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**Periodic Review Report
March 28, 2021 – March 28, 2022
Hempstead Intersection Street
Former MGP Site**

Town of Hempstead, Nassau County, New York
Site ID #1-30-086

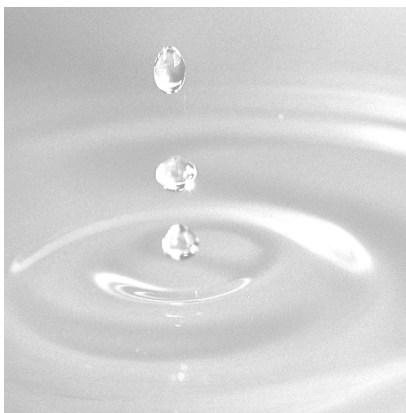
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April 2022
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Table of Contents

Abbreviations, Acronyms, and Measurements	iv
Periodic Review Report Certification Statement	vi
1. Introduction	1
1.1 Site Location and Description	2
1.2 Remedial Chronology	3
2. Institutional Control/Engineering Control (IC/EC) Plan Compliance	6
2.1 Institutional Controls	6
2.2 Engineering Controls	8
2.2.1 Cover System	8
2.2.2 DNAPL Monitoring & Recovery	8
2.2.3 Oxygenation Systems	8
2.3 IC/EC Plan Evaluation	9
2.3.1 Excavation Work Plan	9
2.3.2 Soil Vapor Intrusion Evaluation	10
2.3.3 Contingency Plan	10
2.3.4 Corrective Measures Plan	10
2.4 Inspections and Notifications	11
2.4.1 Inspections	11
2.4.2 Notifications	11
3. Monitoring Plan Activities and Compliance	13
3.1 Monitoring Plan Description	13
3.2 Site Inspections and Cover System Monitoring	13
3.3 Reporting Period Monitoring	14
3.3.1 Groundwater	14
3.4 Summary of Monitoring Results	15
4. Operation and Maintenance Activities and Compliance	18
4.1 Oxygenation System Description	18
4.2 System #2 Shutdown	18
4.3 Operational Summary	19
4.4 Summary of Oxygen Level Measurements	20
4.5 Evaluation of Effectiveness	20
5. Overall PRR Conclusions and Recommendations	21
5.1 Compliance with SMP	21
5.2 Performance and Effectiveness of Remedy	21

5.3	Recommendations	22
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6.	References	23
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Tables

1. Monitoring Program Schedule
2. Monitoring Requirements
3. Groundwater and NAPL Measurements Third Quarter 2021
4. Groundwater and NAPL Measurements First Quarter 2022
5. NAPL Gauging and Recovery
6. Groundwater Analytical Results
7. Groundwater Treatment Performance Monitoring, April 2021 – March 2022

Figures

1. Site Location
2. Project Site Map
3. Parcel Boundaries
4. Groundwater Oxygenation Systems
5. Extent of Dissolved Phase Plume and Groundwater Analytical Results – September 2021
6. Extent of Dissolved Phase Plume and Groundwater Analytical Results – March 2022
7. Potentiometric Surface Map for Shallow Groundwater – September 2021
8. Potentiometric Surface Map for Intermediate Groundwater – September 2021
9. Potentiometric Surface Map for Deep Groundwater – September 2021
10. Potentiometric Surface Map for Shallow Groundwater – March 2022
11. Potentiometric Surface Map for Intermediate Groundwater – March 2022
12. Potentiometric Surface Map for Deep Groundwater – March 2022
13. Oxygen System #1 Dissolved Oxygen Concentrations
14. Oxygen System #2 Dissolved Oxygen Concentrations
15. Extent of Dissolved-Phase Plume and Groundwater Analytical Results – May 2011
16. System #1 Oxygen Well Location Site Plan
17. System #2 Oxygen Well Location Site Plan
18. Figs. 18 A & B Total BTEX Concentrations in Wells Downgradient from Oxygen Injection System #1 and Upgradient from Oxygen Injection System #2 (18A) and Downgradient from Oxygen Injection Systems #1 and 2 (18B)
19. Figs. 19 A & B Total PAH Concentrations in Wells Downgradient from Oxygen Injection System #1 and Upgradient from Oxygen Injection System #2 (19A) and Downgradient from Oxygen Injection Systems #1 and 2 (19B)

Appendices

- A. NYSDEC Correspondence
- B. Inspection Form
- C. Data Usability Summary Reports
- D. Oxygen System Operations & Maintenance Measurements
- E. Institutional and Engineering Controls Certification Form

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Abbreviations, Acronyms, and Measurements

AWQS	Ambient Water Quality Standard or Guidance Value
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CAMP	Community Air Monitoring Plan
CFR	Code of Federal Regulations
DER	Division of Environmental Remediation
DNAPL	Dense Non-Aqueous Phase Liquid
DO	Dissolved Oxygen
DUSR	Data Usability Summary Report
EC	Engineering Control
ECL	Environmental Conservation Law
ELAP	Environmental Laboratory Accreditation Program
EWP	Excavation Work Plan
GEI	GEI Consultants, Inc., P.C.
HASP	Health and Safety Plan
IC	Institutional Control
IRM	Interim Remedial Measure
ISS	In-Situ Solidification
LIRR	Long Island Railroad
MGP	Manufactured Gas Plant
NAPL	Non-Aqueous Phase Liquid
National Grid	National Grid NY
NYCRR	New York Codes, Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
PRR	Periodic Review Report
PAH	Polycyclic Aromatic Hydrocarbon
POB	Professional Office Building
ROW	Right-of-Way
Site	National Grid Former Hempstead MGP
SMP	Site Management Plan
SVI	Soil Vapor Intrusion
USEPA	United States Environmental Protection Agency
VGC	Village of Garden City

Measurements

bgs	below ground surface
cy	cubic yards

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Site ID #1-30-086
April 2022

ft	feet
mg/L	milligrams per liter
µg/L	micrograms per liter

Periodic Review Report Certification Statement

I, Jeffrey Parillo, certify that I am currently a New York State registered professional engineer and that this Periodic Review Report and all attachments were prepared under my direction. To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the Site remedial program, and generally accepted engineering practices; and that the information presented is accurate and complete.

For each institutional or engineering control identified for the Site, I certify that all the following statements are true:

- a) the institutional control and/or engineering control employed at this Site is unchanged from the date the control was put in place, or last approved by DER.
- b) nothing has occurred that would impair the ability of such control to protect public health and the environment.
- c) nothing has occurred that would constitute a violation or failure to comply with any Site Management Plan for this control.
- d) access to the Site will continue to be provided to DER to evaluate the remedy, including access to evaluate the continued maintenance of this control.



April 25, 2022

Date

Jeffrey Parillo, P.E.

GEI Consultants, Inc., P.C.

New York State Professional Engineer

License Number: 0118801

It is a violation of Article 145 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State licensed engineer in accordance with Section 7209(2), Article 145, New York State Education Law.

1. Introduction

This Periodic Review Report (PRR) was prepared by GEI Consultants, Inc., P.C. on behalf of National Grid NY (National Grid) to present the scope and results of the post-remediation monitoring activities conducted between March 28, 2021, and March 28, 2022, at the Former Hempstead Intersection Manufactured Gas Plant (MGP) site (the Site) located in Hempstead, New York. This PRR for this Site (NYSDEC Site #130086) is prepared in accordance with the requirements of the New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation (DER) guidance document DER-10, Technical Guidance for Site Investigation and Remediation (NYSDEC, 2010) and the Site Management Plan (SMP) (URS, 2017) for the Site. The 2021-2022 monitoring activities were conducted to evaluate the on-going performance and effectiveness of the Engineering Controls (ECs) and Institutional Controls (ICs) at the Site and in off-Site areas and consisted of the following:

- Monthly non-aqueous phase liquid (NAPL) monitoring and recovery at monitoring well HIMW-21.
- Oxygenation system monitoring. Groundwater treatment performance monitoring of dissolved oxygen (DO) for both systems was conducted quarterly through Q3 2021. NYSDEC approved the shutdown of oxygenation system #2 (System #2) in October 2021, at which time monitoring downgradient of this system was discontinued. A reduction of DO sampling from quarterly to semi-annually was approved for System #1 in early Q1 2022. Going forward, DO monitoring will be conducted during the semi-annual groundwater monitoring events in Q1 and Q3 of each year. Beginning in Q4 2021, additional groundwater monitoring will be conducted to monitor the shutdown of System #2.
- Semi-annual groundwater monitoring in September 2021 and March 2022. NYSDEC approved criteria for groundwater monitoring reductions in early Q1 2022. As a result, wells that met the criteria were reduced to annual sampling (to be conducted during Q3 of each year) and were not sampled in the semi-annual event (Q1/March 2022). Additional reductions to the sample list are possible based on future analytical results. Additional details are provided in Section 3.3.1.
- Annual Site-wide inspection in March 2022.

Additional activities conducted during the current PRR period included:

- Quarterly Site checks.

The 2021-2022 monitoring activities were performed in accordance with the NYSDEC-approved Site Management Plan (SMP; URS, 2017) and subsequent modifications. These included 2019-2020's reduction to the groundwater sampling frequency and the inclusion of the sampling results in the PRR in lieu of the annual report formerly titled "*Annual Groundwater Sampling, NAPL Monitoring/ Recovery and Groundwater Treatment Performance Report*" (National Grid 2018), and the modifications to the dissolved oxygen sampling program (Dissolved Oxygen Modification Request; National Grid 2019). The above-referenced modifications were approved by the NYSDEC on June 1, 2018, and October 24, 2019, respectively. The NYSDEC correspondence regarding the modification approvals are provided in Appendix A. The SMP is currently being revised to include the most recent modifications regarding System #2 and the groundwater monitoring program discussed above.

1.1 Site Location and Description

National Grid's corporate predecessor, KeySpan Corporation, entered into an Order on Consent (#D1-0001-98-11) with the NYSDEC to investigate and remediate MGP-related residuals at the Site and surrounding areas in the Villages of Hempstead and Garden City, in the Town of Hempstead, Nassau County, New York. The Site is generally bounded by Second Street to the north, an inactive Long Island Railroad (LIRR) Right-of-Way (ROW) to the east, Intersection Street to the south, and a Village of Garden City (VGC) municipal property to the west which contains a public parking lot, two public water supply wells, and a recharge basin that is used to service the water supply wells (Figure 1 and 2). The area immediately surrounding the Site is developed with residential and commercial properties. The Site includes an active natural gas regulator station in the northwest corner of the property, storage areas used by National Grid and its contractors, and a storage area for new cars that is leased to a car dealership.

In addition to the Site, the following off-Site areas were subjected to soil remediation via excavation removal/backfill and in situ solidification (ISS):

- The VGC municipal property that is adjacent to and west of the Site.
- The parking lot of the Plaza 230 Professional Office Building (POB) that is south of the Site.
- Intersection Street ROW that is between the Site and the POB parking lot.
- The inactive LIRR ROW that is adjacent to and east of the Site.
- Oswego Oil Storage Terminal that is just north of Intersection Street and east of the Site.

These off-Site Areas are shown in Figure 2 and the Site and adjacent parcels are identified by the Section, Block, and Lot numbers in Figure 3. Additional off-Site remedial activities include the installation and operation of two oxygenation systems that treat groundwater through oxygen delivery to the subsurface, the installation and sampling of monitoring wells located throughout the project area and the recovery of dense non-aqueous phase liquid (DNAPL).

1.2 Remedial Chronology

National Grid has performed two interim remedial measures (IRMs) and two remedial actions (one off-Site and one on-Site), which are summarized below.

A “cut and plug” IRM was conducted in 1999 and 2000. Underground piping associated with historic MGP operations was located, cut, drained of any fluids, and plugged to limit the potential for any off-Site migration of MGP-related constituents.

A second IRM was implemented in 2008 to excavate shallow MGP source materials from the Site and to recover DNAPL from groundwater. A total of 4,432 cubic yards (cy) of MGP-impacted soil and construction/demolition debris was transported to a licensed facility for off-Site treatment and disposal. MGP-impacted liquid (9,493 gallons) was containerized and transported to a licensed facility for off-Site treatment and disposal.

As part of an off-Site remedial action, National Grid installed two groundwater oxygenation systems downgradient of the Site (see Figure 4). These systems are components of the full Site-wide remedy and inject oxygen to the downgradient groundwater plume. The primary objective of the off-Site groundwater oxygenation systems is to increase the level of DO in the groundwater to encourage aerobic bioremediation of organic contaminants. As contaminated groundwater flows through the treatment areas, the increased DO accelerates the rate at which the dissolved contaminant mass is bioremediated and the contaminant concentrations in groundwater decrease. System #1 was brought on-line in April 2011 and is located immediately south of the Site and runs generally east-west from Hilton Avenue to Sealy Avenue, in a neighborhood that includes residential and light commercial spaces, as well as a portion of the LIRR ROW. System #2 was brought on-line in October 2010 and is located in a primarily residential neighborhood about 500 ft to the south of System #1, running from Mirschel Park to Kensington Court.

The on-Site remedial action (including portions of adjacent parcels as described in Section 1.1) was completed between 2011 and 2016 and included an excavation and ISS remedy addressing MGP source material on the Site and adjacent off-Site areas. Elements of the remedial action included:

1. Excavation of MGP structures and shallow targeted MGP-impacted soil from the Site and treatment/disposal off-Site.
2. Excavation of shallow clean soil and stockpile for later backfill.
3. Solidification of deeper targeted MGP source material beneath the Site using ISS.
4. Construction of an approximately 15-ft deep subsurface soil-crete retaining wall in the POB parking lot and in portions of Wendell Street and Intersection Street. The soil-crete wall consisted of soil mixed with a cement-based grout to provide concrete-like properties.
5. Excavation to approximately 15 ft below ground surface (bgs) within the soil-crete wall and stockpiling/reuse clean overburden soils and then solidification of deeper targeted MGP source material.
6. Solidification of targeted MGP source material in the VGC municipal property and the Oswego Oil Storage Terminal property.
7. Coverage of solidified material, known as a cover system, with approximately four feet of clean soil. Surface cover materials to prevent contact with solidified materials and remaining untreated contaminated soil at the Site and adjacent off-Site areas are as follows:
 - National Grid Property:
 - New York State Department of Transportation (NYSDOT) select stone cover (4 inches thick) in disturbed/work areas.
 - Asphalt pavement (for access roads and asphalt parking).
 - Select stone-lined swale (4 inches thick).
 - VGC Municipal Property:
 - Asphalt pavement (access roads and asphalt parking).
 - Landscaped area including:
 - Topsoil and grass vegetation.
 - Landscape strips with topsoil (6-inches)/grass, shrubs, and trees.
 - Wendell Street, Intersection Street, and Wydler Place:
 - Asphalt cover with concrete curbs, adjacent topsoil (6 inches)/grass strips, concrete sidewalks, and trees.

- POB Parking Lot:
 - Asphalt paving.
 - Curbed decorative gravel islands with trees.
- Oswego Oil Storage Terminal area where ISS was completed:
 - Four inches of asphaltic concrete on top of 4 inches of subbase course.

2. Institutional Control/Engineering Control (IC/EC) Plan Compliance

Since solidified material and remaining impacted soil and groundwater exists beneath the Site and in some off-Site areas, ICs and ECs exist to protect human health and the environment. The SMP includes provisions to protect human health and the environment from groundwater contamination in addition to managing the remaining soil contamination. The intent of this section is to provide a description of the IC/ECs in place for the Site and off-Site areas, the objective and status of each IC/EC, as well as to provide a mechanism used to monitor and enforce ICs and ECs, where appropriate.

2.1 Institutional Controls

A series of ICs is required by the Decision Document to: (1) implement, maintain, and monitor Engineering Control systems; (2) prevent future exposure to MGP-related residuals by controlling disturbances of the subsurface contamination; and (3) limit the use and development of the Site to restricted residential use, as indicated in the Environmental Easement unless other future uses are approved by the NYSDEC. These ICs are as follows:

- Compliance with the Environmental Easement by the Grantor and the Grantor's successors and assigns with all elements of the SMP.
- Compliance with the Access Agreement.
- All ECs must be operated and maintained as specified in the SMP by National Grid.
- All ECs must be inspected and certified by National Grid or a contractor of National Grid at a frequency and in a manner defined in the SMP.
- Groundwater and other environmental or public health monitoring must be performed as defined in the SMP.
- Data and information pertinent to site management must be reported by National Grid at the frequency and in a manner defined in the SMP.
- Site and off-Site area environmental monitoring including but not limited to, groundwater monitoring wells and oxygen injection points, must be maintained to ensure continued functioning in the manner specified in the SMP.
- ICs may not be discontinued without an amendment to or extinguishment of the Environmental Easement.

The Site has a series of ICs in the form of restrictions. Adherence to these ICs is required by the Environmental Easement on the Site. Restrictions that apply to the Site and off-Site areas as indicated below are as follows:

- Use of the Site is approved for restricted residential use. Any specific future development must comply with local laws and regulations.
- Use of groundwater underlying the Site or the other properties that were subjected to soil remediation via excavation removal/backfill and ISS (as described in Section 1.1) is prohibited without treatment to ensure it is safe for the intended use.
- All future activities on the Site or surrounding areas that were subjected to soil remediation via excavation removal/backfill and ISS that will disturb contaminated and/or solidified material must not be conducted unless they are conducted in accordance with the SMP and accompanying Excavation Work Plan (EWP).
- Implementation of a Health and Safety Plan (HASP) and EWP prior to any ground intrusive activity including but not limited to utility work, boring completion, monitoring well installation, and excavation; with the exception of normal landscaping (to a maximum of 24 inches below ground surface or top of the groundwater table, whichever is shallower).
- The potential for vapor intrusion must be evaluated for any new buildings proposed on the Site or at off-Site areas that were subjected to soil remediation via excavation removal/backfill and ISS, and any potential impacts that are identified must be monitored or mitigated.
- Written notification at least 60 days in advance for changes in use at the Site or to off-Site areas that were subjected to soil remediation via excavation removal/backfill and ISS must be submitted to NYSDEC as per Part 375 and DER-10.
- Vegetable gardens and farming on the Site are prohibited.

National Grid will submit to NYSDEC a written statement that certifies that: (1) controls employed at the Site are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Site at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.

2.2 Engineering Controls

The SMP lists the following ECs:

- Cover system.
- DNAPL monitoring and recovery.
- Operation of groundwater oxygenation systems.

A description of each of the ECs is provided below. Monitoring activities are discussed in subsequent sections.

2.2.1 Cover System

Contact with MGP-related residuals in soil and solidified material at the Site and adjacent off-Site areas is prevented by multiple cover systems. Locations of the various cover systems are provided in the SMP. The cover systems, exclusive of any underlying fill that was described earlier in Section 1.2, are comprised of asphalt pavement, concrete sidewalks, concrete slabs, select stone (gravel), or vegetated topsoil.

2.2.2 DNAPL Monitoring & Recovery

DNAPL is gauged monthly from one well in the off-Site area (HIMW-21). Recovery is conducted when DNAPL thickness reaches approximately 5 ft, which is significantly less than the 10-ft sump installed in the well. The collected DNAPL is transferred to a collection drum stored on-Site, and properly disposed of off-Site.

2.2.3 Oxygenation Systems

Remediation of the dissolved phase groundwater plume is addressed through the continued operation of the oxygenation treatment systems. Oxygen delivery is comprised of systems that deliver oxygen to the groundwater at rates determined to be sufficient to maintain aerobic conditions in the aquifer. Aerobic conditions allow naturally occurring bacteria to oxidize and break down contaminants into water and carbon dioxide. Systems are inspected on a monthly basis. During each monthly inspection, repairs and routine operation and maintenance activities are performed. Through Q4 2021, DO levels were measured quarterly in monitoring wells installed adjacent to the delivery points to confirm that aerobic conditions are present. A reduction to semi-annual DO monitoring was approved by NYSDEC on January 3, 2022. Semi-annual monitoring will be performed in Q1 and Q3 of each year going forward.

System #1 was brought on-line in April 2011 and is located immediately south of the Site and runs generally east-west from Hilton Ave to the west to Sealy Ave to the east, in a neighborhood that includes residential and light commercial spaces, as well as a portion of the LIRR ROW. System #2 was brought on-line in October 2010 and is located in a primarily residential neighborhood about 500 ft to the south of System #1, running from Mirschel Park to the east to Kensington Court to the west. System #2 was shut down on October 8, 2021, with NYSDEC approval. The location of the systems is shown in Figure 4.

2.3 IC/EC Plan Evaluation

The following Plans are applicable at the Site or to off-Site areas that were subjected to soil remediation via excavation removal/backfill and ISS, as outlined in the SMP.

2.3.1 Excavation Work Plan

Any future intrusive work (e.g., through drilling, trenching, excavation) that will penetrate, encounter, or disturb the cover systems, or encounter or disturb solidified material and/or MGP-related residuals including any modifications or repairs to the existing cover systems, will be performed in compliance with the EWP included as Appendix B of the SMP. Should the monolith be breached, removed monolith material will be disposed off-Site as contaminated material, and provisions will be made to avoid ponding on the breached monolith surface. Adherence to these ICs on the Site is required by the Environmental Easement and will be implemented under the SMP.

Any work conducted pursuant to the EWP must also be conducted in accordance with a HASP and Community Air Monitoring Plan (CAMP) prepared for the Site, in accordance with DER-10, 29 Code of Federal Regulations (CFR) 1910, 29 CFR 1926, and all other applicable Federal, State, and local regulations. Any intrusive construction work will be performed in compliance with the EWP, HASP and CAMP, and will be included in the periodic inspection and certification reports submitted under the SMP.

The affected property owner(s) and the contractor performing the excavation work are completely responsible for the safe performance of all invasive work, the structural integrity of excavations, the identification of any buried utilities within the excavation area and for structures that may be affected by excavations (such as building foundations and footings), and control of runoff from open excavations onto solidified material and/or MGP-related residuals. In addition, the property owner(s) will ensure that site development activities will not interfere with, or otherwise impair or compromise, the ECs described in the SMP.

2.3.2 Soil Vapor Intrusion Evaluation

Prior to the construction of any new enclosed structures on the Site or to off-Site areas that were subjected to soil remediation via excavation removal/backfill and ISS, a soil vapor intrusion (SVI) evaluation will be performed to determine whether any mitigation measures are necessary to eliminate potential exposure to vapors in the proposed structure. The design of a new building foundation will also be considered in this type of evaluation.

Alternatively, an SVI mitigation system and/or vapor barrier can be installed as an element of the building foundation without first investigating. The mitigation system would potentially include a vapor barrier and passive sub-slab venting system that is capable of being converted to an active system.

Prior to conducting an SVI investigation or installing a mitigation system, a work plan would be developed and submitted to the NYSDEC and New York State Department of Health (NYSDOH) for approval. This work plan would be developed in accordance with the most recent NYSDOH “Guidance for Evaluating Vapor Intrusion in the State of New York.” Measures to be employed to mitigate potential vapor intrusion will be evaluated, selected, designed, installed, and maintained based on the SVI evaluation, the NYSDOH guidance, and construction details of the proposed structure.

2.3.3 Contingency Plan

The SMP includes a Contingency Plan to respond to emergencies including injury to personnel, fire or explosion, environmental release, or serious weather conditions. In the event of any emergency, the procedures detailed in the Contingency Plan Section of the SMP will be followed.

No emergencies occurred during the reporting period that required implementation or modification of the Contingency Plan.

2.3.4 Corrective Measures Plan

If any component of the remedy is found to be compromised, or if the periodic certification cannot be provided due to an issue with an institutional or engineering control, a Corrective Measures Plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the Corrective Measures Plan until it is approved by the NYSDEC.

As no component of the remedy was found to be compromised during the reporting period, a Corrective Measures Plan was not required.

2.4 Inspections and Notifications

2.4.1 Inspections

Inspections of all remedial components and all ECs present at the Site and off-Site areas will be conducted at the frequency specified in the SMP Monitoring Plan schedule. A comprehensive Site-wide inspection will be conducted annually, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether ECs continue to perform as designed.
- If these controls continue to be protective of human health and the environment.
- Compliance with requirements of the SMP and the Environmental Easement/Access Agreement.
- Achievement of remedial performance criteria for groundwater.
- Sampling and analysis of appropriate media during monitoring events.
- If Site records are complete and up to date.
- Changes, or needed changes, to the ECs.
- Inspections will be conducted in accordance with the procedures set forth in the SMP.

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the Site by a qualified environmental professional will be conducted within five days of the event to verify the effectiveness of the EC/ICs implemented at the Site or off-Site areas. If there are observed issues they will be documented.

2.4.2 Notifications

The following notifications will be submitted by the owner(s) of the properties subject to remediation (excavation and ISS) to National Grid and the NYSDEC as needed for the following reasons:

- 60-day advance notice of any proposed changes in property use that are required under the terms of the Order on Consent, 6 NYCRR Part 375, and/or Environmental Conservation Law (ECL).
- 15-day advance notice of any proposed ground-intrusive activities pursuant to the EWP.

- Notice within 48 hours of any damage or defect to the foundations or structures that reduces or has the potential to reduce the effectiveness of other ECs and likewise any action to be taken to mitigate the damage or defect.
- Notice within 48 hours of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the Site or in off-Site areas, including a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action shall be submitted to National Grid and the NYSDEC within 45 days and shall describe and document actions taken to restore the effectiveness of the ECs.

National Grid will review and provide comments as appropriate on all planned ground-intrusive activities proposed on properties located within the limits of the areas covered by SMP.

National Grid must have a full-time representative on-Site per the Order on Consent during any ground-intrusive work activities and document compliance with the SMP.

Any change in the ownership of the properties subjected to remediation or the responsibility for implementing the SMP will include the following notifications:

- At least 60 days prior to the change, National Grid and the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser has been provided with a copy of the SMP, Access Agreement, and all approved work plans and reports.
- Within 15 days after the transfer of all or part of the property, the new owner's name, contact representative, and contact information will be confirmed in writing.

3. Monitoring Plan Activities and Compliance

3.1 Monitoring Plan Description

The Monitoring Plan is designed to evaluate the performance and effectiveness of the remedy to reduce or mitigate contamination at the Site or in off-Site areas. The plan includes monitoring procedures for the three ECs and affected Site media. The monitoring program schedule and requirements are provided in Tables 1 and 2, respectively. The Monitoring Plan may only be revised with the approval of NYSDEC.

3.2 Site Inspections and Cover System Monitoring

An annual Site-wide inspection is required to ensure that the cover system continues to be effective at preventing direct exposure to residual contamination throughout the Site and affected off-Site areas. Inspections of remedial components will also be conducted when a breakdown of any component has occurred or whenever a severe condition has taken place, such as an erosion or flooding event that may affect the ECs.

The inspection will facilitate the compilation of sufficient information to assess the following:

- Whether ECs continue to perform as designed.
- If these controls continue to be protective of human health and the environment.
- Compliance with requirements of the SMP and the Environmental Easement/Access Agreement.
- Achievement of remedial performance criteria for groundwater.

GEI performed the annual Site-wide inspection on March 10, 2022. Since the ISS monolith is at least 4 ft below ground surface and is overlain by the soil backfill and cover, monitoring of the cover has been deemed sufficient for ISS monolith inspection.

Impacts or disturbances to the cover system during the reporting period were limited to soil borings performed by a third party on the Oswego Oil Storage Terminal property on August 17, 2021. Three soil borings were advanced to 15 feet below ground surface on the western and central portion of the oil storage terminal near the western underground storage tanks (USTs) using a direct-push Geoprobe®. The soil borings were located outside the previous ISS or excavation area associated with the remediation of the Site. The purpose of this investigation was for the oil storage terminal to determine if there is contamination due

to the USTs prior to anticipated abandonment of the USTs. GEI Consultants provided oversight of the activity on behalf of National Grid. No impacts were observed during the work. A summary report for the work is provided in Appendix B.

In addition, GEI accessed the Site and off-Site areas monthly or quarterly (at a minimum) and no disturbances to the cover system were noted. The annual Site-wide inspection was documented on the inspection form presented in Appendix B.

Portions of the Site are being used for storage by National Grid and (through a lease) the adjacent automobile dealer through 2023. However, these uses have not impacted the surface cover integrity and its surfaces and thicknesses.

3.3 Reporting Period Monitoring

DNAPL and groundwater monitoring were conducted during the reporting period. Monitoring dates and other relevant information are provided in this section. DNAPL gauging and/or collection was performed at well HIMW-21 on:

- April 23, 2021
- May 27, 2021
- June 24, 2021
- July 29, 2021
- August 31, 2021
- September 30, 2021
- October 25, 2021
- December 3, 2021
- December 28, 2021
- January 17, 2022
- February 20, 2022
- March 10, 2022

3.3.1 Groundwater

Routine groundwater monitoring events consisting of depth-to-groundwater measurements and groundwater sampling are currently conducted semi-annually. Criteria for reductions to the groundwater monitoring program were submitted to NYSDEC on November 5, 2021, and subsequently approved on January 3, 2022. The established criteria, which are based on the analytical data, resulted in the reduction of the semi-annual list of wells from a total of 30 wells to 8 wells. The wells removed from the semi-annual sampling list will be sampled during the annual sampling event, which is to be conducted during Q3 of each year. The reductions to the groundwater program were first implemented in Q1 2022. The groundwater reductions also include criteria for the elimination of wells from the sampling program if the criteria are met for two consecutive annual monitoring events. NYSDEC previously approved reducing the frequency of groundwater sampling from quarterly to semi-annually in 2018.

Additional quarterly groundwater monitoring related to the shutdown of System #2 is performed at 8 wells, which commenced in Q4 2021. The reduced semi-annual list and the quarterly System #2 shutdown monitoring list included a total of 16 wells in Q1 2022.

Table 2 lists the wells that are gauged for water level and presence of NAPL and/or sampled for each monitoring event. Each groundwater sample is analyzed by a NYSDOH Environmental Laboratory Accreditation Program (ELAP) certified laboratory for benzene, toluene, ethylbenzene, and xylenes (BTEX) United States Environmental Protection Agency (USEPA) Method SW8260C and polycyclic aromatic hydrocarbon (PAHs) by USEPA Method SW8270D.

Annual groundwater sampling was performed at 30 wells on the following dates:

- Q3 2021: September 20 through 23, 2021

Quarterly System #2 shutdown monitoring was performed at 8 wells on the following dates:

- December 14 and 15, 2021

Semi-annual groundwater sampling was performed at 8 wells and quarterly System #2 shutdown monitoring was performed at an additional 8 wells on the following dates:

- Q1 2022: March 7 and 8, 2022

Depth-to-groundwater measurements were taken from all accessible wells during the annual and semi-annual monitoring event identified above.

Data Usability Summary Reports (DUSRs) for groundwater samples collected in September 2021, December 2021 and March 2022 are included as Appendix C.

3.4 Summary of Monitoring Results

The results of the depth-to-water measurements and NAPL gauging events for Q3 2021 and Q1 2022 are presented in Tables 3 and 4, respectively. The results of the DNAPL recovery from HIMW-21 are presented in Table 5. The results of the groundwater sampling analyses are presented in Table 6 and in Figures 5 and 6. Groundwater contour maps for the three depth zones for each sampling event are presented in Figures 7 through 12.

During the reporting period, monitoring well HIMW-21 was gauged monthly for the presence of DNAPL. A total of approximately 16.6 gallons of DNAPL were recovered during the reporting period during six recovery events. DNAPL recovery is performed in HIMW-21 when the measured thickness is greater than 5 ft, which is significantly below the

sump length of 10 ft. HIMW-21 is the only remaining monitoring well with observed DNAPL.

Groundwater at the Site and at off-Site areas was determined to flow in a generally southerly direction. This is consistent with previous sampling events.

Exceedances of the NYSDEC Ambient Water Quality Standards (AWQS) were observed in seven wells during the September 2021 and March 2022 sampling events. The exceedances included BTEX compounds and select PAHs (acenaphthene and naphthalene) which were primarily identified upgradient of System #1. Slight exceedances of the AWQS identified downgradient of System #1 included a detection of total xylene in HIMW-24 (11 ug/l) in September 2021 and a detection of naphthalene (12 ug/L) in HIMW-13I in March 2022. HIMW-13I is located downgradient of System #1 and System #2. The AWQS for total xylenes and naphthalene are 5 ug/L and 10 ug/L, respectively.

The configuration of the plume as defined by concentrations of BTEX or PAHs above 100 µg/L was generally similar in the two sampling events conducted during the current PRR period (Figures 5 and 6). The plume was slightly longer in the September 2021 sampling event due to a concentration of total BTEX in monitoring well HIMW-08S which was slightly above 100 ug/L (101.6 ug/L). The data collected from the September 2021 and March 2022 sampling events are generally similar to recent sampling events, with increases noted in HIMW-05I and HIMW-05D. The current configuration is still significantly reduced from the historical configuration, in which the plume extended beyond System #1. The decreases in monitoring wells downgradient of System #1, in which many of the wells have no detections or at a minimum have met the AWQS, have facilitated the approved reductions to the groundwater monitoring requirements in this area.

Similar to other recent sampling events, the remaining wells with elevated (>100 µg/L) concentrations of BTEX or PAHs upgradient of System #1 during the reporting period include HIMW-05I, HIMW-05D, HIMW-08S (September 2021 only), HIMW-26D, HIMW-27S, and HIMW-28S. Remaining wells with concentrations above 1,000 µg/L were limited to PAHs in wells HIMW-05I, HIMW-05D, and HIMW-27S in both sampling events during the reporting period. Concentrations in HIMW-26D and HIMW-28S have generally been decreasing following an established trend, while concentrations in HIMW-05I and HIMW-05D have been generally increasing, although all remained within their historical concentration range. The concentrations in HIMW-27S have been relatively stable.

An exceedance was noted during Q3 2021 in well HIMW-24, just prior to the shutdown of System #2. HIMW-24 was designated for quarterly sampling for the evaluation of the shutdown of System #2. There were no exceedances noted in HIMW-24 in Q4 2021 and Q1 2022.

The DO monitoring points near both System #1 and System #2 were monitored quarterly through Q3 2021. Following the shutdown of System #2 on October 8, 2021, DO monitoring on wells downgradient of this system was discontinued. DO monitoring was also reduced to semi-annually as part of the approved reductions to the groundwater monitoring program. The DO concentrations have generally remained elevated as shown by the readings from April 2021 through March 2022 that are presented in Table 7. The DO concentrations downgradient of the two systems are shown in Figures 13 and 14. Further discussion of the DO concentrations and the effectiveness of the oxygenation systems is provided in Section 4. The groundwater treatment system performance data for the above-referenced period is included as Appendix D.

Potentiometric heads and NAPL thickness measurements for September 2021 and March 2022 are presented in Tables 3 and 4, respectively. Potentiometric surface maps for shallow, intermediate, and deep groundwater zones were developed using this data and are shown in Figures 7 through 12 for the three monitoring events conducted during the reporting period. The data indicate that the direction of groundwater flow within the well field was south for shallow, intermediate, and deep-water bearing zones.

4. Operation and Maintenance Activities and Compliance

4.1 Oxygenation System Description

There are two oxygenation systems installed to enhance the groundwater oxygen concentrations in the groundwater plume (Figure 4). The aerobic conditions allow bacteria to biologically degrade dissolved hydrocarbons, including BTEX and PAHs. System #1 is located along Smith Street, a portion of the LIRR ROW, and a portion of Hilton Avenue and began operation in April 2011. System #2 extends from Mirschel Park in the east to Kensington Court in the west and began operation in October 2010.

In May 2011, soon after the start-up of the two systems, the dissolved phase groundwater plume extended approximately 2,000 ft to the south of the Site, as shown in Figure 15, and extended over 3,600 ft prior to the implementation of remedial activities. The plume boundaries were defined by total BTEX and/or total PAH concentrations greater than 100 µg/L. The locations and depths of the injection wells are presented in Figures 16 and 17 for Systems #1 and #2, respectively.

4.2 System #2 Shutdown

A request to shut down System #2 was submitted to NYSDEC on October 5, 2021. The shutdown was requested due to groundwater samples from monitoring wells located downgradient of System #2 and between System #1 and System #2 (i.e., upgradient of System #2) meeting the AWQS during the past year. As such, the continued operation of System #2 was deemed redundant and unnecessary. The request proposed criteria for shutdown and post shutdown monitoring, as well as system restart, if necessary, and potential system removal. NYSDEC approved the request on October 7, 2021.

