6	70-80					
				8.6	4.5 10.2 30.8 23.8 15.2 81.4 33.1 23.7		Brown SILT, some rounded to angular Gravel (increasing roundness with depth), little fine Sand, little Clay, moderate stiffness, medium to very dense, moist.	<p>#2 Sand (70 feet to 103.45 feet bgs) 6-inch Diameter 0.020-inch Continuous Slot Stainless Steel Screen (73.45 feet to 103.45 feet bgs)</p>
85	-75	7	80-90		9.7 11.0 23.7 11.0 12.2 5.3 4.5 3.3 3.5			
90	-80	8	90-100	5.7	14.2 19.1 114.0 99.6 224.1 93.5 156.6 283.0 117.9 51.8 188.0		Brown fine to medium SAND, little coarse Sand, little Silt, loose, slight liquefaction, moist to wet, faint naphthalene-like odor.	
95	-85						Brown SILT, some fine Sand, little subround Gravel, wet.	

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Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 118.45 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
100 - 90		8	90-100					<p>#2 Sand (70 feet to 103.45 feet bgs) 6-inch Diameter 0.020-inch Continuous Slot Stainless Steel Screen (73.45 feet to 103.45 feet bgs)</p> <p>Bentonite Chips (103.45 feet to 118.45 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Sump (103.45 feet to 118.45 feet bgs)</p>
		9	100-103	2.0	15.7		Brown SILT, some fine Sand, some subround Gravel, moderate stiffness, wet.	
					19.8		Brown fine to medium SAND, some subround to subangular Gravel, loose, moist to dry.	
					21.0			
					26.7			
105 - 95		NA	NA	NA	NA		Drilled without sampling to 118.45 feet bgs.	
110 - 100								
115 - 105								

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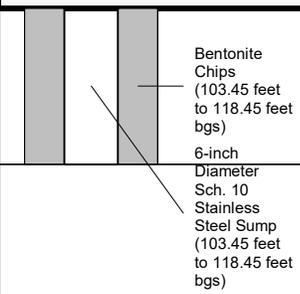
Client: National Grid

Boring/Well ID: CGSB-P3RA-04 / CGRW-19D

Site Location:

Borehole Depth: 118.45 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
		NA	NA	NA	NA		Drilled without sampling to 118.45 feet bgs.	 <p>Bentonite Chips (103.45 feet to 118.45 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Sump (103.45 feet to 118.45 feet bgs)</p>
120-110							End of boring at 118.45 feet bgs.	
125-115								
130-120								
135-125								

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Date Start/Finish: 12/10/2021 - 12/14/2021	Northing: 671391.12	Boring/Well ID: CGSB-P3RA-05 / CGRW-201
Drilling Company: Aquifer Drilling and Testing, Inc.	Easting: 632064.28	Client: National Grid
Driller's Name: Dave Moon	Surface Elevation: 9.90 feet	Location: Former Citizens Gas Works MGP Site Parcel III (Block 471, Lot 200) Brooklyn, New York
Drilling Method: Sonic	Casing Elevation: 9.30 feet	
Sampling Method: 5-inch x 10-foot Core Barrel	Borehole Depth: 88 feet bgs	
Rig Type: Fraste Multidrill XL Max	Borehole Diameter: 10 inches	
	Descriptions By: Andrew Gibson	

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
0	1.0							12-inch Diameter Flush-Mounted Cast Iron Frame and Cover
							Drilled without sampling to 20 feet bgs.	Concrete Pad
								#2 Sand Drain (0.8 feet to 1.5 feet bgs)
5	5							
		NA	NA	NA	NA			
10	0							6-inch Diameter Sch. 10 Stainless Steel Riser (0.6 feet to 43 feet bgs)
								Cement-Bentonite Grout (1.5 feet to 39 feet bgs)
15	-5							

	Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.
	Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).

Site Location:

Borehole Depth: 88 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
		NA	NA	NA	NA		Drilled without sampling to 20 feet bgs.	
20	-10	1	20-30	5.7	20.1		Black CLAY, some Silt, little fine Sand, little fine to coarse Gravel, loose, wet, saturated with viscous NAPL, very faint organic-like odor.	
	18.1				Stiff, moist.			
	37.6				DEBRIS (WOOD fragments).			
	7.6							
	212.1							
	308.8							
	300.7							
	200.9							
	134.2							
	271.0							
25	-15				358.7			
					95.5			
30	-20	2	30-40	4.8	167.3		Very dark gray CLAY, trace Silt, soft, slight plasticity, moist.	
	156.5				DEBRIS (WOOD fragments), wet, viscous NAPL blebs on some wood fractures.			
	210.0				Dark gray CLAY, little fine Sand, trace Silt, medium stiff, slight plasticity, moist.			
	56.0							
	17.6							
	21.9				Black SILT, little fine Sand, trace Clay, trace Organics (Roots), soft, moist, organic odor.			
	26.8				Very dark grayish brown SILT, some very fine Sand, little Clay, soft, moist.			
	185.9				Very dark grayish brown fine SAND, little Silt, trace medium to coarse Sand, soft, wet, moderate naphthalene-like odor.			
	123.6	Moderate NAPL coating from 33.9 feet to 34.1 feet bgs. Sheen from 34.5 feet to 34.8 feet bgs.						
	146.0							
35	-25							

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

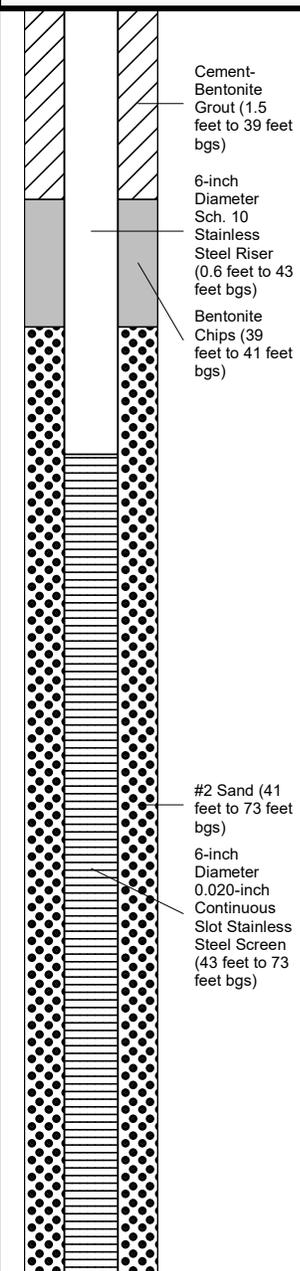
Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 88 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
40	-30	2	30-40					
				6.6	124.0 119.0 132.7 130.3 112.2 136.1 212.5 154.4 217.2	Dark gray fine SAND, some medium Sand, little coarse Sand, trace fine subrounded low sphericity Gravel, soft, wet, faint to moderate naphthalene-like odor.		
45	-35	3	40-50			Dark grayish brown fine SAND, little Silt, soft, wet, moderate naphthalene-like odor. Heavy NAPL coating from 43.8 feet to 43.9 feet bgs. Light NAPL coating from 44.3 feet to 44.4 feet bgs.		
					394.6 396.6 357.7 296.5 312.5	Dark gray SILT and fine SAND, soft, wet, moderate naphthalene-like odor.		
						Dark gray fine SAND, some medium Sand, little coarse Sand, trace fine subrounded low sphericity Gravel, soft, wet, moderate naphthalene-like odor.		
50	-40	4	50-60			Dark gray fine SAND, some Silt, soft, slight liquefaction, wet, moderate naphthalene-like odor.		
				8.5	282.0 246.3 335.1 348.1 284.3 243.3 337.2 292.1 208.3 375.4 325.2 244.7	Interbedded with gray Clay, trace Silt, soft, moderate plasticity, moist.		
						Dark gray SILT and very fine SAND, trace Clay, soft, wet, faint to strong naphthalene-like odor. Light NAPL coating on coarse Sand layer from 51.5 feet to 51.6 feet bgs.		
						Alternating Silty and Sandy layers, heavy NAPL coating in Sand layers from 53.2 feet to 53.4 feet bgs.		
55	-45					Moderate NAPL coating from 54.7 feet to 54.8 feet bgs. Heavy NAPL coating from 54.8 feet to 55.1 feet bgs.		

