GEI Consultants

October 16, 2018

Geotechnical
Environmental
Water Resources
Ecological

Mr. David Szymanski
Project Manager
New York State Department of Environmental Conservation
Division of Environmental Remediation
270 Michigan Avenue – 3rd Floor
Buffalo, New York 14203

Subject: **Site Management Periodic Review Report and IC/EC Certification Submittal**
Mineral Springs Road MGP Site (NYSDEC Site #V00195)

Dear Mr. Szymanski:

On behalf of National Fuel Gas (NFG), GEI Consultants, Inc. P.C. (GEI) is submitting the attached Periodic Review Report and IC/EC Certification Submittal for the via email transmittal. A hardcopy will follow via UPS.

Please contact Mr. Brad Walker of NFG at 716-857-7247 if you have any questions.

Sincerely yours,
GEI CONSULTANTS, INC., P.C.

Richard H. Frappa, P.G.
Senior Consultant

Kelly R. McIntosh, Ph.D., P.E.
Senior Consultant

Enclosure
cc: C. Staniszewski, NYSDEC (1 electronic copy - email)
B. Walker (1 hardcopy - UPS,1 electronic copy - email)
T. Alexander (1 electronic copy – email)

GEI Consultants

Consulting
Engineers and
Scientists

Site Management Periodic Review Report and IC/EC Certification (2018)

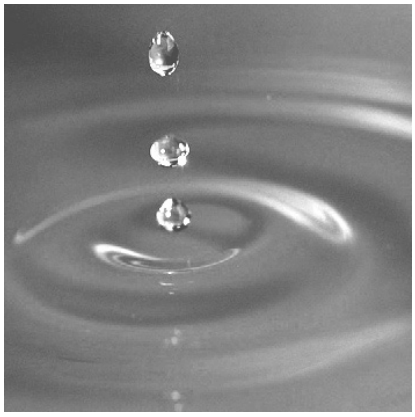
NFG - Mineral Springs MGP - Site No. V00195
West Seneca, New York

Submitted to:
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
Buffalo, New York

Submitted by:
GEI Consultants, Inc., P.C.
90B John Muir Drive, Suite 104
Amherst, NY 14228

On behalf of:
National Fuel Gas Distribution Corporation
Williamsville, New York 14221

October 2018
Project 1801042



Richard H. Frappa, P.G.
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Kelly R. McIntosh, P.E., Ph.D.
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1. Executive Summary

GEI Consultants, Inc., P.C. (GEI) was retained to conduct and prepare the 2018 Site Management Periodic Review Report (PRR) and IC/EC Certification submittal for the Mineral Springs Road Former Manufactured Gas Plant (MGP) Site located in West Seneca, New York. This PRR presents and evaluates the results of operation and maintenance (O&M) activities performed at the site over the past year and since completion of remedial actions. The O&M activities include visual inspections of remediated areas, semiannual groundwater and surface water quality monitoring, manual checks on DNAPL recovery from well RTW-1, and cap maintenance activities.

In conducting this periodic review, GEI reviewed the components of the O&M Plan established for the site in May 2002 (serves as the Site Management Plan or {SMP}) to determine proper implementation of the O&M Plan activities for the compliance period September 16, 2017 to September 16, 2018. GEI has determined the following:

- ICs/ECs have been in place and effective.
- Inspections were performed as required.
- Groundwater and surface water monitoring (including mobile DNAPL recovery) was implemented as required.

Based upon the inspections and compliance with the O&M Plan, the site remedy continues to meet the remedial objectives for the site.

Recommendations for 2019 include:

- Discontinue the additional sampling and analysis for total and free cyanide at surface water sample locations SW-3 through SW-5 as no correlation has been observed.
- Monitoring of total and free cyanide concentration trends at well MW-16 and its effect on surface water quality at SW-1.
- Continued cap maintenance and repair (where necessary) including integrity upkeep of storm water catch basins penetrating asphalt caps.