Following shutdown, which occurred on October 8, 2021, the system has remained off, but in an operational state. The following post-system shut down monitoring and removal criteria were adopted:

- Conduct quarterly monitoring at downgradient wells HIMW-13S/I/D, HIMW-22, and HIMW-23 and upgradient wells HIMW-12S/I, and HIMW-24 for a minimum of four consecutive quarters.
- If concentrations rebound for two consecutive sampling events [i.e., exceedances of the Class GA AWQS for one or more compounds], an evaluation will be

conducted in consultation with NYSDEC to determine if an increasing trend is occurring and to identify an appropriate course of action.

- If there is no rebound (i.e., exceedances of the AWQS) for four consecutive quarterly sampling events, the system will remain off and semi-annual sampling will commence.
- If an exceedance is observed, the post shutdown monitoring will be restarted at the well location with an exceedance with quarterly sampling as described above.
- If no rebound in BTEX or PAH concentrations are observed after two years of semi-annual sampling, the system will be removed with NYSDEC approval.

As stated above, an exceedance was noted in HIMW-24 during Q3 2021, prior to system shutdown. The concentrations in the follow-up quarterly samples collected in Q4 2021 and Q1 2022 were below the AWQS. A slight exceedance of naphthalene was noted in HIMW-13I during Q1 2022. Naphthalene concentrations were observed at 12 ug/L in comparison to the AWQS of 10 ug/L. As a result, the quarterly sampling schedule at HIMW-13I will reset beginning in Q2 2022. The Q2 2022 concentration will determine if an additional trend evaluation or other actions are necessary.

4.3 Operational Summary

Overall, System #1 operated efficiently during the reporting period with the exceptions noted below.

- Operation downtime for System #1 during the reporting period was limited to a total of eight days. The downtime was caused by power outages, minor mechanical failures (cracked filter bowl, compressor valve failure) which were repaired.
- Prior to shut down in October 2021, System #2 downtime included 12 days in Q2 2021 due to the refrigerated dryer freezing, and 4 days in Q3 2021 due to a compressor alarm which was subsequently reset.
- A total of three oxygen delivery wells associated with System #1 have been taken offline due to low pressure which could be indicative of a leak within the delivery line or injection well head. Since the system has been successful at maintaining aerobic conditions within the aquifer and no rebound of contaminants have been noted in groundwater, repairs to the oxygen delivery wells that are currently off are unnecessary at this time.

4.4 Summary of Oxygen Level Measurements

DO levels were measured quarterly for this reporting period, however, a reduction to semi-annual monitoring was approved by NYSDEC on January 3, 2022. The monitoring locations are shown in Figures 16 and 17.

The dissolved oxygen concentrations in wells downgradient of System #1 averaged between 11.9 milligrams per liter (mg/L) in Q1 2022 to a high of 17.4 mg/L during Q3 2021, with a cumulative average of 15.2 mg/L during the reporting period. The dissolved oxygen concentrations in wells downgradient of System #2 averaged 12.2 mg/L in Q2 2021 and 14 mg/L in Q3 2021 prior to system shutdown. The dissolved oxygen levels in wells downgradient of System #1 and System #2 were below average for the reporting period but remained at adequate levels to maintain biodegradation. The results of the DO monitoring are presented in Table 7 and shown in Figures 13 and 14. Appendix D contains the oxygen injection operation and maintenance log sheets for the reporting period.

4.5 Evaluation of Effectiveness

Figure 13 shows that oxygen concentrations for System #1 fluctuated during the reporting period, but generally decreased during Q1 2022. The aquifer remained under aerobic conditions during the reporting period.

Figure 14 shows that oxygen concentrations for System #2 remained relatively consistent prior to shut down in early Q4 2021.

System #1 remains effective in maintaining high oxygen concentrations in the groundwater. Concentrations of contaminants in groundwater also remained low as discussed in Section 3.4. Groundwater monitoring downgradient of System #2 will continue to determine if the system can remain shut down.

5. Overall PRR Conclusions and Recommendations

5.1 Compliance with SMP

National Grid has operated and maintained the Site in compliance with the SMP or other approved modifications, excluding interruptions to the operation of the oxygenation systems. The systems required repairs which were subsequently conducted, allowing the resumption of system operation. The NYSDEC IC/ECs Certification Form is provided in Appendix E.

5.2 Performance and Effectiveness of Remedy

The ICs/ECs remain effective at this Site and in off-Site areas. The largest component of the remedy was the solidification of 168,600 cy of soil. While there is no direct monitoring of the monolith created by this solidification, it remains in place under cover materials. The cover system is unchanged, with no intrusive activities noted that penetrated the cover. Based on inspection of the off-Site area properties, which did not reveal any evidence of intrusive activities, the cover system is unchanged, and no intrusive activities took place that penetrated the cover system.

Due to the presence of residual contamination beneath the POB known as Plaza 230, and beneath the powerline running along the LIRR ROW, some dissolved phased contamination remains immediately downgradient of the solidified monolith. However, this contamination is effectively treated by System #1 as detailed below. During this reporting period, 16.6 gallons of NAPL were recovered from the one recovery well (HIMW-21) located near the POB. This well is located within an area inaccessible for ISS treatment.

The oxygenation systems have been effective in reducing the size and concentration of the downgradient plume. In contrast to the current plume extent shown in Figures 5 and 6, the plume as it existed at the time of the start-up of the oxygenation systems (Figure 15) has been reduced by approximately 2,000 ft. Further reductions (as great as 3,600 ft) are evident when compared to the pre-remedial extent. Figures 18 (A & B) and 19 (A & B) show total BTEX and total PAH concentrations (respectively) in all wells monitoring the plume downgradient of System #1. These charts use a logarithmic concentration scale to effectively show the wide range of concentrations observed in these wells. For the purposes of data presentation, non-detects are shown as a concentration of 1 µg/L. These charts show there has been a clear decreasing trend in these wells since the startup of the two systems. This trend is especially clear in wells located farther downgradient, several of which have been reduced to annual sampling based upon the lack of detections. This trend is more evident with BTEX than with

PAHs. Historically, several wells located in between the two oxygenation systems, including HIMW-20I, HIMW-24 and HIMW-25, have shown significant variation in concentrations. These variations were generally not present during the reporting period excluding a minor increase in HIMW-24 during Q3 2021. The more consistent operation during recent periods is likely responsible for the decrease in the amount concentration variations.

Exceedances of the AWQS in any monitoring wells downgradient of System #1 during the reporting period were limited to HIMW-24 in Q3 2021 and HIMW-13I in Q1 2022. HIMW-13 is also downgradient of System #2. Detections of BTEX or PAHs in wells located between the two oxygenation systems during the reporting period, were limited to HIMW-24. HIMW-13I and HIMW-24 are part of the post-shutdown monitoring of the system. The exceedance in HIMW-24 was followed by two sampling events with no exceedances in Q4 2021 and Q1 2022. The future detections of naphthalene in HIMW-13I will be monitored to determine if a trend evaluation or additional actions are warranted.

5.3 Recommendations

Continue performance monitoring in accordance with the SMP and subsequent NYSDEC-approved modifications as previously described above. These include the reductions to the groundwater monitoring program as well as the quarterly monitoring in wells immediately upgradient and downgradient of System #2 which was shut down on October 8, 2021.

6. References

NYSDEC (2010). “DER-10 / Technical Guidance for Site Investigation and Remediation,” May.

URS Corporation (2017). “Site Management Plan for the Hempstead Intersection Street Former Manufactured Gas Plant Site, Villages of Hempstead & Garden City, Nassau County, New York,” February.

AECOM USA, Inc. (2019). “Periodic Review Report – April 6, 2017 through February 28, 2019, Hempstead Intersection Street Former MGP Site,” March.

Periodic Review Report
March 28, 2021 – March 28, 2022
Hempstead Intersection Street Former MGP Site
Town of Hempstead, Nassau County, New York
Site ID #1-30-086
April 2022

Tables

Monitoring/Inspection	Frequency	Analysis	Reporting Frequency
Cover System: Former MGP Area and LIRR ROW	Annually	none	Annually
Cover System: Village of Garden City Property	Annually	none	Annually
Cover System: Oswego Oil Storage Terminal Area	Annually	none	Annually
Cover System: Restored Roadway Areas	Annually	none	Annually
Cover System: POB Parking Lot	Annually	none	Annually
Groundwater Monitoring	Semi-Annually*	Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) by USEPA Method 8260C and polycyclic aromatic hydrocarbons (PAHs) by USEPA Method 8270D	Annually
Groundwater level measurements and potentiometric surface map(s)	Semi-Annually	N/A	Annually
DNAPL Depth Gauging	Monthly	Depth	Annually
Treatment System Monitoring	Monthly/ Semi-annually**	Dissolved Oxygen	Annually

*: Additional monitoring currently conducted quarterly to evaluate the shutdown of System #2.

** : NYSDEC approved changing the frequency of dissolved oxygen sampling to semi-annual following the shutdown of System #2 in October 2021.

N/A: Not Applicable

LIRR: Long Island Railroad

ROW: Right of Way

MGP: Manufactured Gas Plant

POB: Professional Office Building

Table 2. Monitoring Requirements
Hempstead Intersection Street Former MGP Site
National Grid
Hempstead, New York

Frequency	Annual	Semi-Annual			Quarterly *	Monthly
Well Id	Water Quality	Water Level	NAPL Thickness	Water Quality	Water Quality	DNAPL Thickness
HIMW-03S	X	X	X			
HIMW-03I	X	X	X			
HIMW-03D	X	X	X			
HIMW-04S		X	X			
HIMW-04I		X	X			
HIMW-04D		X	X			
HIMW-05S	X	X	X			
HIMW-05I	X	X	X	X		
HIMW-05D	X	X	X	X		
HIMW-08S	X	X	X	X		
HIMW-08I	X	X	X			
HIMW-08D	X	X	X			
HIMW-09S		X	X			
HIMW-09I		X	X			
HIMW-09D		X	X			
HIMW-10S		X	X			
HIMW-10I		X	X			
HIMW-11S		X	X			
HIMW-11I		X	X			
HIMW-11D		X	X			
HIMW-12S	X	X	X		X	
HIMW-12I	X	X	X		X	
HIMW-12D						
HIMW-13S	X	X	X		X	
HIMW-13I	X	X	X		X	
HIMW-13D	X	X	X		X	
HIMW-14I	X	X	X			
HIMW-14D	X	X	X			
HIMW-15I	X	X	X			
HIMW-15D	X	X	X			
HIMW-20S	X	X	X			
HIMW-20I	X	X	X	X		
HIMW-21		X	X			X
HIMW-22	X	X	X		X	
HIMW-23	X	X	X		X	
HIMW-24	X	X	X		X	
HIMW-25	X	X	X	X		
HIMW-26I	X	X	X			
HIMW-26D	X	X	X	X		
HIMW-27S	X	X	X	X		
HIMW-27I	X	X	X			
HIMW-28S	X	X	X	X		
HIMW-28I	X	X	X			
PZ-02		X	X			
PZ-03		X	X			
OSMW-02		X	X			
OSMW-03		X	X			

Notes:

Field marked with "X" indicates that the activity is to be performed.

Blank field indicates that the activity not required.

*: Quarterly monitoring performed to evaluate the shutdown of System #2.

Table 3. Groundwater and NAPL Measurements Third Quarter 2021
Hempstead Intersection Street Former MGP Site
National Grid
Hempstead, New York

Well ID	Date	Elevation of TOR	Depth to LNAPL	Depth to Water	Depth to DNAPL	Well Depth	Thickness of LNAPL	Thickness of DNAPL	Corrected Potentiometric Head ⁽¹⁾
		[ft amsl]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft amsl]
HIMW-03S	9/28/2021	65.00	ND	18.52	ND	34.48	0	0.00	46.48
HIMW-03I	9/28/2021	64.94	ND	19.42	ND	85.05	0	0.00	45.52
HIMW-03D	9/28/2021	65.26	ND	19.28	ND	142.11	0	0.00	45.98
HIMW-04S	9/28/2021	72.02	ND	25.65	ND	41.65	0	0.00	46.37
HIMW-04I	9/28/2021	71.91	ND	25.76	ND	90.51	0	0.00	46.15
HIMW-04D	9/28/2021	71.78	ND	26.12	ND	177.00	0	0.00	45.66
HIMW-05S	9/28/2021	67.19	ND	21.04	ND	39.00	0	0.00	46.15
HIMW-05I	9/28/2021	67.22	ND	21.32	ND	90.55	0	0.00	45.90
HIMW-05D	9/28/2021	67.22	ND	21.62	ND	136.00	0	0.00	45.60
HIMW-08S	9/28/2021	64.03	ND	18.21	ND	36.95	0	0.00	45.82
HIMW-08I	9/28/2021	63.98	ND	18.21	ND	75.00	0	0.00	45.77
HIMW-08D	9/28/2021	63.97	ND	18.19	ND	114.50	0	0.00	45.78
HIMW-09S	9/28/2021	70.03	ND	24.02	ND	39.53	0	0.00	46.01
HIMW-09I	9/28/2021	69.93	ND	23.98	ND	80.25	0	0.00	45.95
HIMW-09D	9/28/2021	69.96	ND	23.93	ND	123.21	0	0.00	46.03
HIMW-10S	9/28/2021	70.07	ND	23.13	ND	39.32	0	0.00	46.94
HIMW-10I	9/28/2021	69.90	ND	23.36	ND	89.69	0	0.00	46.54
HIMW-11S	9/28/2021	70.60	ND	24.52	ND	40.25	0	0.00	46.08
HIMW-11I	9/28/2021	70.43	ND	24.68	ND	93.29	0	0.00	45.75
HIMW-11D	9/28/2021	70.43	ND	24.66	ND	122.27	0	0.00	45.77
HIMW-12S	9/28/2021	60.52	ND	16.08	ND	33.25	0	0.00	44.44
HIMW-12IR	9/28/2021	60.61	ND	16.12	ND	NM	0	0.00	44.49
HIMW-13S	9/28/2021	72.58	ND	30.36	ND	48.60	0	0.00	42.22
HIMW-13I	9/28/2021	72.51	ND	30.14	ND	81.50	0	0.00	42.37
HIMW-13D	9/28/2021	72.47	ND	30.18	ND	121.95	0	0.00	42.29
HIMW-14I	9/28/2021	71.06	ND	28.98	ND	95.79	0	0.00	42.08
HIMW-14D	9/28/2021	70.85	ND	31.20	ND	151.75	0	0.00	39.65
HIMW-15I	9/28/2021	64.18	ND	24.21	ND	92.42	0	0.00	39.97
HIMW-15D	9/28/2021	63.96	ND	26.07	ND	152.09	0	0.00	37.89
HIMW-20S	9/28/2021	69.03	ND	24.17	ND	36.75	0	0.00	44.86
HIMW-20I	9/28/2021	68.88	ND	23.96	ND	74.82	0	0.00	44.92
HIMW-21	9/28/2021	NM	ND	NM	44.92	45.25	0	0.33	NC
HIMW-22	9/28/2021	74.07	ND	29.19	ND	64.40	0	0.00	44.88
HIMW-23	9/28/2021	74.41	ND	29.27	ND	75.27	0	0.00	45.14
HIMW-24	9/28/2021	59.83	ND	13.26	ND	54.95	0	0.00	46.57
HIMW-25	9/28/2021	61.32	ND	17.46	ND	52.15	0	0.00	43.86
HIMW-26I	9/28/2021	68.13	ND	23.22	ND	84.91	0	0.00	44.91
HIMW-26D	9/28/2021	68.02	ND	23.20	ND	137.50	0	0.00	44.82
HIMW-27S	9/28/2021	69.53	ND	22.99	ND	41.14	0	0.00	46.54
HIMW-27I	9/28/2021	68.96	ND	22.30	ND	69.95	0	0.00	46.66
HIMW-28S	9/28/2021	69.89	ND	23.22	ND	41.45	0	0.00	46.67
HIMW-28I	9/28/2021	69.67	ND	23.91	ND	71.49	0	0.00	45.76
PZ-02	9/28/2021	71.88	ND	24.13	ND	35.55	0	0.00	47.75
PZ-03	9/28/2021	63.82	ND	16.30	ND	29.83	0	0.00	47.52
OSMW-02	9/28/2021	71.59	ND	NM	ND	45.20	0	0.00	NC
OSMW-03	9/28/2021	71.39	ND	25.03	ND	44.75	0	0.00	46.36

Notes:
(1) Potentiometric heads in wells containing LNAPL are corrected using a specific gravity = 0.96
TOR: Top of Riser
LNAPL: Light Non-Aqueous Phase Liquid
DNAPL: Dense Non-Aqueous Phase Liquid
ft bgs: feet below ground surface
ft amsl: feet above mean sea level
ND: Not Detected
NM: Not Measured
NC: Not Calculated

Table 4. Groundwater and NAPL Measurements First Quarter 2022
Hempstead Intersection Street Former MGP Site
National Grid
Hempstead, New York

Well ID	Date	Elevation of TOR	Depth to LNAPL	Depth to Water	Depth to DNAPL	Well Depth	Thickness of LNAPL	Thickness of DNAPL	Corrected Potentiometric Head ⁽¹⁾
		[ft amsl]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft amsl]
HIMW-03S	3/10/2022	65.00	ND	17.65	ND	34.48	0	0.00	47.35
HIMW-03I	3/10/2022	64.94	ND	18.09	ND	85.05	0	0.00	46.85
HIMW-03D	3/10/2022	65.26	ND	18.54	ND	142.11	0	0.00	46.72
HIMW-04S	3/10/2022	72.02	ND	26.11	ND	41.65	0	0.00	45.91
HIMW-04I	3/10/2022	71.91	ND	26.20	ND	90.51	0	0.00	45.71
HIMW-04D	3/10/2022	71.78	ND	26.63	ND	177.00	0	0.00	45.15
HIMW-05S	3/10/2022	67.19	ND	20.48	ND	39.00	0	0.00	46.71
HIMW-05I	3/10/2022	67.22	ND	20.59	ND	90.55	0	0.00	46.63
HIMW-05D	3/10/2022	67.22	ND	21.24	ND	136.00	0	0.00	45.98
HIMW-08S	3/10/2022	64.03	ND	18.73	ND	36.95	0	0.00	45.30
HIMW-08I	3/10/2022	63.98	ND	18.69	ND	75.00	0	0.00	45.29
HIMW-08D	3/10/2022	63.97	ND	18.72	ND	114.50	0	0.00	45.25
HIMW-09S	3/10/2022	70.03	ND	24.52	ND	39.53	0	0.00	45.51
HIMW-09I	3/10/2022	69.93	ND	24.40	ND	80.25	0	0.00	45.53
HIMW-09D	3/10/2022	69.96	ND	23.26	ND	123.21	0	0.00	46.70
HIMW-10S	3/10/2022	70.07	ND	23.89	ND	39.32	0	0.00	46.18
HIMW-10I	3/10/2022	69.90	ND	23.89	ND	89.69	0	0.00	46.01
HIMW-11S	3/10/2022	70.60	ND	24.28	ND	40.25	0	0.00	46.32
HIMW-11I	3/10/2022	70.43	ND	24.13	ND	93.29	0	0.00	46.30
HIMW-11D	3/10/2022	70.43	ND	24.10	ND	122.27	0	0.00	46.33
HIMW-12S	3/10/2022	60.52	ND	16.56	ND	33.25	0	0.00	44.00
HIMW-12IR	3/10/2022	60.61	ND	16.61	ND	NM	0	0.00	44.00
HIMW-13S	3/10/2022	72.58	ND	31.02	ND	48.60	0	0.00	41.56
HIMW-13I	3/10/2022	72.51	ND	30.94	ND	81.50	0	0.00	41.57
HIMW-13D	3/10/2022	72.47	ND	30.89	ND	121.95	0	0.00	41.58
HIMW-14I	3/10/2022	71.06	ND	30.13	ND	95.79	0	0.00	40.93
HIMW-14D	3/10/2022	70.85	ND	31.77	ND	151.75	0	0.00	39.08
HIMW-15I	3/10/2022	64.18	ND	25.70	ND	92.42	0	0.00	38.48
HIMW-15D	3/10/2022	63.96	ND	26.90	ND	152.09	0	0.00	37.06
HIMW-20S	3/10/2022	69.03	ND	24.74	ND	36.75	0	0.00	44.29
HIMW-20I	3/10/2022	68.88	ND	24.58	ND	74.82	0	0.00	44.30
HIMW-21	3/10/2022	NM	ND	19.03	41.49	45.25	0	3.76	NC
HIMW-22	3/10/2022	74.07	ND	29.73	ND	64.40	0	0.00	44.34
HIMW-23	3/10/2022	74.41	ND	29.85	ND	75.27	0	0.00	44.56
HIMW-24	3/10/2022	59.83	ND	14.28	ND	54.95	0	0.00	45.55
HIMW-25	3/10/2022	61.32	ND	16.65	ND	52.15	0	0.00	44.67
HIMW-26I	3/10/2022	68.13	ND	22.39	ND	84.91	0	0.00	45.74
HIMW-26D	3/10/2022	68.02	ND	22.47	ND	137.50	0	0.00	45.55
HIMW-27S	3/10/2022	69.53	ND	23.44	ND	41.14	0	0.00	46.09
HIMW-27I	3/10/2022	68.96	ND	21.93	ND	69.95	0	0.00	47.03
HIMW-28S	3/10/2022	69.89	ND	23.78	ND	41.45	0	0.00	46.11
HIMW-28I	3/10/2022	69.67	ND	23.49	ND	71.49	0	0.00	46.18
PZ-02	3/10/2022	71.88	ND	24.04	ND	35.55	0	0.00	47.84
PZ-03	3/10/2022	63.82	ND	16.87	ND	29.83	0	0.00	46.95
OSMW-02	3/10/2022	71.59	ND	24.34	ND	45.20	0	0.00	47.25
OSMW-03	3/10/2022	71.39	ND	NM	ND	44.75	0	0.00	NC

Notes:
(1) Potentiometric heads in wells containing LNAPL are corrected using a specific gravity = 0.96
TOR: Top of Riser
LNAPL: Light Non-Aqueous Phase Liquid
DNAPL: Dense Non-Aqueous Phase Liquid
ft bgs: feet below ground surface
ft amsl: feet above mean sea level
ND: Not Detected
NM: Not Measured
NC: Not Calculated

Table 5. NAPL Gauging and Recovery
Hempstead Intersection Street Former MGP Site
National Grid
Hempstead, New York

Well ID: HIMW-021				
Date	Thickness of LNAPL (feet)	Thickness of DNAPL (feet)	Volume of NAPL Removed ⁽¹⁾ (gallons)	Total Product Volume Recovered During PRR Period (gallons)
April 23, 2021	ND	4.10	2.7	2.7
May 27, 2021	ND	2.49	1.6	4.3
June 24, 2021	ND	5.66	3.7	8.0
July 29, 2021	ND	4.67	0.6	8.6
August 31, 2021	ND	6.12	4.0	12.6
September 30, 2021	ND	6.19	4.0	16.6
October 25, 2021	ND	1.85	0.0	16.6
December 3, 2021	ND	2.30	0.0	16.6
December 28, 2021	ND	3.75	0.0	16.6
January 17, 2022	ND	3.20	0.0	16.6
February 20, 2022	ND	3.25	0.0	16.6
March 10, 2022	ND	3.76	0.0	16.6
Total Volume of NAPL Recovered from April 2007 to Q1 2022				871.7
Total Volume of NAPL Recovered To-Date:				888.3

Notes:

(1) Volume of product recovered was estimated by using the markings on a five gallon bucket.

LNAPL Light Non-Aqueous Phase Liquid

DNAPL Dense Non-Aqueous Phase Liquid

ND NAPL Not Detected

NR Not Recorded

NC Not Collected

Table 6. Hempstead Intersection
Groundwater Analysis Results
National Grid
Hempstead, NY

Sample Name Sample Date Parent Sample				HIMW-03S 9/21/2021	HIMW-03I 9/21/2021	HIMW-03D 9/21/2021	HIMW-05S 9/23/2021	HIMW-05I 9/23/2021	HIMW-05I 3/8/2022	HIMW-05D 9/23/2021	HIMW-05D 3/8/2022	HIMW-08S 9/21/2021	HIMW-08S 3/7/2022	HIMW-08I 9/21/2021	HIMW-08D 9/21/2021	Dup-02 9/21/2021 HIMW-08D	HIMW-12S 9/23/2021	HIMW-12S 12/15/2021
Analyte	Units	CAS No.	NYS AWQS															
BTEX	ug/L																	
Benzene		71-43-2	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	61	1.2	1 U	1 U	1 U	1 U	1 U
Toluene		108-88-3	5	1 U	1 U	1 U	1 U	1 U	1 U	2.9	0.97 J	9.3	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene		100-41-4	5	1 U	1 U	1 U	1 U	1 U	3.7	1 U	1 U	9.3	1 U	1 U	1 U	1 U	1 U	1 U
Total Xylene		1330-20-7	5	2 U	2 U	2 U	2 U	39	46	130	110	22	2 U	2 U	2 U	2 U	2 U	2 U
Total BTEX (ND=0)		TBTEX_ND0	NE	ND	ND	ND	ND	39	49.7	132.9	110.97	101.6	1.2	ND	ND	ND	ND	ND
PAH17	ug/L																	
Acenaphthene		83-32-9	20*	10 U	10 U	10 U	10 U	8.8 J	10	2 J	3.4 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthylene		208-96-8	NE	10 U	10 U	10 U	10 U	140	140	41	60	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene		120-12-7	50*	10 U	10 U	10 U	10 U	2.1 J	1.8 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene		56-55-3	0.002*	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzo(b)fluoranthene		205-99-2	0.002*	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Benzo(k)fluoranthene		207-08-9	0.002*	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzo(g,h,i)perylene		191-24-2	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene		50-32-8	ND	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chrysene		218-01-9	0.002*	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Dibenz(a,h)anthracene		53-70-3	NE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Fluoranthene		206-44-0	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluorene		86-73-7	50*	10 U	10 U	10 U	10 U	24	24	3.8 J	6.8 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene		193-39-5	0.002*	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
2-Methylnaphthalene		91-57-6	NE	10 U	10 U	10 U	10 U	170	150	120	140	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene		91-20-3	10*	2 U	2 U	2 U	2 U	900	870	1400	1300	10	2 U	2 U	2 U	2 U	2 U	2 U
Phenanthrene		85-01-8	50*	10 U	10 U	10 U	10 U	16	15	1.3 J	2.6 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene		129-00-0	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total PAH (17) (ND=0)		TPAH17_ND0	NE	ND	ND	ND	ND	1260.9	1210.8	1568.1	1512.8	10	ND	ND	ND	ND	ND	ND

Table 6. Hempstead Intersection
Groundwater Analysis Results
National Grid
Hempstead, NY

Sample Name Sample Date Parent Sample				HIMW-12S 3/8/2022	HIMW-12IR 9/23/2021	HIMW-12IR 12/15/2021	HIMW-12IR 3/8/2022	HIMW-13S 9/22/2021	HIMW-13S 12/14/2021	HIMW-13S 3/7/2022	HIMW-13I 9/22/2021	HIMW-13I 12/14/2021	HIMW-13I 3/8/2022	HIMW-13D 9/22/2021	HIMW-13D 12/14/2021	DUP-01 12/14/2021 HIMW-13D	HIMW-13D 3/7/2022	HIMW-14I 9/21/2021
Analyte	Units	CAS No.	NYS AWQS															
BTEX	ug/L																	
Benzene		71-43-2	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.29 J	0.26 J	0.26 J	1 U	0.23 J
Toluene		108-88-3	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene		100-41-4	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total Xylene		1330-20-7	5	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Total BTEX (ND=0)		TBTEX_ND0	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.29	0.26	0.26	ND	0.23
PAH17	ug/L																	
Acenaphthene		83-32-9	20*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	3.6 J	4.3 J	4.1 J	6.2 J	3.1 J
Acenaphthylene		208-96-8	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.4 J	7.7 J	8.9 J	8.8 J	11	3.3 J
Anthracene		120-12-7	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene		56-55-3	0.002*	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzo(b)fluoranthene		205-99-2	0.002*	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Benzo(k)fluoranthene		207-08-9	0.002*	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzo(g,h,i)perylene		191-24-2	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene		50-32-8	ND	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chrysene		218-01-9	0.002*	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Dibenz(a,h)anthracene		53-70-3	NE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ
Fluoranthene		206-44-0	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluorene		86-73-7	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	0.94 J
Indeno(1,2,3-cd)pyrene		193-39-5	0.002*	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 UJ
2-Methylnaphthalene		91-57-6	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.6 J	10 U	10 U	10 U	10 U	10 U
Naphthalene		91-20-3	10*	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	12	2 U	2 U	2 U	2 U	1.6 J
Phenanthrene		85-01-8	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene		129-00-0	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total PAH (17) (ND=0)		TPAH17_ND0	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	17	11.3	13.2	12.9	17.2	8.94

Table 6. Hempstead Intersection
Groundwater Analysis Results
National Grid
Hempstead, NY

Sample Name Sample Date Parent Sample				HIMW-14D 9/21/2021	HIMW-15I 9/22/2021	HIMW-15D 9/22/2021	HIMW-20S 9/22/2021	HIMW-20I 9/22/2021	HIMW-20I 3/7/2022	HIMW-22 9/22/2021	HIMW-22 12/15/2021	HIMW-22 3/7/2022	HIMW-23 9/22/2021	HIMW-23 12/14/2021	HIMW-23 3/7/2022	HIMW-24 9/20/2021	HIMW-24 12/14/2021	HIMW-24 3/7/2022
Analyte	Units	CAS No.	NYS AWQS															
BTEX	ug/L																	
Benzene		71-43-2	1	0.22 J	0.21 J	1 U	1 U	1 U	1 U	1 U	1 U	0.75 J	1 U	1 U	1 U	1 U	1 U	1 U
Toluene		108-88-3	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene		100-41-4	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total Xylene		1330-20-7	5	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1.8 J	2 U	2 U	2 U	11	2 U	2.1
Total BTEX (ND=0)		TBTEX_ND0	NE	0.22	0.21	ND	ND	ND	ND	ND	ND	2.55	ND	ND	ND	11	ND	2.1
PAH17	ug/L																	
Acenaphthene		83-32-9	20*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	3.7 J	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthylene		208-96-8	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	13	10 U	10 U	10 U	5.9 J	10 U	10 U
Anthracene		120-12-7	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene		56-55-3	0.002*	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzo(b)fluoranthene		205-99-2	0.002*	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Benzo(k)fluoranthene		207-08-9	0.002*	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzo(g,h,i)perylene		191-24-2	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene		50-32-8	ND	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chrysene		218-01-9	0.002*	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Dibenz(a,h)anthracene		53-70-3	NE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Fluoranthene		206-44-0	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluorene		86-73-7	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1.3 J	10 U	10 U
Indeno(1,2,3-cd)pyrene		193-39-5	0.002*	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
2-Methylnaphthalene		91-57-6	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene		91-20-3	10*	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Phenanthrene		85-01-8	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.2 J	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene		129-00-0	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total PAH (17) (ND=0)		TPAH17_ND0	NE	ND	ND	ND	ND	ND	ND	ND	ND	18.9	ND	ND	ND	7.2	ND	ND

Table 6. Hempstead Intersection
Groundwater Analysis Results
National Grid
Hempstead, NY

Sample Name Sample Date Parent Sample				HIMW-25 9/21/2021	HIMW-25 3/7/2022	HIMW-26I 9/23/2021	HIMW-26D 9/23/2021	HIMW-26D 3/8/2022	HIMW-27S 9/20/2021	HIMW-27S 3/7/2022	HIMW-27I 9/20/2021	HIMW-28S 9/20/2021	HIMW-28S 3/7/2022	HIMW-28I 9/20/2021	DUP-01 9/20/2021 HIMW-28I
Analyte	Units	CAS No.	NYS AWQS												
BTEX	ug/L														
Benzene		71-43-2	1	1 U	1 U	1 U	1 U	1 U	2	2.2	1 U	1.6	2.5	1 U	1 U
Toluene		108-88-3	5	1 U	1 U	1 U	1 U	1 U	5.2	9.7	1 U	3.1	0.95 J	1 U	1 U
Ethylbenzene		100-41-4	5	1 U	1 U	1 U	1 U	1 U	270	400	1 U	150	35	1 U	1 U
Total Xylene		1330-20-7	5	2 U	2	2 U	4	2.5	280	430	2 U	20	9	2 U	2 U
Total BTEX (ND=0)		TBTEX_ND0	NE	ND	2	ND	4	2.5	557.2	841.9	ND	174.7	47.45	ND	ND
PAH17	ug/L														
Acenaphthene		83-32-9	20*	10 U	10 U	10 U	3.2 J	3.1 J	56	78	10 U	24	25	10 U	10 U
Acenaphthylene		208-96-8	NE	10 U	10 U	10 U	46	43	3.9 J	3.4 J	10 U	1.9 J	2.8 J	10 U	10 U
Anthracene		120-12-7	50*	10 U	10 U	10 U	10 U	10 U	6.6 J	7.4 J	10 U	2.5 J	5.2 J	10 U	10 U
Benzo(a)anthracene		56-55-3	0.002*	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzo(b)fluoranthene		205-99-2	0.002*	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Benzo(k)fluoranthene		207-08-9	0.002*	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzo(g,h,i)perylene		191-24-2	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene		50-32-8	ND	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chrysene		218-01-9	0.002*	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Dibenz(a,h)anthracene		53-70-3	NE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Fluoranthene		206-44-0	50*	10 U	10 U	10 U	10 U	10 U	1.5 J	1.9 J	10 U	10 U	1.3 J	10 U	10 U
Fluorene		86-73-7	50*	10 U	10 U	10 U	9.9 J	9.4 J	40	38	10 U	16	25	10 U	10 U
Indeno(1,2,3-cd)pyrene		193-39-5	0.002*	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
2-Methylnaphthalene		91-57-6	NE	10 U	10 U	10 U	120	90	230	240	10 U	20 J	27	10 U	10 U
Naphthalene		91-20-3	10*	2 U	2 U	2 U	220	100	720	690	2 U	310 J	84	2 U	2 U
Phenanthrene		85-01-8	50*	10 U	10 U	10 U	10	9.8 J	40	38	10 U	15	34	10 U	10 U
Pyrene		129-00-0	50*	10 U	10 U	10 U	10 U	10 U	1.7 J	2.5 J	10 U	10 U	10 U	10 U	10 U
Total PAH (17) (ND=0)		TPAH17_ND0	NE	ND	ND	ND	409.1	255.3	1099.7	1099.2	ND	389.4	204.3	ND	ND

**Table 6. Hempstead Intersection
Groundwater Analysis Results
National Grid
Hempstead, NY**

Notes:

Analytes in blue are not detected in any sample

ug/L = micrograms per liter or parts per billion (ppb)

BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes

PAH = Polycyclic Aromatic Hydrocarbon

Total BTEX and Total PAHs are calculated using detects only.

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

NYS AWQS = New York State Ambient Water Quality Standards and Guidance Values for GA groundwater

* indicates the value is a guidance value and not a standard

CAS No. = Chemical Abstracts Service Number

Bolding indicates a detected result concentration

Shading and bolding indicates that the detected concentration is above the NYS AWQS it was compared to

Data Qualifiers:

J = The result is an estimated value.

U = The result was not detected above the reporting limit.

UJ = The results was not detected at or above the reporting limit shown and the reporting limit is estimated.