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 88 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
60	-50	4	50-60	8.5	396.8		Dark gray SILT and very fine SAND, trace Clay, soft, wet, faint to strong naphthalene-like odor.	
					251.5		Dark gray fine SAND, some medium Sand, little coarse Sand, trace Silt, soft, wet, moderate naphthalene-like odor.	
					13.2			
					36.0			
					370.5		Black fine SAND, some medium to coarse Sand, trace Silt, soft, wet, saturated with NAPL, strong naphthalene-like odor.	
65	-55	5	60-70	7.7	215.3		Dark gray fine SAND and SILT, soft, wet, scattered sheen, moderate naphthalene-like odor.	
					235.1		Dark gray fine SAND, some medium Sand, little coarse Sand, soft, wet, faint naphthalene-like odor. Sheen from 60.9 feet to 61.1 feet bgs.	
					379.1			
					394.4			
					79.8		Brown SILT, stiff, moist.	
					67.1		Grayish brown SILT, stiff, moderate liquefaction, wet.	
					120.6			
					95.8			
					81.5			
					48.5		Black fine to medium SAND, little Silt, soft, wet, faint naphthalene-like odor.	
128.5	Light NAPL coating from 67.5 feet to 67.7 feet bgs.							
183.0								
312.3								
279.5								
					343.0			
					28.9			
70	-60	6	70-73	2.2	262.0		Black fine SAND, some medium Sand, little Silt, soft, wet, moderate naphthalene-like odor.	
					347.2			
					176.2			
					274.3			
					298.6		Little coarse Sand, trace Silt, moderate to heavy NAPL coating, strong naphthalene-like odor from 72.0 feet to 72.2 feet bgs.	
75	-65	NA	NA	NA	NA		Drilled without sampling to 88 feet bgs.	

#2 Sand (41 feet to 73 feet bgs)
 6-inch Diameter
 0.020-inch Continuous Slot Stainless Steel Screen (43 feet to 73 feet bgs)

Bentonite Chips (73 feet to 88 feet bgs)
 6-inch Diameter

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Client: National Grid

Boring/Well ID: CGSB-P3RA-05 / CGRW-201

Site Location:

Borehole Depth: 88 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
80	-70	NA	NA	NA	NA		Drilled without sampling to 88 feet bgs.	Stainless Steel Sump (73 feet to 88 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Sump (73 feet to 88 feet bgs) Bentonite Chips (73 feet to 88 feet bgs)
90	-80						End of boring at 88 feet bgs.	
95	-85							

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Date Start/Finish: 12/7/2021 - 12/10/2021
Drilling Company: Aquifer Drilling and Testing, Inc.
Driller's Name: Dave Moon
Drilling Method: Sonic
Sampling Method: 5-inch x 10-foot Core Barrel
Rig Type: Fraste Multidrill XL Max

Northing: 671385.05
Easting: 632060.61
Surface Elevation: 9.97 feet
Casing Elevation: 9.25 feet
Borehole Depth: 118.21 feet bgs
Borehole Diameter: 10 inches
Descriptions By: Andrew Gibson

Boring/Well ID: CGSB-P3RA-06 / CGRW-20D
Client: National Grid
Location:
 Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
0	1.0						Drilled without sampling to 20 feet bgs.	<p> 12-inch Diameter Flush-Mounted Cast Iron Frame and Cover Concrete Pad #2 Sand Drain (0.9 feet to 1.5 feet bgs) Off-Site General Fill Material (1.5 feet to 11.8 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Riser (0.72 feet to 73.21 feet bgs) Cement-Bentonite Grout (11.8 feet to 68 feet bgs) </p>
5	5	NA	NA	NA	NA			
10	0							
15	-5							

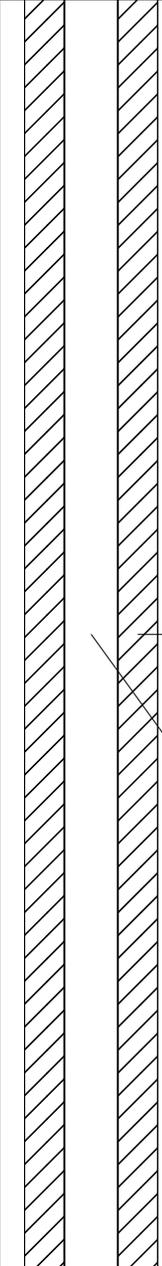
Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.
 Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 118.21 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
		NA	NA	NA	NA		Drilled without sampling to 20 feet bgs.	
20	-10						NO RECOVERY.	
25	-15	1	20-30	NR	NA			
30	-20							
		2	30-40	6.5	40.3 142.7 54.4 292.7 145.9 108.5 35.2 71.9 34.3 77.0 75.3 62.7		<p>Very dark gray SILT, trace fine Sand, trace Organics (Wood debris), medium stiff, moist, moderate naphthalene-like odor.</p> <p>At 31.3 feet and 31.5 feet bgs, Sand layers with light to moderate NAPL coating. At 31.4 feet bgs, 1-inch Sand layer with NAPL blebs.</p> <p>Dark gray fine SAND, some Silt, little medium Sand, soft, wet, moderate naphthalene-like odor.</p> <p>Moderate to heavy NAPL coating from 32.4 feet to 32.9 feet bgs.</p> <p>Sheen from 32.9 feet to 33.5 feet bgs.</p> <p>Dark grayish brown fine SAND, some medium Sand, little coarse Sand, trace fine subangular to subround low to medium sphericity Gravel, trace Silt, soft, wet, faint naphthalene-like odor.</p>	 <p>Cement-Bentonite Grout (11.8 feet to 68 feet bgs)</p> <p>6-inch Diameter Sch. 10 Stainless Steel Riser (0.72 feet to 73.21 feet bgs)</p>

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 118.21 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
40	-30	2	30-40	6.5	32.1		Dark grayish brown fine SAND, some medium Sand, little coarse Sand, trace fine subangular to subround low to medium sphericity Gravel, trace Silt, soft, wet, faint naphthalene-like odor.	
				5.1	111.2 33.2 32.8 90.7 156.0 47.6 85.0 16.3 36.2		Dark gray fine SAND, some medium Sand, little coarse Sand, soft, wet, faint naphthalene-like odor. At 41.6 feet bgs, 2-inch layer of dark gray SILT, some fine Sand, medium stiff, faint naphthalene-like odor, moist to wet, sheen. Some Silt, trace medium Sand, soft, wet, faint to moderate naphthalene-like odor. Moderate to heavy NAPL coating from 42.1 feet to 42.3 feet bgs. Dark gray SILT, some very fine Sand, medium stiff, moist to wet, faint naphthalene-like odor. Dark gray fine SAND, some medium Sand, little coarse Sand, trace Silt, soft, wet.	
45	-35	3	40-50		121.6 222.8		Some Silt, light NAPL coating, moderate naphthalene-like odor.	
					390.1 90.7 98.7 71.7 122.3 249.3 58.7 116.7 313.7 336.8 126.4 39.2		Gray fine SAND, some medium Sand, little coarse Sand, trace Silt, soft, wet, faint naphthalene-like odor. Little to some Silt, little medium and coarse Sand, faint naphthalene-like odor. Very dark gray very fine SAND and SILT, laminar beds alternating between Silt and Sand, soft to medium stiff, slight liquefaction, moderate naphthalene-like odor. Heavy NAPL coating to saturated with NAPL from 52.8 feet to 53.2 feet bgs, 54.3 feet to 54.4 feet bgs, 55.2 feet to 55.3 feet bgs, and 56.0 feet bgs. Moderate NAPL coating from 54.4 feet to 55.2 feet bgs.	
55	-45	4	50-60	7.9			Very dark gray very fine SAND and SILT, laminar beds alternating between Silt and Sand, soft to medium stiff, slight liquefaction, moderate naphthalene-like odor. Sheen from 56.2	