2. Site Overview

2.1 Site Description

The Site is currently an active National Fuel Gas (NFG or National Fuel) service center consisting of approximately 81 acres and includes seven active buildings, numerous parking areas, pipeline equipment and staging areas, and undeveloped areas. The Site location and Site layout are shown in Figures 1 and 2, respectively.

NFG completed remedial construction which included source removal and containment in 2001 under a Voluntary Cleanup Agreement (VCA) No. B9-0538-98-08 between NFG and the New York State Department of Environmental Conservation (NYSDEC). Remedial and engineering control features include perimeter fencing, six asphalt caps, a clay cap, an HDPE cap, and a capped drainage feature consisting of both clay and HDPE caps. National Fuel performs operations and maintenance activities for the remedy in accordance with the Final Engineering Report, Volume II – Operations and Maintenance Plan, dated May 2002 (O&M Plan).

2.2 Site Conditions and Investigation History

The Site is relatively flat-lying. An unnamed surface water drainage feature, designated as a Class D stream, is situated along the southern site boundary and flows in a westward direction. The stratigraphy of the site in order of occurrence is:

- soil fill (4 to 8 feet in thickness);
- approximately 10 feet of a laterally extensive clay (referred to as the upper confining clay layer {UCL});
- silt, sand, and gravel; and
- a lower confining clay layer (LCL), and bedrock.

Overburden groundwater is typically encountered 5 to 12 feet below ground surface and fluctuates approximately 2 feet seasonally. Overburden groundwater flow is generally to the north and northwest toward Mineral Springs Road, Calais Street, and the Buffalo River. Average overburden groundwater velocity across the site was estimated to be approximately 0.06 feet per day (22 feet per year). Typical groundwater flow directions are shown on Figure 3.

In 1990 and 1995, investigations and soil remediation activities were performed near an oil-water separator pit in the central area of the site. In 1997 and 1998, a Preliminary Site Assessment (PSA) and a follow-up PSA Addendum were conducted. The assessments concluded that soil

and groundwater at the site were impacted by MGP residues including dense non-aqueous phase liquids (DNAPL) and purifier waste materials containing cyanide.

2.3 Site Remedial Program Summary

An interim remedial measure (IRM) was conducted at the Site in December 1997 and 407 tons of purifier residuals were removed from the southwest corner of the Site. On August 4, 1998 NFG submitted a Voluntary Cleanup Agreement (VCA) program application (VCA number B9-0538-98-08) which was executed by NFG and NYSDEC (November 7, 1999). A Remedial Design Work Plan was subsequently prepared and implemented and the following remedial tasks were completed in 2002:

- Excavation and proper off-site disposal of 32,200 tons of contaminated soil, rubble, and purifier waste.
- Construction of engineering controls including 39,369 square feet of clay cap, 76,144 square feet of geomembrane and 130,890 square feet of asphalt cap over areas where purifier waste was located.
- Capping of hydrocarbon seeps within the Eastern Drainage Ditch (EDD), including construction of 640 linear feet of geosynthetic cap and 750 linear feet of clay cap.
- Installation of additional chain link security fence around the site perimeter.
- Implementation of site use and deed restrictions.
- Collection, treatment, and disposal of 207,000 gallons of contaminated groundwater.

Details of the remedial actions are presented in the Final Engineering Report (FER) prepared by The RETEC Group (May 2002).

Following remedial activities completed in 2002, bluish stained soils near Building 3 were identified and investigated in 2008 and a 24,000 square foot asphalt cap was installed immediately to the east of the existing building (Building 3 East Asphalt Cap {B3EAC}). Work to install the cap in the area occurred in June and July 2008. The new cap was designated as the Building 8 West Asphalt Cap (B8WAC). In July 2013, soil impacted with purifier wastes was observed in the southwestern corner of the site, outside of the perimeter fence on the western and southwestern site boundaries, near residential properties on Calais Street. NFG completed a series of Corrective Measure (CM) activities in the area where impacts were observed. CM activities to address purifier waste impacted soils in the southwest corner near the west property line were implemented in November 2013. CM activities to remove fill materials that exceeded the NYSDEC Residential Soil Cleanup Objectives were implemented in October 2014. Remedial areas are shown on Figure 2.