Table 7. Groundwater Treatment Performance Monitoring, April 2021 - March 2022
Hempstead Intersection Street Former MGP Site
National Grid
Hempstead, New York

	Q2 2021		Q3 2021		Q4 2021		Q1 2022	
	June		September		December		March	
ID	DTW (ft)	DO (mg/L)	DTW (ft)	DO (mg/L)	DTW (ft)	DO (mg/L)	DTW (ft)	DO (mg/L)
MP-1-1S	26.19	7	25.11	27	25.63	11	25.83	17
MP-1-1D	26.29	13	25.15	29	25.32	11	25.78	10
MP-1-2S	20.82	22	19.34	14	20.17	2	20.31	9
MP-1-2D	20.51	21	19.57	24	19.72	20	20.14	19
MP-1-3S	18.66	21	17.67	17	17.97	22	18.21	15
MP-1-3D	18.71	25	17.61	13	17.91	26	18.17	13
MP-1-4S	21.31	19	20.26	6	20.59	18	20.80	6
MP-1-4D	21.49	9	NM	NM	20.75	7	20.96	20
MP-1-5	25.71	19	24.74	24	24.43	21	25.51	10
MP-1-6	NM	NM	17.16	7	17.50	15	17.79	11
MP-1-7	21.33	23	20.47	25	20.80	4	21.01	7
MP-1-8	22.75	20	21.80	13	22.20	5	22.45	10

System #2

	Q2 2020		Q3 2020		Q4 2020		Q1 2021	
	June		September		December		March	
ID	DTW (ft)	DO (mg/L)	DTW (ft)	DO (mg/L)	DTW (ft)	DO (mg/L)	DTW (ft)	DO (mg/L)
MP-2-1	29.15	12	27.82	16	NM	NM	NM	NM
MP-2-2	30.70	14	29.31	22	NM	NM	NM	NM
MP-2-3S	NM*	NM*	NM*	NM*	NM	NM	NM	NM
MP-2-3D	30.82	13	34.57	13	NM	NM	NM	NM
MP-2-4	19.19	15	17.89	10	NM	NM	NM	NM
MP-2-5	17.41	7	16.12	9	NM	NM	NM	NM

Notes:

MGP=Manufactured Gas Plant

DTW=Depth to water (feet)

O₂=Oxygen measurement of well headspace (percent oxygen)

PID=Photoionization Detector measurement of well headspace (parts per million)

DO=Dissolved Oxygen concentration (percent of milligrams per liter)

NM=Not Measured

NA=:Not Accessible

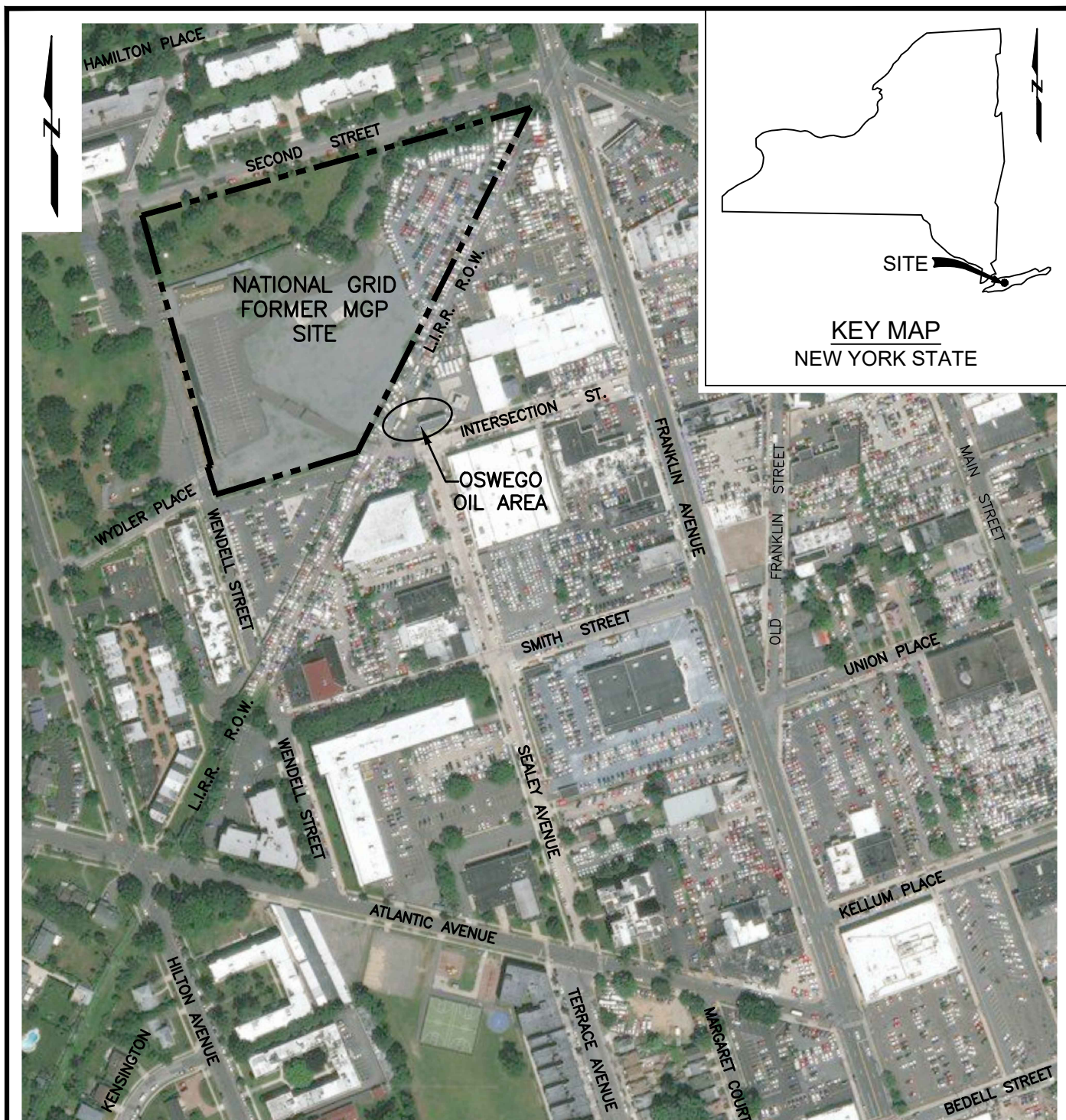
ppm=parts per million

mg/L=milligrams per liter

ft=feet

Periodic Review Report
March 28, 2021 – March 28, 2022
Hempstead Intersection Street Former MGP Site
Town of Hempstead, Nassau County, New York
Site ID #1-30-086
April 2022

Figures



SOURCES:

1. FIGURE BASED ON FIGURE 1: SITE LOCATION, HEMPSTEAD INTERSECTION STREET FORMER MGP SITE, PREPARED BY AECOM, SCALE: 1" = 300', DATE: 2/5/19.
2. AERIAL PHOTO FROM BING MAPS AERIAL LAYER, ACCESSED VIA ARCGIS ONLINE, © 2010 MICROSOFT CORPORATION AND ITS DATA SUPPLIERS, ACCESSED ON 1/27/2020.

LEGEND:

— — — — — NATIONAL GRID PROPERTY BOUNDARY

0 300 600
SCALE: 1" = 300'

Periodic Review Report
Hempstead Intersection Street Former MGP
Hempstead/Garden City, New York

nationalgrid

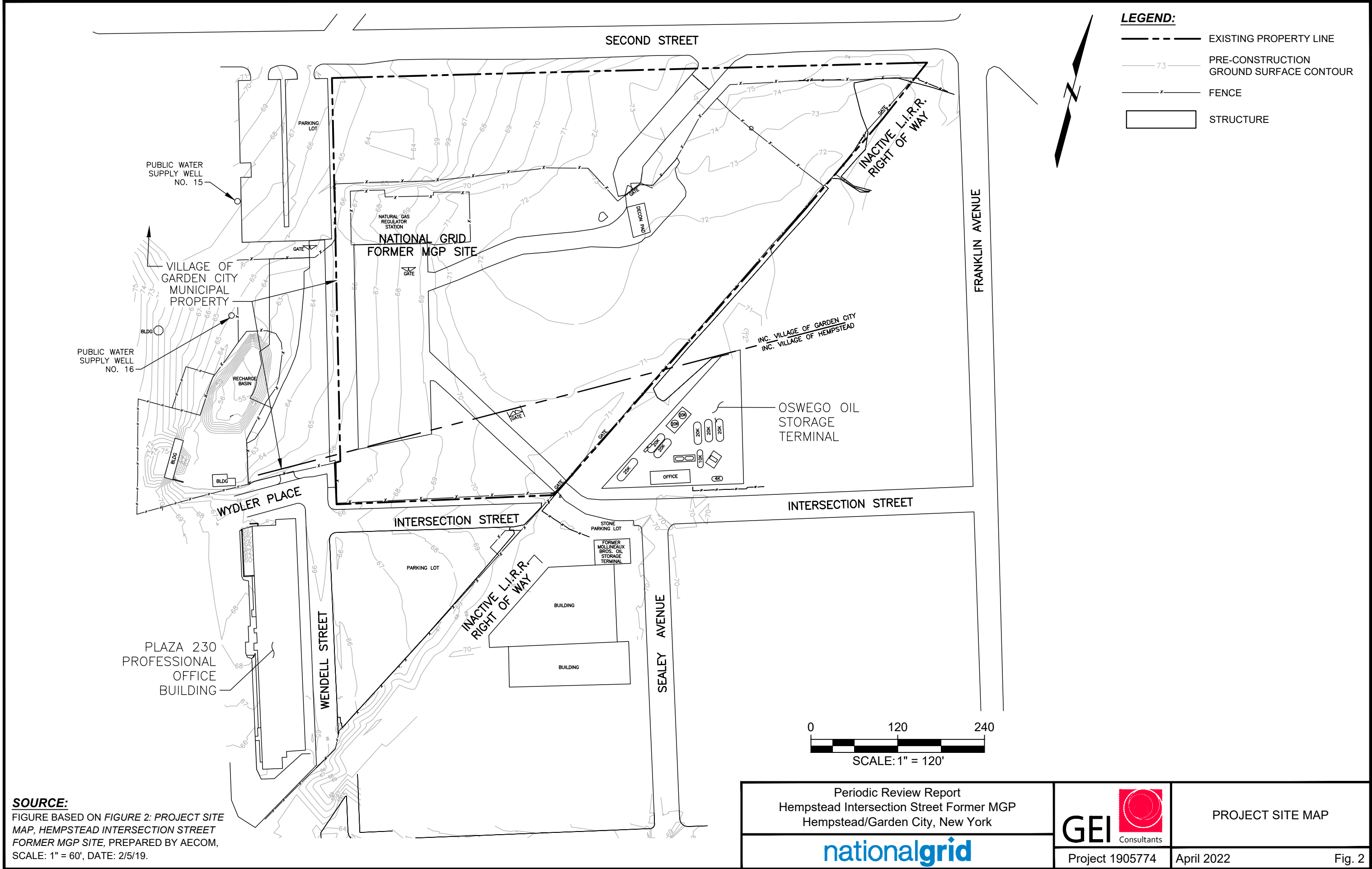
GEI Consultants

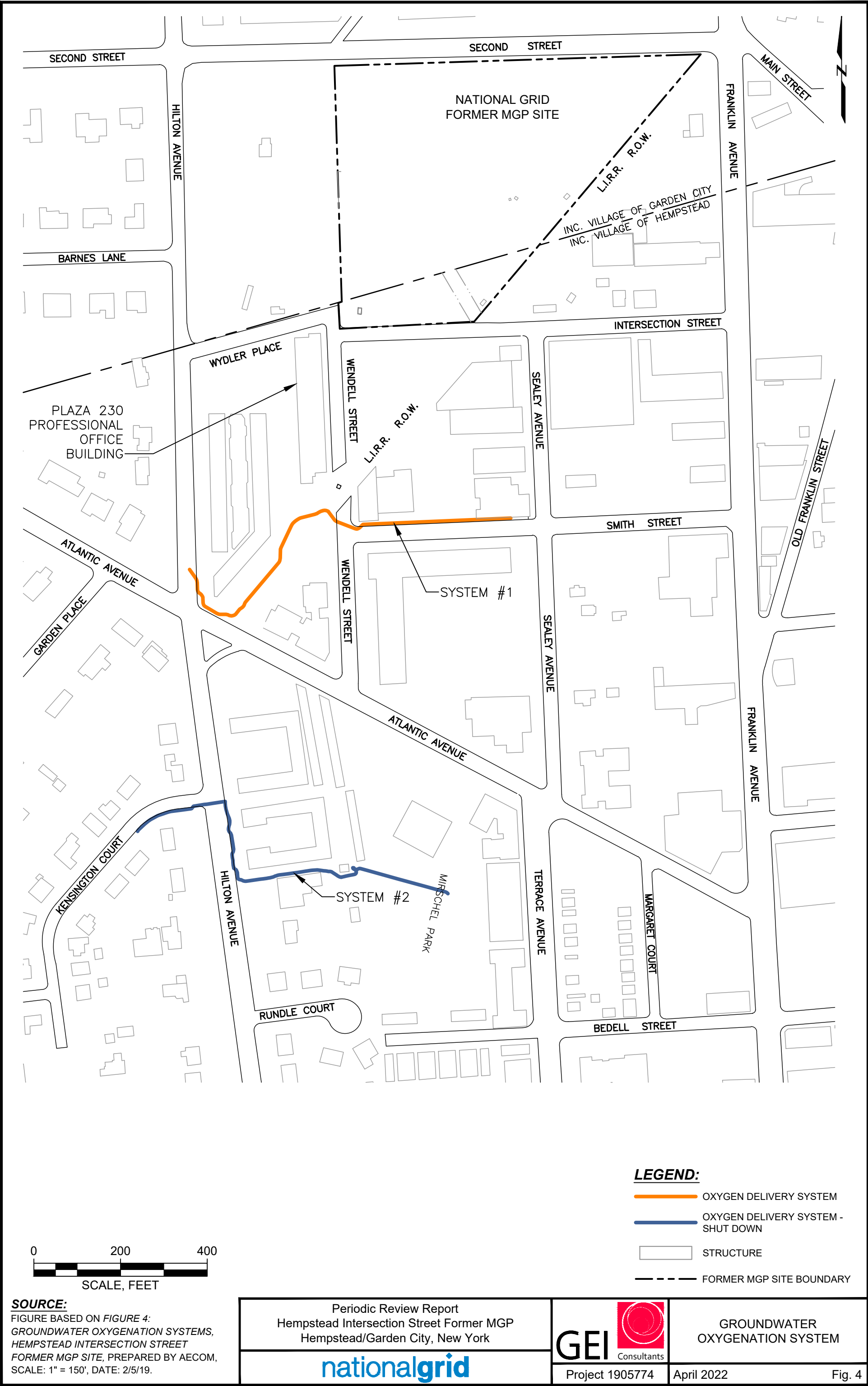
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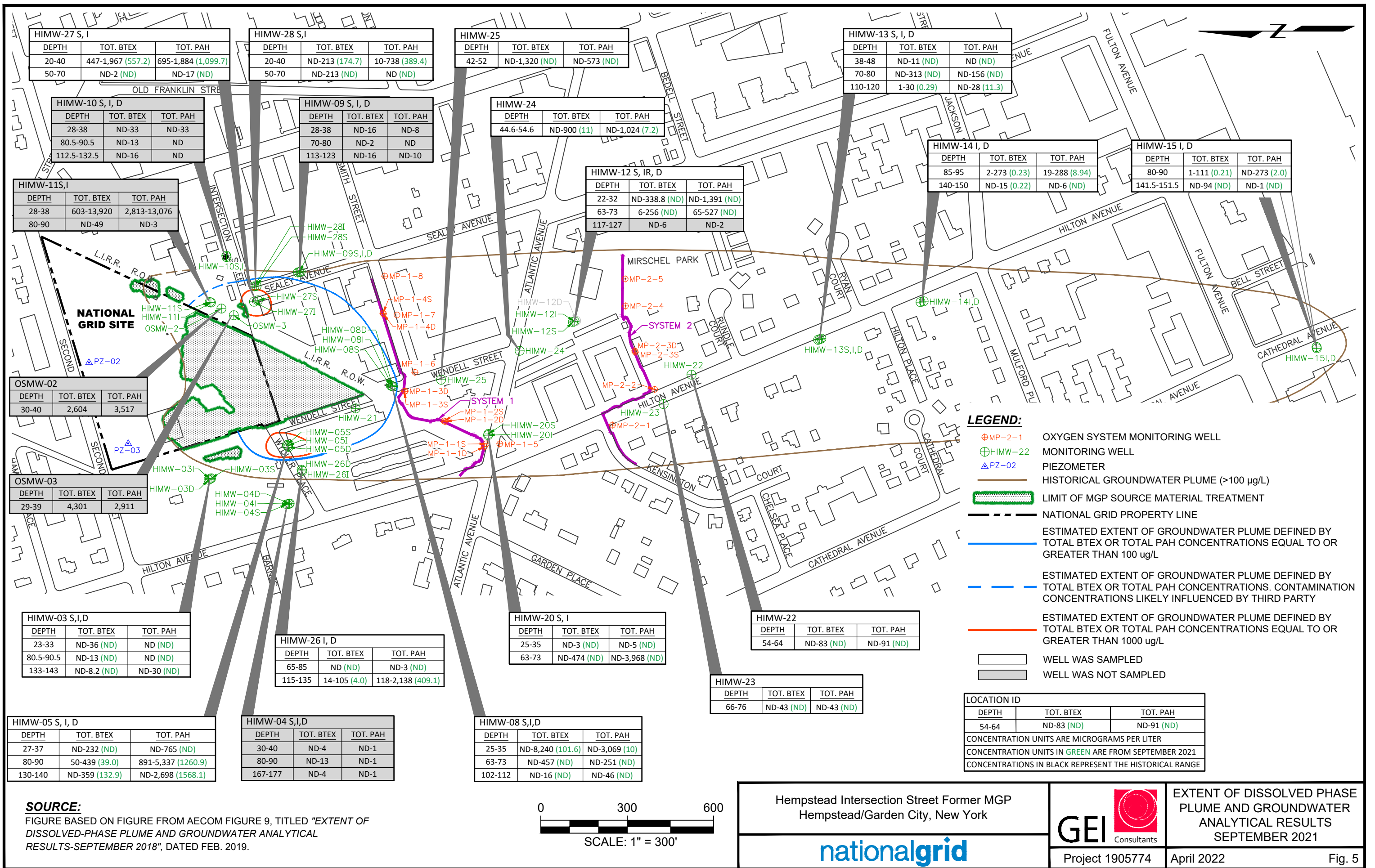
Project 1905774

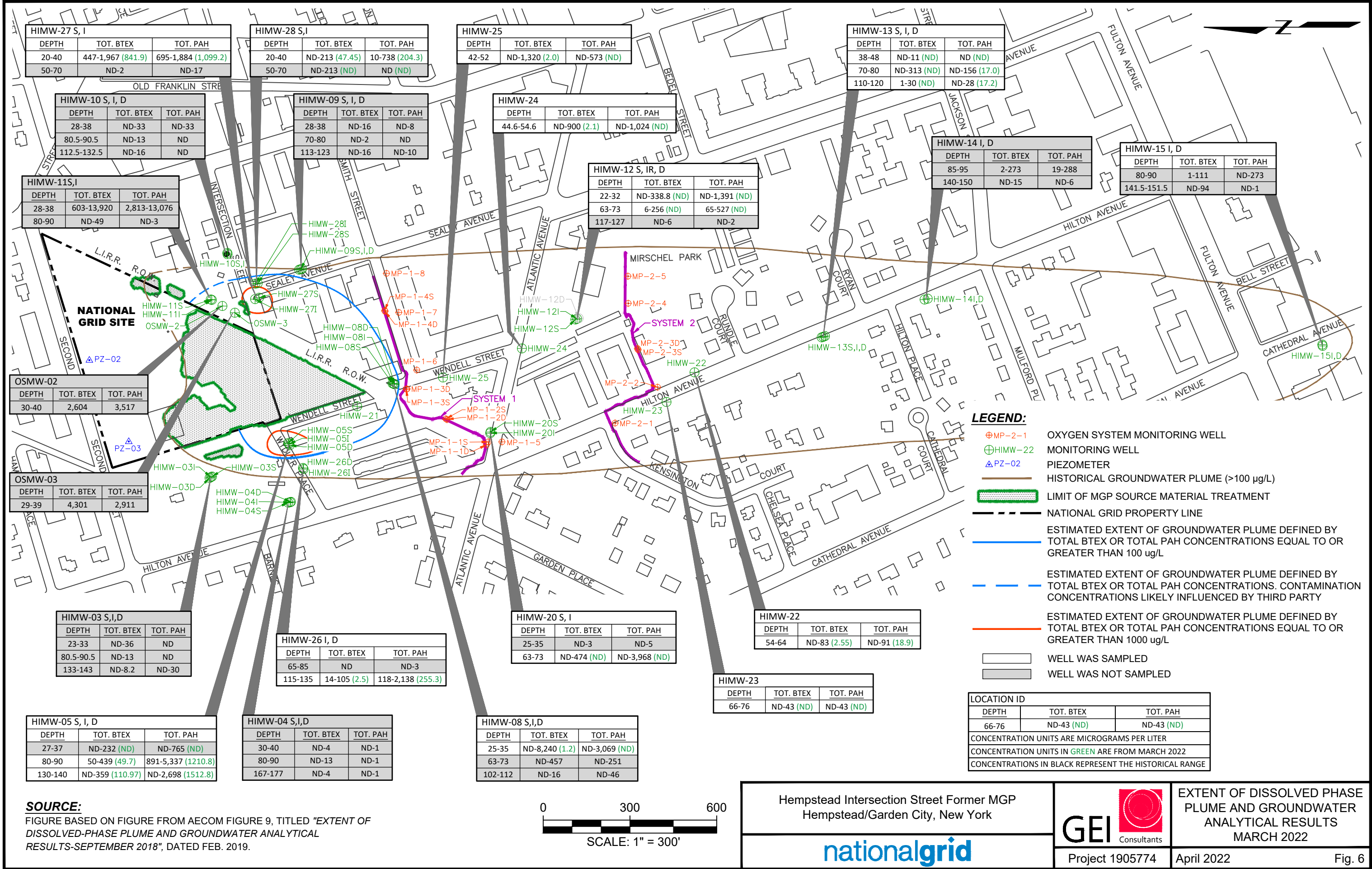
April 2022

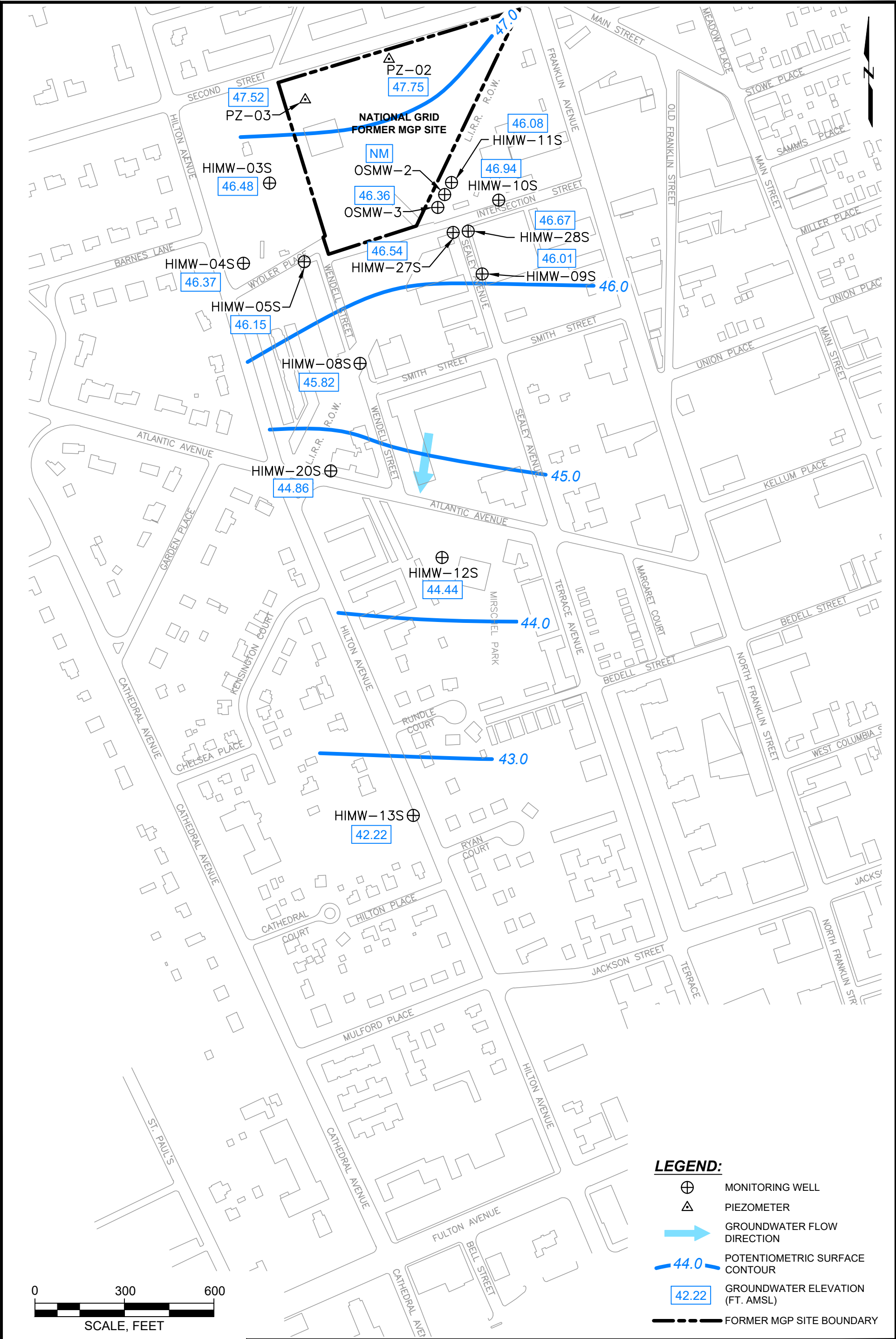
Fig. 1











SOURCE:
FIGURE BASED ON FIGURE 10:
POTENTIOMETRIC SURFACE MAP FOR
SHALLOW GROUNDWATER, SEPTEMBER 17,
2018 PREPARED BY AECOM, SCALE: 1" = 300',
DATE: 2/22/19.

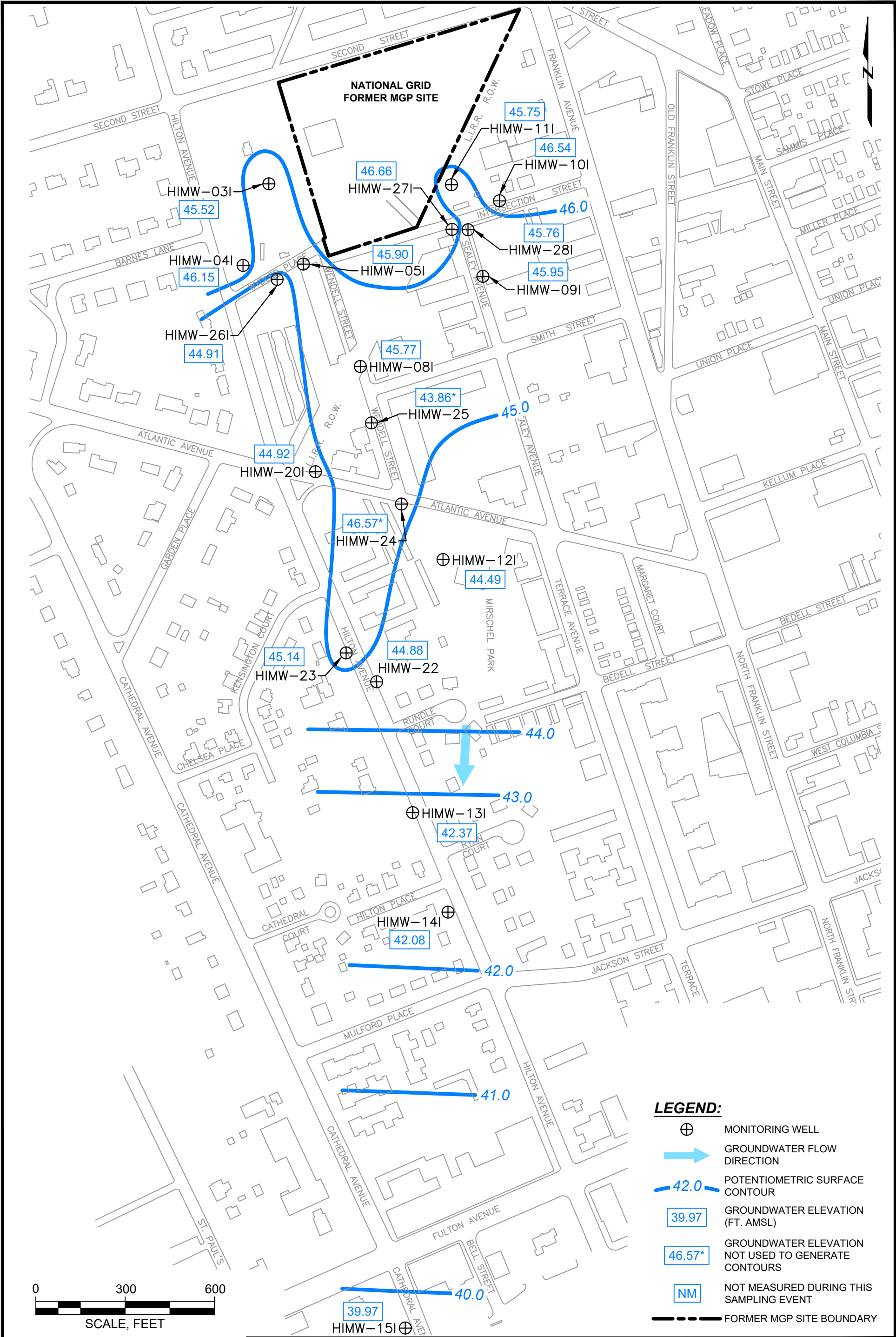
Periodic Review Report
Hempstead Intersection Street Former MGP
Hempstead/Garden City, New York

Project 1905774

POTENTIOMETRIC SURFACE
MAP FOR SHALLOW
GROUNDWATER -
SEPTEMBER 28, 2021

April 2022

Fig. 7



SOURCE:
FIGURE BASED ON FIGURE 11:
POTENTIOMETRIC SURFACE MAP FOR
INTERMEDIATE GROUNDWATER, SEPTEMBER
17, 2018 PREPARED BY AECOM, SCALE: 1" =
300', DATE: 2/22/19.

Periodic Review Report
Hempstead Intersection Street Former MGP
Hempstead/Garden City, New York

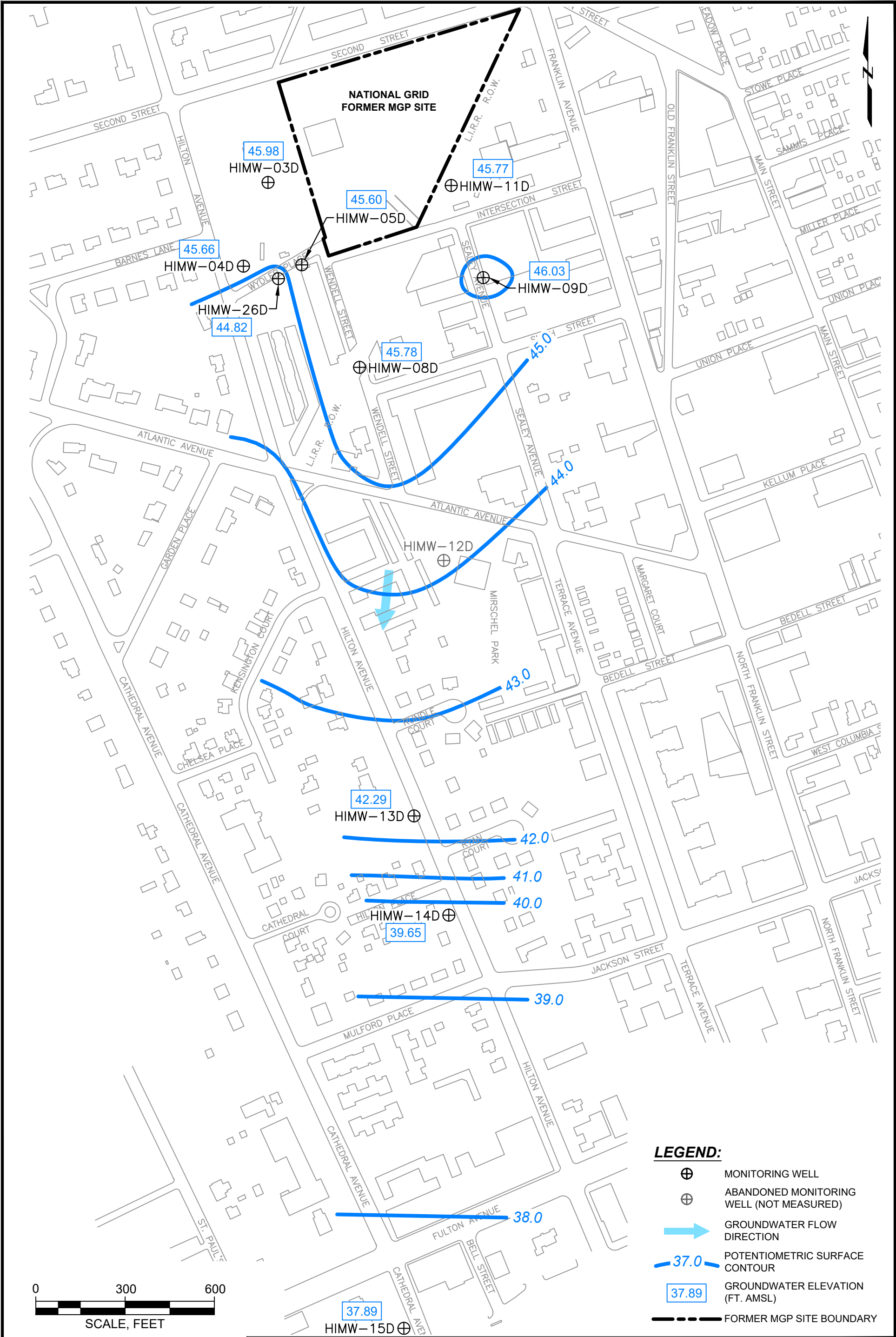
Consultants

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POTENTIOMETRIC SURFACE
MAP FOR INTERMEDIATE
GROUNDWATER -
SEPTEMBER 28, 2021

April 2022

Fig. 8



SOURCE:
FIGURE BASED ON FIGURE 12:
POTENTIOMETRIC SURFACE MAP FOR DEEP
GROUNDWATER, SEPTEMBER 17, 2018
PREPARED BY AECOM, SCALE: 1" = 300', DATE:
2/22/19.