Cement-Bentonite Grout (11.8 feet to 68 feet bgs)
 6-inch Diameter Sch. 10 Stainless Steel Riser (0.72 feet to 73.21 feet bgs)

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 118.21 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
60	-50	4	50-60	7.9	82.7		feet to 56.5 feet bgs. Heavy NAPL coating to saturated with NAPL from 56.8 feet to 56.9 feet bgs.	
					19.4		Dark gray CLAY, little Silt, little plasticity, medium stiff, moist, faint naphthalene-like odor.	
					10.2		Dark gray fine SAND, some medium Sand, little coarse Sand, soft, wet, faint naphthalene-like odor.	
					10.9		Dark gray fine SAND, some medium Sand, little coarse Sand, soft, wet, faint naphthalene-like odor.	
65	-55	5	60-70	6.5	6.1		Dark gray SILT, little very fine Sand, medium stiff, moist, faint naphthalene-like odor.	
					313.9		Dark grayish brown fine SAND, some medium Sand, little coarse Sand, soft, sheen throughout, moderate naphthalene-like odor. Saturated with NAPL from 60.5 feet to 60.6 feet bgs.	
					317.2		Dark grayish brown fine SAND, some medium Sand, little coarse Sand, soft, sheen throughout, moderate naphthalene-like odor. Saturated with NAPL from 60.5 feet to 60.6 feet bgs.	
					324.3		Dark grayish brown fine SAND, some medium Sand, little coarse Sand, soft, sheen throughout, moderate naphthalene-like odor. Saturated with NAPL from 60.5 feet to 60.6 feet bgs.	
					199.9		Grayish brown SILT, stiff, moderate liquefaction, wet, faint naphthalene-like odor.	
					98.0		Grayish brown SILT, stiff, moderate liquefaction, wet, faint naphthalene-like odor.	
					34.5		Grayish brown SILT, stiff, moderate liquefaction, wet, faint naphthalene-like odor.	
					22.3		Grayish brown SILT, stiff, moderate liquefaction, wet, faint naphthalene-like odor.	
					30.2		Grayish brown SILT, stiff, moderate liquefaction, wet, faint naphthalene-like odor.	
					25.0		Black fine SAND, little medium Sand, soft, wet, sheen, moderate naphthalene-like odor.	
70	-60	6	70-80	6.2	350.0		Black fine SAND, little medium Sand, soft, wet, sheen, moderate naphthalene-like odor.	
					319.8		Black fine SAND, little medium Sand, soft, wet, sheen, moderate naphthalene-like odor.	
					308.9		Black fine SAND, little medium Sand, soft, wet, sheen, moderate naphthalene-like odor.	
					359.2		Black fine SAND, little medium Sand, soft, wet, sheen, moderate naphthalene-like odor.	
					35.8		Black SILT, some very fine Sand, medium stiff, wet, moderate naphthalene-like odor. Saturated with NAPL from 70.0 feet to 70.3 feet bgs.	
					79.7		Dark grayish brown SILT, some very fine Sand, stiff, moderate liquefaction, wet.	
					16.8		Dark grayish brown SILT, some very fine Sand, stiff, moderate liquefaction, wet.	
					66.0		Dark grayish brown SILT, some very fine Sand, stiff, moderate liquefaction, wet.	
75	-65	6	70-80	6.2	11.5		Black fine SAND, little medium Sand, soft, wet, light NAPL coating, moderate naphthalene-like odor.	
					23.0		Black fine SAND, little medium Sand, soft, wet, light NAPL coating, moderate naphthalene-like odor.	
					13.9		Black fine SAND, little medium Sand, soft, wet, light NAPL coating, moderate naphthalene-like odor.	
					15.2		Black fine SAND, little medium Sand, soft, wet, light NAPL coating, moderate naphthalene-like odor.	
					47.0		Black fine SAND, little medium Sand, soft, wet, light NAPL coating, moderate naphthalene-like odor.	
					43.1		Black fine SAND, little medium Sand, soft, wet, light NAPL coating, moderate naphthalene-like odor.	
					351.7		Black fine SAND, little medium Sand, soft, wet, light NAPL coating, moderate naphthalene-like odor.	
					253.8		Black fine SAND, little medium Sand, soft, wet, light NAPL coating, moderate naphthalene-like odor.	

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 118.21 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
80 - 70		6	70-80	6.2	314.6		Black fine SAND, little medium Sand, soft, wet, light NAPL coating, moderate naphthalene-like odor.	<p>#2 Sand (70.5 feet to 103.21 feet bgs) 6-inch Diameter Continuous Slot Stainless Steel Screen (73.21 feet to 103.21 feet bgs)</p>
85 - 75	7	80-90	80-90	7.8	320.1		Black fine SAND, little medium Sand, soft, wet, saturated with NAPL, moderate naphthalene-like odor.	
					363.4			
					201.4		Dark grayish brown SILT, little very fine Sand, soft, wet, faint naphthalene-like odor.	
					297.4			
					237.4			
					253.0			
					303.8			
					368.8		Very dark grayish brown medium SAND, some fine Sand, little coarse Sand, soft, wet, moderate NAPL coating.	
294.8		Dark greenish gray CLAY, moderate plasticity, stiff, moist.						
90 - 80	8	90-100	90-100	3.4	140.4		Brown CLAY, some Silt, little fine Sand, trace medium to coarse Sand, trace fine to coarse subangular to subround low to medium sphericity Gravel, stiff, moist. [TILL]	
					103.5			
					83.6			
					15.0			
					17.3		Brown fine SAND, some medium Sand, little coarse Sand, little fine to medium subangular to subround low to medium sphericity Gravel, trace Silt, soft, wet.	
					27.0			

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 118.21 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
100 - 90		8	90-100					<p>#2 Sand (70.5 feet to 103.21 feet bgs) 6-inch Diameter 0.030-inch Continuous Slot Stainless Steel Screen (73.21 feet to 103.21 feet bgs) Bentonite Chips (103.21 feet to 118.21 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Sump (103.21 feet to 118.21 feet bgs)</p>
		9	100-103	2.0	3.4 3.2 3.4 2.7		Brown fine SAND, some medium Sand, little coarse Sand, trace Silt and fine to medium subangular to subround low to medium sphericity Gravel, soft, wet. Some Silt, little medium to coarse Sand, stiff.	
		NA	NA	NA	NA		Drilled without sampling to 118.21 feet bgs.	
105 - 95								
110 - 100								
115 - 105								