2.4 O&M Plan

O&M requirements for the Site are documented in the NYSDEC-approved O&M Plan dated May 2002 which also serves as the SMP for the site. Components of the SMP for the Mineral Springs Site include:

Activity	Frequency	Description	Notes
Groundwater/ Surface Water Monitoring	Semiannual	Groundwater and surface water quality monitoring (see Table 1).	Frequency reduced from 3Xs to 2Xs/year in 2005 with NYSDEC approval.
DNAPL Recovery Test Well	Semiannual	DNAPL recovery from well RTW-1.	Manual periodic removal since 2002 as de minimis volume is recovered.
Site Inspections	Annual	Maintenance and inspection of the following remedial components: • Clay, geomembrane, asphalt caps • Evidence of MGP residuals • Site perimeter fencing • Stream bordering south property line	
Reporting	Semiannual Annual	Groundwater and Surface Water Monitoring Report PRR (O&M)	Beginning in 2011, a PRR is submitted to meet NYSDEC DER-10 requirements.

These O&M requirements were conducted between September 16, 2017 and September 16, 2018.

3. Remedy Performance Evaluation

The objectives of the remedial actions completed at the Site include the following: 1. Prevent human contact with compounds of concern (COCs) in soil and sediment; 2. Prevent human contact or ingestion of COCs in groundwater; and 3. Prevent leaching of COCs from MGP residuals in soil to groundwater and surface water.

The remedial action objectives were achieved through implementation of engineering controls (ECs) through soil removal (excavation) and capping areas where MGP residuals remain in place. Additionally, implementation of institutional controls (ICs) effectively limit site use to minimize human exposure to COCs.

The remedial performance is evaluated based on implementation of activities described in Section 2.4 which consisted of the following activities taking place between September 16, 2017 and September 16, 2018:

- Annual inspection on April 25, 2018.
- Groundwater monitoring events on April 17-18, 2018 and August 14-15, 2018.
- Submittal of groundwater and surface water monitoring reports on July 12, 2018 and September 26, 2018.
- 2018 cap maintenance activities:
    - Mowing of Eastern Swale High-Density Polyethylene (HDPE) Cap (ESHC) and Clay Cap (CC); and
    - Repair (asphalt patching and re-sealing) to Building 3 South Asphalt Cap (B3SAC).

Other environmental activities which were completed at the Mineral Springs Site in the period covered by this report included continuation of free cyanide analysis in surface water samples and monitoring well MW-11A.

3.1 Annual Site Inspection

The 2018 annual inspection of the Mineral Springs Former MGP was conducted by Mr. Kelly McIntosh, P.E. of GEI on April 25, 2018. Brad Walker (National Fuel Gas), Dave Szymanski (NYSDEC) and Michael Cummings P.G. (GEI) were also in attendance and participated in the

walk-through. Annual inspection findings with photographs are provided in the technical memorandum included in Appendix A.

The inspection summary with maintenance recommendations is provided below for each of the caps.

Clay Caps

Eastern Drainage Ditch (EDDCC): No blue stained soil or bank erosion was observed. An animal burrow was observed. See discussion in Section 3.4 concerning maintenance following the inspection.

Clay Cap South of Building 14 (B14CC): No blue stained soil or erosion was observed. The subsidence associated with the collapse of the storm sewer on adjacent NS Railroad property appears stable.

HDPE Caps

Eastern Drainage Ditch (EDDHC): No blue stained soil or bank erosion was observed. No animal burrows were observed.

Eastern Swale (ESHC): No blue stained soil or edge erosion was observed. No animal burrows were observed.

Asphalt Caps

Eastern Swale North (ESNAC): No blue stained soil or edge erosion was observed. Minor surface cracks in the sealant but none requiring immediate action.

Eastern Swale South (ESSAC): No blue stained soil or edge erosion was observed. Minor surface cracks in the sealant but none requiring immediate action.

Building 10 Asphalt Cap (B10AC): This cap was repaired in 2017 and remains free of cracks. No blue stained soil or edge erosion was observed.