Periodic Review Report
Hempstead Intersection Street Former MGP
Hempstead/Garden City, New York

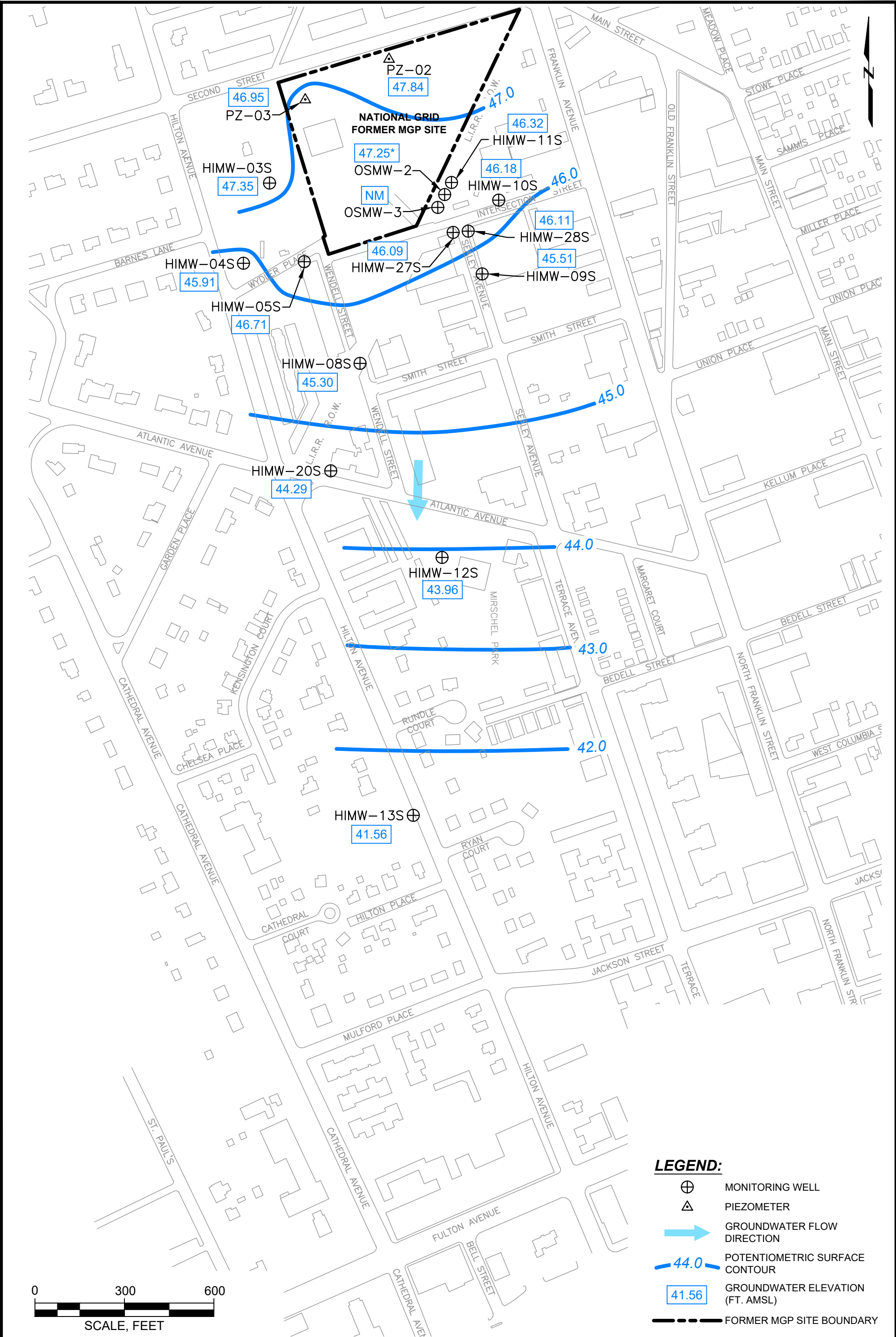
Consultants

Project 1905774

POTENTIOMETRIC SURFACE
MAP FOR DEEP
GROUNDWATER -
SEPTEMBER 28, 2021

April 2022

Fig. 9



SOURCE:
FIGURE BASED ON FIGURE 10:
POTENTIOMETRIC SURFACE MAP FOR
SHALLOW GROUNDWATER, SEPTEMBER 17,
2018 PREPARED BY AECOM, SCALE: 1" = 300',
DATE: 2/22/19.

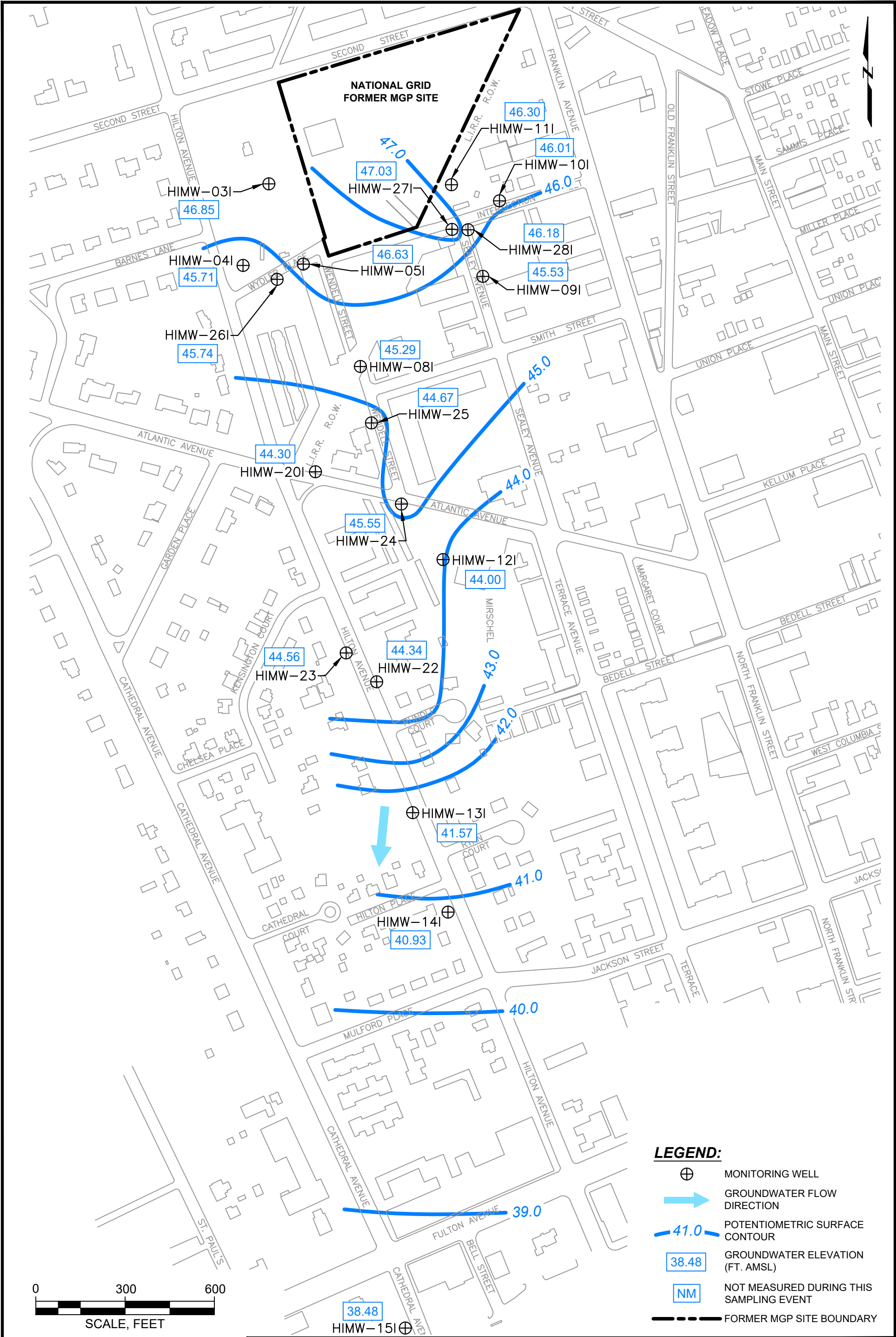
Periodic Review Report
Hempstead Intersection Street Former MGP
Hempstead/Garden City, New York

Project 1905774

POTENTIOMETRIC SURFACE
MAP FOR SHALLOW
GROUNDWATER -
MARCH 10, 2022

April 2022

Fig. 10



SOURCE:
FIGURE BASED ON FIGURE 11:
POTENTIOMETRIC SURFACE MAP FOR
INTERMEDIATE GROUNDWATER, SEPTEMBER
17, 2018 PREPARED BY AECOM, SCALE: 1" =
300', DATE: 2/22/19.

Periodic Review Report
Hempstead Intersection Street Former MGP
Hempstead/Garden City, New York

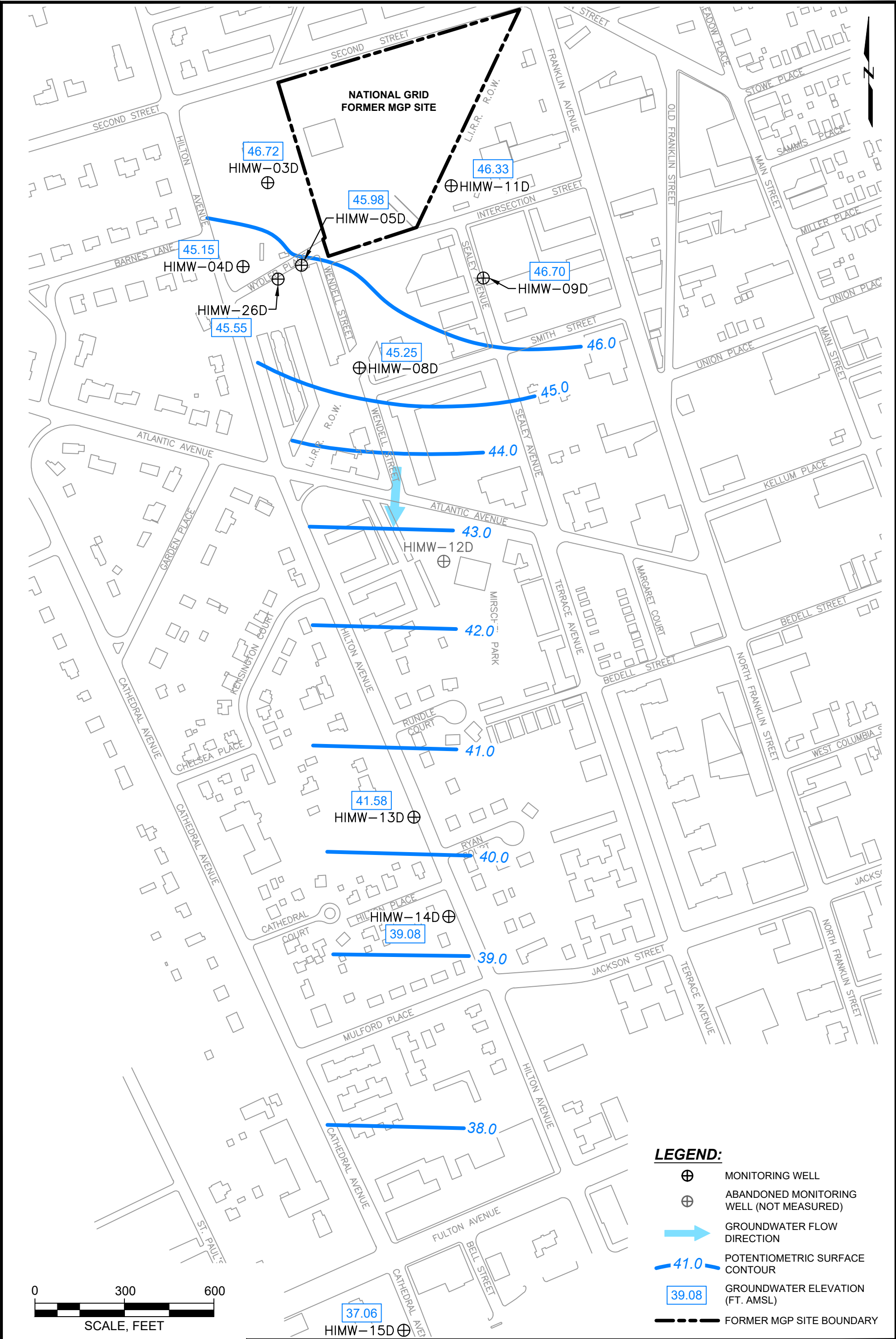
Consultants

Project 1905774

POTENTIOMETRIC SURFACE
MAP FOR INTERMEDIATE
GROUNDWATER -
MARCH 10, 2022

April 2022

Fig. 11



SOURCE:
FIGURE BASED ON FIGURE 12:
POTENTIOMETRIC SURFACE MAP FOR DEEP
GROUNDWATER, SEPTEMBER 17, 2018
PREPARED BY AECOM, SCALE: 1" = 300', DATE:
2/22/19.

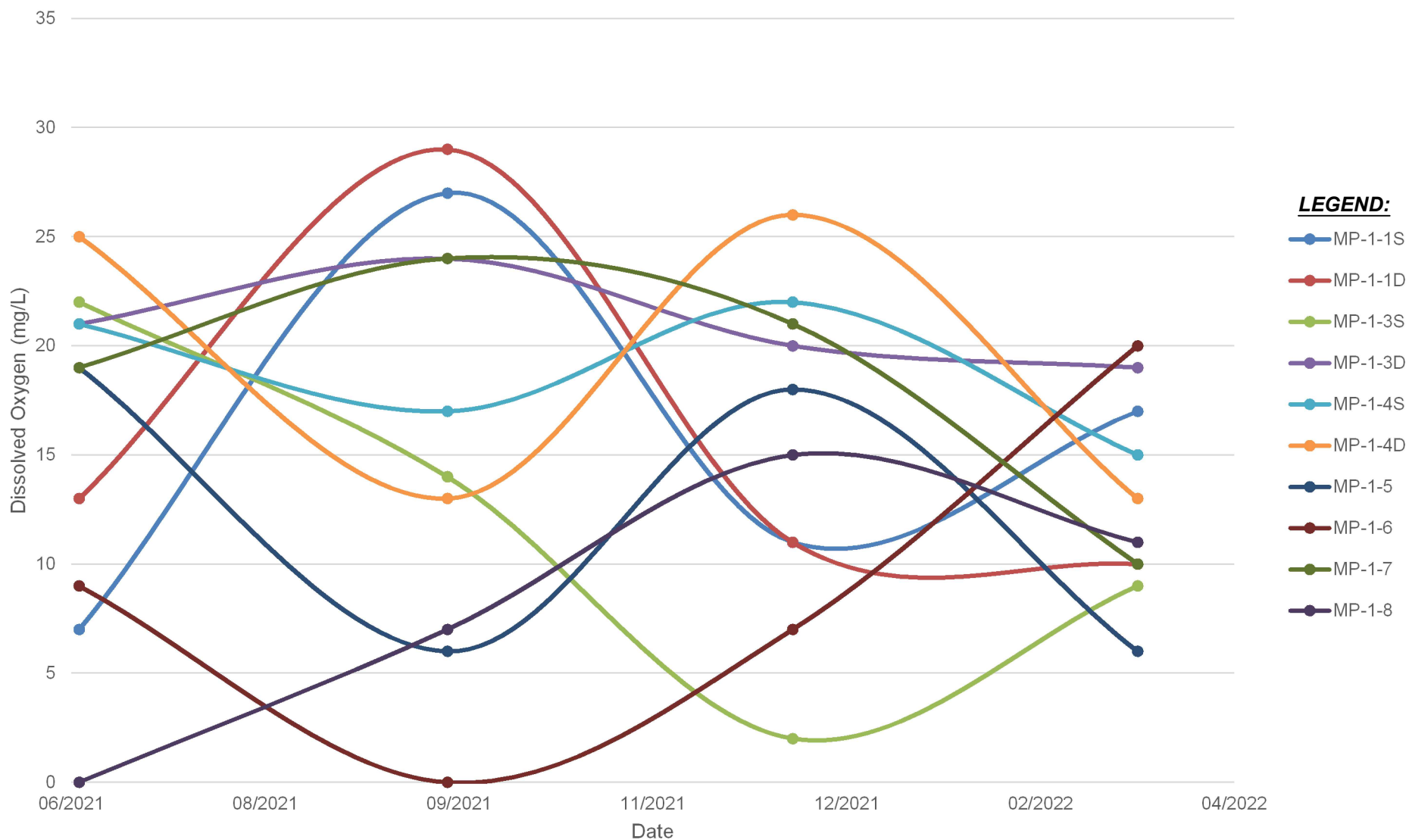
Periodic Review Report
Hempstead Intersection Street Former MGP
Hempstead/Garden City, New York

Project 1905774

POTENTIOMETRIC SURFACE
MAP FOR DEEP
GROUNDWATER -
MARCH 10, 2022

April 2022

Fig. 12



SOURCE:

FIGURE BASED ON FIGURE 17: OXYGEN SYSTEM #1, DISSOLVED OXYGEN CONCENTRATIONS, PREPARED BY AECOM.

Periodic Review Report
Hempstead Intersection Street Former MGP
Hempstead/Garden City, New York

nationalgrid

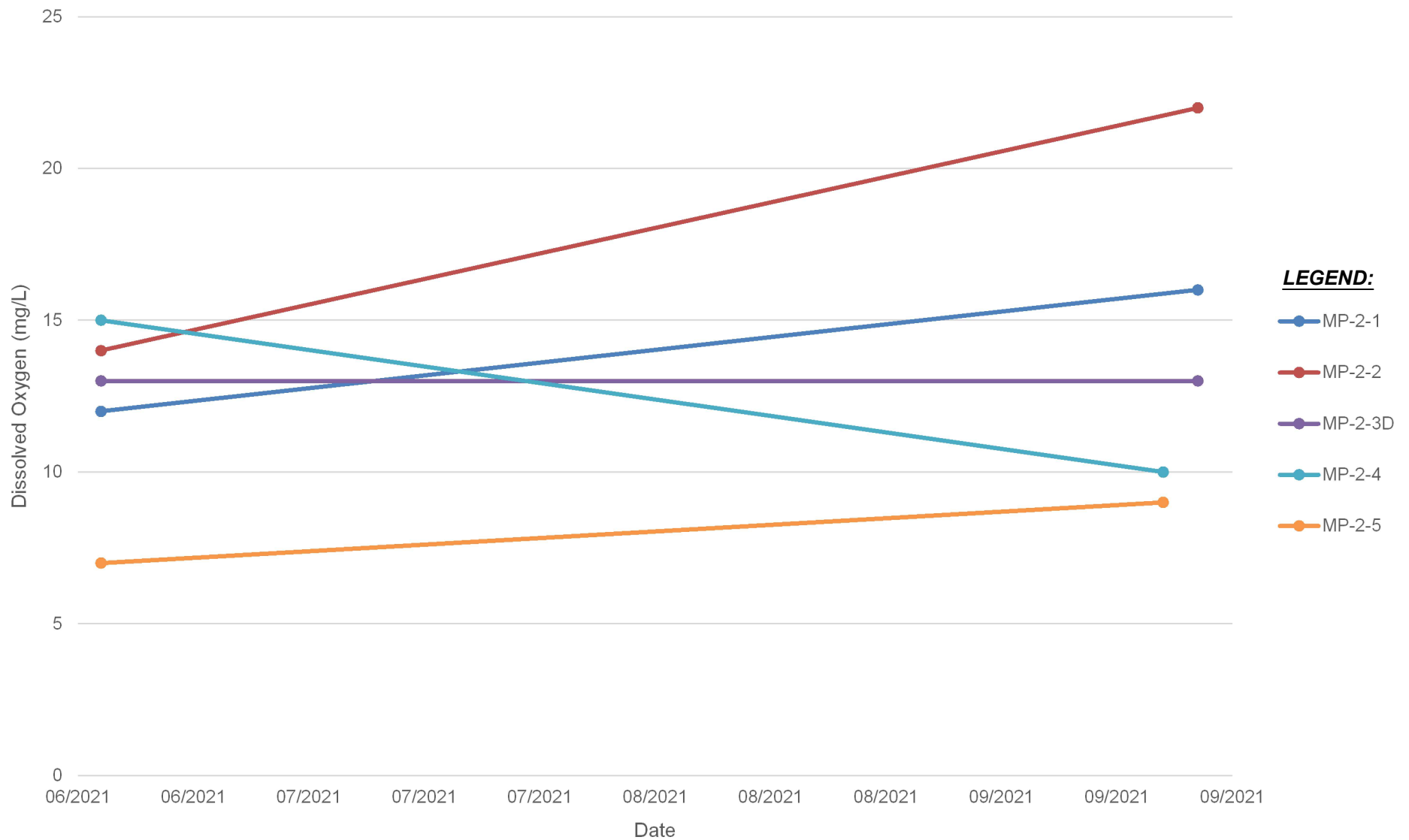


Project 1905774

OXYGEN SYSTEM #1
DISSOLVED OXYGEN
CONCENTRATIONS

April 2022

Fig. 13



SOURCE:

FIGURE BASED ON FIGURE 18: OXYGEN SYSTEM #2, DISSOLVED OXYGEN CONCENTRATIONS, PREPARED BY AECOM.

Periodic Review Report
Hempstead Intersection Street Former MGP
Hempstead/Garden City, New York

nationalgrid



Project 1905774

OXYGEN SYSTEM #2
DISSOLVED OXYGEN
CONCENTRATIONS

April 2022

Fig. 14

HIMW-003S,I,D		
DEPTH	TOT. BTEX	TOT. PAHs
23-33	ND-36 (ND)	ND (ND)
80.5-90.5	ND-13 (ND)	ND (ND)
133-143	ND-8.2 (ND)	ND-30 (ND)

HIMW-008S,I,D		
DEPTH	TOT. BTEX	TOT. PAHs
25-35	ND-8,240 (ND)	ND-3,069 (3)
63-73	ND-457 (ND)	ND-251 (ND)
102-112	ND-16 (ND)	ND-46 (ND)

HIMW-011S,I		
DEPTH	TOT. BTEX	TOT. PAHs
28-38	603-13,920	2,813-13,076
80-90	ND-49	ND-3

HIMW-014 I,D		
DEPTH	TOT. BTEX	TOT. PAHs
85-95	2-273(29)	19-288 (42)
140-150	ND-15 (ND)	ND-6 (ND)

HIMW-022		
DEPTH	TOT. BTEX	TOT. PAHs
54-64	ND	ND

HIMW-025		
DEPTH	TOT. BTEX	TOT. PAHs
42-52	552	573

HIMW-004S,I,D		
DEPTH	TOT. BTEX	TOT. PAHs
30-40	ND-4	ND-1
80-90	ND-13	ND
167-177	ND-4	ND-1

HIMW-009S,I,D		
DEPTH	TOT. BTEX	TOT. PAHs
28-38	ND-16	ND-8
70-80	ND-2	ND
113-123	ND-16	ND-10

HIMW-012S,I,D		
DEPTH	TOT. BTEX	TOT. PAHs
22-32	ND-338.8 (ND)	ND-1,391 (ND)
63-73	6-256 (64)	65-527(108)
117-127	ND-6 (ND)	ND-2 (ND)

HIMW-015 I,D		
DEPTH	TOT. BTEX	TOT. PAHs
80-90	1-111 (23)	ND-273 (31)
141.5-151.5	ND-94 (ND)	ND-1 (ND)

HIMW-023		
DEPTH	TOT. BTEX	TOT. PAHs
66-76	43	11

OSMW-02		
DEPTH	TOT. BTEX	TOT. PAHs
30-40	2,604	3,517

HIMW-005S,I,D		
DEPTH	TOT. BTEX	TOT. PAHs
27-37	ND-232 (ND)	ND-765 (ND)
80-90	50-439 (146)	891-5,337(2,120)
130-140	ND-359 (133)	ND-2,698 (166)

HIMW-010S,I,D		
DEPTH	TOT. BTEX	TOT. PAHs
28-38	ND-33	1-150
80.5-90.5	ND-13	ND
112.5-132.5	ND-16	ND

HIMW-013S,I,D		
DEPTH	TOT. BTEX	TOT. PAHs
38-48	ND-11 (ND)	ND (ND)
70-80	ND-313 (142)	ND-156 (67)
110-120	1-30 (2)	ND-28 (17)

HIMW-020S,I		
DEPTH	TOT. BTEX	TOT. PAHs
25-35	ND-3 (ND)	ND-5 (ND)
63-73	ND-474 (198)	ND-3,968 (530)

HIMW-024		
DEPTH	TOT. BTEX	TOT. PAHs
44.6-54.6	870	1,020

OSMW-03		
DEPTH	TOT. BTEX	TOT. PAHs
29-39	4,301	2,911

LEGEND:

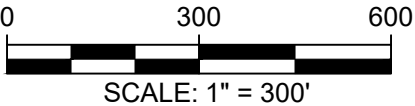
- MONITORING WELL
- PIEZOMETER
- OXYGEN SYSTEM MONITORING WELL
- EXISTING HOUSE OR BUILDING
- NATIONAL GRID PROPERTY BOUNDARY
- INSTALLED GROUNDWATER TREATMENT SYSTEM
- ESTIMATED EXTENT OF GROUNDWATER PLUME AS DEFINED BY TOTAL BTEX OR TOTAL PAH CONCENTRATIONS EQUAL TO OR GREATER THAN 100 µg/L
- ESTIMATED EXTENT OF GROUNDWATER PLUME AS DEFINED BY TOTAL BTEX OR TOTAL PAH CONCENTRATIONS EQUAL TO OR GREATER THAN 1,000 µg/L

ANALYTICAL BOXES

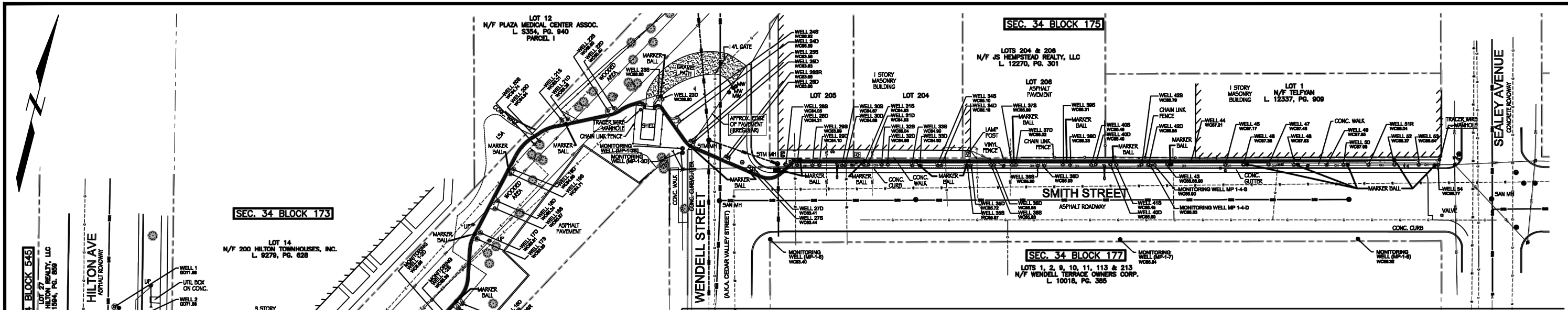
- NA NOT ANALYZED
- ND NOT DETECTED



SOURCE:
FIGURE BASED ON FIGURE 14: EXTENT OF DISSOLVED-PHASE PLUME AND GROUNDWATER ANALYTICAL RESULTS - MAY 2011, HEMPSTEAD INTERSECTION STREET FORMER MGP SITE, PREPARED BY AECOM, SCALE: 1" = 300', DATE: 2/22/19.



Periodic Review Report Hempstead Intersection Street Former MGP Hempstead/Garden City, New York 		EXTENT OF DISSOLVED-PHASE PLUME AND GROUNDWATER ANALYTICAL RESULTS - MAY 2011
		Project 1905774 April 2022 Fig. 15

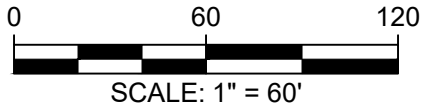
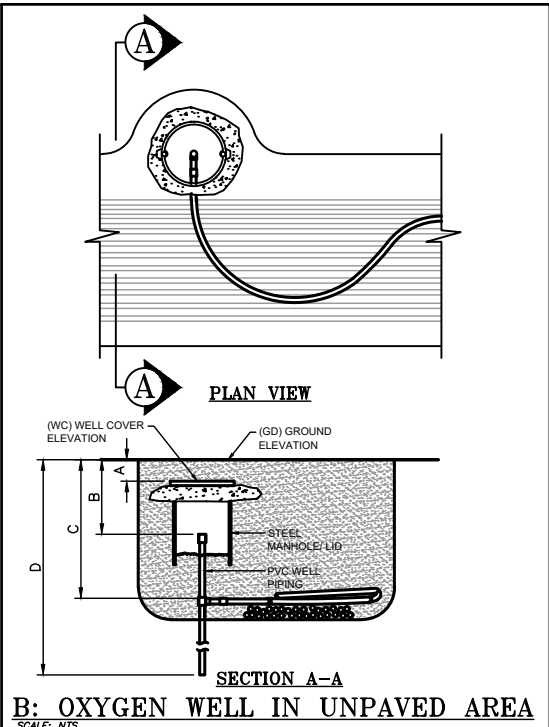
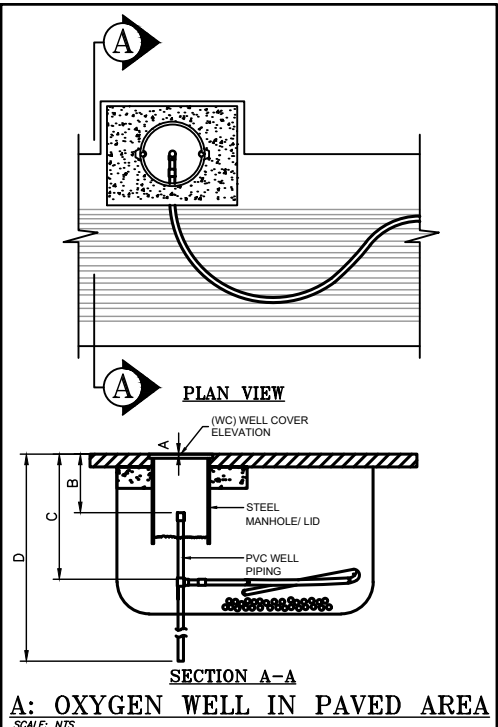


OVERALL PLAN
SCALE: 1" = 30'

WELL NO.	WELL DEPTH
MP-1-1S	65.0
MP-1-1D	89.0
MP-1-2S	52.5
MP-1-2D	81.0
MP-1-3S	49.3
MP-1-3D	78.9
MP-1-4S	52.0
MP-1-4D	69.0
MP-1-5	100.0
MP-1-6	99.5
MP-1-7	84.5
MP-1-8	60.3

WELL NO.	DIMENSION			
	A	B	C	D
1	2"	9"	2'-0"	95.5'
2	FLUSH	10"	2'-1"	96.3'
3	5"	1'-2"	2'-2"	96.5'
4	5"	1'-2"	2'-2 1/2"	95.0'
5S	4"	1'-2"	2'-2"	67.3'
5D	4"	9 1/2"	2'-2"	93.9'
6S	FLUSH	9"	2'-2"	67.0'
6D	FLUSH	9"	2'-3"	92.4'
7S	6"	11"	2'-3"	66.9'
7D	6"	11"	2'-3"	91.1'
8S	6"	9"	2'-3"	66.7'
8D	6"	11"	2'-2"	89.6'
9S	5"	7"	1'-10"	66.0'
9D	4 1/2"	6 1/2"	1'-11"	88.5'
10S	6"	1'-4"	2'-4"	54.6'
10D	5"	1'-3 1/4"	2'-3"	87.2'
11S	5"	9"	1'-9"	54.1'
11D	5"	10"	1'-10"	86.1'
12S	5"	11 3/4"	1'-11"	53.6'
12D	5"	8 3/4"	1'-9"	85.3'
13S	5"	10 3/4"	1'-11"	53.1'
13D	4"	10 3/4"	1'-11"	84.7'
14S	5"	9"	1'-10"	52.7'
14D	5"	8 1/2"	1'-9"	84.1'
15S	5"	11"	1'-11"	52.2'
15D	5"	11"	1'-11"	83.3'
16SR	5"	9 3/4"	1'-10"	51.8'
16D	6"	9 1/2"	1'-10"	82.5'
17S	6"	11 1/4"	2'-0"	50.7'
17D	5"	6 3/4"	1'-7"	79.5'
18S	5"	7 1/2"	1'-9"	50.2'
18D	5"	7 5/8"	1'-8"	78.3'
19S	6"	12 1/4"	2'-1"	49.7'
19D	6"	12 3/8"	2'-1"	78.9'
20S	6"	9 5/8"	1'-9"	49.3'
20D	6"	11 3/8"	1'-11"	79.5'
21S	5 1/2"	11 1/2"	1'-11"	49.3'
21D	6"	10"	2'-2 1/2"	79.5'
22S	5"	9 1/4"	1'-10"	49.3'
22D	5"	9 1/4"	1'-10"	79.5'
23S	5"	12 1/4"	2'-3 1/2"	48.8'
23D	6"	11 3/4"	2'-3 1/2"	78.7'
24S	6"	12 5/8"	2'-0"	48.4'
24D	6"	9"	1'-8 1/2"	78.2'

WELL NO.	A	B	C	D
25S	FLUSH	1'-0"	2'-0"	48.8'
25D	FLUSH	1'-1"	2'-1"	78.1'
26SR	FLUSH	1'-1"	2'-1"	48.2'
26D	FLUSH	1'-0"	2'-0"	78.1'
27S	FLUSH	11 1/2"	1'-11"	48.3'
27D	FLUSH	11 1/2"	1'-11"	77.9'
28S	FLUSH	11"	1'-10"	48.3'
28D	FLUSH	11"	1'-10"	78.0'
29S	FLUSH	11"	1'-10"	48.5'
29D	FLUSH	11"	1'-10"	78.4'
30S	FLUSH	11 1/2"	1'-11"	48.8'
30D	FLUSH	11 1/2"	1'-11"	79.0'
31S	FLUSH	1'-0"	2'-0"	49.3'
31D	FLUSH	1'-0"	2'-0"	80.5'
32S	FLUSH	1'-0"	2'-0"	49.3'
32D	FLUSH	1'-0"	2'-0"	81.6'
33S	FLUSH	1'-0 1/2"	2'-1"	49.7'
33D	FLUSH	1'-0 1/2"	2'-1"	83.2'
34S	FLUSH	1'-1 1/2"	2'-2"	50.1'
34D	FLUSH	1'-1 1/2"	2'-2"	84.5'
35S	FLUSH	1'-2"	2'-3"	50.3'
35D	FLUSH	1'-1 1/2"	2'-2 1/2"	85.0'
36S	FLUSH	1'-1 1/2"	2'-2"	50.3'
36D	FLUSH	1'-1 1/2"	2'-1 1/2"	85.4'
37S	FLUSH	1'-1"	2'-1"	50.5'
37D	FLUSH	1'-1"	2'-0 1/2"	84.7'
38S	FLUSH	1'-0"	2'-0"	50.6'
38D	FLUSH	1'-0"	2'-0"	82.2'
39S	FLUSH	11"	1'-11"	50.7'
39D	FLUSH	11 1/2"	1'-11"	78.5'
40S	FLUSH	11 1/2"	1'-11"	51.1'
40D	FLUSH	11"	1'-10 1/2"	76.1'
41S	FLUSH	1'-0"	2'-0"	51.5'
41D	FLUSH	1'-1"	2'-1"	73.6'
42S	FLUSH	1'-2"	2'-1"	51.3'
42D	FLUSH	1'-2"	2'-2 1/2"	71.0'
43	FLUSH	1'-2"	2'-3"	67.4'
44	FLUSH	1'-2"	2'-2 1/2"	66.6'
45	FLUSH	1'-3"	2'-3"	65.7'
46	FLUSH	1'-3"	2'-3"	64.3'
47	FLUSH	1'-3"	2'-3 1/2"	63.4'
48	FLUSH	1'-3"	2'-3 1/2"	62.5'
49	FLUSH	1'-3"	2'-3"	61.5'
50	FLUSH	1'-3"	2'-3"	60.8'
51R	FLUSH	1'-3"	2'-3"	60.4'
52	FLUSH	1'-4"	2'-4"	59.3'
53	FLUSH	1'-4"	2'-4"	60.2'
54	FLUSH	1'-4"	2'-4"	60.2'



MAP LEGEND	
-----	PROPERTY LINE
-----	APPROX. LOC. U.G. WATER LINE
-----	APPROX. LOC. U.G. TELEPHONE LINE
-----	APPROX. LOC. U.G. GAS LINE
-----	APPROX. LOC. U.G. ELECTRIC LINE
-----	APPROX. LOC. U.G. TELEVISION LINE
-----	APPROX. LOC. U.G. UNIDENTIFIED UTILITY LINE
-----	APPROX. LOC. U.G. SAN. SEWER LINE
-----	APPROX. LOC. U.G. STM. SEWER LINE
-----	HYDRANT
-----	WATER VALVE
-----	3/4" TUBING
-----	WC12.34
-----	GD12.3
-----	MANHOLE
-----	INLET
-----	SEWER CLEANOUT
-----	UTILITY POLE
-----	UTILITY POLE/RIGHT POLE
-----	GUY ANCHOR
-----	TREE STUMP
-----	TREE
-----	BUILDING FOOTPRINT (NOT FIELD VERIFIED)
-----	OXYGEN WELL MANHOLE
-----	MARKER BALL
-----	TRACER WIRE MANHOLE
-----	MONITORING WELL
-----	LSA

SOURCE:
FIGURE BASED ON FIGURE 15: SYSTEM #1 OXYGEN WELL LOCATION -
SITE PLAN, HEMPSTEAD INTERSECTION STREET FORMER MGP SITE,
PREPARED BY AECOM, SCALE: 1" = 60', DATE: 2/22/19.