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 118.21 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
		NA	NA	NA	NA		Drilled without sampling to 118.21 feet bgs.	<p>Bentonite Chips (103.21 feet to 118.21 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Sump (103.21 feet to 118.21 feet bgs)</p>
120-110							End of boring at 118.21 feet bgs.	
125-115								
130-120								
135-125								

Remarks: bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Date Start/Finish: 11/29/2021 - 12/1/2021	Northing: 671308.14	Boring/Well ID: CGSB-P3RA-07 / CGRW-211
Drilling Company: Aquifer Drilling and Testing, Inc.	Easting: 632008.62	Client: National Grid
Driller's Name: Dave Moon		
Drilling Method: Sonic	Surface Elevation: 9.19 feet	
Sampling Method: 5-inch x 10-foot Core Barrel	Casing Elevation: 9.73 feet	Location:
Rig Type: Fraste Multidrill XL Max	Borehole Depth: 86.42 feet bgs	Former Citizens Gas Works MGP Site
	Borehole Diameter: 10 inches	Parcel III (Block 471, Lot 200)
	Descriptions By: Andrew Gibson	Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
10								
0							Drilled without sampling to 20 feet bgs.	
5								
5		NA	NA	NA	NA			Off-Site General Fill Material (0 feet to 6.5 feet bgs)
0								6-inch Diameter Sch. 10 Stainless Steel Riser (0.54 feet ags to 41.42 feet bgs)
10								Cement-Bentonite Grout (6.5 feet to 35 feet bgs)
-5								
-15								

	Remarks: ags = above ground surface; bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.
	Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).

Site Location:

Borehole Depth: 86.42 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-10		NA	NA	NA	NA		Drilled without sampling to 20 feet bgs.	
-20		1	20-30	6.0	25.3		Black CLAY, trace coarse Sand, Silt, fine to medium angular to subrounded low to medium sphericity Gravel, and Organics, low to moderate plasticity, moist, channels of viscous NAPL throughout, moderate naphthalene-like odor.	
	27.3				Very dark gray CLAY, little Silt, little fine Sand, soft, low to moderate plasticity, moist, moderate naphthalene-like odor. Moderate NAPL coating on 0.25-inch thick Sand seams at 23.3 feet, 24.8 feet, and 25.1 feet bgs.			
	51.4							
	138.3							
	107.5							
	115.0							
	54.8							
	17.3							
	73.3							
	48.6							
	66.2							
	427.0					Some Silt, little fine Sand, soft, trace plasticity, moist. Heavy NAPL coating on 0.25-inch thick Sand seam at 25.9 feet bgs.		
-30		2	30-40	6.1	153.3		Very dark gray CLAY, some Silt, little fine Sand, soft, moist, faint naphthalene-like odor.	
	325.9				Very dark grayish brown SILT, trace Clay, trace Organics, trace fine Sand, soft, moist, faint naphthalene-like odor.			
	191.4							
	382.8							
	243.3							
	233.3							
	279.4							
	141.0							
	299.6							
	268.7					Dark grayish brown fine SAND, little medium Sand, little Silt, trace coarse Sand, trace fine angular to subrounded low to medium sphericity Gravel, soft, wet, heavy NAPL coating, moderate naphthalene-like odor.		
	37.7	Gray CLAY, trace Silt, trace fine Sand, soft to medium stiff, slight to moderate plasticity, faint naphthalene-like odor.						
	209.9							
			Gray fine SAND, little medium Sand, trace coarse Sand, soft, wet, light NAPL coating					

Cement-Bentonite Grout (6.5 feet to 35 feet bgs)
 6-inch Diameter Sch. 10 Stainless Steel Riser (0.54 feet ags to 41.42 feet bgs)

Bentonite Chips (35 feet to 37 feet bgs)

Remarks: ags = above ground surface; bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 86.42 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
					150.4		moderate naphthalene-like odor.	
-30		2	30-40					Bentonite Chips (35 feet to 37 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Riser (0.54 feet ags to 41.42 feet bgs) #2 Sand (37 feet to 71.42 feet bgs) 6-inch Diameter 0.020-inch Continuous Slot Stainless Steel Screen (41.42 feet to 71.42 feet bgs)
-40				4.7	81.6 170.0 73.7 251.4 44.8 151.8 234.1 144.5 194.4 156.1		Dark gray fine SAND, little medium Sand, little Silt, trace coarse Sand, soft, slight liquefaction, wet, trace NAPL blebs and trace sheen throughout, moderate naphthalene-like odor. Black fine SAND, some medium Sand, little coarse Sand, trace Gravel, soft, wet, moderate NAPL coating, moderate naphthalene-like odor. Gray fine SAND, little medium Sand, little Silt, soft, wet, scattered sheen and staining, moderate naphthalene-like odor. Dark grayish brown fine SAND, some medium Sand, little coarse Sand, trace fine subrounded to rounded medium sphericity Gravel, soft, wet, moderate NAPL coating, moderate naphthalene-like odor.	
-45		3	40-50					
-50				4.8	58.7 132.9 276.1 186.4 19.0 35.8 115.4 383.6 366.3 381.5		Very dark gray fine SAND, some medium Sand, little coarse Sand, soft, wet, moderate naphthalene-like odor. Light to moderate NAPL coating from 50.0 feet to 51.9 feet bgs. Scattered sheen. Black heavy NAPL coating to saturated with NAPL, strong naphthalene-like odor.	
-55		4	50-60					

Remarks: ags = above ground surface; bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 86.42 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
50		4	50-60					
60				5.2	126.3		Gray CLAY, some Silt, medium stiff, moist to wet, moderate naphthalene-like odor.	<p>#2 Sand (37 feet to 71.42 feet bgs)</p> <p>6-inch Diameter 0.020-inch Continuous Slot Stainless Steel Screen (41.42 feet to 71.42 feet bgs)</p> <p>6-inch Diameter Sch. 10 Stainless Steel Sump (71.42 feet to 86.42 feet bgs)</p> <p>Bentonite Chips (71.42 feet to 86.42 feet bgs)</p>
					33.3		Gray SILT, little fine Sand, soft, moderate liquefaction, wet, moderate naphthalene-like odor.	
					27.1		Dark grayish brown fine SAND, some Silt, moist to wet, faint naphthalene-like odor.	
					16.7		Olive brown fine SAND, some medium Sand, little coarse Sand, soft, wet, faint naphthalene-like odor.	
					13.9			
					12.3			
					7.7			
					17.7			
					19.4		Black fine SAND, some medium Sand, little coarse Sand, soft, wet.	
					16.4			
70					26.4		Black fine SAND, little medium Sand, little Silt, trace coarse Sand, soft, wet, faint naphthalene-like odor.	
					18.9		Olive brown grading to gray SILT, little fine Sand, medium stiff, moist.	
					31.5		Olive brown fine SAND, little medium Sand, little Silt, soft, moist to wet.	
					16.5			
					12.8			
					15.4		Black fine SAND, some Silt, little medium Sand, trace coarse Sand, soft, moist to wet.	
					16.8			
					12.1			
					11.5			
					13.2			
					10.8			
					9.7			

Remarks: ags = above ground surface; bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 86.42 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
70		6	70-80					
80							Drilled without sampling to 86.42 feet bgs.	
75		NA	NA	NA	NA			Bentonite Chips (71.42 feet to 86.42 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Sump (71.42 feet to 86.42 feet bgs)
85							End of boring at 86.42 feet bgs.	
90								
85								
95								

Remarks: ags = above ground surface; bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Date Start/Finish: 12/1/2021 - 12/2/2021	Northing: 671302.25	Boring/Well ID: CGSB-P3RA-08 / CGRW-21D
Drilling Company: Aquifer Drilling and Testing, Inc.	Easting: 632004.49	Client: National Grid
Driller's Name: Dave Moon	Surface Elevation: 9.32 feet	Location: Former Citizens Gas Works MGP Site Parcel III (Block 471, Lot 200) Brooklyn, New York
Drilling Method: Sonic	Casing Elevation: 9.49 feet	
Sampling Method: 5-inch x 10-foot Core Barrel	Borehole Depth: 117.71 feet bgs	
Rig Type: Fraste Multidrill XL Max	Borehole Diameter: 10 inches	
	Descriptions By: Andrew Gibson	

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
10								
0							Drilled without sampling to 20 feet bgs.	
5								Off-Site General Fill Material (0 feet to 7 feet bgs)
5								6-inch Diameter Sch. 10 Stainless Steel Riser (0.17 feet ags to 72.71 feet bgs)
0		NA	NA	NA	NA			Cement-Bentonite Grout (7 feet to 69 feet bgs)
10								
15								

	Remarks: ags = above ground surface; bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.
	Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).