Building 3 South Asphalt Cap (B3SAC): No blue stained soil or edge erosion was observed. Surface cracks and minor asphalt repairs and sealing are required for 2018 maintenance.

B3SAC repairs, which include asphalt material patching and re-sealing, were performed in 2018 under the direction of NFG (photos below).

East view of B3SAC asphalt material repair and re-sealing.

Northeast view of B3SAC asphalt material repair and re-sealing.

Building 3 East Asphalt Cap (B3EAC): No blue stained soil or edge erosion was observed. Minor surface cracks in the sealant but none requiring immediate action.

Building 8 West Asphalt Cap (B8WAC): No blue stained soil or edge erosion was observed. Cap repairs which include asphalt material repairs and re-sealing were performed in 2018 under the direction of NFG (photos below).

East view of B8WAC and B3EAC re-sealing of asphalt.

North view of B8WAC repair and re-sealing.

Other Areas

Backfill in formerly excavated areas was intact and no subsidence or ponding of surface water was observed. No hydrocarbon sheens were observed in the Class D Stream.

Recommendations for Asphalt Cap repairs described in Appendix A were addressed in September of 2018.

3.2 Groundwater and Surface Water Quality Monitoring

Groundwater and surface water quality monitoring results for the April and August 2018 semiannual monitoring events were documented in reports submitted to the NYSDEC on July 12, 2018 and September 26, 2018. GEI submitted an EQuIS format electronic data delivery (EDD) file to the NYSDEC on September 24, 2018. NYSDEC acknowledged EDD acceptable data receipt in an email dated September 25, 2018.

A historical summary of Site analytical results inclusive of 2018 semiannual monitoring events is provided in Appendix B. Observations from groundwater and surface monitoring results follows:

Groundwater Flow – Heads across the Site fluctuate seasonally approximately two feet. The groundwater flow direction occurred predominantly in a north and west direction in 2018 during both monitoring events and was consistent with prior monitoring. The measured surface water elevations in 2018 in the Class D stream at SW-02 were higher than heads in nearby well MW-11A indicating "losing stream conditions" where groundwater is recharged by surface water infiltrating at the base grade of the stream. These conditions can create a hydraulic barrier to groundwater flow in a south direction from the Site.

COCs in Groundwater and Surface Water - Observations from 2018 groundwater and surface water monitoring are summarized below.

On-Site Wells In or Near Capped Areas:

- BTEX compounds detected in on-site wells near capped areas are at concentrations similar to those detected in recent years. Stable to declining benzene concentrations is observed from historic data in some wells.
- Low concentrations of PAHs were detected above water quality comparison criteria in on-site wells near capped areas. The detected concentrations were consistent with historical analytical data.
- Total cyanide concentrations were lower in monitoring MW-12 and higher in wells MW-11A and MW-16 when compared with the April 2018 sampling event. Monitoring well

MW-11A has only been analyzed for total cyanide since August 2017 and a long-term concentration trend cannot yet be evaluated.

- The total cyanide concentration at MW-16 during both events in 2018 was above the historical range of detected concentrations. The free cyanide concentration at the well in 2018 was lower than the August 2017 sampling event and within the historic range of concentrations detected since 2012. An increasing trend in total cyanide concentration was identified. The long-term concentration trend will continue to be evaluated. As summarized below, no apparent impact has been identified at surface water sample location SW-1 which is adjacent to the Clay Cap and there are no receptors for the groundwater.

Wells at Site Perimeter:

- Among the downgradient perimeter wells tested in 2018, BTEX compounds were either not detected or detected above groundwater quality comparison criteria. Trace level concentrations of several individual PAH compounds (benzo(a)pyrene, benzo-(b)fluoranthene, benzo (k) fluoranthene, and chrysene) were detected above water quality comparison criteria in well MW-23; however, total PAH concentrations were within the range of historic detections at the site.
- Total cyanide was detected in downgradient perimeter wells MW-14, MW-20, MW-21, MW-22 and MW-23 at concentrations above water quality comparison criteria (200 µg/L). Total cyanide concentrations detected in the monitoring wells in 2018 were within historical ranges.
- Free cyanide was not detected in downgradient perimeter wells in 2018 at MW-14, MW-20, MW-21, and MW-23. Free cyanide was detected during the August 2018 event in the duplicate sample at MW-13 (1.6 µg/L – the original sample was non-detect) and at MW-22 (7.6 µg/L). Free cyanide was not detected in these wells during the April 2018 event. The detected concentrations were within the historical range at both locations and increasing trends were not identified.