Periodic Review Report
Hempstead Intersection Street Former MGP
Hempstead/Garden City, New York

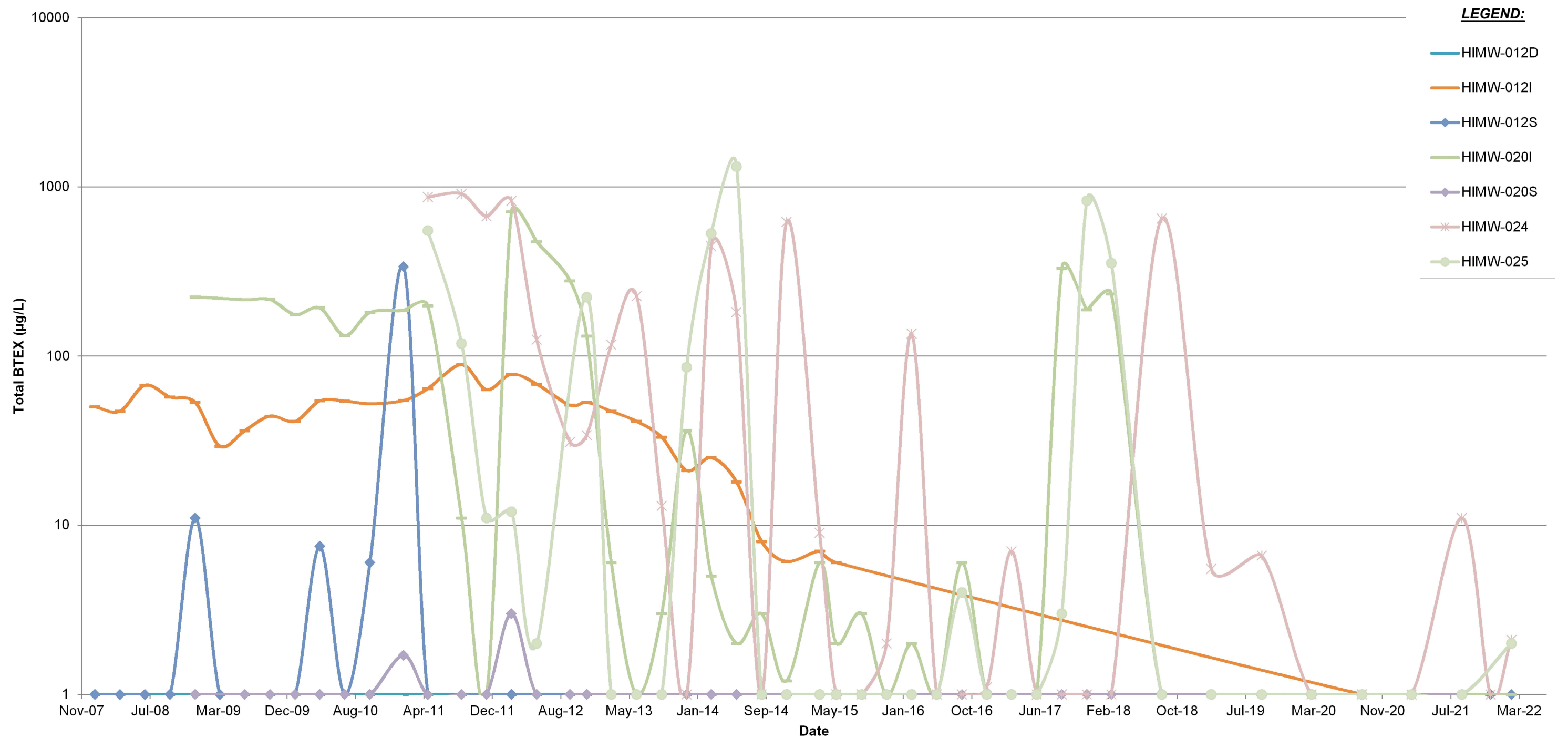


Project 1905774

SYSTEM #1 OXYGEN
WELL LOCATION
SITE PLAN

April 2022

Fig. 16



NOTE:
SYSTEM #1 AND 2 BECAME OPERATIONAL IN APRIL 2011 AND OCTOBER 2010, RESPECTIVELY.

SOURCE:
FIGURE BASED ON FIGURE 19A: TOTAL BTEX CONCENTRATIONS IN WELLS DOWNGRADIENT FROM OXYGEN SYSTEM #1 AND UPGRADEMENT FROM OXYGEN SYSTEM #2, PREPARED BY AECOM.

Periodic Review Report
Hempstead Intersection Street Former MGP
Hempstead/Garden City, New York

nationalgrid

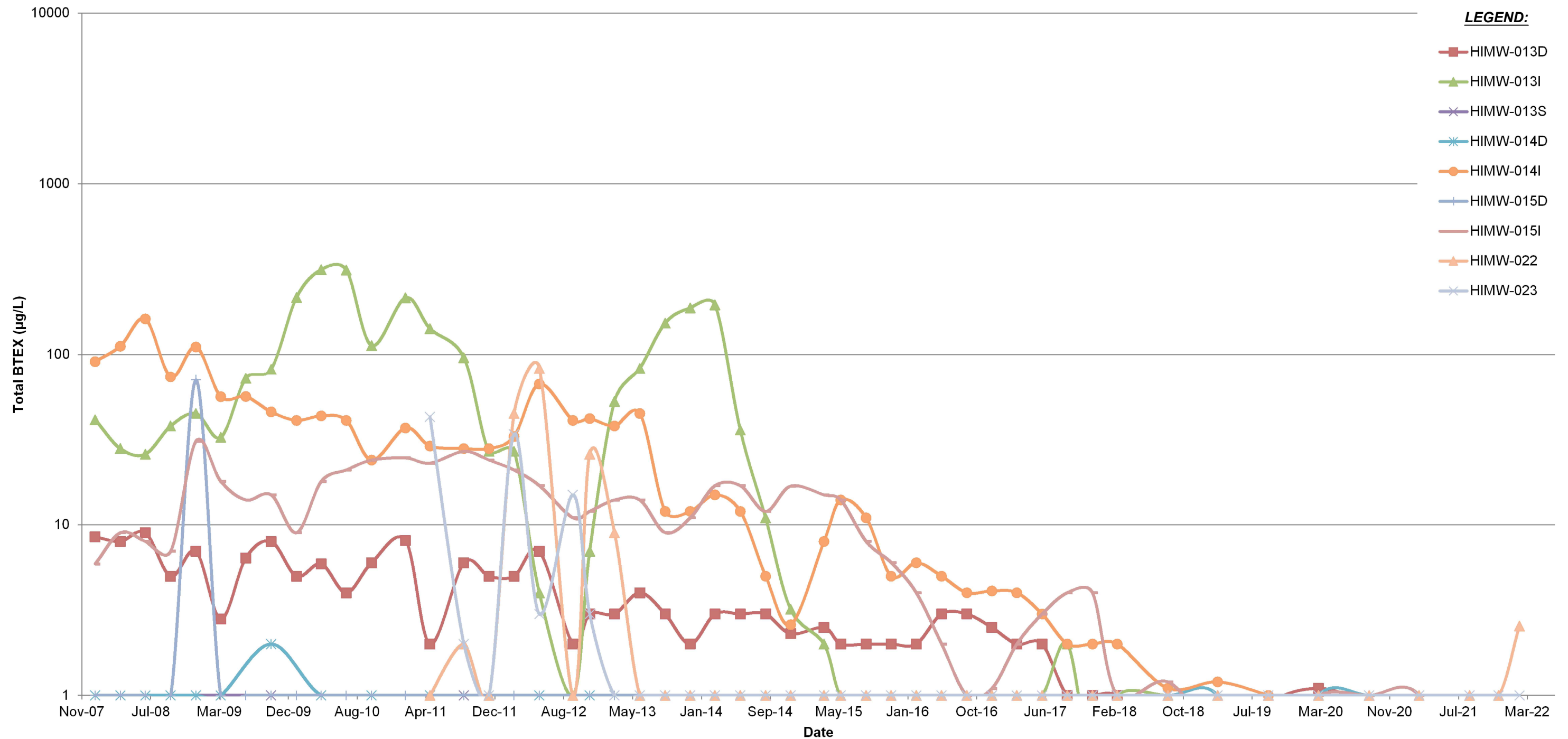


Project 1905774

TOTAL BTEX CONCENTRATIONS IN WELLS DOWNGRADIENT FROM OXYGEN SYSTEM #1 AND UPGRADEMENT FROM OXYGEN SYSTEM #2

April 2022

Fig. 18A



NOTE:
SYSTEM #1 AND 2 BECAME OPERATIONAL IN APRIL 2011 AND OCTOBER 2010, RESPECTIVELY.

SOURCE:
FIGURE BASED ON FIGURE 19B: TOTAL BTEX CONCENTRATIONS IN WELLS DOWNGRADIENT FROM OXYGEN SYSTEM #1 AND 2, PREPARED BY AECOM.

Periodic Review Report
Hempstead Intersection Street Former MGP
Hempstead/Garden City, New York

nationalgrid

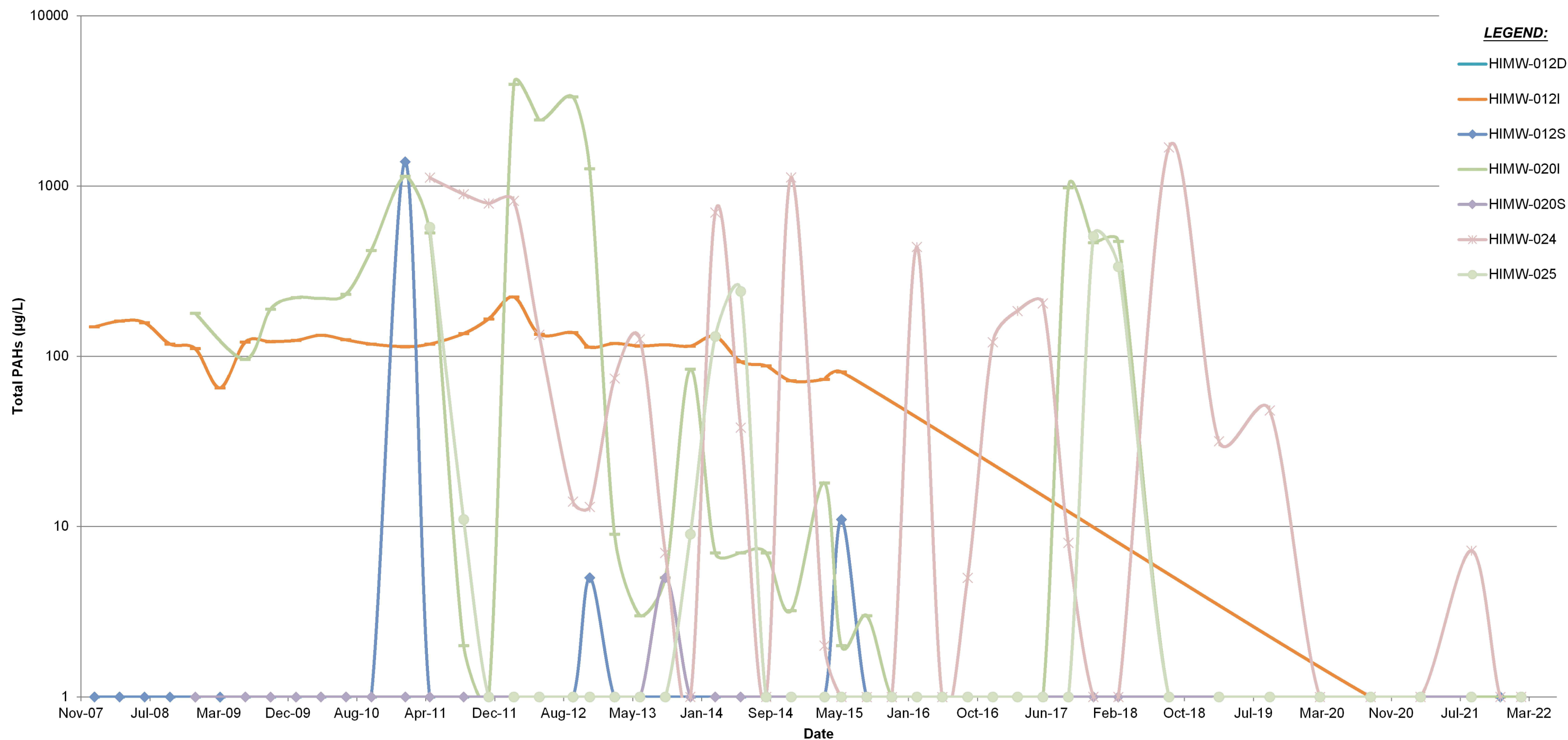


Project 1905774

TOTAL BTEX
CONCENTRATIONS IN WELLS
DOWNGRADIENT FROM
OXYGEN SYSTEMS #1 AND 2

April 2022

Fig. 18B



NOTE:
SYSTEM #1 AND 2 BECAME OPERATIONAL IN APRIL 2011 AND OCTOBER 2010, RESPECTIVELY.

SOURCE:
FIGURE BASED ON FIGURE 20A: TOTAL BTEX CONCENTRATIONS IN WELLS DOWNGRADIENT FROM OXYGEN SYSTEM #1 AND UPGRADIENT FROM OXYGEN SYSTEM #2, PREPARED BY AECOM.

Periodic Review Report
Hempstead Intersection Street Former MGP
Hempstead/Garden City, New York

nationalgrid

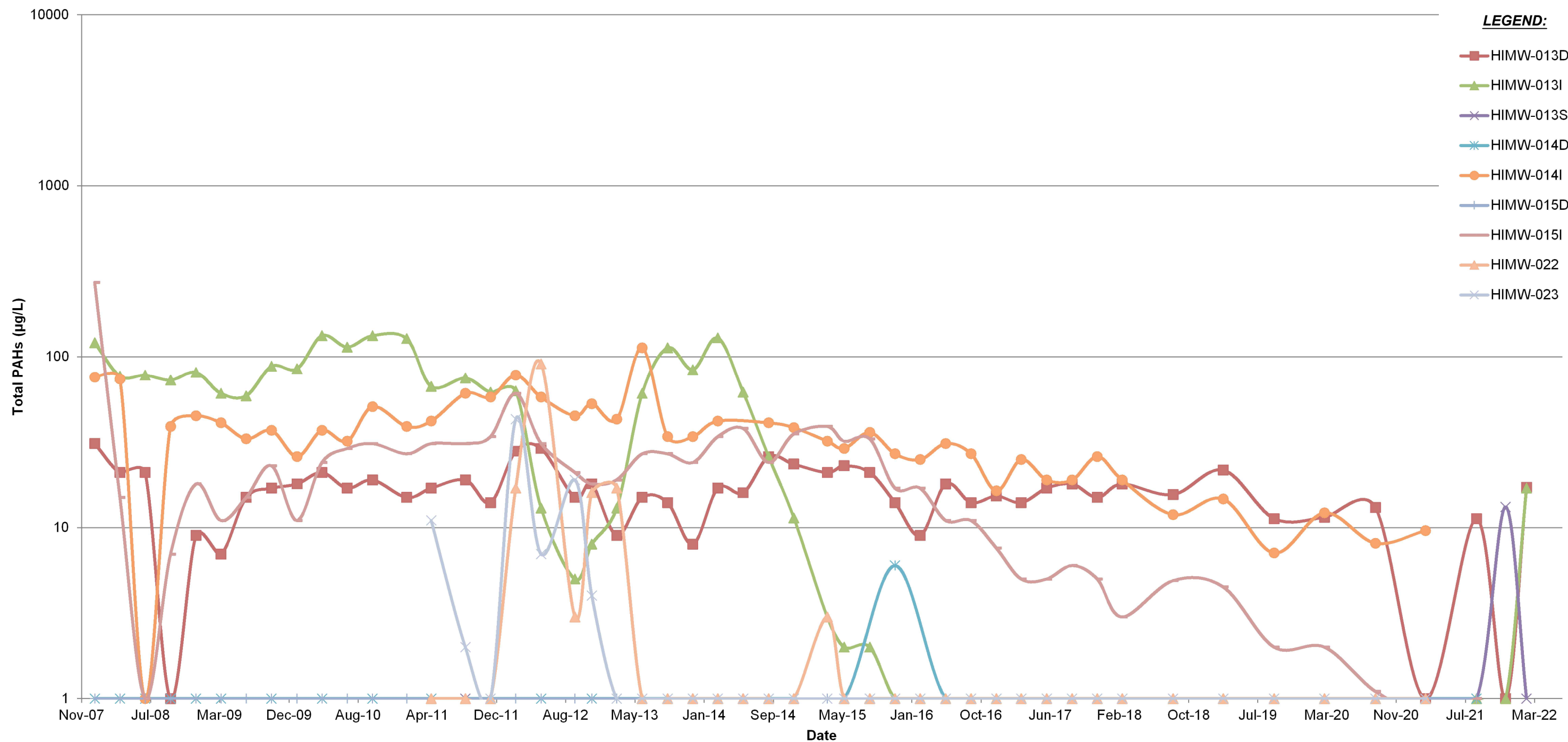


Project 1905774

TOTAL PAH CONCENTRATIONS IN WELLS DOWNGRADIENT FROM OXYGEN SYSTEM #1 AND UPGRADIENT FROM OXYGEN SYSTEM #2

April 2022

Fig. 19A



NOTE:
SYSTEM #1 AND 2 BECAME OPERATIONAL IN APRIL 2011 AND OCTOBER 2010, RESPECTIVELY.

SOURCE:
FIGURE BASED ON FIGURE 20B: TOTAL BTEX CONCENTRATIONS IN WELLS DOWNGRADIENT FROM OXYGEN SYSTEM #1 AND 2, PREPARED BY AECOM.

Periodic Review Report
Hempstead Intersection Street Former MGP
Hempstead/Garden City, New York

nationalgrid



Project 1905774

TOTAL PAH
CONCENTRATIONS IN WELLS
DOWNGRADIENT FROM
OXYGEN SYSTEMS #1 AND 2

April 2022

Fig. 19B

Periodic Review Report
March 28, 2021 – March 28, 2022
Hempstead Intersection Street Former MGP Site
Town of Hempstead, Nassau County, New York
Site ID #1-30-086
April 2022

Appendix A

NYSDEC Correspondence

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau C

625 Broadway, 12th Floor, Albany, NY 12233-7014

P: (518) 402-9662 | F: (518) 402-9679

www.dec.ny.gov

January 3, 2022

Michael Quinlan
Senior Program Manager
Site Investigation and Remediation
National Grid
1754 East Old Country Road
Hicksville, NY 11801
michael.quinlan@nationalgrid.com

RE: Hempstead (Intersection Street) Former MGP Site, Hempstead, Nassau Co.
Site 130086
Proposed Reductions to Groundwater Monitoring

Dear Mr. Quinlan:

The New York State Department of Environmental Conservation (NYSDEC) is in receipt of your November 2, 2021 letter requesting a reduction in the requirements for groundwater sampling at the subject site. The NYSDEC hereby approves of National Grid's request as detailed in your letter.

Please submit a revised Site Management Plan to reflect the groundwater monitoring changes.

Sincerely,



John Spellman, P.E.
Project Manager
Division of Environmental Remediation

ec: Christopher Morris, GEI Consultants, cmorris@geiconsultants.com
Jacquelyn Nealon, NYSDOH, jacquelyn.nealon@health.ny.gov

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau C

625 Broadway, 12th Floor, Albany, NY 12233-7014

P: (518) 402-9662 | F: (518) 402-9679

www.dec.ny.gov

October 7, 2021

Michael Quinlan
Senior Project Manager
Site Investigation and Remediation Dept.
National Grid
175 East Old Country Road
Hicksville, NY 11801
Michael.Quinlan@nationalgrid.com

RE: Hempstead (Intersection Street) Former MGP Site, Hempstead, Nassau Co.
Site 130086
Oxygen Injection System #2

Dear Mr. Quinlan:

The New York State Department of Environmental Conservation is in receipt of your October 5, 2021 proposal to shut down Oxygen System #2 located downgradient of the Hempstead Intersection Street Former Manufactured Gas Plant Site. National Grid's proposal is approved.

Sincerely,



John Spellman, P.E.
Project Manager
Division of Environmental Remediation

Periodic Review Report
March 28, 2021 – March 28, 2022
Hempstead Intersection Street Former MGP Site
Town of Hempstead, Nassau County, New York
Site ID #1-30-086
April 2022

Appendix B

Inspection Form

**HEMPSTEAD INTERSECTION STREET FORMER MGP SITE
VILLAGES OF HEMPSTEAD AND GARDEN CITY, NASSAU COUNTY, NY
SITE-WIDE INSPECTION FORM**

GENERAL INFORMATION

Date:	March 10, 2022	Inspector:	Craig Hayes
Weather:	Partly Cloudy	Signature:	<i>Craig Hayes</i>
Temperature:	34-48°F	Company:	GEI Consultants
Season (circle one): <u>Winter</u> Spring Summer Fall			

SITE INSPECTION LOG SHEET*

Evidence of Change in Site Use	Yes <u>No</u>	Description of New/Additional Site Use	
Evidence of Site-Wide Disturbance(s)	Yes <u>No</u>	Description of Disturbance(s)	
Evidence of Site-Wide Excavation	Yes <u>No</u>	Description of Excavation	
Evidence of Cover System Disturbance(s)	Yes <u>No</u>	Description of Disturbance(s)	
Evidence of Cover System Excavation to Monolith	Yes <u>No</u>	Description of Excavation	
Evidence of Building Construction	Yes <u>No</u>	Description of Building Construction	
Comments:	No site changes from previous PRR.		

* If answering Yes, attach map showing locations and any other information as required.

Appendix C

Data Usability Summary Reports

Site: Downstate OMM Hempstead
Laboratory: Eurofins Test America, Edison, NJ
Report Number: 460-243259-1, 460-243461-1, 460-243676-1 and 460-243714-1
Reviewer: Elissa McDonagh/GEI Consultants
Date: October 5, 2021

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
TB092021	460-243259-1	BTEX
HIMW-28S	460-243259-2	BTEX, PAH
HIMW-28I	460-243259-3	BTEX, PAH
DUP-01	460-243259-4	BTEX, PAH
FB092021	460-243259-5	BTEX, PAH
HIMW-27S	460-243259-6	BTEX, PAH
HIMW-27I	460-243259-7	BTEX, PAH
HIMW-24	460-243259-8	BTEX, PAH
TB092121	460-243461-1	BTEX
HIMW-08S	460-243461-2	BTEX, PAH
HIMW-08I	460-243461-3	BTEX, PAH
HIMW-08D	460-243461-4	BTEX, PAH
FB092121	460-243461-5	BTEX, PAH
DUP-02	460-243461-6	BTEX, PAH
HIMW-25	460-243461-7	BTEX, PAH
HIMW-03S	460-243461-8	BTEX, PAH
HIMW-03I	460-243461-9	BTEX, PAH
HIMW-03D	460-243461-10	BTEX, PAH
HIMW-14D	460-243461-11	BTEX, PAH
HIMW-14I	460-243461-12	BTEX, PAH
TB092321	460-243676-1	BTEX
HIMW-05S	460-243676-2	BTEX, PAH
HIMW-05I	460-243676-3	BTEX, PAH
HIMW-05D	460-243676-4	BTEX, PAH
HIMW-26D	460-243676-5	BTEX, PAH
HIMW-26I	460-243676-6	BTEX, PAH
HIMW-12S	460-243676-7	BTEX, PAH
HIMW-12IR	460-243676-8	BTEX, PAH
TB092221	460-243714-1	BTEX
HIMW-22	460-243714-2	BTEX, PAH
HIMW-23	460-243714-3	BTEX, PAH
HIMW-20S	460-243714-4	BTEX, PAH
HIMW-20I	460-243714-5	BTEX, PAH
HIMW-13S	460-243714-6	BTEX, PAH
HIMW-13I	460-243714-7	BTEX, PAH

Site: Downstate OMM Hempstead

Report Number: 460-243259-1, 460-243461-1, 460-243676-1 and 460-243714-1

Date: October 5, 2021

HIMW-13D	460-243714-8	BTEX, PAH
HIMW-15I	460-243714-9	BTEX, PAH
HIMW-15D	460-243714-10	BTEX, PAH

Associated QC Samples:

Trip Blank:	TB092021, TB092121, TB092221, TB092321
Field Blank:	FB092021, FB092121
Matrix Spike:	HIMW-28S, HIMW-25
Field Duplicate pair:	HIMW-28I/DUP-01, HIMW-08D/DUP-02

The above-listed aqueous samples, and trip blank sample were collected on September 20, 21, 22 and 23, 2021 and were analyzed for BTEX volatile organic compounds (VOCs) by SW-846 method 8260D and polynuclear aromatic hydrocarbon (PAH) semivolatile organic compounds (SVOCs) by SW-846 method 8270E.

The data validation was performed based on the Standard Operating Procedure (SOP) HW-33 (Revision 3) *Low/Medium Volatile Data Validation* (March 2013) and SOP HW-35 (Revision 2) *Semivolatile Data Validation* (March 2013) as well as by the methods referenced by the data package and professional and technical judgment.

The data were evaluated based on the following parameters:

- Data Completeness
- Holding Times and Sample Preservation
- Initial and Continuing Calibrations
- Blanks
- Surrogate Recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
- Internal Standard Results
- Laboratory Control Sample (LCS) Results
- Field Duplicate Results
- Quantitation Limits and Data Assessment
- Sample Quantitation and Compound Identification

In general, the data appear usable as reported or usable with minor qualification due to sample matrix or laboratory quality control outliers.

The validation findings were based on the following information.

Data Completeness

The data package was complete as received by the laboratory.

Site: Downstate OMM Hempstead

Report Number: 460-243259-1, 460-243461-1, 460-243676-1 and 460-243714-1

Date: October 5, 2021

Holding Times and Sample Preservation

All hold time and sample preservation criteria were met.

Initial and Continuing Calibrations

All initial and continuing calibration criteria were met except where noted below.

Instrument/ Calibration Standard	Compound	Calibration Exceedance	Validation Qualifier
SVOC			
CBNAMS17 CCVIS 09/25/2021 19:51	Indeno(123cd)pyrene	35.0 %R	Estimate (UJ) the nondetect results for indeno(123cd)pyrene and dibenz(ah)anthracene in the associated sample HIMW-14I .
	Dibenz(ah)anthracene	21.7 %R	
Associated sample: HIMW-14I			

Initial calibration (ICAL) relative standard deviation (%RSD) > 20% for VOC and SVOC; estimate (J) positive and blank-qualified (UJ) results only.

Continuing calibration (CCAL) percent difference (%D) > 20% for VOC and SVOC; estimate (J/UJ) positive and nondetect results.

Response factor (RF) < 0.05; Estimate (J) positive results and reject (R) nondetect results.

Blanks

Contamination was not detected in the associated method blank samples. Contamination was not detected in the trip blank and field blank samples.

Surrogate Recoveries

All surrogate criteria were met for samples analyzed at dilutions less than 10.

MS/MSD Results

MS/MSD analyses were performed on samples HIMW-28S and HIMW-25 for VOCs and SVOCs. All recovery and precision criteria were met, except where noted below. The following table lists the recoveries outside of laboratory control limits and the resulting actions.

HIMW-28S					
Analyte	MS (%)	MSD (%)	RPD (%)	Control Limits (%)	Validation Action/Bias
Ethylbenzene	52	126	Criteria met	78-120	Qualifications were not required. The sample result was >4x the spiking solution.

Site: Downstate OMM Hempstead

Report Number: 460-243259-1, 460-243461-1, 460-243676-1 and 460-243714-1

Date: October 5, 2021

2-methylnaphthalene	Criteria met	113	Criteria met	55-111	Estimate (J) the positive result for 2-methylnaphthalene in sample HIMW-28S; High bias.
Benzo[a]pyrene	160	Criteria met	Criteria met	66-127	Qualifications were not required.
Benzo[b]fluoranthene	149	Criteria met	Criteria met	66-125	Qualifications were not required.
Benzo[k]fluoranthene	156	Criteria met	37	64-125, <30	
Naphthalene	Criteria met	41	Criteria met	58-105	Estimate (J) the positive result for naphthalene in sample HIMW-28S; Low bias.

Internal Standard Results

All internal standard criteria were met.

Internal standard (ISTD) response for 1,4-Dioxane-d8 for sample HIMW-23 was outside acceptance criteria. This ISTD does not correspond to any of the requested target compounds; no action required.

LCS Results

All recovery and precision criteria were met, except where noted below. The following table lists the recoveries outside of laboratory control limits and the resulting actions.

Compound	LCS (%)	LCSD (%)	Control Limits (%)	LCS ID/Associated samples	Validation Action/Bias
2-methylnaphthalene	115	117	55-111	LCS 460-803359/2-A/LCSD 460-803359/3-A: HIMW-14I	2-methylnaphthalene was not detected in the associated sample. Qualifications were not required.
- Criteria met					

Field Duplicate Results

Samples HIMW-28I and DUP-01 and HIMW-08D and DUP-02 were submitted as the field duplicate pairs with this sample group. The VOC and SVOC analyses were nondetect. Precision was deemed acceptable, no action required.

Quantitation Limits and Data Assessment

Results were reported which were below the reporting limit (RL) and above the method detection limit (MDL). These results were qualified as estimated (J) by the laboratory.

The following table lists the sample dilutions and re-analyses which were performed.

Site: Downstate OMM Hempstead

Report Number: 460-243259-1, 460-243461-1, 460-243676-1 and 460-243714-1

Date: October 5, 2021

Sample	VOC
HIMW-27S	2-fold dilution
	SVOC
HIMW-28S	Undiluted analysis and 2-fold dilution. Report the result for naphthalene from the 2-fold dilution. Report all other results from the undiluted analysis.
HIMW-27S	Undiluted analysis and 10-fold dilution. Report the results for 2-methylnaphthalene and naphthalene from the 10-fold dilution. Report all other results from the undiluted analysis.
HIMW-05I	Undiluted analysis and 20-fold dilution. Report the result for naphthalene from the 20-fold dilution. Report all other results from the undiluted analysis.
HIMW-05D	Undiluted analysis and 20-fold dilution. Report the result for naphthalene from the 20-fold dilution. Report all other results from the undiluted analysis.
HIMW-26D	Undiluted analysis and 5-fold dilution. Report the result for naphthalene from the 5-fold dilution. Report all other results from the undiluted analysis.

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted.

DATA VALIDATION QUALIFIERS

- U - The analyte was analyzed for, but due to blank contamination was flagged as nondetect (U). The result is usable as a nondetect.
- J - Data are flagged (J) when a QC analysis fails outside the primary acceptance limits. The qualified “J” data are not excluded from further review or consideration. However, only one flag (J) is applied to a sample result, even though several associated QC analyses may fail. The ‘J’ data may be biased high or low or the direction of the bias may be indeterminable.
- UJ - The analyte was not detected above the reported sample quantitation limit. Data are flagged (UJ) when a QC analysis fails outside the primary acceptance limits. The qualified “UJ” data are not excluded from further review or consideration. However, only one flag is applied to a sample result, even though several associated QC analyses may fail. The ‘UJ’ data may be biased low.
- NJ - The analysis indicates the presence of a compound that has been “tentatively identified” (N) and the associated numerical value represents its approximate (J) concentration.
- R - Data rejected (R) on the basis of an unacceptable QC analysis should be excluded from further review or consideration. Data are rejected when associated QC analysis results exceed the expanded control limits of the QC criteria. The rejected data are known to contain significant errors based on documented information. The data user must not use the rejected data to make environmental decisions. The presence or absence of the analyte cannot be verified.

Site: Downstate OMM Hempstead
Laboratory: Eurofins Test America, Edison, NJ
Report Number: 460-249381-1 and 460-249467-1
Reviewer: Elissa McDonagh/GEI Consultants
Date: January 10, 2022

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
HIMW-13S	460-249381-1	BTEX, PAH
HIMW-13I	460-249381-2	BTEX, PAH
HIMW-13D	460-249381-3	BTEX, PAH
HIMW-23	460-249381-4	BTEX, PAH
HIMW-24	460-249381-5	BTEX, PAH
DUP-01	460-249381-6	BTEX, PAH
FB-121421	460-249381-7	BTEX, PAH
TB-121421	460-249381-8	BTEX
TB-121521	460-249467-1	BTEX
HIMW-12S	460-249467-2	BTEX, PAH
HIMW-12I	460-249467-3	BTEX, PAH
HIMW-22	460-249467-4	BTEX, PAH

Associated QC Samples:

Trip Blank: TB-121421, TB-121521
 Field Blank: FB-121421
 Matrix Spike: HIMW-13I
 Field Duplicate pair: HIMW-13D/DUP-01

The above-listed aqueous samples, field and trip blank samples were collected on December 14 and 15, 2021 and were analyzed for BTEX volatile organic compounds (VOCs) by SW-846 method 8260D and polynuclear aromatic hydrocarbon (PAH) semivolatile organic compounds (SVOCs) by SW-846 method 8270E.

The data validation was performed based on the Standard Operating Procedure (SOP) HW-33A (Revision 0) *Low/Medium Volatile Data Validation* (July 2015) and SOP HW-35A (Revision 0) *Semivolatile Data Validation* (June 2015) as well as by the methods referenced by the data package and professional and technical judgment.

The data were evaluated based on the following parameters:

- Data Completeness
- Holding Times and Sample Preservation
- Initial and Continuing Calibrations
- Blanks
- Surrogate Recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results

Site: Downstate OMM Hempstead
Report Number: 460-249381-1, 460-249467-1
Date: January 10, 2022

- Internal Standard Results
- Laboratory Control Sample (LCS) Results
- Field Duplicate Results
- Quantitation Limits and Data Assessment
- Sample Quantitation and Compound Identification

In general, the data appear usable as reported or usable with minor qualification due to sample matrix or laboratory quality control outliers.

The validation findings were based on the following information.

Data Completeness

The data package was complete as received by the laboratory.

Holding Times and Sample Preservation

All hold time and sample preservation criteria were met.

Initial and Continuing Calibrations

All initial and continuing calibration criteria were met.

Blanks

Contamination was not detected in the associated method blank samples. Contamination was not detected in the trip blank and field blank samples.

Surrogate Recoveries

All surrogate criteria were met for samples analyzed at dilutions less than 10.

MS/MSD Results

MS/MSD analyses were performed on sample HIMW-13I for VOCs and SVOCs. All recovery and precision criteria were met.

Internal Standard Results

All internal standard criteria were met.

LCS Results

All recovery and precision criteria were met.

Field Duplicate Results

Samples HIMW-13D and DUP-01 were submitted as the field duplicate pair with this sample set. The following table summarizes the RPDs of the detected analytes in the field duplicate pair, which were within the acceptance criteria.

Analyte	HIMW-13D (ug/L)	DUP-01 (ug/L)	RPD (%)
Benzene	0.26J	0.26J	0
Acenaphthene	4.3J	4.1J	4.8
Acenaphthylene	8.9J	8.8J	1.1
NC – Not calculable Criteria: When both results are $\geq 5x$ the RL, RPDs must be $< 30\%$. When results are $< 5x$ the RL, professional judgment was used to qualify results in which the absolute difference between the original and field duplicate was $> 2xRL$			

Quantitation Limits and Data Assessment

Results were reported which were below the reporting limit (RL) and above the method detection limit (MDL). These results were qualified as estimated (J) by the laboratory.

Dilutions were not required.

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted.

DATA VALIDATION QUALIFIERS

- U - The analyte was analyzed for, but due to blank contamination was flagged as nondetect (U). The result is usable as a nondetect.
- J - Data are flagged (J) when a QC analysis fails outside the primary acceptance limits. The qualified “J” data are not excluded from further review or consideration. However, only one flag (J) is applied to a sample result, even though several associated QC analyses may fail. The ‘J’ data may be biased high or low or the direction of the bias may be indeterminable.
- UJ - The analyte was not detected above the reported sample quantitation limit. Data are flagged (UJ) when a QC analysis fails outside the primary acceptance limits. The qualified “UJ” data are not excluded from further review or consideration. However, only one flag is applied to a sample result, even though several associated QC analyses may fail. The ‘UJ’ data may be biased low.
- NJ - The analysis indicates the presence of a compound that has been “tentatively identified” (N) and the associated numerical value represents its approximate (J) concentration.
- R - Data rejected (R) on the basis of an unacceptable QC analysis should be excluded from further review or consideration. Data are rejected when associated QC analysis results exceed the expanded control limits of the QC criteria. The rejected data are known to contain significant errors based on documented information. The data user must not use the rejected data to make environmental decisions. The presence or absence of the analyte cannot be verified.