Site Location:

Borehole Depth: 117.71 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-10		NA	NA	NA	NA		Drilled without sampling to 20 feet bgs.	
-20		1	20-30	3.0	47.2		Black fine to medium angular GRAVEL, little Debris (Wood fragments), soft, wet, saturated with viscous NAPL.	Cement-Bentonite Grout (7 feet to 69 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Riser (0.17 feet ags to 72.71 feet bgs)
	17.4					Drilled without sampling through GRAVEL obstruction.		
	263.9					Very dark gray CLAY, little Silt, trace fine Sand, soft, sticky, wet, saturated with NAPL, faint naphthalene-like odor.		
	108.9						Light brownish gray GRAVEL.	
	102.0							
	101.3							
-25								
-30		2	30-40	NR	NA		NO RECOVERY.	
-35								

Remarks: ags = above ground surface; bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 117.71 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
		2	30-40	NR	NA		NO RECOVERY.	
-30								
40				5.2	145.6 84.4 66.5 195.8 398.2 308.6 519.9 591.7 512.5		Dark grayish brown fine SAND, some medium Sand, little coarse Sand, little Silt, soft, wet, scattered sheen throughout. Black medium SAND, little coarse Sand, little Silt, soft, wet, heavy NAPL coating, moderate naphthalene-like odor. Dark grayish brown fine SAND, little medium Sand, trace coarse Sand, soft, wet, sheen throughout, moderate naphthalene-like odor. At 43.3 feet bgs, 2-inch layer of dark gray SILT, little very fine Sand, medium stiff, wet. Some medium Sand, little coarse Sand, little Silt, soft, wet, naphthalene-like odor. Scattered sheen from 43.9 feet to 44.7 feet bgs.	
-35		3	40-50		448.0 451.3			
45								
-40								
50				4.8	270.0 385.5 427.3 471.9 592.0 311.7 348.3 253.4 341.7 415.5		Dark grayish brown fine SAND, some medium Sand, little coarse Sand, little Silt, soft, wet, moderate naphthalene-like odor. Sheen from 51.3 feet to 51.4 feet bgs. Heavy NAPL coating to saturated with NAPL from 51.7 feet to 51.8 feet bgs. Saturated with NAPL from 52.4 feet to 52.5 feet bgs. Dark gray CLAY, trace Silt, medium stiff, moderate plasticity, moist. Dark grayish brown fine SAND, some medium Sand, little coarse Sand, little Silt, soft, wet, scattered sheen, faint naphthalene-like odor. At 53.6 feet bgs, 2-inch layer of dark gray CLAY, trace Silt, medium stiff, moderate plasticity, moist, faint naphthalene-like odor. Moderate naphthalene-like odor. Heavy NAPL coating to saturated with NAPL from 54.0 feet to 54.1 feet bgs and 54.5 feet to 54.8 feet bgs.	
-45		4	50-60					
55								

Remarks: ags = above ground surface; bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 117.71 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-50		4	50-60					
60				5.0	155.2 197.5 328.5 251.2 229.3 176.8 89.7 42.8 62.7 17.7		Dark grayish brown fine SAND, some medium to coarse Sand, soft, wet, moderate NAPL coating, moderate naphthalene-like odor throughout. At 60.8 feet bgs, 1-inch layer of coarse Sand saturated with NAPL. Very dark grayish brown SILT, little very fine Sand, moderately stiff, wet, faint naphthalene-like odor throughout. Saturated with NAPL from 61.5 feet to 61.8 feet bgs. Sheen from 61.8 feet to 62.0 feet bgs. Near vertical seam saturated with NAPL from 63.3 feet to 63.7 feet bgs. Grayish brown fine SAND, little medium Sand, little Silt, soft, wet, faint naphthalene-like odor.	Cement-Bentonite Grout (7 feet to 69 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Riser (0.17 feet ags to 72.71 feet bgs)
65		5	60-70					
70				5.9	24.2 17.9 13.0 10.4 10.5 17.6 15.3 11.8 22.2 32.1 53.1 27.0		Dark gray grading to black fine SAND, some medium Sand, little coarse Sand, little fine to medium subrounded low sphericity white, red, and black Gravel, soft, wet, faint naphthalene-like odor. Dark grayish brown SILT, some fine Sand, little medium Sand, medium stiff, wet. Some Clay, trace very fine Sand, stiff, moist. Dark grayish brown fine SAND, some medium Sand, little coarse Sand, soft, wet, faint naphthalene-like odor. Black fine SAND, little Silt, trace medium Sand, silvery flecks, soft, wet, organic odor. Dark grayish brown fine SAND, some medium Sand, soft, wet, faint naphthalene-like odor.	Bentonite Chips (69 feet to 71 feet bgs) #2 Sand (71 feet to 102.71 feet bgs) 6-inch Diameter 0.030-inch Continuous Slot Stainless Steel Screen (72.71 feet to 102.71 feet bgs)

Remarks: ags = above ground surface; bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 117.71 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-70		6	70-80					
-80				7.0	211.9 521.5 601.9 106.7 736.5 356.2		Black fine SAND, little medium Sand, trace coarse Sand, trace Silt, soft, wet, saturated with NAPL, strong naphthalene-like odor.	<p>102.71 feet bgs)</p> <p>#2 Sand (71 feet to 102.71 feet bgs)</p> <p>6-inch Diameter 0.030-inch Continuous Slot Stainless Steel Screen (72.71 feet to 102.71 feet bgs)</p>
-85		7	80-90		377.7 191.5 87.2 118.1 82.4 68.9 68.6 53.0		Black SILT, little very fine Sand, medium stiff, moist to wet, moderate NAPL coating, moderate naphthalene-like odor.	
							Grayish brown SILT, some very fine Sand, medium stiff, moist to wet, scattered sheen throughout, moderate naphthalene-like odor.	
							NAPL bleb from 85.0 feet to 85.3 feet bgs and 85.8 feet to 85.9 feet bgs. Slight to moderate liquefaction.	
-90					158.4 100.1 51.9 71.2		Dark grayish brown fine SAND, little medium Sand, little Silt, soft, wet, saturated with NAPL, strong naphthalene-like odor.	
							Dark grayish brown CLAY and SILT, medium stiff, slight plasticity, moist, faint naphthalene-like odor.	
							Fine to coarse subangular to subrounded low to medium sphericity GRAVEL, some Silt, soft, wet, saturated with NAPL.	
							Dark yellowish brown SILT, some fine Sand, little medium Sand, trace coarse Sand, fine to coarse subangular to subrounded low to medium sphericity Gravel, stiff to medium stiff, moist to wet, faint to moderate naphthalene-like odor. [TILL]	
-85		8	90-100	6.3	234.5 317.1 251.3 229.5 101.9 44.6 21.7		Saturated with NAPL from 92.8 feet to 93.9 feet bgs and 94.1 feet to 94.3 feet bgs.	
-95							Dark gray fine SAND, some medium Sand, little coarse Sand, trace fine subrounded low sphericity Gravel, soft, wet, faint naphthalene-like odor.	