Site: Downstate OMM Hempstead
Laboratory: Eurofins Test America, Edison, NJ
Report Numbers: 460-253996-1 and 460-254032-1
Reviewer: Elissa McDonagh/GEI Consultants
Date: March 21, 2022

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
TB-030722	460-253996-1	BTEX
HIMW-27S	460-253996-2	BTEX, PAH
HIMW-28S	460-253996-3	BTEX, PAH
HIMW-08S	460-253996-4	BTEX, PAH
HIMW-25	460-253996-5	BTEX, PAH
HIMW-24	460-253996-6	BTEX, PAH
HIMW-20I	460-253996-7	BTEX, PAH
HIMW-23	460-253996-8	BTEX, PAH
HIMW-22	460-253996-9	BTEX, PAH
HIMW-13D	460-253996-10	BTEX, PAH
HIMW-13S	460-253996-11	BTEX, PAH
FB-030722	460-253996-12	BTEX, PAH
TB-030822	460-254032-1	BTEX
HIMW-12IR	460-254032-2	BTEX, PAH
HIMW-12S	460-254032-3	BTEX, PAH
HIMW-26D	460-254032-4	BTEX, PAH
HIMW-05I	460-254032-5	BTEX, PAH
HIMW-13I	460-254032-6	BTEX, PAH
HIMW-05D	460-254032-7	BTEX, PAH
DUP-01	460-254032-8	BTEX, PAH

Associated QC Samples:

Trip Blank: TB-030722, TB-030822
 Field Blank: FB-030722
 Matrix Spike: HIMW-12S
 Field Duplicate pair: HIMW-26D/DUP-01

The above-listed aqueous samples, field blank, and trip blank sample were collected on March 7 and 8, 2022 and were analyzed for BTEX volatile organic compounds (VOCs) by SW-846 method 8260D and polynuclear aromatic hydrocarbon (PAH) semivolatile organic compounds (SVOCs) by SW-846 method 8270E.

The data validation was performed based on the Standard Operating Procedure (SOP) HW-33a (Revision 1) *Low/Medium Volatile Data Validation* (September 2016) and SOP HW-35a (Revision 1) *Semivolatile Data Validation* (September 2016) as well as by the methods referenced by the data package and professional and technical judgment.

Site: Downstate OMM Hempstead
Report Numbers: 460-253996-1, 460-254032-1
Date: March 21, 2022

The data were evaluated based on the following parameters:

- Data Completeness
- Holding Times and Sample Preservation
- Initial and Continuing Calibrations
- Blanks
- Surrogate Recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
- Internal Standard Results
- Laboratory Control Sample (LCS) Results
- Field Duplicate Results
- Quantitation Limits and Data Assessment
- Sample Quantitation and Compound Identification

In general, the data appear usable as reported or usable with minor qualification due to sample matrix or laboratory quality control outliers. Select results were qualified as estimated due to low level uncertainty for levels below the reporting limit. All results were considered valid; even though some were qualified as discussed below.

The validation findings were based on the following information.

Data Completeness

The data package was complete as received by the laboratory.

Holding Times and Sample Preservation

All hold time and sample preservation criteria were met.

Initial and Continuing Calibrations

All initial and continuing calibration criteria were met.

Blanks

Contamination was not detected in the associated method blank samples. Contamination was not detected in the trip blank and field blank samples.

Surrogate Recoveries

All surrogate criteria were met for samples analyzed at dilutions less than 10.

MS/MSD Results

MS/MSD analyses were performed on sample HIMW-12S for VOCs and SVOCs. All recovery and precision criteria were met.

Internal Standard Results

All internal standard criteria were met.

LCS Results

All recovery and precision criteria were met.

Field Duplicate Results

Samples HIMW-26D and DUP-01 were submitted as the field duplicate pair with this sample set. The following table summarizes the RPDs of the detected analytes in the field duplicate pair, which were within the acceptance criteria.

Analyte	HIMW-26D (ug/L)	DUP-01 (ug/L)	RPD (%)
Xylenes, total	2.5	2.7	7.7
2-methylnaphthalene	90	99	9.5
Acenaphthene	3.1J	3.6J	15
Acenaphthylene	43	49	13
Fluorene	9.4J	11	16
Naphthalene	100	98	2.0
Phenanthrene	9.8J	11	12
NC – Not calculable Criteria: When both results are $\geq 5x$ the RL, RPDs must be $< 30\%$. When results are $< 5x$ the RL, professional judgment was used to qualify results in which the absolute difference between the original and field duplicate was $> 2xRL$			

Quantitation Limits and Data Assessment

Results were reported which were below the reporting limit (RL) and above the method detection limit (MDL). These results were qualified as estimated (J) by the laboratory.

The following table lists the sample dilutions and re-analyses which were reported.

Sample	Reported Dilutions/Analyses
VOC	
HIMW-27S	2-fold dilution

Site: Downstate OMM Hempstead
Report Numbers: 460-253996-1, 460-254032-1
Date: March 21, 2022

Sample	Reported Dilutions/Analyses
SVOC	
HIMW-27S	Undiluted analysis and 5X dilution. Report 2-methylnaphthalene and naphthalene from the 5X dilution. Report all other results from the undiluted analysis.
HIMW-05I	Undiluted analysis and 10X dilution. Report naphthalene from the 10X dilution. Report all other results from the undiluted analysis.
HIMW-05D	Undiluted analysis and 10X dilution. Report naphthalene from the 10X dilution. Report all other results from the undiluted analysis.

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted.

DATA VALIDATION QUALIFIERS

- U - The analyte was analyzed for, but due to blank contamination was flagged as nondetect (U). The result is usable as a nondetect.
- J - Data are flagged (J) when a QC analysis fails outside the primary acceptance limits. The qualified “J” data are not excluded from further review or consideration. However, only one flag (J) is applied to a sample result, even though several associated QC analyses may fail. The ‘J’ data may be biased high or low or the direction of the bias may be indeterminable.
- UJ - The analyte was not detected above the reported sample quantitation limit. Data are flagged (UJ) when a QC analysis fails outside the primary acceptance limits. The qualified “UJ” data are not excluded from further review or consideration. However, only one flag is applied to a sample result, even though several associated QC analyses may fail. The ‘UJ’ data may be biased low.
- NJ - The analysis indicates the presence of a compound that has been “tentatively identified” (N) and the associated numerical value represents its approximate (J) concentration.
- R - Data rejected (R) on the basis of an unacceptable QC analysis should be excluded from further review or consideration. Data are rejected when associated QC analysis results exceed the expanded control limits of the QC criteria. The rejected data are known to contain significant errors based on documented information. The data user must not use the rejected data to make environmental decisions. The presence or absence of the analyte cannot be verified.

Appendix D

Oxygen System Operations & Maintenance Measurements

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET Homeland Interceptor Oxygen Injection Remedial System Number 1											
Oxygen Injection Remedial System Number 1 National Grid Interim Remedial Measure Project No. 1703827-30-1 AP-1000000000					Date: <u>1/17/02</u> Time: <u>0745</u> Weather: <u>40S, Rain</u> Inside Trailer Temperature: <u>Warm, Operations</u> Performed By: <u>C. Hayes</u> Contractor (Name, Address, City, State, Zip):						
Hours <u>41,957</u>					Compressor Tank * <u>125</u> (psi)						
Feed Air Pressure * <u>125</u> (psi)					Delivery Air <u>125</u> (psi)						
Cycle Pressure * High: <u>67</u> <u>71</u> (psi) (L/R) Low: <u>6</u> <u>2</u> (psi)					Element Outlet Temperature <u>203</u> (°F)						
Oxygen Receiver Pressure * <u>63</u> (psi)					Running Hours <u>24,220</u> (hours)						
Oxygen Receiver Tank Pressure (reading from blue tank) <u>100</u> (psi)					Loading Hours <u>16,626</u> (hours)						
Oxygen Purity <u>83.7%</u> (percent)					* maximum reading during loading cycle						
Hours: <u>15,660.08</u>					Condensate Purged (Y/N) <u>(Y) N</u> Condensate Empty (Y/N) <u>(Y) N</u>						
Injection Bank 1				Injection Bank 2				Injection Bank 3			
OW-1-1	OW-1-2	OW-1-3	OW-1-4	OW-1-5	OW-1-6	OW-1-7	OW-1-8	OW-1-9	OW-1-10	OW-1-11	OW-1-12
33	Point	30	32	31	27	32	30	31	32	30	31
26.0	off	31.0	30.0	18.0	18.0	17.0	18.0	28.0	27.0	29.0	28.0
31	29.0	30	29.0	29	31	30	30	30	30	30	30
29.0	29.0	29.0	29.0	18.0	13.0	14.0	15.0	28.0	28.0	28.0	14.0
30	29.0	30	29.0	31	31	31	31	31	31	31	31
29.0	29.0	29.0	29.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Comments: <u>All Points set at 30 scfh</u>											
Notes:											

Date: 1/17/22

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET

Hamstead Intersection Oxygen Injection Remedial System Number 1

Injection Bank 4				Injection Bank 5				Injection Bank 6			
	Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		Depth (ft)	scfh	psi
OW-1-13S	53.1	29	13.0	OW-1-17D	79.5	30	13.0	OW-1-21S	49.3	30	11.0
OW-1-14S	52.7	30	14.0	OW-1-18D	79.3	30	26.0	OW-1-22S	49.3	30	11.0
OW-1-15S	52.2	28	13.0	OW-1-19D	78.9	18	26.0	OW-1-23S	48.8	29	11.0
OW-1-16SR	51.8	25	26.0	OW-1-20D	79.5	31	26.0	OW-1-24S	48.4	28	11.0
OW-1-17S	50.7	30	25.0	OW-1-21D	79.5	29	25.0	OW-1-25S	48.8	32	13.0
OW-1-18S	50.2	31	12.0	OW-1-22D	79.5	28	25.0	OW-1-26S	48.3	31	13.0
OW-1-19S	49.7	Point	off	OW-1-23D	78.7	29	25.0	OW-1-27S	48.3	35	13.0
OW-1-20S	49.3	Point	off	OW-1-24D	78.2	32	26.0	OW-1-28S	48.3	<10	14.0
Comments: All Points set at 30 scfh											

Injection Bank 7				Injection Bank 8				Injection Bank 9			
	Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		DTW	DO(mg/L)	PID
OW-1-25D	78.1	29	26.0	OW-1-29S	48.5	28	12.0	OW-1-33D	83.2	28	28.0
OW-1-26D	78.1	30	27.0	OW-1-30S	48.8	30	13.0	OW-1-34D	84.5	28	28.0
OW-1-27D	77.9	31	27.0	OW-1-31S	49.3	25	13.0	OW-1-35D	85.0	27	28.0
OW-1-28D	78.0	30	27.0	OW-1-32S	49.3	28	12.0	OW-1-36D	85.0	29	29.0
OW-1-29D	78.4	30	25.0	OW-1-33S	49.7	28	13.0	OW-1-37D	84.0	28	28.0
OW-1-30D	79.0	26	36.0	OW-1-34S	50.1	20	12.0	OW-1-38D	82.0	26	27.0
OW-1-31D	80.5	Point	off	OW-1-35S	50.3	29	13.0	OW-1-39D	78.0	33	26.0
OW-1-32D	81.6	30	28.0	OW-1-36S	50.3	29	13.0	OW-1-40D	76.0	26	26.0
Comments: All points set at 30 scfh											
Notes:											

Date: 1/17/22

1. James Earl Ray was the assassin of Dr. Martin Luther King.

Injection Bank 10				Injection Bank 11				Injection Bank 12			
Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		Depth (ft)	scfh	psi	
OW-1-37S	50.5	28	12.0	OW-1-41D	73.6	30	23.0	OW-1-43	67.4	34	20.0
OW-1-38S	50.6	26	13.0	OW-1-42D	71.0	28	21.0	OW-1-44	66.6	29	18.0
OW-1-39S	50.7	28	13.0	OW-1-43S	65.7	26	19.0	OW-1-51R	60.6	30	16.0
OW-1-46S	51.1	29	14.0	OW-1-48	64.3	26	17.0	OW-1-52	59.3	27	16.0
OW-1-41S	51.5	21	14.0	OW-1-47	63.4	34	17.0	OW-1-53	60.0	28	16.0
OW-1-42S	51.3	29	13.0	OW-1-46	62.5	28	18.0	OW-1-54	60.0	31	16.0
-	-			OW-1-45	61.5	30	16.0	-	-		
-	-			OW-1-50	61.0	30	16.0	-	-		

Comments:

All Points set at 50 each

[illegible]

Comments:

All prices set at 30 cents

Abstract

Date: <u>1/17/22</u>	
GENERAL OBSERVATIONS	
Trailer	
1) Performed general housekeeping (i.e. sweep, collect trash inside and out, etc.)	Yes ☒ No ☐
2) Abnormal conditions observed (e.g. vandalism) <u>None</u>	
3) Other major activities completed <u>None</u>	
4) Supplies needed <u>None</u>	
5) Visitors <u>None</u>	
OPERATIONAL NOTES	
IGA5 Air Compressor	
1) Oil Level Checked with system unloaded*	Yes ☒ No ☐
* Unload system, wait until Delivery Air Pressure is less than 3 psi	
2) Oil Level with system unloaded	
Low (red) _____ Normal (green) ☒ High (orange) _____	
3) Oil added	Yes ☐ No ☒
4) Oil changed	Yes ☐ No ☒
5) Oil filter changed	Yes ☐ No ☒
6) Air filter Changed	Yes ☐ No ☒
7) Oil separator changed	Yes ☐ No ☒
8) Terminal strips checked	Yes ☐ No ☒
AS-80 O. Generator	
1) Prefilter changed	Yes ☐ No ☒
2) Coalescing changed	Yes ☐ No ☒

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET Nonpoint Interfection Oxygen Injection Remedial System Number 1											
Oxygen Injection Remedial System Number 1 National Grid Interim Remedial Measure Project No. 1702807-30-1 Site: Borden					Date: <u>2/21/22</u> Time: <u>0800</u> Weather: <u>40s, Sunny</u> Inside Trailer Temperature: <u>Warm, Operable</u> Performed By: <u>E. Hayes</u> Compressor (Robert Polaris 5000)						
Hours: <u>42,494</u> Feed Air Pressure * <u>128</u> (psi) Cycle Pressure * High: <u>66</u> <u>69</u> (psi) Low: <u>4</u> <u>2</u> (psi) (L/R) Oxygen Receiver Pressure * <u>70</u> (psi) Oxygen Receiver Tank Pressure (reading from blue tank) <u>100</u> (psi) Oxygen Purity <u> </u> (percent) * maximum reading during loading cycle					Compressor Tank * <u>128</u> (psi) Delivery Air <u>140</u> (psi) Element Cutout Temperature <u>202</u> (°F) Running Hours <u>24,893</u> (hours) Loading Hours <u>17,021</u> (hours) * maximum reading during loading cycle						
Hours: <u>15660.08</u>					Condensate Purged (☒ N) Condensate Emptied (☒ N)						
Injection Bank 1				Injection Bank 2				Injection Bank 3			
Depth (ft)	psi	psi	psi	Depth (ft)	psi	psi	psi	Depth (ft)	psi	psi	psi
OW-1-1	25.5	37	25.0	OW-1-33	27.0	32	18.0	OW-1-101	23.5	36	28.0
OW-1-2	28.5	Point off	off	OW-1-65	27.0	30	18.0	OW-1-100	27.2	34	27.0
OW-1-3	28.3	34	30.0	OW-1-75	29.0	34	17.0	OW-1-110	28.1	32	29.0
OW-1-4	25.0	35	30.0	OW-1-85	22.7	30	17.0	OW-1-120	25.3	33	28.0
OW-1-50	23.9	32	29.0	OW-1-95	22.0	32	18.0	OW-1-120	24.7	31	28.0
OW-1-60	22.4	31	29.0	OW-1-105	24.6	28	13.0	OW-1-140	24.1	36	29.0
OW-1-70	21.1	35	29.0	OW-1-115	23.1	34	14.0	OW-1-150	23.3	36	28.0
OW-1-80	23.6	34	29.0	OW-1-125	22.5	32	15.0	OW-1-160	22.5	30	13.0
Comments: All Points set at 30 scfh											
Notes: * O ₂ Meter needs new sensors. Unable to retrieve an oxygen purity reading. * Booster Pump Hour dial not working											

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET Date: <u>2/21/22</u> Memorial Injection Oxygen Injection Refueling System Number 1											
Injection Bank 4				Injection Bank 5				Injection Bank 6			
	Depth (ft)	scfh	PSI		Depth (ft)	scfh	PSI		Depth (ft)	scfh	PSI
OW-1-13S	53.1	29	13.0	OW-1-17D	79.5	31	11.5	OW-1-21S	49.3	32	11.0
OW-1-14S	52.7	30	14.0	OW-1-18D	78.1	30	26.0	OW-1-22S	49.3	29	11.0
OW-1-15S	52.2	28	13.0	OW-1-19D	78.9	40	26.0	OW-1-23S	48.8	30	11.0
OW-1-16SR	51.8	29	26.0	OW-1-20D	79.5	31	26.0	OW-1-24S	48.4	30	11.0
OW-1-17S	50.7	30	25.0	OW-1-21D	79.5	29	25.0	OW-1-25S	48.8	33	13.0
OW-1-18S	50.2	30	12.0	OW-1-22D	79.5	30	24.0	OW-1-26S	48.3	28	13.0
OW-1-19S	49.7	Point	off	OW-1-23D	78.7	32	25.0	OW-1-27S	48.3	33	13.0
OW-1-20S	49.3	Point	off	OW-1-24D	78.2	31	26.0	OW-1-28S	48.3	22	13.0
Comments:				All Points set at 30 scfh							
Injection Bank 7				Injection Bank 8				Injection Bank 9			
	Depth (ft)	scfh	PSI		Depth (ft)	scfh	PSI		DTW	DO (mg/L)	PID
OW-1-28D	78.1	33	26.0	OW-1-29S	49.5	29	12.0	OW-1-33D	89.2	28	28.0
OW-1-29D	78.1	29	26.0	OW-1-30S	49.8	31	13.0	OW-1-34D	84.5	29	28.0
OW-1-27D	77.9	30	27.0	OW-1-31S	49.3	25	13.0	OW-1-35D	85.0	28	28.0
OW-1-28D	78.0	29	26.0	OW-1-32S	49.3	28	12.0	OW-1-36D	85.9	28	29.0
OW-1-29D	78.1	26	25.0	OW-1-33S	49.7	28	13.0	OW-1-37D	84.9	26	28.0
OW-1-30D	79.0	37	34.0	OW-1-34S	50.1	30	12.0	OW-1-38D	82.0	26	27.0
OW-1-31D	80.5	Point	off	OW-1-35S	50.3	28	13.0	OW-1-39D	78.0	30	26.0
OW-1-32D	81.6	25	28.0	OW-1-36S	50.3	29	13.0	OW-1-40D	78.0	24	26.0
Comments:				All points set at 30 scfh							
Notes:											

Date: 2/21/22

~~It was found that the above information pertained to the following:~~

Injection Bank 10				Injection Bank 11				Injection Bank 12			
Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		Depth (ft)	scfh	psi	
OW-1-37S	50.5	28	12.0	OW-1-41D	73.6	27	22.0	OW-1-43	97.4	31	26.0
OW-1-38S	50.6	28	13.0	OW-1-42D	71.0	30	20.0	OW-1-44	66.6	30	18.0
OW-1-39S	50.7	32	13.0	OW-1-45	65.7	24	19.0	OW-1-51R	60.6	29	17.0
OW-1-40S	51.1	27	13.0	OW-1-48	64.3	26	17.0	OW-1-52	59.3	26	17.0
OW-1-41S	51.5	27	13.0	OW-1-47	63.4	29	17.0	OW-1-53	60.0	27	18.0
OW-1-42S	51.3	30	13.0	OW-1-49	62.5	29	18.0	OW-1-54	60.9	31	16.0
-	-	-	-	OW-1-46	61.5	31	16.0	-	-	-	-
-	-	-	-	OW-1-50	61.0	30	16.0	-	-	-	-

Comments:

All Points set at 90-secs

A grid with a large 'X' drawn across it, indicating a cancelled or unused form. The grid is composed of 10 columns and 10 rows. The columns are labeled at the top: 'DATE', 'TIME', 'PLACE', 'NAME', 'SEX', 'AGE', 'OCCUPATION', 'EDUCATION', 'RELIGION', and 'RACE'. The rows are labeled on the left: '1', '2', '3', '4', '5', '6', '7', '8', '9', and '10'. A large 'X' is drawn across the entire grid, from the top-left corner to the bottom-right corner and from the top-right corner to the bottom-left corner.

Comments:

All patients cost at \$0 each

Date: 2/21/22

GENERAL SYSTEM NOTES

Traitor

- 1) Performed general housekeeping (i.e. sweep, collect trash inside and out, etc.)
Yes ☒ No ☐
- 2) Abnormal conditions observed (e.g. vandalism) Low oil.
- 3) Other major activities completed Added Oil Fire Extinguisher used at system
- 4) Supplies needed Compressor Oil.
- 5) Visitors None

OPERATIONAL NOTES

GAS Air Compressor

- 1) Oil Level Checked with system unloaded* Yes ☒ No ☐
* Unload system, wait until Delivery Air Pressure is less than 3 psi
- 2) Oil Level with system unloaded ☒ Low (red) ☒ Normal (green) ☐ High (orange)
- 3) Oil added Yes ☒ No ☐
- 4) Oil changed Yes ☒ No ☐
- 5) Oil filter changed Yes ☒ No ☐
- 6) Air filter Changed Yes ☒ No ☐
- 7) Oil separator changed Yes ☒ No ☐
- 8) Terminal strips checked Yes ☒ No ☐

AS-50 O. Generator

- 1) Prefilter changed Yes ☒ No ☐
- 2) Coalescing changed Yes ☒ No ☐

* PSL-2101 alarm tripped due to Air tank had no pressure after adding oil to compress. This is probably because Air Sep was still running, even though system was shut down.
1050 - System back up & running.

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET Hempstead Intersection Oxygen Injection Remedial System Number 1											
Oxygen Injection Remedial System Number 1 National Grid Interim Remedial Measure Project No. 1702897-30-1					Date: <u>3/18/22</u> Time: <u>0800</u> Weather: <u>40-60's F, Cloudy</u> Inside Trailer Temperature: <u>Normal, Operational</u> Performed By: <u>C. Hayes</u>						
O₂ Generator					Compressor (Kaiser Rotary Screw)						
Hours: <u>42,922</u>					Compressor Tank *: <u>135</u> (psi)						
Feed Air Pressure *: <u>135</u> (psi)					Delivery Air: <u>135</u> (psi)						
Cycle Pressure *: High: <u>69</u> <u>72</u> (psi) (L/R) Low: <u>6</u> <u>3</u> (psi)					Element Outlet Temperature: <u>193</u> (°F)						
Oxygen Receiver Pressure *: <u>65</u> (psi)					Running Hours: <u>25,373</u> (hours)						
Oxygen Receiver Tank Pressure (reading from blue tank): <u>110</u> (psi)					Loading Hours: <u>13,373</u> (hours)						
Oxygen Purity: <u>/</u> (percent)					* maximum reading during loading cycle						
Booster Pump (Powers)					Air Tank & Eco-Start						
Hours: <u>15,660.08</u>					Condensate Purged (Y/N): <u>(Y)</u> Condensate Emptied (Y/N): <u>(Y)</u>						
Injection Bank 1				Injection Bank 2				Injection Bank 3			
Well ID	Depth (ft)	scfh	psi	Well ID	Depth (ft)	scfh	psi	Well ID	Depth (ft)	scfh	psi
OW-1-1	85.5	24	28.0	OW-1-3S	67.3	24	17.0	OW-1-4D	80.5	23	28.0
OW-1-2	92.5	off	off	OW-1-6S	67.0	28	18.0	OW-1-10D	67.2	19	27.0
OW-1-3	98.3	21	31.0	OW-1-7S	66.9	25	17.0	OW-1-11D	66.1	20	29.0
OW-1-4	85.0	22	30.0	OW-1-8S	66.7	25	18.0	OW-1-12D	65.3	19	28.0
OW-1-5D	83.9	29	29.0	OW-1-9S	66.0	21	18.0	OW-1-13D	64.7	28	29.0
OW-1-6D	82.4	24	29.0	OW-1-10S	64.6	16	13.0	OW-1-14D	64.1	19	29.0
OW-1-7D	84.1	36	19.0	OW-1-11S	63.1	25	14.0	OW-1-15D	63.3	24	28.0
OW-1-8D	69.6	22	19.0	OW-1-12S	63.6	28	15.0	OW-1-16D	62.5	21	14.0
Comments: All Points set at 30 scfh											
Notes:											

Date: <u>3/18/22</u>											
OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET Hempstead Intersection Oxygen Injection Remedial System Number 1											
Injection Bank 4				Injection Bank 5				Injection Bank 6			
	Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		Depth (ft)	scfh	psi
OW-1-13S	53.1	26	13.0	OW-1-17D	79.5	42	13.0	OW-1-21S	49.3	30	11.0
OW-1-14S	52.7	25	14.0	OW-1-18D	78.3	95	26.0	OW-1-22S	49.3	27	11.0
OW-1-15S	52.2	23	13.0	OW-1-19D	78.9	71	26.0	OW-1-23S	48.8	27	11.0
OW-1-16SR	51.8	19	26.0	OW-1-20D	79.5	79	27.0	OW-1-24S	48.4	27	11.0
OW-1-17S	50.7	14	24.0	OW-1-21D	79.5	36	26.0	OW-1-25S	48.8	26	13.0
OW-1-18S	50.2	21	12.0	OW-1-22D	79.5	20	25.0	OW-1-26S	48.3	27	13.0
OW-1-19S	49.7	POINT	OFF	OW-1-23D	78.7	20	25.0	OW-1-27S	48.3	28	13.0
OW-1-20S	49.3	POINT	OFF	OW-1-24D	78.2	24	26.0	OW-1-28S	48.3	410	13.0
Comments:		All Points set at 30 scfh									
Injection Bank 7				Injection Bank 8				Injection Bank 9			
	Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		DTW	DO(mg/L)	PID
OW-1-25D	78.1	24	27.0	OW-1-29S	48.5	26	12.0	OW-1-33D	83.2	24	28.0
OW-1-26D	78.1	13	27.0	OW-1-30S	48.8	24	13.0	OW-1-34D	84.5	25	29.0
OW-1-27D	77.9	21	27.0	OW-1-31S	49.3	29	13.0	OW-1-35D	85.0	23	28.0
OW-1-28D	78.0	25	27.0	OW-1-32S	49.3	25	12.0	OW-1-36D	85.0	25	29.0
OW-1-29D	78.4	22	25.0	OW-1-33S	49.7	26	13.0	OW-1-37D	84.0	19	28.0
OW-1-30D	79.0	21	35.0	OW-1-34S	50.1	24	12.0	OW-1-38D	82.0	22	27.0
OW-1-31D	80.5	POINT	OFF	OW-1-35S	50.3	22	13.0	OW-1-39D	78.0	28	26.0
OW-1-32D	81.6	24	28.0	OW-1-36S	50.3	27	13.0	OW-1-40D	76.0	23	25.0
Comments:		All points set at 30 scfh									
Notes:											

Date: 3/28/20

Injection Bank 10				Injection Bank 11				Injection Bank 12			
Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		Depth (ft)	scfh	psi	
OW-1-37S	50.5	24	12.0	OW-1-41D	73.6	24	23.0	OW-1-43	67.4	27	20.0
OW-1-38S	50.6	24	13.0	OW-1-42D	71.0	25	21.0	OW-1-44	66.6	28	18.0
OW-1-39S	50.7	23	13.0	OW-1-45	65.7	24	19.0	OW-1-51R	60.6	25	16.0
OW-1-40S	51.1	25	13.0	OW-1-46	64.3	23	17.0	OW-1-52	59.3	23	15.0
OW-1-41S	51.5	27	14.0	OW-1-47	63.4	25	17.0	OW-1-53	60.0	25	16.0
OW-1-42S	51.3	26	13.0	OW-1-48	62.5	24	18.0	OW-1-54	60.5	27	15.0
-	-			OW-1-49	61.5	24	16.0	-	-		
-	-			OW-1-50	61.0	25	16.0	-	-		

Comments:

All Points set at 30 sec:

[illegible]

Comments:

All work is done at 30 m/s.

Abstract

Date: 3/18/22

GENERAL SYSTEM NOTES

Trailer

- 1) Performed general housekeeping (i.e. sweep, collect trash inside and out, etc.) Yes ☒ No ☐
- 2) Abnormal conditions observed (e.g. vandalism) None
- 3) Other major activities completed checked Fire Extinguisher
- 4) Supplies needed None
- 5) Visitors None

OPERATIONAL NOTES

GA5 Air Compressor

- 1) Oil Level Checked with system unloaded* Yes ☒ No ☐
* Unload system, wait until Delivery Air Pressure is less than 9 psi
- 2) Oil Level with system unloaded
Low (red) ☐ Normal (green) ☒ High (orange) ☐
- 3) Oil added Yes ☐ No ☒
- 4) Oil changed Yes ☐ No ☒
- 5) Oil filter changed Yes ☐ No ☒
- 6) Air filter Changed Yes ☐ No ☒
- 7) Oil separator changed Yes ☐ No ☒
- 8) Terminal strips checked Yes ☐ No ☒

AS-90 O₂ Generator

- 1) Prefilter changed Yes ☐ No ☒
- 2) Coalescing changed Yes ☐ No ☒

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET Hampstead Intersection Oxygen Injection Remedial System Number 1											
Oxygen Injection Remedial System Number 1 National Grid Interim Remedial Measure Project No. 1702897-30-1					Date: <u>9/23/24</u> Time: <u>0800</u> Weather: <u>55-87</u> Inside Trailer Temperature: <u>55°F</u> Performed By: <u>V. SAKURAI</u>						
O₂ Generator					Compressor (Krauss Rotary Screw)						
Hours <u>37519</u>					Compressor Tank * <u>139</u> (psi)						
Feed Air Pressure * <u>139</u> (psi)					Delivery Air <u>135</u> (psi)						
Cycle Pressure * High: <u>55</u> <u>67</u> (psi) (L/R) Low: <u>0</u> <u>0</u> (psi)					Element Outlet Temperature <u>194</u> (°F)						
Oxygen Receiver Pressure * <u>60</u> (psf)					Running Hours <u>13846</u> (hours)						
Oxygen Receiver Tank Pressure (reading from blue tank) <u>110</u> (psf)					Loading Hours <u>1227</u> (hours)						
Oxygen Purity <u>85.7</u> (percent)					(* maximum reading during loading cycle)						
Booster Pump (Powers)					Air Tank & Eco-Scan						
Hours: <u>15660.08</u>					Condensate Purged (Y/N) <u>(Y)</u> Condensate Emptied (Y/N) <u>(Y)</u>						
Injection Bank 1				Injection Bank 2				Injection Bank 3			
Point	Depth (ft)	scfh	psi	Point	Depth (ft)	scfh	psi	Point	Depth (ft)	scfh	psi
OW-1-1	85.5	31	260	OW-1-05	67.3	30	18.0	OW-1-09	83.3	31	28.0
OW-1-2	88.5	0K	0K	OW-1-06	67.0	41	17.0	OW-1-10	87.2	32	27.0
OW-1-3	86.3	32	30.0	OW-1-07	66.9	31	17.0	OW-1-11	86.1	31	27.0
OW-1-4	85.0	30	30.0	OW-1-08	66.7	30	17.0	OW-1-12	85.3	40	28.5
OW-1-5D	83.9	34	22.0	OW-1-09	66.0	27	18.0	OW-1-13	84.7	29	28.0
OW-1-6D	82.4	30	22.0	OW-1-10S	64.6	46	12.0	OW-1-14D	84.1	31	29.0
OW-1-7D	81.1	41	22.0	OW-1-11S	63.1	31	13.0	OW-1-15D	83.3	29	28.0
OW-1-8D	80.6	30	22.0	OW-1-12S	62.6	29	14.0	OW-1-16D	82.5	27	13.0
Comments: All Points set at 20 scfh											
Notes:											

Date: 4/29/24											
OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET											
Horizontal Injection Oxygen Injection Remedial System Number 1											
Injection Bank 4			Injection Bank 5			Injection Bank 6					
	Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		Depth (ft)	scfh	psi
OW-1-13S	53.1	30	13.0	OW-1-17D	79.5	50	13.0	OW-1-21S	49.3	31	11.0
OW-1-14S	52.7	35	14.0	OW-1-18D	78.3	61	26.0	OW-1-22S	49.3	35	11.0
OW-1-15S	52.2	37	12.0	OW-1-19D	78.8	34	26.0	OW-1-23S	48.8	31	11.0
OW-1-16SR	51.6	22	26.0	OW-1-20D	79.5	31	26.0	OW-1-24S	48.4	34	11.0
OW-1-17S	50.7	35	24.0	OW-1-21D	79.5	31	25.0	OW-1-25S	48.8	51	13.0
OW-1-18S	50.2	30	12.0	OW-1-22D	79.5	55	25.0	OW-1-26S	48.3	41	13.0
OW-1-19S	49.7	OFF	OFF	OW-1-23D	78.7	41	25.0	OW-1-27S	48.3	32	13.0
OW-1-20S	49.3	OFF	OFF	OW-1-24D	78.2	31	26.0	OW-1-28S	48.3	37	15.0
Comments: All Points set at 30 scfh											
Injection Bank 7			Injection Bank 8			Injection Bank 9					
	Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		DTW	DO (mg/L)	PID
OW-1-25D	78.1	51	26.0	OW-1-29S	48.5	29	12.0	OW-1-32D	83.2	30	28.0
OW-1-26D	78.1	42	26.0	OW-1-30S	48.8	36	13.0	OW-1-34D	84.5	29	28.0
OW-1-27D	77.9	30	27.0	OW-1-31S	49.3	27	13.0	OW-1-35D	85.0	31	28.0
OW-1-28D	78.0	30	26.0	OW-1-32S	49.3	29	12.0	OW-1-36D	85.8	31	29.0
OW-1-29D	78.4	30	25.0	OW-1-33S	49.7	41	13.0	OW-1-37D	84.6	30	28.0
OW-1-30D	79.0	41	37.0	OW-1-34S	50.1	30	12.0	OW-1-38D	82.6	27	27.0
OW-1-31D	80.5	OFF	OFF	OW-1-35S	50.5	32	13.0	OW-1-39D	78.0	30	26.0
OW-1-32D	81.6	31	27.0	OW-1-36S	50.2	30	13.0	OW-1-40D	76.0	29	25.0
Comments: All points set at 30 scfh											
Notes:											

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET

Homestead Interceptor Oxygen Injection Remedial System Number 1

Injection Bank 10				Injection Bank 11				Injection Bank 12			
Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		Depth (ft)	scfh	psi	
OW-1-37S	50.5	30	12.0	OW-1-41D	73.0	30	22.0	OW-1-43	67.4	31	19.0
OW-1-38S	50.6	30	13.0	OW-1-42D	71.0	31	20.0	OW-1-44	66.6	29	18.0
OW-1-39S	50.7	27	12.0	OW-1-45	65.7	37	18.0	OW-1-51R	60.6	33	16.0
OW-1-40S	51.1	31	13.0	OW-1-46	64.3	35	17.0	OW-1-52	59.3	30	16.0
OW-1-41S	51.5	30	13.0	OW-1-47	63.4	40	17.0	OW-1-53	58.5	40	16.0
OW-1-42S	51.9	30	13.0	OW-1-48	62.5	30	18.0	OW-1-54	58.0	30	15.0
-	-	-	-	OW-1-49	61.5	30	16.0	-	-	-	-
-	-	-	-	OW-1-50	61.0	30	14.0	-	-	-	-

Comments:

ALL INFORMATION CONTAINED HEREIN

[illegible]

Comments:

All points set at 30 mph

[Signature]