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Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 117.71 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-90		8	90-100	6.3	10.2		Dark gray fine SAND, some medium Sand, little coarse Sand, trace fine subrounded low sphericity Gravel, soft, wet, faint naphthalene-like odor.	<p>6-inch Diameter 0.030-inch Continuous Slot Stainless Steel Screen (72.71 feet to 102.71 feet bgs) #2 Sand (71 feet to 102.71 feet bgs)</p>
-100					117.3 84.5 29.0 41.0 28.5 29.1		Dark gray fine SAND, some medium Sand, soft, moderate liquefaction, wet, moderate NAPL coating, moderate naphthalene-like odor. Olive gray fine SAND, some medium Sand, little coarse Sand, soft, wet, faint naphthalene-like odor. Heavy NAPL coating from 102.4 feet to 102.5 feet bgs.	
-105		9	100-110	6.8	25.7 8.9 72.8 92.1 172.1 131.1 68.0 34.8		Black fine SAND, some Silt, little medium Sand, soft, wet, heavy NAPL coating, moderate naphthalene-like odor. Gray SILT, little fine to coarse Sand, little fine to medium subangular to subrounded low sphericity Gravel, stiff, moist, faint naphthalene-like odor. [TILL]	
-110		NA	NA	NA	NA		Drilled without sampling to 117.71 feet bgs.	<p>Bentonite Chips (102.71 feet to 117.71 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Sump (102.71 feet to 117.71 feet bgs)</p>
-115		NA	NA	NA	NA			

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Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



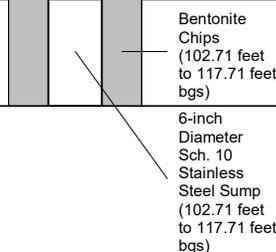
Client: National Grid

Boring/Well ID: CGSB-P3RA-08 / CGRW-21D

Site Location:

Borehole Depth: 117.71 feet bgs

Former Citizens Gas Works MGP Site
Parcel III (Block 471, Lot 200)
Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
		NA	NA	NA	NA		Drilled without sampling to 117.71 feet bgs.	 <p>Bentonite Chips (102.71 feet to 117.71 feet bgs)</p> <p>6-inch Diameter Sch. 10 Stainless Steel Sump (102.71 feet to 117.71 feet bgs)</p>
-110							End of boring at 117.71 feet bgs.	
120								
-115								
125								
-120								
130								
-125								
135								

Remarks: ags = above ground surface; bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Date Start/Finish: 12/3/2021 - 12/7/2021	Northing: 671227.89	Boring/Well ID: CGSB-P3RA-09 / CGRW-221
Drilling Company: Aquifer Drilling and Testing, Inc.	Easting: 631952.18	Client: National Grid
Driller's Name: Dave Moon		
Drilling Method: Sonic	Surface Elevation: 8.86 feet	
Sampling Method: 5-inch x 10-foot Core Barrel	Casing Elevation: 9.45 feet	Location:
Rig Type: Fraste Multidrill XL Max	Borehole Depth: 85.67 feet bgs	Former Citizens Gas Works MGP Site
	Borehole Diameter: 10 inches	Parcel III (Block 471, Lot 200)
	Descriptions By: Andrew Gibson	Brooklyn, New York

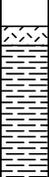
Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
10								
0							Drilled without sampling to 20 feet bgs.	
5								
5		NA	NA	NA	NA			Off-Site General Fill Material (0 feet to 8 feet bgs)
0								6-inch Diameter Sch. 10 Stainless Steel Riser (0.59 feet ags to 30.67 feet bgs)
10								Cement-Bentonite Grout (8 feet to 28 feet bgs)
5								
15								

	Remarks: ags = above ground surface; bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.
	Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).

Site Location:

Borehole Depth: 85.67 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-10		NA	NA	NA	NA		Drilled without sampling to 20 feet bgs.	
-20				2.4	209.5 85.5 61.5 135.1 128.2		Black DEBRIS (WOOD fragments), some fine to coarse Gravel-sized angular fractured Rock, little fine Sand, little Silt, soft, wet, saturated with black viscous NAPL. Black CLAY, little Silt, soft, sticky, moist to wet.	Cement-Bentonite Grout (8 feet to 28 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Riser (0.59 feet ags to 30.67 feet bgs)
-25		1	20-30					
-30				2.1	92.7 85.9 176.5 95.0 103.2		Very dark gray CLAY, some fine Sand, some Silt, soft, sticky, wet, heavy NAPL coating in Sand layers, moderate naphthalene-like odor. Very dark grayish brown fine SAND, little Silt, trace medium Sand, soft, slight liquefaction, wet, moderate naphthalene-like odor. Sheen from 31.3 feet to 31.8 feet bgs. Heavy NAPL coating from 31.8 feet to 32.1 feet bgs.	Bentonite Chips (28 feet to 30 feet bgs)
-35		2	30-40					#2 Sand (30 feet to 70.67 feet bgs) 6-inch Diameter 0.020-inch Continuous Slot Stainless Steel Screen (30.67 feet to 70.67 feet)

Remarks: ags = above ground surface; bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 85.67 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-30		2	30-40					
-40				3.6	95.5 197.1 155.5 114.4 174.7 55.5 345.3		<p>Very dark gray fine SAND, some medium Sand, little coarse Sand, soft, slight liquefaction, wet, light to moderate NAPL coating, faint naphthalene-like odor.</p> <p>Very dark gray SILT, little very fine Sand, stiff, moist to wet, faint to moderate naphthalene-like odor. Saturated with NAPL from 42.0 feet to 42.1 feet bgs, 42.5 feet to 42.6 feet bgs, 42.7 feet to 42.8 feet bgs, and 43.2 to 43.3 feet bgs.</p>	<p>#2 Sand (30 feet to 70.67 feet bgs) 6-inch Diameter 0.020-inch Continuous Slot Stainless Steel Screen (30.67 feet to 70.67 feet bgs)</p>
-45		3	40-50					
-50					52.1 137.1 150.5 165.3 98.5 173.3 286.4		<p>Very dark gray fine SAND, some Silt, soft, wet, heavy NAPL coating, moderate naphthalene-like odor.</p> <p>Dark grayish brown SILT, some very fine Sand, soft, moderate liquefaction, wet, NAPL blebs and sheen throughout, faint naphthalene-like odor.</p>	
-55		4	50-60	5.8	153.8 72.8 229.1 143.8 138.7		<p>Black fine SAND, little Silt, soft, wet, saturated with NAPL, moderate naphthalene-like odor.</p> <p>Dark grayish brown SILT, some very fine Sand, medium stiff, moist to wet. Saturated with NAPL from 54.3 feet to 54.4 feet and 54.8 feet to 54.9 feet bgs. Dark gray SILT, little very fine Sand, stiff, moist, faint naphthalene-like odor.</p>	

Remarks: ags = above ground surface; bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 85.67 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-50		4	50-60					
-60				4.9	0.7 0.8 0.8 0.8 0.7 0.8 0.7 0.9 1.0 1.1		Dark grayish brown fine SAND, some medium Sand, little coarse Sand, soft, wet.	<p>#2 Sand (30 feet to 70.67 feet bgs) 6-inch Diameter 0.020-inch Continuous Slot Stainless Steel Screen (30.67 feet to 70.67 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Sump (70.67 feet to 85.67 feet bgs) Bentonite Chips (70.67 feet to 85.67 feet bgs)</p>
-65		5	60-70				Dark yellowish brown fine SAND, some medium Sand, little coarse Sand, trace fine subrounded medium to high sphericity Gravel, soft, wet.	
-70				1.3	1.0 1.0 0.9		Dark grayish brown fine SAND, some medium Sand, little coarse Sand, soft, wet.	
-75		6	70-73					
		NA	NA	NA	NA		Drilled without sampling to 85.67 feet bgs.	