Date: 4/29/21

GENERAL SYSTEM NOTES

Trailer

1) Performed general housekeeping (i.e. sweep, collect trash inside and out, etc.)
Yes ☒ No ☐

2) Abnormal conditions observed (e.g. vandalism) NONE

3) Other major activities completed CHECKED AND UPDATED
7176 ESTIMATES

4) Supplies needed NONE

5) Visitors CRIG HAYES

OPERATIONAL NOTES

GAS Air Compressor

1) Oil Level Checked with system unloaded* Yes ☒ No ☐
* Unload system, wait until Delivery Air Pressure is less than 8 psi

2) Oil Level with system unloaded
Low (red) _____ Normal (green) ☒ High (orange) _____

3) Oil added Yes _____ No ☒

4) Oil changed Yes _____ No ☒

5) Oil filter changed Yes _____ No ☒

6) Air filter Changed Yes _____ No ☒

7) Oil separator changed Yes _____ No ☒

8) Terminal strips checked Yes _____ No ☒

AS-80 O₂ Generator

1) Prefilter changed Yes _____ No ☒

2) Coalescing changed Yes _____ No ☒

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET Hempstead Intersecton Oxygen Injection Remedial System Number 1											
Oxygen Injection Remedial System Number 1 National Grid Interim Remedial Measure Project No. 170289Z-30-1 O₂ Generator					Date: <u>5/27/21</u> Time: <u>0700</u> Weather: <u>30° Clear</u> Inside Trailer Temperature: <u>Warm</u> Performed By: <u>GH</u>						
Hours <u>38117</u>					Compressor Tank * <u>125</u> (psi)						
Feed Air Pressure * <u>125</u> (psi)					Delivery Air <u>125</u> (psi)						
Cycle Pressure * High: <u>68 / 68</u> (psi) (L/R) Low: <u>4 / 4</u> (psi)					Element Outlet Temperature <u>195</u> (°F)						
Oxygen Receiver Pressure * <u>65</u> (psi)					Running Hours <u>19486</u> (hours)						
Oxygen Receiver Tank Pressure (reading from blue tank) <u>115</u> (psi)					Loading Hours <u>13406</u> (hours)						
Oxygen Purity <u>91.3</u> (percent)					* maximum reading during loading cycle						
Eccoder Pump (Pentech)					Air Tank O₂ Ecc-Tank						
Hours: <u>15660.08</u>					Condensate Purged (Y/N) <u>(Y)N</u> Condensate Emptied (Y/N)						
Injection Bank 1				Injection Bank 2				Injection Bank 3			
Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		Depth (ft)	scfh	psi	
OW-1-1	86.5	30	27	OW-1-35	87.3	30	17	OW-1-65	88.5	32	28
OW-1-2	86.5	off		OW-1-65	87.0	25	18	OW-1-100	87.2	23	27
OW-1-3	86.9	28	30	OW-1-75	86.9	28	17	OW-1-110	86.1	31	29
OW-1-4	85.8	30	30	OW-1-85	86.7	27	18	OW-1-120	85.3	28	28
OW-1-50	83.9	31	29	OW-1-95	86.0	26	18	OW-1-130	84.7	28	28
OW-1-60	82.4	29	28	OW-1-105	84.6	34	13	OW-1-140	84.1	28	28
OW-1-70	81.1	33	28	OW-1-115	83.1	30	14	OW-1-150	83.8	29	28
OW-1-80	82.8	27	28	OW-1-125	83.6	28	15	OW-1-160	82.5	20	14
Comments: All Points set at 20 scfh											
Notes:											

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET Formulated Injection Oxygen Injection Remedial System Number 1											
Date: <u>5/27/21</u>											
Injection Bank 4				Injection Bank 5				Injection Bank 6			
	Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		Depth (ft)	scfh	psi
OW-1-13S	53.1	26	13	OW-1-17D	79.5	30	12	OW-1-21S	49.3	30	11
OW-1-14S	52.7	30	14	OW-1-18D	79.3	33	25	OW-1-22S	49.3	30	11
OW-1-15S	52.2	30	13	OW-1-19D	78.9	32	26	OW-1-23S	48.8	28	11
OW-1-16SR	51.8	24	26	OW-1-20D	79.5	30	26	OW-1-24S	48.4	28	12
OW-1-17S	50.7	25	24	OW-1-21D	79.5	38	25	OW-1-25S	48.8	30	12
OW-1-18S	50.2	29	12	OW-1-22D	79.5	27	24	OW-1-26S	48.3	37	13
OW-1-19S	49.7	off		OW-1-23D	78.7	28	24	OW-1-27S	48.3	40	13
OW-1-20S	49.3	off		OW-1-24D	78.2	28	26	OW-1-28S	48.3	24	13
Comments: All Points set at 30 scfh											
Injection Bank 7				Injection Bank 8				Injection Bank 9			
	Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		DTW	DO(mg/L)	PID
OW-1-25D	78.1	30	26	OW-1-29S	48.5	28	12	OW-1-33D	82.2	31	29
OW-1-26D	78.1	40	26	OW-1-30S	48.8	26	13	OW-1-34D	84.5	30	29
OW-1-27D	77.9	32	27	OW-1-31S	49.8	26	12	OW-1-35D	85.8	48	27
OW-1-28D	76.8	29	26	OW-1-32S	49.3	28	12	OW-1-36D	85.8	33	30
OW-1-29D	76.4	29	25	OW-1-33S	49.7	32	12	OW-1-37D	84.0	24	29
OW-1-30D	79.0	22	38	OW-1-34S	50.1	28	12	OW-1-38D	82.8	30	27
OW-1-31D	80.5	off		OW-1-35S	50.3	29	13	OW-1-39D	78.0	32	26
OW-1-32D	81.6	32	27	OW-1-36S	50.3	34	13	OW-1-40D	76.0	36	25
Comments: All points set at 30 scfh											
Notes:											

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET **MarineShield Interactive Oxygen Injection Remedial System Number 1**

Injection Bank 10				Injection Bank 11				Injection Bank 12			
Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		Depth (ft)	scfh	psi	
OW-1-37S	50.5	26	12	OW-1-41D	73.0	27	22	OW-1-43	67.4	30	19
OW-1-38S	50.8	25	13	OW-1-42D	71.0	29	20	OW-1-44	66.0	26	18
OW-1-39S	50.7	25	12	OW-1-45	65.7	34	19	OW-1-51R	63.6	34	16
OW-1-40S	51.1	30	13	OW-1-46	64.3	34	17	OW-1-52	59.3	33	15
OW-1-41S	51.5	29	13	OW-1-47	63.4	34	17	OW-1-53	60.0	31	16
OW-1-42S	51.3	30	13	OW-1-48	62.3	27	17	OW-1-54	60.0	30	15
-	-			OW-1-49	61.5	27	16	-	-		
-	-			OW-1-50	61.0	27	16	-	-		

Comments:

All Points set at 30 sets

[illegible]

Comments:

~~All prints set at 30 each~~

Notes:

Date: 5/27/21

GENERAL SYSTEM NOTES

Trailer

1) Performed general housekeeping (i.e. sweep, collect trash inside and out, etc.)

Yes ☒

No

2) Abnormal conditions observed (e.g. vandalism) NO

3) Other major activities completed NO

4) Supplies needed NO

5) Visitors None

OPERATIONAL NOTES

GA5 Air Compressor

1) Oil Level Checked with system unloaded*

Yes ☒

No

* Unload system, wait until Delivery Air Pressure is less than 8 psi

2) Oil Level with system unloaded

Low (red)

Normal (green)

☒ High (orange)

3) Oil added

Yes

No

4) Oil changed

Yes

No

5) Oil filter changed

Yes

No

6) Air filter Changed

Yes

No

7) Oil separator changed

Yes

No

8) Terminal strips checked

Yes

No

AS-80 O₂ Generator

1) Prefilter changed

Yes

No

2) Coalescing changed

Yes

No

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET Waukegan Interceptor Oxygen Injection Remedial System Number 1											
Oxygen Injection Remedial System Number 1 National Grid Interim Remedial Measure Project No. 1709007-30-1 O ₂ Generator					Date: <u>6/25/21</u> Time: <u>070</u> Weather: <u>67° - 77° (win)</u> Inside Trailer Temperature: <u>62</u> Performed By: <u>R. Salazar</u> Compressor (Kaeser Rotary Screw)						
Hours: <u>387.06</u> Feed Air Pressure * <u>157</u> (psi) Cycle Pressure * High: <u>65</u> , <u>69</u> (psi) Low: <u>0</u> / <u>0</u> (psi) Oxygen Receiver Pressure * <u>65</u> (psi) Oxygen Receiver Tank Pressure (reading from blue tank) <u>119</u> (psi) Oxygen Purity <u>96.7</u> (percent) * maximum reading during loading cycle					Compressor Tank * <u>157</u> (psi) Delivery Air <u>131</u> (psi) Element Outlet Temperature <u>181</u> (°F) Running Hours <u>20015</u> (hours) Loading Hours <u>13794</u> (hours) * maximum reading during loading cycle						
Hours: <u>156600.08</u> Evaporator Pump (Power)					Condensate Purged (Y/N) <u>(Y)</u> Condensate Emptied (Y/N) <u>(N)</u> Air Tank & Gas-Train						
Injection Bank 1			Injection Bank 2			Injection Bank 3					
Depth (ft)	scfh	psig	Depth (ft)	scfh	psig	Depth (ft)	scfh	psig			
OW-1-1	21.5	30	26.0	OW-1-35	27.2	29	17.0	OW-1-90	22.5	32	28.0
OW-1-2	22.5	OFF	OFF	OW-1-65	27.0	25	17.0	OW-1-100	27.2	35	27.0
OW-1-3	26.9	30	30.0	OW-1-75	26.9	27	17.0	OW-1-110	26.1	30	29.0
OW-1-4	25.0	31	29.0	OW-1-85	26.7	21	17.0	OW-1-120	25.3	30	29.0
OW-1-50	23.9	30	29.0	OW-1-95	25.8	19	18.0	OW-1-130	24.7	30	28.0
OW-1-60	22.4	30	29.0	OW-1-105	24.8	36	13.0	OW-1-140	24.1	30	23.0
OW-1-70	21.3	32	28.0	OW-1-115	24.1	27	14.0	OW-1-150	23.8	31	28.0
OW-1-80	23.6	30	23.0	OW-1-125	23.6	21	14.0	OW-1-160	22.5	30	13.0
Comments: All Points set at 30 scfh											
Notes:											

Date: 6/25/21

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET

Hampstead Intersection Oxygen Injection Remedial System Number 1

Injection Bank 4				Injection Bank 5				Injection Bank 6			
	Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		Depth (ft)	scfh	psi
OW-1-13S	53.1	12	13.0	OW-1-17D	79.5	30	13.0	OW-1-21S	49.3	31	11.0
OW-1-14S	52.7	30	14.0	OW-1-18D	78.3	30	25.0	OW-1-22S	49.3	30	11.0
OW-1-15S	52.2	25	13.0	OW-1-19D	78.9	40	25.0	OW-1-23S	48.8	30	11.0
OW-1-16SR	51.8	25	26.0	OW-1-20D	79.5	30	26.0	OW-1-24S	48.4	31	11.0
OW-1-17S	50.7	21	24.0	OW-1-21D	78.5	32	25.0	OW-1-25S	48.8	35	12.0
OW-1-18S	50.2	20	12.0	OW-1-22D	79.5	29	24.0	OW-1-26S	48.3	30	12.0
OW-1-19S	49.7	OFF	OFF	OW-1-23D	78.7	31	24.0	OW-1-27S	48.3	30	13.0
OW-1-20S	49.3	OFF	OFF	OW-1-24D	78.2	30	25.0	OW-1-28S	48.3	37	13.0
Comments: All Points set at 30 scfh											

Injection Bank 7				Injection Bank 8				Injection Bank 9			
	Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		DTW	DO (mg/L)	PID
OW-1-25D	78.1	40	26.0	OW-1-29S	48.5	30	12.0	OW-1-33D	83.2	30	23.0
OW-1-26D	78.1	37	26.0	OW-1-30S	48.8	31	13.0	OW-1-34D	84.5	30	23.0
OW-1-27D	77.9	31	27.0	OW-1-31S	49.3	29	13.0	OW-1-35D	85.0	41	28.0
OW-1-28D	78.0	30	26.0	OW-1-32S	49.3	30	12.0	OW-1-36D	85.0	29	29.0
OW-1-29D	78.4	30	25.0	OW-1-33S	49.7	31	12.0	OW-1-37D	84.0	25	25.0
OW-1-30D	79.0	32	36.0	OW-1-34S	50.1	30	12.0	OW-1-38D	82.0	29	26.0
OW-1-31D	80.5	OFF	OFF	OW-1-35S	50.3	30	13.0	OW-1-39D	78.0	29	26.0
OW-1-32D	81.6	31	27.0	OW-1-36S	50.3	30	13.0	OW-1-40D	78.0	32	25.0
Comments: All points set at 30 scfh											
Notes:											

Date: 6/25/21

Injection Bank 10				Injection Bank 11				Injection Bank 12			
Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		Depth (ft)	scfh	psi	
OW-1-37S	50.5	25	11.0	OW-1-41D	73.6	28	22.0	OW-1-43	67.4	31	12.0
OW-1-38S	50.6	26	12.0	OW-1-42D	71.0	30	20.0	OW-1-44	66.6	30	12.0
OW-1-39S	50.7	25	12.0	OW-1-45	65.7	30	18.0	OW-1-51R	60.6	29	16.0
OW-1-40S	51.1	29	13.0	OW-1-46	64.3	30	17.0	OW-1-52	59.3	35	15.0
OW-1-41S	51.5	30	13.0	OW-1-47	63.4	31	17.0	OW-1-53	60.6	30	16.0
OW-1-42S	51.3	30	13.0	OW-1-48	62.5	30	17.0	OW-1-54	60.0	30	15.0
-	-			OW-1-49	61.5	42	16.0	-	-		
-	-			OW-1-50	61.0	30	16.0	-	-		

Comments:

All Points set at 30 each

[illegible]

Comments:

All units set at 30 cfm

Notes

Date: <u>6/25/21</u>	
GENERAL SYSTEM NOTES	
Trailer 1) Performed general housekeeping (i.e. sweep, collect trash inside and out, etc.) Yes ☒ No ☐	
2) Abnormal conditions observed (e.g. vandalism) <u>NONE</u>	
3) Other major activities completed <u>Checked 400 operated</u> <u>fire extinguisher</u>	
4) Supplies needed <u>NONE</u>	
5) Visitors <u>NONE</u>	
OPERATIONAL NOTES	
GAS Air Compressor 1) Oil Level Checked with system unloaded? Yes ☒ No ☐ * Unload system, wait until Delivery Air Pressure is less than 9 psi	
2) Oil Level with system unloaded Low (red) _____ Normal (green) ☒ High (orange) _____	
3) Oil added	Yes _____ No ☒
4) Oil changed	Yes _____ No ☒
5) Oil filter changed	Yes _____ No ☒
6) Air filter Changed	Yes _____ No ☒
7) Oil separator changed	Yes _____ No ☒
8) Terminal strips checked	Yes _____ No ☒
AS-80 O₂ Generator 1) Prefilter changed Yes _____ No ☒	
2) Coalescing changed Yes _____ No ☒	

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET Monitored Intersecting Oxygen Injection Remedial System Number 1																																																																																																																											
Oxygen Injection Remedial System Number 1 National Grid Interim Remedial Measure Project No. 1702887-30-1 O ₂ Generator		Date: <u>1/23/01</u> Time: <u>0500</u> Weather: <u>Hot, Humid</u> Inside Trailer Temperature: <u>63</u> Performed By: <u>R. JAWORSKI</u> Compressor (Kasco Rotary Screw)																																																																																																																									
Hours: <u>20386</u>	Compressor Tank * <u>153</u> (psi)																																																																																																																										
Feed Air Pressure * <u>153</u> (psi)	Delivery Air <u>140</u> (psi)																																																																																																																										
Cycle Pressure * High: <u>63</u> (psi) (L/R) Low: <u>0</u> (psi)	Element Outlet Temperature <u>193</u> (F)																																																																																																																										
Oxygen Receiver Pressure * <u>0</u> (psi)	Running Hours <u>20755</u> (hours)																																																																																																																										
Oxygen Receiver Tank Pressure (reading from blue tank) <u>126</u> (psi)	Loading Hours <u>144.9</u> (hours)																																																																																																																										
Oxygen Purity <u>83.6</u> (percent)																																																																																																																											
* maximum reading during loading cycle		* maximum reading during loading cycle																																																																																																																									
Evaporator Pump (Peristaltic)		Air Tank & Gas Train																																																																																																																									
Hours: <u>15660.08</u>		Condensate Purged ☒ (Y/N) Condensate Emptied (Y/N)																																																																																																																									
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th colspan="4">Injection Bank 1</th> <th colspan="4">Injection Bank 2</th> <th colspan="4">Injection Bank 3</th> </tr> <tr> <th>Depth (ft)</th> <th>Depth (ft)</th> <th>Depth (ft)</th> <th>Depth (ft)</th> <th>Depth (ft)</th> <th>Depth (ft)</th> <th>Depth (ft)</th> <th>Depth (ft)</th> <th>Depth (ft)</th> <th>Depth (ft)</th> <th>Depth (ft)</th> <th>Depth (ft)</th> </tr> </thead> <tbody> <tr> <td>OW-1-1</td> <td>66.5</td> <td>29</td> <td>260</td> <td>OW-1-35</td> <td>67.3</td> <td>31</td> <td>200</td> <td>OW-1-60</td> <td>68.5</td> <td>30</td> <td>270</td> </tr> <tr> <td>OW-1-2</td> <td>68.5</td> <td>28</td> <td>270</td> <td>OW-1-55</td> <td>67.0</td> <td>29</td> <td>210</td> <td>OW-1-100</td> <td>67.2</td> <td>30</td> <td>270</td> </tr> <tr> <td>OW-1-3</td> <td>66.5</td> <td>40</td> <td>300</td> <td>OW-1-75</td> <td>66.9</td> <td>27</td> <td>170</td> <td>OW-1-110</td> <td>68.1</td> <td>30</td> <td>270</td> </tr> <tr> <td>OW-1-4</td> <td>65.0</td> <td>40</td> <td>300</td> <td>OW-1-85</td> <td>65.7</td> <td>27</td> <td>190</td> <td>OW-1-120</td> <td>65.3</td> <td>27</td> <td>280</td> </tr> <tr> <td>OW-1-50</td> <td>63.9</td> <td>30</td> <td>270</td> <td>OW-1-95</td> <td>65.0</td> <td>30</td> <td>190</td> <td>OW-1-130</td> <td>64.7</td> <td>29</td> <td>280</td> </tr> <tr> <td>OW-1-60</td> <td>62.4</td> <td>32</td> <td>270</td> <td>OW-1-105</td> <td>64.6</td> <td>29</td> <td>190</td> <td>OW-1-140</td> <td>64.1</td> <td>31</td> <td>270</td> </tr> <tr> <td>OW-1-70</td> <td>61.1</td> <td>41</td> <td>270</td> <td>OW-1-115</td> <td>63.1</td> <td>29</td> <td>190</td> <td>OW-1-150</td> <td>63.9</td> <td>35</td> <td>280</td> </tr> <tr> <td>OW-1-80</td> <td>60.6</td> <td>30</td> <td>280</td> <td>OW-1-125</td> <td>62.6</td> <td>31</td> <td>190</td> <td>OW-1-160</td> <td>62.5</td> <td>30</td> <td>130</td> </tr> </tbody> </table>				Injection Bank 1				Injection Bank 2				Injection Bank 3				Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	OW-1-1	66.5	29	260	OW-1-35	67.3	31	200	OW-1-60	68.5	30	270	OW-1-2	68.5	28	270	OW-1-55	67.0	29	210	OW-1-100	67.2	30	270	OW-1-3	66.5	40	300	OW-1-75	66.9	27	170	OW-1-110	68.1	30	270	OW-1-4	65.0	40	300	OW-1-85	65.7	27	190	OW-1-120	65.3	27	280	OW-1-50	63.9	30	270	OW-1-95	65.0	30	190	OW-1-130	64.7	29	280	OW-1-60	62.4	32	270	OW-1-105	64.6	29	190	OW-1-140	64.1	31	270	OW-1-70	61.1	41	270	OW-1-115	63.1	29	190	OW-1-150	63.9	35	280	OW-1-80	60.6	30	280	OW-1-125	62.6	31	190	OW-1-160	62.5	30	130
Injection Bank 1				Injection Bank 2				Injection Bank 3																																																																																																																			
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OW-1-70	61.1	41	270	OW-1-115	63.1	29	190	OW-1-150	63.9	35	280																																																																																																																
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Comments: <u>All Points set at 20 scfm</u>																																																																																																																											
Notes:																																																																																																																											

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET Harvested Injection Oxygen Injection Remedial System Number 1											
Date: 7/28/14											
Injection Bank 4				Injection Bank 5				Injection Bank 6			
	Depth (ft)	scfh	psf		Depth (ft)	scfh	psf		Depth (ft)	scfh	psf
OW-1-13S	53.1	22	13.0	OW-1-17D	79.3	30	13.0	OW-1-21S	49.3	27	31.0
OW-1-14S	52.7	29	14.0	OW-1-18D	78.3	29	25.0	OW-1-22S	49.3	29	29.0
OW-1-15S	52.2	31	13.0	OW-1-19D	78.9	30	25.0	OW-1-23S	48.8	21	27.0
OW-1-16SR	51.9	27	26.0	OW-1-20D	79.5	25	26.0	OW-1-24S	48.4	22	27.0
OW-1-17S	50.7	30	24.0	OW-1-21D	79.5	27	25.0	OW-1-25S	48.8	25	25.0
OW-1-18S	50.2	30	12.0	OW-1-22D	79.5	30	24.0	OW-1-26S	48.3	25	26.0
OW-1-19S	49.7	OFF	OFF	OW-1-23D	78.7	22	24.0	OW-1-27S	48.3	27	25.0
OW-1-20S	49.3	OFF	OFF	OW-1-24D	78.2	26	25.0	OW-1-28S	48.3	25	26.0
Comments:		All Points set at 30 scfh									
Injection Bank 7				Injection Bank 8				Injection Bank 9			
	Depth (ft)	scfh	psf		Depth (ft)	scfh	psf		DTW	DO(mg/L)	PID
OW-1-25D	78.1	29	26.0	OW-1-29S	48.5	29	12.0	OW-1-33D	83.2	30	28.0
OW-1-26D	78.1	30	26.0	OW-1-30S	48.8	29	13.0	OW-1-34D	84.5	32	28.0
OW-1-27D	77.9	37	27.0	OW-1-31S	48.8	30	13.0	OW-1-35D	85.8	41	28.0
OW-1-28D	78.0	32	27.0	OW-1-32S	49.3	30	12.0	OW-1-36D	85.8	30	29.0
OW-1-29D	78.4	35	25.0	OW-1-33S	49.7	31	13.0	OW-1-37D	84.0	27	28.0
OW-1-30D	78.0	22	40.0	OW-1-34S	50.1	27	13.0	OW-1-38D	82.6	31	26.0
OW-1-31D	80.5	OFF	OFF	OW-1-35S	50.3	25	13.0	OW-1-39D	78.0	30	26.0
OW-1-32D	81.8	37	27.0	OW-1-36S	50.3	32	13.0	OW-1-40D	78.0	32	25.0
Comments:		All points set at 30 scfh									
Notes:											

Date: 7/29/20

Injection Bank 10				Injection Bank 11				Injection Bank 12			
Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		Depth (ft)	scfh	psi	
OW-1-375	50.5	20	11.0	OW-1-41D	79.0	22	22.0	OW-1-43	67.4	30	19.0
OW-1-385	50.0	22	12.0	OW-1-42D	71.0	31	21.0	OW-1-44	66.6	37	17.0
OW-1-395	50.7	21	13.0	OW-1-45	65.7	25	18.0	OW-1-51R	53.6	31	16.0
OW-1-405	51.1	22	13.0	OW-1-46	64.3	29	17.0	OW-1-52	59.3	39	12.0
OW-1-415	51.5	31	13.0	OW-1-47	63.4	30	17.0	OW-1-53	60.0	30	15.0
OW-1-425	51.3	25	12.0	OW-1-48	62.5	27	18.0	OW-1-54	60.0	27	15.0
-	-			OW-1-49	61.5	25	16.0	-	-		
-	-			OW-1-50	61.0	29	16.0	-	-		

Comments:

All Points set at 30 each

[illegible]

Comments:

All parts set at 30 c/s

Abstract

Date: 7/29/21

GENERAL SYSTEM NOTES

Trailer

- 1) Performed general housekeeping (i.e. sweep, collect trash inside and out, etc.)
Yes ☒ No ☐
- 2) Abnormal conditions observed (e.g. vandalism) NONE
- 3) Other major activities completed CHECKED AND UPDATED VITE EXTENSION
- 4) Supplies needed * VALVE REBUILD KIT *
- 5) Visitors NONE

OPERATIONAL NOTES

GA5 Air Compressor

- 1) Oil Level Checked with system unloaded? Yes ☒ No ☐
* Unload system, wait until Delivery Air Pressure is less than 9 psi
- 2) Oil Level with system unloaded
Low (red) _____ Normal (green) ☒ High (orange) ☒
- 3) Oil added Yes _____ No ☒
- 4) Oil changed Yes _____ No ☒
- 5) Oil filter changed Yes _____ No ☒
- 6) Air filter Changed Yes _____ No ☒
- 7) Oil separator changed Yes _____ No ☒
- 8) Terminal strips checked Yes _____ No ☒

AS-20 G. Generator

- 1) Prefilter changed Yes _____ No ☒
- 2) Condesing changed Yes _____ No ☒

* N6W DIAPHRAM For Air VALVE CONTROL
REBUILD ON COMPRESSOR
KIT

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET Hampstead Interceptor Oxygen Injection Remedial System Number 1											
Oxygen Injection Remedial System Number 1 National Grid Interim Remedial Measure Project No. 1702857-30-1 O₂ Generator					Date: <u>9/31/21</u> Time: <u>10:30</u> Weather: <u>61 - 90°</u> Inside Trailer Temperature: <u>60°</u> Performed By: <u>D. S. McW</u> Compressor (Kaiser Rotary Screw)						
Hours: <u>34877</u>					Compressor Tank * <u>142</u> (psi)						
Feed Air Pressure * <u>142</u> (psi)					Delivery Air <u>133</u> (psi)						
Cycle Pressure * High: <u>67</u> <u>68</u> (psi) (L/R) Low: <u>0</u> <u>0</u> (psi)					Element Outlet Temperature <u>188</u> (°F)						
Oxygen Receiver Pressure * <u>73</u> (psi)					Running Hours <u>21373</u> (hours)						
Oxygen Receiver Tank Pressure (reading from blue tank) <u>115</u> (psi)					Loading Hours <u>14825</u> (hours)						
Oxygen Purity <u>89.2</u> (percent)											
* maximum reading during loading cycle					* maximum reading during loading cycle						
Booster Pump (Pawson)					Air Tank O₂ Gas-Trace						
Hours: <u>15660.08</u>					Condensate Purged ☒ (Y/N) Condensate Emptied ☒ (Y/N)						
Injection Bank 1				Injection Bank 2				Injection Bank 3			
OW-1-1	Depth (ft)	scfh	psi	OW-1-55	Depth (ft)	scfh	psi	OW-1-105	Depth (ft)	scfh	psi
OW-1-1	26.5	37	26.0	OW-1-55	27.2	35	17.0	OW-1-105	27.2	34	28.0
OW-1-2	28.5	OK	OK	OW-1-65	27.2	27	17.0	OW-1-110	27.2	31	27.0
OW-1-3	26.5	22	30.0	OW-1-75	28.9	35	17.0	OW-1-110	28.1	32	29.0
OW-1-4	25.0	33	29.0	OW-1-85	28.7	31	17.0	OW-1-120	28.3	37	28.0
OW-1-50	23.8	37	29.0	OW-1-95	28.0	32	18.5	OW-1-130	24.7	39	29.0
OW-1-60	22.4	33	29.0	OW-1-105	24.5	27	13.0	OW-1-140	24.1	30	28.0
OW-1-70	21.7	30	28.0	OW-1-115	28.1	32	14.0	OW-1-150	23.8	30	28.0
OW-1-80	23.6	37	28.0	OW-1-125	23.6	31	14.0	OW-1-160	22.5	32	28.0
Comments: All Points set at 20 scfh											
Notes:											

Date: 8/31/21											
OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET											
Hazardous Infection Control Injection Remedial System Number 1											
Injection Bank 4				Injection Bank 5				Injection Bank 6			
	Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		Depth (ft)	scfh	psi
OW-1-13S	53.1	21	13.0	OW-1-17D	79.5	31	13.0	OW-1-21S	49.3	31	11.0
OW-1-14S	52.7	30	14.0	OW-1-18D	78.3	29	25.0	OW-1-22S	49.3	31	11.0
OW-1-15S	52.2	25	13.0	OW-1-19D	78.8	31	25.0	OW-1-23S	48.8	32	11.0
OW-1-16SR	51.6	16	26.0	OW-1-20D	79.5	29	26.0	OW-1-24S	49.4	40	11.0
OW-1-17S	50.7	21	24.0	OW-1-21D	78.5	29	25.0	OW-1-25S	49.6	37	13.0
OW-1-18S	50.2	29	12.0	OW-1-22D	78.5	30	24.0	OW-1-26S	48.3	40	13.0
OW-1-19S	49.7	OFF	OFF	OW-1-23D	78.7	27	24.0	OW-1-27S	48.3	37	13.0
OW-1-20S	49.3	OFF	OFF	OW-1-24D	78.2	30	25.0	OW-1-28S	48.3	38	13.0
Comments:		All Points set at 30 scfh									
Injection Bank 7				Injection Bank 8				Injection Bank 9			
	Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		DTW	DO (mg/L)	PID
OW-1-25D	78.1	37	26.0	OW-1-29S	48.5	33	12.0	OW-1-32D	83.2	20	23.0
OW-1-26D	78.1	37	26.0	OW-1-30S	48.8	32	13.0	OW-1-34D	84.5	31	23.0
OW-1-27D	77.9	35	27.0	OW-1-31S	49.2	30	13.0	OW-1-35D	85.8	22	27.0
OW-1-28D	78.0	36	26.0	OW-1-32S	49.3	29	12.0	OW-1-36D	85.8	30	22.0
OW-1-29D	78.4	30	25.0	OW-1-33S	49.7	37	12.0	OW-1-37D	84.0	30	28.0
OW-1-30D	79.0	25	33.0	OW-1-34S	50.1	31	12.0	OW-1-38D	82.6	30	26.0
OW-1-31D	80.5	OFF	OFF	OW-1-35S	50.3	27	12.0	OW-1-39D	78.0	27	26.0
OW-1-32D	81.6	25	27.0	OW-1-36S	50.3	30	13.0	OW-1-40D	76.0	26	25.0
Comments:		All points set at 30 scfh									
Notes:											

Date: 8/31/71
SHEET

Injection Bank 10				Injection Bank 11				Injection Bank 12			
Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		Depth (ft)	scfh	psi	
OW-1-37S	50.5	27	11.0	OW-1-41D	73.0	30	22.0	OW-1-43	67.4	27	19.0
OW-1-38S	50.6	30	12.0	OW-1-42D	71.0	27	21.0	OW-1-44	66.6	29	17.0
OW-1-39S	50.7	46	12.0	OW-1-45	65.7	29	18.0	OW-1-51R	66.6	27	16.0
OW-1-40S	51.1	30	13.0	OW-1-46	64.3	28	17.0	OW-1-52	59.3	33	12.0
OW-1-41S	51.5	27	13.0	OW-1-47	63.4	30	17.0	OW-1-53	60.6	25	15.0
OW-1-42S	51.3	30	13.0	OW-1-48	62.3	27	18.0	OW-1-54	60.9	29	15.0
-	-			OW-1-49	61.5	30	16.0	-	-		
-	-			OW-1-50	61.0	27	15.0	-	-		

Contents

ALL RIGHTS RESERVED

[illegible]

Comments:

~~All points set at 30 each~~

~~Alexander~~

Date: <u>8/31/21</u>	
GENERAL SYSTEM NOTES	
Trailer	
1) Performed general housekeeping (i.e. sweep, collect trash inside and out, etc.) Yes ☒ No ☐	
2) Abnormal conditions observed (e.g. vandalism) <u>NO</u>	
3) Other major activities completed <u>Checked and updated</u> <u>Fire extinguisher</u>	
4) Supplies needed <u>NO</u>	
5) Visitors <u>NO</u>	
OPERATIONAL NOTES	
GA5 Air Compressor	
1) Oil Level Checked with system unloaded* * Unload system, wait until Delivery Air Pressure is less than 2 psi	Yes ☒ No ☐
2) Oil Level with system unloaded Low (red) _____ Normal (green) ☒ High (orange) _____	
3) Oil added _____ Yes _____ No _____	
4) Oil changed _____ Yes _____ No _____	
5) Oil filter changed _____ Yes _____ No _____	
6) Air filter Changed _____ Yes _____ No ☒	
7) Oil separator changed _____ Yes _____ No ☒	
8) Terminal strips checked _____ Yes _____ No ☒	
AS-80 G. Generator	
1) Prefilter changed _____ Yes _____ No ☒	
2) Condesing changed _____ Yes _____ No ☒	

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET Compacted Injection Oxygen Injection Remedial System Number 1											
Oxygen Injection Remedial System Number 1 National Grid Interim Remedial Measure Project No. 1702827-30-1					Date: <u>9/30/21</u> Time: <u>0800</u> Weather: <u>70s, Sunny</u> Inside Trailer Temperature: <u>Warm, Operational</u> Performed By: <u>C. Hayes</u>						
Hours: <u>40,330</u>					Compressor Tank " <u>130</u> (psi)						
Feed Air Pressure " <u>130</u> (psi)					Delivery Air <u>134</u> (psi)						
Cycle Pressure " High: <u>66</u> <u>69</u> (psi) (L/R) Low: <u>0</u> <u>2</u> (psi)					Element Outlet Temperature <u>195</u> (°F)						
Oxygen Receiver Pressure " <u>60</u> (psi)					Running Hours <u>21,956</u> (hours)						
Oxygen Receiver Tank Pressure (reading from blue tank) <u>92</u> (psi)					Loading Hours <u>15,212</u> (hours)						
Oxygen Purity <u> </u> (percent)					* maximum reading during loading cycle						
Hours: <u>15,660.08</u>					Condensate Purged ☒ (Y/N) Condensate Emptied ☒ (Y/N)						
Injection Bank 1				Injection Bank 2				Injection Bank 3			
OW-1-1	OW-1-2	OW-1-3	OW-1-4	OW-1-5S	OW-1-6S	OW-1-7S	OW-1-8S	OW-1-9D	OW-1-10D	OW-1-11D	OW-1-12D
38	OFF	34	33	30	30	34	30	30	30	31	36
27.0	OFF	31.0	30.0	29.0	29.0	17.0	18.0	29.0	27.0	29.0	28.0
38	34	33	30	30	30	34	30	30	30	31	36
27.0	18.0	18.0	18.0	18.0	18.0	17.0	18.0	29.0	27.0	29.0	28.0
38	34	33	30	30	30	34	30	30	30	31	36
27.0	18.0	18.0	18.0	18.0	18.0	17.0	18.0	29.0	27.0	29.0	28.0
38	34	33	30	30	30	34	30	30	30	31	36
27.0	18.0	18.0	18.0	18.0	18.0	17.0	18.0	29.0	27.0	29.0	28.0
38	34	33	30	30	30	34	30	30	30	31	36
27.0	18.0	18.0	18.0	18.0	18.0	17.0	18.0	29.0	27.0	29.0	28.0
38	34	33	30	30	30	34	30	30	30	31	36
27.0	18.0	18.0	18.0	18.0	18.0	17.0	18.0	29.0	27.0	29.0	28.0
38	34	33	30	30	30	34	30	30	30	31	36
27.0	18.0	18.0	18.0	18.0	18.0	17.0	18.0	29.0	27.0	29.0	28.0
38	34	33	30	30	30	34	30	30	30	31	36
27.0	18.0	18.0	18.0	18.0	18.0	17.0	18.0	29.0	27.0	29.0	28.0
38	34	33	30	30	30	34	30	30	30	31	36
27.0	18.0	18.0	18.0	18.0	18.0	17.0	18.0	29.0	27.0	29.0	28.0
38	34	33	30	30	30	34	30	30	30	31	36
27.0	18.0	18.0	18.0	18.0	18.0	17.0	18.0	29.0	27.0	29.0	28.0
38	34	33	30	30	30	34	30	30	30	31	36
27.0	18.0	18.0	18.0	18.0	18.0	17.0	18.0	29.0	27.0	29.0	28.0
38	34	33	30	30	30	34	30	30	30	31	36
27.0	18.0	18.0	18.0	18.0	18.0	17.0	18.0	29.0	27.0	29.0	28.0
38	34	33	30	30	30	34	30	30	30	31	36
27.0	18.0	18.0	18.0	18.0	18.0	17.0	18.0	29.0	27.0	29.0	28.0
38	34	33	30	30	30	34	30	30	30	31	36
27.0	18.0	18.0	18.0	18.0	18.0	17.0	18.0	29.0	27.0	29.0	28.0
38	34	33	30	30	30	34	30	30	30	31	36
27.0	18.0	18.0	18.0	18.0	18.0	17.0	18.0	29.0	27.0	29.0	28.0
38	34	33	30	30	30	34	30	30	30	31	36
27.0	18.0	18.0	18.0	18.0	18.0	17.0	18.0	29.0	27.0	29.0	28.0
38	34	33	30	30	30	34	30	30	30	31	36
27.0	18.0	18.0	18.0	18.0	18.0	17.0	18.0	29.0	27.0	29.0	28.0
38	34	33	30	30	30	34	30	30	30	31	36
27.0	18.0	18.0	18.0	18.0	18.0	17.0	18.0	29.0	27.0	29.0	28.0
38	34	33	30	30	30	34	30	30	30	31	36
27.0	18.0	18.0	18.0	18.0	18.0	17.0	18.0	29.0	27.0	29.0	28.0
38	34	33	30	30	30	34	30	30	30	31	36
27.0	18.0	18.0	18.0	18.0	18.0	17.0	18.0	29.0	27.0	29.0	28.0
38	34	33	30	30	30	34	30	30	30	31	36
27.0	18.0	18.0	18.0	18.0	18.0	17.0	18.0	29.0	27.0	29.0	28.0
38	34	33	30	30	30	34	30	30	30	31	

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET Date: <u>9/30/21</u> Controlled Injection Oxygen Injection Control System Number 1											
Injection Bank 4				Injection Bank 5				Injection Bank 6			
	Depth (ft)	scfh	PSI		Depth (ft)	scfh	PSI		Depth (ft)	scfh	PSI
OW-1-13S	53.1	32	14.0	OW-1-17D	79.5	44	13.0	OW-1-21S	49.3	34	12.0
OW-1-14S	52.7	33	14.0	OW-1-18D	78.1	33	26.0	OW-1-22S	49.3	29	11.0
OW-1-15S	52.2	32	13.0	OW-1-19D	78.9	46	26.0	OW-1-23S	48.8	34	11.0
OW-1-16SR	51.8	33	26.0	OW-1-20D	79.5	36	26.0	OW-1-24S	48.4	33	11.0
OW-1-17S	50.7	37	25.0	OW-1-21D	78.5	32	26.0	OW-1-25S	48.8	36	13.0
OW-1-18S	50.2	30	12.0	OW-1-22D	79.5	30	25.0	OW-1-26S	48.3	34	13.0
OW-1-19S	49.7	Point	OFF	OW-1-23D	78.7	35	25.0	OW-1-27S	48.9	34	13.0
OW-1-20S	49.3	Point	OFF	OW-1-24D	78.2	36	26.0	OW-1-28S	48.3	34	14.0
Comments:				All Points out at 30 scfh							
Injection Bank 7				Injection Bank 8				Injection Bank 9			
	Depth (ft)	scfh	PSI		Depth (ft)	scfh	PSI		DTW	DO (mg/L)	PID
OW-1-25D	78.1	33	27.0	OW-1-29S	49.5	34	12.0	OW-1-33D	83.2	27	28.0
OW-1-26D	78.1	32	27.0	OW-1-30S	48.8	37	13.0	OW-1-34D	84.5	29	29.0
OW-1-27D	77.9	34	27.0	OW-1-31S	49.3	28	13.0	OW-1-35D	85.0	28	28.0
OW-1-28D	78.0	35	27.0	OW-1-32S	49.3	28	12.0	OW-1-36D	85.0	31	29.0
OW-1-29D	78.4	34	26.0	OW-1-33S	49.7	32	13.0	OW-1-37D	84.0	24	28.0
OW-1-30D	78.0	34	37.0	OW-1-34S	50.1	34	12.0	OW-1-38D	82.0	26	27.0
OW-1-31D	80.5	Point	OFF	OW-1-35S	50.3	28	14.0	OW-1-39D	78.0	27	26.0
OW-1-32D	81.6	Point	OFF	OW-1-36S	50.3	30	13.0	OW-1-40D	78.0	28	26.0
Comments:				All points out at 30 scfh							
Notes:											

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET

Chronic Ocular Infection Remotely Systemic

Injection Bank 10				Injection Bank 11				Injection Bank 12			
Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		Depth (ft)	scfh	psi	
OW-1-37S	50.5	20	12.0	OW-1-41D	79.6	39	23.0	OW-1-43	67.4	31	20.0
OW-1-38S	50.8	38	13.0	OW-1-12D	71.0	26	21.0	OW-1-44	66.6	30	18.0
OW-1-39S	50.7	15	13.0	OW-1-45	65.7	30	19.0	OW-1-51R	68.6	32	17.0
OW-1-40S	51.1	26	14.0	OW-1-46	64.3	30	18.0	OW-1-52	59.3	25	16.0
OW-1-41S	51.5	23	14.0	OW-1-47	63.4	34	17.0	OW-1-53	60.0	30	17.0
OW-1-42S	51.3	27	13.0	OW-1-48	62.5	30	18.0	OW-1-54	60.0	33	16.0
-	-			OW-1-49	61.5	30	17.0	-	-		
-	-			OW-1-50	61.0	26	16.0	-	-		

Comments:

All Points set at 20-30m

[illegible]

Comments:

All points set at 30 cm

Abstract

Date: <u>9/30/21</u>	
GENERAL SYSTEM NOTES	
Trailer	
1) Performed general housekeeping (i.e. sweep, collect trash inside and out, etc.)	Yes _____ No ☒
2) Abnormal conditions observed (e.g. vandalism)	None
3) Other major activities completed	Fire Extinguisher checked
4) Supplies needed	None
5) Visitors	None
OPERATIONAL NOTES	
IGA5 Air Compressor	
1) Oil Level Checked with system unloaded*	Yes ☒ No _____
* Unload system, wait until Delivery Air Pressure is less than 30psi	
2) Oil Level with system unloaded	Low (red) _____ Normal (green) ☒ High (orange) _____
3) Oil added	Yes _____ No ☒
4) Oil changed	Yes _____ No ☒
5) Oil filter changed	Yes _____ No ☒
6) Air filter Changed	Yes _____ No ☒
7) Oil separator changed	Yes _____ No ☒
8) Terminal strips checked	Yes _____ No ☒
AS-20 O₂ Generator	
1) Prefilter changed	Yes _____ No ☒
2) Coalescing changed	Yes _____ No ☒

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET Hantsland Intersection Oxygen Injection Remedial System Number 1											
Oxygen Injection Remedial System Number 1 National Grid Interim Remedial Measure Project No. 1702827-30-1					Date: <u>10/25/21</u> Time: <u>0710</u> Weather: <u>62-72°F Partly Cloudy</u> Inside Trailer Temperature: <u>70's Hot</u> Performed By: <u>Greg Vanden...</u>						
Hours: <u>40,698</u>					Compressor Tank * <u>140</u> (psi)						
Feed Air Pressure * <u>160</u> (psi)					Delivery Air <u>140</u> (psi)						
Cycle Pressure * High: <u>67</u> <u>70</u> (psi) (L/R) Low: <u>4</u> <u>8</u> (psi)					Element Outlet Temperature <u>196</u> (°F)						
Oxygen Receiver Pressure * <u>72</u> (psi)					Running Hours <u>22,527</u> (hours)						
Oxygen Receiver Tank Pressure (reading from blue tank) <u>112.5</u> (psi)					Loading Hours <u>15,573</u> (hours)						
Oxygen Purity <u>82.1</u> (percent)					* maximum reading during loading cycle						
Hours: <u>15,660.08</u>					Condensate Purged (Y/N) Condensate Emptied (Y/N)						
Injection Bank 1				Injection Bank 2				Injection Bank 3			
OW-1-1	83.5	30	26	OW-1-5S	87.0	31	18.0	OW-1-10D	87.2	28	27
OW-1-2	83.5	-	-	OW-1-6S	87.8	28	18.0	OW-1-11D	88.1	30	29
OW-1-3	88.3	26	30	OW-1-7S	89.9	29	17.0	OW-1-12D	85.3	28	28
OW-1-4	85.0	28	30	OW-1-8S	82.7	32	18.0	OW-1-13D	84.7	30	28
OW-1-5D	82.9	30	29	OW-1-9S	80.0	31	18.0	OW-1-14D	84.1	30	28
OW-1-6D	82.4	29	29	OW-1-10S	54.5	32	13.0	OW-1-15D	83.3	28	28
OW-1-7D	81.1	29	29	OW-1-11S	80.1	31	14.0	OW-1-16D	82.5	29	14
OW-1-8D	83.6	28	28	OW-1-12S	83.6	32	14.0				
Comments: All Points set at 30 each											
Notes:											

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET Date: <u>10/25/21</u> Municipal Wastewater Treatment Plant Oxygen Injection System Number 1											
Injection Bank 4				Injection Bank 5				Injection Bank 6			
	Depth (ft)	scfh	psf		Depth (ft)	scfh	psf		Depth (ft)	scfh	psf
OW-1-13S	53.1	34	13.0	OW-1-17D	79.5	31	13.0	OW-1-21S	49.3	31	11.0
OW-1-14S	52.7	33	14.0	OW-1-18D	78.1	32	26.0	OW-1-22S	49.3	29	11.0
OW-1-15S	52.2	35	13.0	OW-1-19D	78.9	31	26.0	OW-1-23S	48.8	29	11.0
OW-1-16SR	51.8	30	26.0	OW-1-20D	78.5	32	26.0	OW-1-24S	48.4	29	11.0
OW-1-17S	50.7	32	24.0	OW-1-21D	78.5	29	29.0	OW-1-25S	48.8	34	12.0
OW-1-18S	50.2	32	12.0	OW-1-22D	78.5	29	24.0	OW-1-26S	48.3	32	12.0
OW-1-19S	49.7	—	—	OW-1-23D	78.7	32	24.0	OW-1-27S	48.3	36	13.0
OW-1-20S	49.3	—	—	OW-1-24D	78.2	30	26.0	OW-1-28S	48.3	30	13.0
Comments:				All Points set at 30 scfh							
Injection Bank 7				Injection Bank 8				Injection Bank 9			
	Depth (ft)	scfh	psf		Depth (ft)	scfh	psf		DTW	DO (mg/L)	PI2
OW-1-25D	78.1	31	26.0	OW-1-29S	49.5	32	12.0	OW-1-33D	80.2	28	28.0
OW-1-26D	78.1	34	26.0	OW-1-30S	49.8	31	13.0	OW-1-34D	84.5	30	28.0
OW-1-27D	77.9	32	27.0	OW-1-31S	49.3	27	13.0	OW-1-35D	85.0	36	28.0
OW-1-28D	78.0	31	26.0	OW-1-32S	49.3	28	12.0	OW-1-36D	85.0	30	29.0
OW-1-29D	78.4	34	26.0	OW-1-33S	49.7	32	13.0	OW-1-37D	84.0	32	28.0
OW-1-30D	79.0	24	36.0	OW-1-34S	50.1	32	12.0	OW-1-38D	82.0	26	26.0
OW-1-31D	80.5	—	—	OW-1-35S	50.3	27	13.0	OW-1-39D	78.0	30	26.0
OW-1-32D	81.6	23	28	OW-1-36S	50.3	30	13.0	OW-1-40D	78.0	28	25.0
Comments:				All points set at 30 scfh							
Notes:											

Date: 10/25/21

Researcher's Findings: Common Infection Found in Many Patients

Injection Bank 10				Injection Bank 11				Injection Bank 12			
OW	Depth (ft)	scfh	psi	OW	Depth (ft)	scfh	psi	OW	Depth (ft)	scfh	psi
OW-1-37S	50.5	27	12.0	OW-1-41D	73.6	31	22.0	OW-1-43	87.4	30	20.0
OW-1-38S	50.6	30	13.0	OW-1-42D	71.0	28	20.0	OW-1-44	86.6	30	18.0
OW-1-39S	50.7	33	13.0	OW-1-45	65.7	29	18.0	OW-1-51R	83.5	30	16.0
OW-1-45S	51.1	29	14.0	OW-1-46	64.3	28	18.0	OW-1-52	59.3	28	16.0
OW-1-41S	51.5	30	14.0	OW-1-47	63.4	34	17.0	OW-1-53	60.0	31	16.0
OW-1-42S	51.3	29	13.0	OW-1-48	62.5	29	18.0	OW-1-54	60.0	28	16.0
-	-	-	-	OW-1-49	61.5	30	16.0	-	-	-	-
-	-	-	-	OW-1-50	61.0	25	16.0	-	-	-	-

Comments:

All Points set at 20 each

A rectangular grid with 10 columns and 10 rows. Two diagonal lines intersect in the center of the grid, forming an 'X' shape. The lines extend from the corners of the grid to the opposite corners. The grid lines are thin and black, while the diagonal lines are thicker and black. The background is white.

Contents:

All points set at 30,000

• *De la formation des idées*

Date: 10/25/21

GENERAL OPERATIONS

Trailer

- 1) Performed general housekeeping (i.e. sweep/collected trash inside and out, etc.)
Yes ☒ No ☐
- 2) Abnormal conditions observed (e.g. vandalism) None
- 3) Other major activities completed Added oil to compressor, swept floor, wiped down surfaces
- 4) Supplies needed Oil for compressor, Paper Towels & surface cleaners
- 5) Visitors George Holmes

OPERATIONAL NOTES

GA5 Air Compressor

- 1) Oil Level Checked with system unloaded* Yes ☒ No ☐
* Unload system, wait until Delivery Air Pressure is less than 8 psi
- 2) Oil Level with system unloaded
Low (red) ☒ Normal (green) ☐ High (orange) ☐
- 3) Oil added Yes ☒ No ☐
- 4) Oil changed Yes ☐ No ☒
- 5) Oil filter changed Yes ☐ No ☒
- 6) Air filter Changed Yes ☐ No ☒
- 7) Oil separator changed Yes ☐ No ☒
- 8) Terminal strips checked Yes ☐ No ☒

AS-80 O₂ Generator

- 1) Prefilter changed Yes ☐ No ☒
- 2) Coalescing changed Yes ☐ No ☒

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET Hempstead Interceptor Oxygen Injection Remedial System Number 1											
Oxygen Injection Remedial System Number 1 National Grid Interim Remedial Measure Project No. 1702827-30-1					Date: <u>12/3/21</u> Time: <u>0700</u> Weather: <u>34-50° partly cloudy</u> Inside Trailer Temperature: <u>42.5 not recordable</u> Performed By: <u>K. Danilson</u>						
Hours: <u>41,253</u>					Compressor Tank *: <u>140</u> (psi)						
Feed Air Pressure *: <u>94</u> (psi)					Delivery Air: <u>135</u> (psi)						
Cycle Pressure *: High: <u>67</u> <u>69</u> (psi) (L/R) Low: <u>3</u> <u>5</u> (psi)					Element Outlet Temperature: <u>197</u> (°F)						
Oxygen Receiver Pressure *: <u>49</u> (psi)					Running Hours: <u>23,429</u> (hours)						
Oxygen Receiver Tank Pressure: (reading from blue tank) <u>45</u> (psi)					Loading Hours: <u>16,118</u> (hours)						
Oxygen Purity: <u>84.3</u> (percent)					* maximum reading during loading cycle						
Hours: <u>15,660</u>					Condensate Purged (Y/N): Condensate Emptied (Y/N):						
Injection Bank 1				Injection Bank 2				Injection Bank 3			
Point #	psi	scfm	psi	Point #	psi	scfm	psi	Point #	psi	scfm	psi
OW-1-1	88.5	26	27.0	OW-1-33	87.0	28	18.0	OW-1-101	83.5	30	28.0
OW-1-2	88.5			OW-1-35	87.0	20	18.0	OW-1-102	87.2	27	27.5
OW-1-3	88.3	32	30.0	OW-1-75	88.0	29	18.5	OW-1-110	88.1	30	29.0
OW-1-4	85.0	32	29.5	OW-1-68	88.7	27	18.0	OW-1-120	85.3	31	28.0
OW-1-50	83.9	27	29.0	OW-1-65	88.0	26	18.0	OW-1-120	84.7	30	28.5
OW-1-60	82.4	29	29.5	OW-1-105	84.6	27	14.0	OW-1-140	84.1	30	28.0
OW-1-70	81.1	28	29.0	OW-1-115	88.1	26	14.5	OW-1-150	83.3	32	28.5
OW-1-80	83.6	30	29.0	OW-1-125	88.6	28	15.0	OW-1-160	82.5	30	14.5
Comments: All Points set at 20 scfm											
Notes:											

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET Associated Injection Oxygen Injection Control System Number 1											
Injection Bank 4				Injection Bank 5				Injection Bank 6			
	Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		Depth (ft)	scfh	psi
OW-1-13S	53.1	29	17.5	OW-1-17D	79.5	30	13.0	OW-1-21S	49.3	30	12.0
OW-1-14S	52.7	30	13.0	OW-1-18D	78.0	30	25.5	OW-1-22S	49.3	30	11.5
OW-1-15S	52.2	28	12.5	OW-1-19D	78.9	14	26.0	OW-1-23S	48.8	30	10.5
OW-1-16SR	51.9	26	12.0	OW-1-20D	79.5	30	26.5	OW-1-24S	48.4	29	11.0
OW-1-17S	50.7	26	27.6	OW-1-21D	78.5	30	25.5	OW-1-25S	48.8	30	13.0
OW-1-18S	50.2	26	27.5	OW-1-22D	78.5	27	25.0	OW-1-26S	48.3	30	13.0
OW-1-19S	49.7			OW-1-23D	78.7	30	25.0	OW-1-27S	48.3	29	12.5
OW-1-20S	49.3			OW-1-24D	78.2	31	27.0	OW-1-28S	48.3	11	13.5
Comments:				All Points out at 30 scfh							

Injection Bank 7				Injection Bank 8				Injection Bank 9			
	Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		DTW	DO (mg/l)	PID
OW-1-25D	78.1	30	26.5	OW-1-29S	45.5	30	12.0	OW-1-33D	89.2	24	28.0
OW-1-26D	78.1	26	26.5	OW-1-30S	48.8	30	13.5	OW-1-34D	84.5	28	27.5
OW-1-27D	77.9	30	27.0	OW-1-31S	49.3	27	13.0	OW-1-35D	85.0	29	28.0
OW-1-28D	78.0	31	26.5	OW-1-32S	48.3	31	12.0	OW-1-36D	83.8	25	27.0
OW-1-29D	78.4	29	25.5	OW-1-33S	49.7	29	13.5	OW-1-37D	84.0	24	28.0
OW-1-30D	79.0	38	34.5	OW-1-34S	50.1	28	12.5	OW-1-38D	82.0	28	26.5
OW-1-31D	80.5	26		OW-1-35S	50.3	26	12.5	OW-1-39D	78.0	28	26.0
OW-1-32D	81.6	29	29.0	OW-1-36S	50.3	29	13.0	OW-1-40D	78.0	22	25.0
Comments:				All points out at 30 scfh							
Notes:											

Date:

Injection Bank 10				Injection Bank 11				Injection Bank 12			
Depth (ft)	scm	psi		Depth (ft)	scm	psi		Depth (ft)	scm	psi	
OW-1-37S	50.5	20	12.0	OW-1-41D	73.0	25	22.5	OW-1-43	87.4	24	19.5
OW-1-38S	50.6	25	12.5	OW-1-42D	71.0	22	20.5	OW-1-44	86.8	29	18.0
OW-1-39S	50.7	22	13.0	OW-1-45	65.7	24	19.0	OW-1-51R	60.6	23	16.0
OW-1-40S	51.1	25	14.0	OW-1-46	64.3	24	18.5	OW-1-52	59.3	22	15.5
OW-1-41S	51.5	30	13.5	OW-1-47	63.4	25	17.0	OW-1-53	60.0	21	16.0
OW-1-42S	51.3	27	13.0	OW-1-48	62.5	24	18.0	OW-1-54	60.0	23	15.0
-	-			OW-1-49	61.5	24	16.5	-	-		
-	-			OW-1-50	61.0	22	16.5	-	-		
Comments:				All Points set at 30 scm							

[illegible]

Date: _____	
GENERAL SYSTEM NOTES	
Tire	
1) Performed general housekeeping (i.e. sweep/collect trash inside and out, etc.)	Yes ☒ No ☐
2) Abnormal conditions observed (e.g. vandalism)	NKD Fire extinguisher needed
3) Other major activities completed	None
4) Supplies needed	Fire Extinguisher
5) Visitors	None
OPERATIONAL NOTES	
GSAS Air Compressor	
1) Oil Level Checked with system unloaded*	Yes ☒ No ☐
* Unload system, wait until Delivery Air Pressure is less than 9 psi	
2) Oil Level with system unloaded	Low (red) _____ Normal (green) ☒ High (orange) _____
3) Oil added	Yes _____ No ☒
4) Oil changed	Yes _____ No ☒
5) Oil filter changed	Yes _____ No ☒
6) Air filter Changed	Yes _____ No ☒
7) Oil separator changed	Yes _____ No ☒
8) Terminal strips checked	Yes _____ No ☒
AS-80 C. Generator	
1) Prefilter changed	Yes _____ No ☒
2) Coalescing changed	Yes _____ No ☒

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET Hampstead Interceptor Oxygen Injection Remedial System Number 1											
Oxygen Injection Remedial System Number 1 National Grid Interim Remedial Measure Project No. 1702827-30-1					Date: <u>12/28/21</u> Time: <u>1000</u> Weather: <u>40's, Partly Cloudy</u> Inside Trailer Temperature: <u>Warm, Operational</u> Performed By: <u>C. Hayes</u>						
Hours <u>41,648</u>					Compressor Tank * <u>126</u> (psi)						
Feed Air Pressure * <u>126</u> (psi)					Delivery Air <u>140</u> (psi)						
Cycle Pressure * High: <u>68</u> <u>71</u> (psi) (L/R) Low: <u>5</u> <u>4</u> (psi)					Element Outlet Temperature <u>203</u> (°F)						
Oxygen Receiver Pressure * <u>72</u> (psi)					Running Hours <u>23,874</u> (hours)						
Oxygen Receiver Tank Pressure (reading from blue tank) <u>113</u> (psi)					Loading Hours <u>16,402</u> (hours)						
Oxygen Purity <u>80.8%</u> (percent)											
* maximum reading during loading cycle					* maximum reading during loading cycle						
Hours: <u>15,660.08</u>					Condensate Purged ☒ (Y) / ☐ (N) Condensate Emptied ☒ (Y) / ☐ (N)						
Injection Bank 1				Injection Bank 2				Injection Bank 3			
OW-1-1	OW-1-2	OW-1-3	OW-1-4	OW-1-5	OW-1-6	OW-1-7	OW-1-8	OW-1-9	OW-1-10	OW-1-11	OW-1-12
35	31	29	31	33	31	30	31	33	31	33	31
26.0	27.0	29.0	30.0	29.0	27.0	29.0	28.0	29.0	27.0	29.0	28.0
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
35	31	29	31	33	31	30	31	33	31	33	31
26.0	27.0	29.0	30.0	29.0	27.0	29.0	28.0	29.0	27.0	29.0	28.0
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
35	31	29	31	33	31	30	31	33	31	33	31
26.0	27.0	29.0	30.0	29.0	27.0	29.0	28.0	29.0	27.0	29.0	28.0
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
35	31	29	31	33	31	30	31	33	31	33	31
26.0	27.0	29.0	30.0	29.0	27.0	29.0	28.0	29.0	27.0	29.0	28.0
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
35	31	29	31	33	31	30	31	33	31	33	31
26.0	27.0	29.0	30.0	29.0	27.0	29.0	28.0	29.0	27.0	29.0	28.0
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
35	31	29	31	33	31	30	31	33	31	33	31
26.0	27.0	29.0	30.0	29.0	27.0	29.0	28.0	29.0	27.0	29.0	28.0
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
35	31	29	31	33	31	30	31	33	31	33	31
26.0	27.0	29.0	30.0	29.0	27.0	29.0	28.0	29.0	27.0	29.0	28.0
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
35	31	29	31	33	31	30	31	33	31	33	31
26.0	27.0	29.0	30.0	29.0	27.0	29.0	28.0	29.0	27.0	29.0	28.0
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
35	31	29	31	33	31	30	31	33	31	33	31
26.0	27.0	29.0	30.0	29.0	27.0	29.0	28.0	29.0	27.0	29.0	28.0
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
35	31	29	31	33	31	30	31	33	31	33	31
26.0	27.0	29.0	30.0	29.0	27.0	29.0	28.0	29.0	27.0	29.0	28.0
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
35	31	29	31	33	31	30	31	33	31	33	31
26.0	27.0	29.0	30.0	29.0	27.0	29.0	28.0	29.0	27.0	29.0	28.0
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
35	31	29	31	33	31	30	31	33	31	33	31
26.0	27.0	29.0	30.0	29.0	27.0	29.0	28.0	29.0	27.0	29.0	28.0
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
35	31	29	31	33	31	30	31	33	31	33	31
26.0	27.0	29.0	30.0	29.0	27.0	29.0	28.0	29.0	27.0	29.0	28.0
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
35	31	29	31	33	31	30	31	33	31	33	31
26.0	27.0	29.0	30.0	29.0	27.0	29.0	28.0	29.0	27.0	29.0	28.0
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
35	31	29	31	33	31	30	31	33	31	33	31
26.0	27.0	29.0	30.0	29.0	27.0	29.0	28.0	29.0	27.0	29.0	28.0
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
35	31	29	31	33	31	30	31	33	31	33	31
26.0	27.0	29.0	30.0	29.0	27.0	29.0	28.0	29.0	27.0	29.0	28.0
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
35	31	29	31	33	31	30	31	33	31	33	31
26.0	27.0	29.0	30.0	29.0	27.0	29.0	28.0	29.0	27.0	29.0	28.0
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
35	31	29	31	33	31	30	31	33	31	33	31
26.0	27.0	29.0	30.0	29.0	27.0	29.0	28.0	29.0	27.0	29.0	28.0
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
35	31	29	31	33	31	30	31	33	31	33	31
26.0	27.0	29.0	30.0	29.0	27.0	29.0	28.0	29.0	27.0	29.0	28.0
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
35	31	29	31	33	31	30	31	33	31	33	31
26.0	27.0	29.0	30.0	29.0	27.0	29.0	28.0	29.0	27.0	29.0	28.0
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
35	31	29	31	33	31	30	31	33	31	33	31
26.0	27.0	29.0	30.0	29.0							

OXYGEN INJECTION OPERATION AND MAINTENANCE LOG SHEET 4-Channel Injection Oxygen Injection Remote Control System Number 1											
Date: <u>12/28/21</u>											
Injection Bank 4				Injection Bank 5				Injection Bank 6			
	Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		Depth (ft)	scfh	psi
OW-1-13S	53.1	29	13.0	OW-1-17D	79.5	30	13.0	OW-1-21S	49.3	31	11.0
OW-1-14S	52.7	29	14.0	OW-1-18D	78.3	30	26.0	OW-1-22S	49.3	28	11.0
OW-1-15S	52.2	29	13.0	OW-1-19D	78.9	36	26.0	OW-1-23S	48.8	29	11.0
OW-1-16SR	51.8	28	16.0	OW-1-20D	79.5	30	26.0	OW-1-24S	48.4	32	11.0
OW-1-17S	50.7	28	25.0	OW-1-21D	79.5	27	25.0	OW-1-25S	48.8	32	13.0
OW-1-18S	50.2	30	12.0	OW-1-22D	79.5	26	25.0	OW-1-26S	48.3	31	13.0
OW-1-19S	49.7	Point	off	OW-1-23D	78.7	28	25.0	OW-1-27S	48.3	35	13.0
OW-1-20S	49.3	Point	off	OW-1-24D	78.2	31	26.0	OW-1-28S	48.3	410	14.0
Comments:				All Points out at 30 scfh							
Injection Bank 7				Injection Bank 8				Injection Bank 9			
	Depth (ft)	scfh	psi		Depth (ft)	scfh	psi		DTW	DO (mg/L)	PID
OW-1-29D	78.1	34	26.0	OW-1-29S	48.5	29	12.0	OW-1-33D	82.2	29	28.0
OW-1-28D	78.1	31	26.0	OW-1-30S	48.8	31	13.0	OW-1-34D	84.5	32	28.0
OW-1-27D	77.9	34	27.0	OW-1-31S	49.3	28	13.0	OW-1-35D	85.0	34	28.0
OW-1-28D	78.0	30	26.0	OW-1-32S	49.3	32	12.0	OW-1-36D	85.8	34	29.0
OW-1-29D	78.4	32	26.0	OW-1-33S	49.7	30	13.0	OW-1-37D	84.0	35	28.0
OW-1-30D	79.0	38	35.0	OW-1-34S	50.1	37	12.0	OW-1-38D	82.6	27	27.0
OW-1-31D	80.5	Point	off	OW-1-35S	50.3	30	13.0	OW-1-39D	78.0	31	26.0
OW-1-32D	81.6	24	27.0	OW-1-36S	50.3	30	13.0	OW-1-40D	78.0	34	25.0
Comments:				All points out at 30 scfh							
Notes:											

Date: <u>12/28/21</u>	
GENERAL OPERATIONS	
Trailer	
1) Performed general housekeeping (i.e. sweep/collect trash inside and out, etc.)	Yes ☒ No ☐
2) Abnormal conditions observed (e.g. vandalism)	<u>None</u>
3) Other major activities completed	<u>None</u>
4) Supplies needed	<u>None</u>
5) Visitors	<u>None</u>
OPERATIONAL NOTES	
GAS Air Compressor	
1) Oil Level Checked with system unloaded*	Yes ☒ No ☐
* Unload system, wait until Delivery Air Pressure is less than 9 psi	
2) Oil Level with system unloaded	Low (red) ☐ Normal (green) ☒ High (orange) ☐
3) Oil added	Yes ☐ No ☒
4) Oil changed	Yes ☐ No ☒
5) Oil filter changed	Yes ☐ No ☒
6) Air filter Changed	Yes ☐ No ☒
7) Oil separator changed	Yes ☐ No ☒
8) Terminal strips checked	Yes ☐ No ☒
AS-50 O₂ Generator	
1) Prefilter changed	Yes ☐ No ☒
2) Coalescing changed	Yes ☐ No ☒

Periodic Review Report
March 28, 2021 – March 28, 2022
Hempstead Intersection Street Former MGP Site
Town of Hempstead, Nassau County, New York
Site ID #1-30-086
April 2022

Appendix E

Institutional and Engineering Controls Certification Form



Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form



Site Details

Box 1

Site No. **130086**

Site Name **K - Intersection St. - Hempstead MGP**

Site Address: Intersection St. Zip Code: 11530-
City/Town: Hempstead
County: Nassau
Site Acreage: 7.580

Reporting Period: March 28, 2021 to March 28, 2022

YES NO

1. Is the information above correct? ☒ ☐

If NO, include handwritten above or on a separate sheet.

2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period? ☐ ☒

3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))? ☐ ☒

4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period? ☐ ☒

If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.

5. Is the site currently undergoing development? ☐ ☒

Box 2

YES NO

6. Is the current site use consistent with the use(s) listed below? ☒ ☐
Restricted-Residential, Commercial, and Industrial

7. Are all ICs in place and functioning as designed? ☒ ☐

**IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and
DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.**

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

Description of Institutional Controls

<u>Parcel</u>	<u>Owner</u>	<u>Institutional Control</u>
34-174-1	KeySpan Gas East Corp	Ground Water Use Restriction Soil Management Plan Landuse Restriction Site Management Plan
Property use must be restricted residential, commercial, or industrial Groundwater use is prohibited without treatment Groundwater must be monitored per the SMP Data must be reported per the SMP Implement HASP and Excavation Work Plan prior to ground intrusive activity except landscaping		
34-174-208A	KeySpan Gas East Corp	Landuse Restriction Site Management Plan Soil Management Plan Ground Water Use Restriction
Property use must be restricted residential, commercial, or industrial Groundwater use is prohibited without treatment Groundwater must be monitored per the SMP Data must be reported per the SMP Implement HASP and Excavation Work Plan prior to ground intrusive activity except landscaping		
34-174-208B	KeySpan Gas East Corp.	Ground Water Use Restriction Soil Management Plan Landuse Restriction Site Management Plan
Property use must be restricted residential, commercial, or industrial Groundwater use is prohibited without treatment Groundwater must be monitored per the SMP Data must be reported per the SMP Implement HASP and Excavation Work Plan prior to ground intrusive activity except landscaping		
34-174-209A	KeySpan Gas East Corp	Landuse Restriction Site Management Plan Soil Management Plan Ground Water Use Restriction
Property use must be restricted residential, commercial, or industrial Groundwater use is prohibited without treatment Groundwater must be monitored per the SMP Data must be reported per the SMP Implement HASP and Excavation Work Plan prior to ground intrusive activity except landscaping		
34-174-209B	KeySpan Gas East Corp	Ground Water Use Restriction Soil Management Plan Landuse Restriction Site Management Plan
Property use must be restricted residential, commercial, or industrial Groundwater use is prohibited without treatment		

Groundwater must be monitored per the SMP
Data must be reported per the SMP
Implement HASP and Excavation Work Plan prior to ground intrusive activity except landscaping

Box 4

Description of Engineering Controls

Parcel

Engineering Control

34-174-1

Groundwater Treatment System
Cover System

Provision of two-foot thick soil cover
Active oxygen delivery system in area of impacted groundwater

34-174-208A

Groundwater Treatment System
Cover System

Provision of two-foot thick soil cover
Active oxygen delivery system in area of impacted groundwater

34-174-208B

Groundwater Treatment System
Cover System

Provision of two-foot thick soil cover
Active oxygen delivery system in area of impacted groundwater

34-174-209A

Groundwater Treatment System
Cover System

Provision of two-foot thick soil cover
Active oxygen delivery system in area of impacted groundwater

34-174-209B

Groundwater Treatment System
Cover System

Provision of two-foot thick soil cover
Active oxygen delivery system in area of impacted groundwater

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the Engineering Control certification;

b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and complete.

YES NO

☒ ☐

2. For each Engineering control listed in Box 4, I certify by checking "YES" below that all of the following statements are true:

(a) The Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

(b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

(c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

(d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

(e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES NO

☒ ☐

**IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and
DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.**

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

**IC CERTIFICATIONS
SITE NO. 130086**

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Christopher Morris at 1000 New York Avenue, Huntington Station, NY
print name print business address

am certifying as agent for National Grid (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.



Signature of Owner, Remedial Party, or Designated Representative
Rendering Certification

4/26/22

Date

EC CERTIFICATIONS

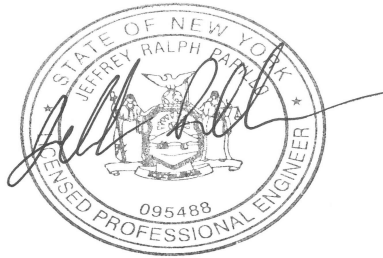
Box 7

Qualified Environmental Professional Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Jeff Parillo at 455 Winding Brook Drive (Suite 201), Glastonbury, CT
print name print business address

I am certifying as a Qualified Environmental Professional for the Owner/Remedial Park
Remedial Party)



Signature of Qualified Environmental Professional, for
the Owner or Remedial Party, Rendering Certification

Stamp
(Required for PE)

4/26/22
Date