Remarks: ags = above ground surface; bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 85.67 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-70		NA	NA	NA	NA		Drilled without sampling to 85.67 feet bgs.	<p>Bentonite Chips (70.67 feet to 85.67 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Sump (70.67 feet to 85.67 feet bgs)</p>
-80							End of boring at 85.67 feet bgs.	
-85								
-90								
-95								

Remarks: ags = above ground surface; bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Date Start/Finish: 11/22/2021 - 11/29/2021
Drilling Company: Aquifer Drilling and Testing, Inc.
Driller's Name: Dave Moon
Drilling Method: Sonic
Sampling Method: 5-inch x 10-foot Core Barrel
Rig Type: Fraste Multidrill XL Max

Northing: 671222.22
Easting: 631948.96
Surface Elevation: 8.97 feet
Casing Elevation: 9.43 feet
Borehole Depth: 120 feet bgs
Borehole Diameter: 10 inches
Descriptions By: Andrew Gibson

Boring/Well ID: CGSB-P3RA-10 / CGRW-22D
Client: National Grid
Location:
 Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
10								
0							Drilled without sampling to 20 feet bgs.	<p>Off-Site General Fill Material (0 feet to 8.9 feet bgs)</p> <p>6-inch Diameter Sch. 10 Stainless Steel Riser (0.46 feet ags to 72.62 feet bgs)</p> <p>Cement-Bentonite Grout (8.9 feet to 64 feet bgs)</p>
5		NA	NA	NA	NA			
0								
10								
5								
15								

Remarks: ags = above ground surface; bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 120 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
		NA	NA	NA	NA		Drilled without sampling to 20 feet bgs.	
-10								
-20								
				4.9	1.0 7.5 2.7 4.6 24.9 50.1 63.3 255.0 181.9 247.8			
-15								
-25		1	20-30					
-20								
-30					50.2 89.2 50.3 170.2 120.1 182.0 222.0 270.0 60.7 170.9 364.5 317.0			
-25		2	30-40	5.9				
-35								

Cement-Bentonite Grout (8.9 feet to 64 feet bgs)
 6-inch Diameter Sch. 10 Stainless Steel Riser (0.46 feet ags to 72.62 feet bgs)

Remarks: ags = above ground surface; bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 120 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-30		2	30-40					
-40				3.8	223.7 118.7 146.4 78.2 184.4 180.3 239.7 231.4		Very dark gray fine SAND, little Silt, trace medium Sand, soft, wet, heavy NAPL coating, moderate naphthalene-like odor. Gray SILT, soft, moist, staining, moderate naphthalene-like odor. Dark grayish brown fine SAND, some Silt, trace medium Sand, soft, wet, saturated with NAPL, moderate naphthalene-like odor.	<p>Cement-Bentonite Grout (8.9 feet to 64 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Riser (0.46 feet ags to 72.62 feet bgs)</p>
-45		3	40-50					
-50				6.3	269.1 151.4 216.7 160.8 294.4 62.2 88.4 161.0 190.8 418.5 591.7 320.7		Dark gray fine SAND, little Silt, trace medium sand, soft, wet, light NAPL coating, moderate naphthalene-like odor. Saturated with NAPL from 51.0 feet to 51.3 feet bgs. Dark gray SILT, some very fine Sand, soft, wet, moderate naphthalene-like odor. Saturated with NAPL from 51.6 feet to 52.3 feet bgs. Sheen at 51.9 feet bgs. Heavy NAPL coating and sheen from 52.7 feet to 52.9 feet bgs. Dark gray SILT and fine SAND, alternating bands of Silt and Sand, soft, wet. Sand layer with moderate NAPL coating from 54.2 feet to 54.3 feet bgs, Sand layer with heavy NAPL coating from 54.3 feet to 54.4 feet bgs, Silt layers with sheen from 54.2 feet to 54.5 feet bgs. Dark gray SILT, some fine Sand, soft, wet, moderate naphthalene-like odor. 2-inch Sand layer saturated with NAPL at 55.3 feet bgs. Sand layer with light NAPL coating and sheen from 55.5 feet to 55.8 feet bgs.	
-55		4	50-60					

Remarks: ags = above ground surface; bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 120 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-50		4	50-60	6.3	89.1		Dark gray SILT, some fine Sand, soft, wet, moderate naphthalene-like odor.	
-60					215.8		Dark gray fine SAND, some Silt, soft, wet, some staining on Silt, moderate naphthalene-like odor. Saturated with NAPL from 60.3 feet to 60.5 feet bgs and 60.7 feet to 60.8 feet bgs.	Cement-Bentonite Grout (8.9 feet to 64 feet bgs)
				5.5	227.5		Gray SILT, some fine Sand, soft, slight dilatancy, wet, moderate naphthalene-like odor. Sheen from 60.9 feet to 61.0 feet bgs.	
					154.3		Sand layer saturated with NAPL from 61.2 feet to 61.3 feet bgs.	6-inch Diameter Sch. 10 Stainless Steel Riser (0.46 feet ags to 72.62 feet bgs)
					291.1		Sheen at 61.7 feet bgs.	
					113.7		Sheen from 63.1 feet to 63.3 feet bgs.	
					142.4		Moist, faint naphthalene-like odor.	
-65		5	60-70		25.9		Olive brown fine SAND, some medium Sand, little Silt, trace coarse Sand, moist to wet, faint naphthalene-like odor.	Bentonite Chips (64 feet to 66.5 feet bgs)
					20.7			
-70					14.4		Fine SAND, some Silt, trace medium and coarse Sand, soft, wet, faint naphthalene-like odor.	#2 Sand (66.5 feet to 102.62 feet bgs)
					35.5		NAPL blebs at 70.8 feet and 71.2 feet bgs.	
					35.9			
					41.4			
					24.0			
				5.0	211.9		Trace fine subrounded to rounded low sphericity Gravel.	
					22.3			
					24.3			
-75		6	70-80		9.9		Little medium Sand, little Silt.	6-inch Diameter 0.030-inch Continuous Slot Stainless Steel Screen (72.62 feet to 102.62 feet bgs)
					11.6			

Remarks: ags = above ground surface; bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 120 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-70		6	70-80					
-80				5.3	243.7 393.8 343.6 371.5 417.7 317.0		Dark yellow-brown SILT, trace very fine Sand, stiff, moist, trace sheen, orange staining, faint naphthalene-like odor. Black fine SAND, some medium Sand, little coarse Sand, trace fine subrounded low sphericity Gravel, soft, wet, saturated with NAPL, strong naphthalene-like odor.	
-75		7	80-90		79.0 21.3 14.0 10.3 9.8		Dark grayish brown SILT, some fine Sand, trace medium to coarse Sand, fine to coarse subangular to subrounded low to medium sphericity Gravel and Cobbles, stiff, moist, faint naphthalene-like odor. [TILL]	
-85								#2 Sand (66.5 feet to 102.62 feet bgs) 6-inch Diameter 0.030-inch Continuous Slot Stainless Steel Screen (72.62 feet to 102.62 feet bgs)
-90		8	90-100	6.0	93.3 47.9 34.7 14.6 6.4 21.7 37.1 29.2 16.7 4.9 13.2 8.1		Brown fine SAND, some Silt, trace medium Sand, soft, wet, faint naphthalene-like odor. Trace sheen from 90.7 feet to 91.3 feet bgs. Dark grayish brown fine SAND, some medium Sand, little coarse Sand and Silt, soft, wet, faint naphthalene-like odor.	
-95							Dark grayish brown fine SAND and SILT, soft, moist to wet, faint naphthalene-like odor.	

Remarks: ags = above ground surface; bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Site Location:

Borehole Depth: 120 feet bgs

Former Citizens Gas Works MGP Site
 Parcel III (Block 471, Lot 200)
 Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-90		8	90-100					<p>6-inch Diameter Continuous Slot Stainless Steel Screen (72.62 feet to 102.62 feet bgs) #2 Sand (66.5 feet to 102.62 feet bgs) Bentonite Chips (102.62 feet to 120 feet bgs) 6-inch Diameter Sch. 10 Stainless Steel Sump (102.62 feet to 117.62 feet bgs)</p>
-100				6.0	4.6 22.2 15.3 7.8 5.7 4.0		Dark gray fine SAND, little medium Sand, little Silt, trace coarse Sand, soft, wet, faint naphthalene-like odor.	
-95					7.3 2.7		Dark gray SILT, little fine Sand, stiff, moist.	
-105		9	100-110		3.3 10.1 3.0 2.7		Brown fine SAND, little medium to coarse Sand, soft, wet, faint naphthalene-like odor.	
-100							Gray SILT, little fine Sand, trace medium to coarse Sand, fine subangular to subround low sphericity Gravel, stiff, moist, faint naphthalene-like odor. [TILL]	
-110					2.5 2.4 2.9 2.7		Dark grayish-brown fine SAND, some medium Sand, little coarse Sand, trace Silt, soft, wet.	
-105		10	110-120	6.0	2.0 1.9 1.7 2.0 2.2		Some Silt, little medium Sand. Some medium Sand, little Silt.	
-115					1.5 1.9 2.1			

Remarks: ags = above ground surface; bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Client: National Grid

Boring/Well ID: CGSB-P3RA-10 / CGRW-22D

Site Location:

Borehole Depth: 120 feet bgs

Former Citizens Gas Works MGP Site
Parcel III (Block 471, Lot 200)
Brooklyn, New York

Depth (feet bgs)	Elevation (feet NAVD88)	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring/Well Construction
-110		10	110-120					<p>Diameter Sch. 10 Stainless Steel Sump (102.62 feet to 117.62 feet bgs) Bentonite Chips (102.62 feet to 120 feet bgs)</p>
120							End of boring at 120 feet bgs.	
-115								
125								
-120								
130								
-125								
135								

Remarks: ags = above ground surface; bgs = below ground surface; MGP = manufactured gas plant; NA = not applicable/available; NAPL = non-aqueous phase liquid; NR = no recovery; Sch. = Schedule.

Horizontal reference datum is the North American Datum of 1983 (NAD83), New York State Plane East Zone (FIPS 3101). Vertical reference datum is the North American Vertical Datum of 1988 (NAVD88).



Attachment B

Decommissioning Log for New Recovery Well CGRW-11

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: <i>Catizans Former WGP Site, National Grid</i>	Well I.D.: <i>CGRW-11</i>
Site Location: <i>Brooklyn, NY</i>	Driller: <i>ADT/O. Moon</i>
Drilling Co.: <i>ADT</i>	Inspector: <i>A. Gibson</i>
	Date: <i>2/16/22</i>

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING

Interval Drilled	
Drilling Method(s)	
Borehole Dia. (in.)	
Temporary Casing Installed? (y/n)	
Depth temporary casing installed	
Casing type/dia. (in.)	
Method of installing	

CASING PULLING

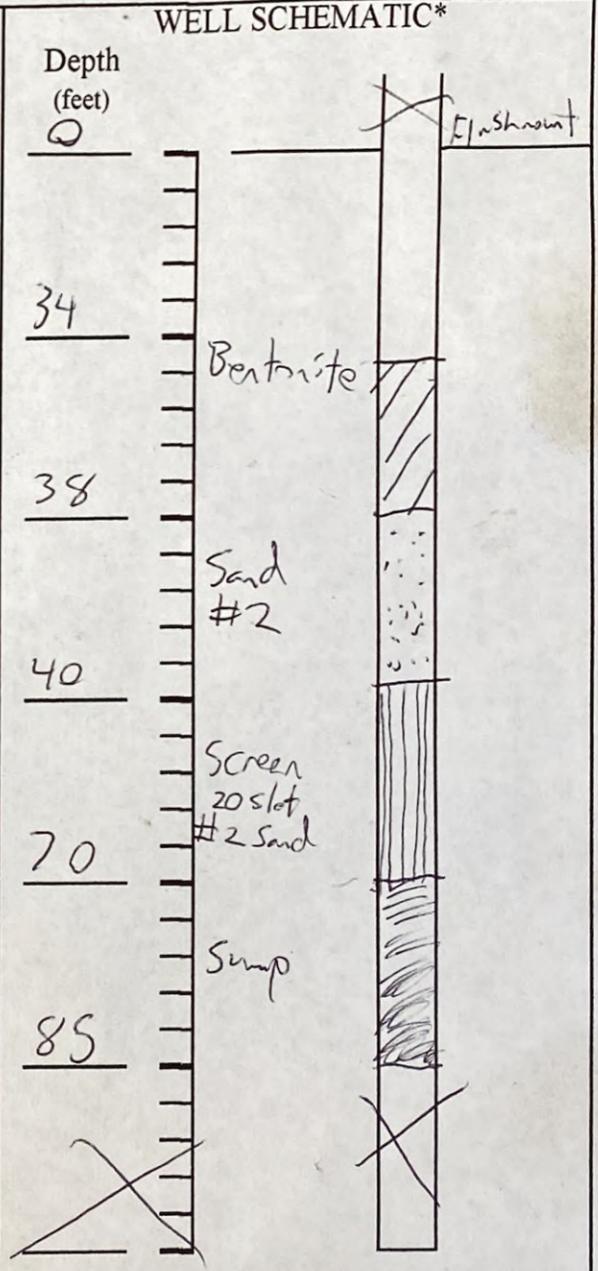
Method employed	
Casing retrieved (feet)	
Casing type/dia. (in)	

CASING PERFORATING

Equipment used	
Number of perforations/foot	
Size of perforations	
Interval perforated	

GROUTING

Interval grouted (FBLs)	<i>0-85</i>
# of batches prepared	<i>2</i>
For each batch record:	
Quantity of water used (gal.)	<i>~50</i>
Quantity of cement used (lbs.)	
Cement type	<i>Portland 1/11</i>
Quantity of bentonite used (lbs.)	<i>50 100 1/4" chips</i>
Quantity of calcium chloride used (lbs.)	
Volume of grout prepared (gal.)	<i>~80</i>
Volume of grout used (gal.)	<i>~70</i>



COMMENTS: *NAPL purged before grouting, Grout has 5% Bentonite powder granules*

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

[Signature]
Drilling Contractor

[Signature]
A. Gibson, Arcadis, Oversight

Department Representative