Surface Water:

- BTEX and PAH compounds were below NYSDEC comparison criteria for ambient surface water quality in surface water in 2018.
- Total and free cyanide concentrations were below NYSDEC comparison criteria for ambient surface water quality in surface water in 2018. Supplemental surface water samples SW-3 through SW-5 were also below comparison criteria. An increasing trend in cyanide concentrations was not identified.
- An apparent correlation between TDS or TSS with total cyanide concentration was not identified in 2018.

- Considering the higher total cyanide concentrations in groundwater at on-site well MW-16 near surface water sampling location SW-1, total and free cyanide concentration trends remain stable in the downstream sample.

3.3 DNAPL Recovery System

On April 18 and August 15, 2018, the Recovery System at RTW-1 was gauged using a threaded steel rod to assess DNAPL accumulation. No visual staining was observed on the rod bottom. Rigid tubing was lowered to the base of the well and pumped using peristaltic methods. Approximately two liters of water were evacuated. The water contained only trace DNAPL in the form of "blebs", visually estimated to be less than 1% of total volume. No discrete layer of DNAPL was observed to form in the evacuated water. Based on the testing performed, DNAPL accumulation was not identified in 2018.

3.4 Cap Maintenance

Various cap maintenance activities occurred in 2018. The Eastern Swale HDPE Cap and Clay Cap were mowed in September 2018. A trapping contractor was hired to trap a groundhog assumed to have created the burrow in the Eastern Drainage Ditch Clay Cap. The contractor did not capture the groundhog and no evidence of recent activity was observed in September 2018 as the burrow had naturally filled in. Asphalt cap repairs and resealing were conducted in September 2018 at the B3SAC and B8AC asphalt caps in the areas of Building 3 and former Building 8.

4. IC/EC Compliance

4.1 IC/EC Requirements

ICs include the following;

- Compliance with VCA No. B9-0538-98-08 between NFG and the New York State Department of Environmental Conservation (NYSDEC).
- Implementation of the Site O&M Plan (2002).
- Monitoring and inspection to assess the performance and effectiveness of the remedy.

The Site is a secure service center owned by NFG with restricted property access.

ECs include the following;

- Contaminated soil/MGP residual removal and in-place capping consisting of various clay, HDPE, and asphalt cover systems.
- Maintenance of the cover systems.
- Groundwater and surface water quality monitoring.
- Collection of mobile DNAPL at RTW-1.

4.2 IC/EC Compliance

The NYSDEC-approved O&M Plan is in place. All required inspections, monitoring, and maintenance activities were performed during this reporting period in accordance with the plan and subsequent NYSDEC-approved modifications.

4.3 IC/EC Certification

The IC/EC Certification is included in Appendix C.

5. Conclusions and Recommendations

Each component of the O&M Plan dated May 2002 and amendments, collectively regarded as the SMP, were in compliance for the reporting period September 16, 2017 to September 16, 2018. The ICs/ECs have been in place and effective and inspections, monitoring, and maintenance were performed as required.

Based upon the inspections and compliance with the SMP, the site remedy continues to meet the remedial objectives for the site.

The NYSDEC-requested sampling of additional surface water sample locations SW-3 through SW-5 with total and free-cyanide analysis was implemented in 2018. Since no correlation of total and free-cyanide detection was identified, sampling of these additional locations will be discontinued in 2019. The total and free cyanide concentrations at well MW-16 should be monitored for trends and its effect, if any, on surface water quality at SW-1 evaluated in 2019. GEI recommends continued cap maintenance and repair where necessary for the reporting period September 16, 2018 to September 16, 2019 including integrity upkeep of storm water catch basins penetrating asphalt caps.

Tables

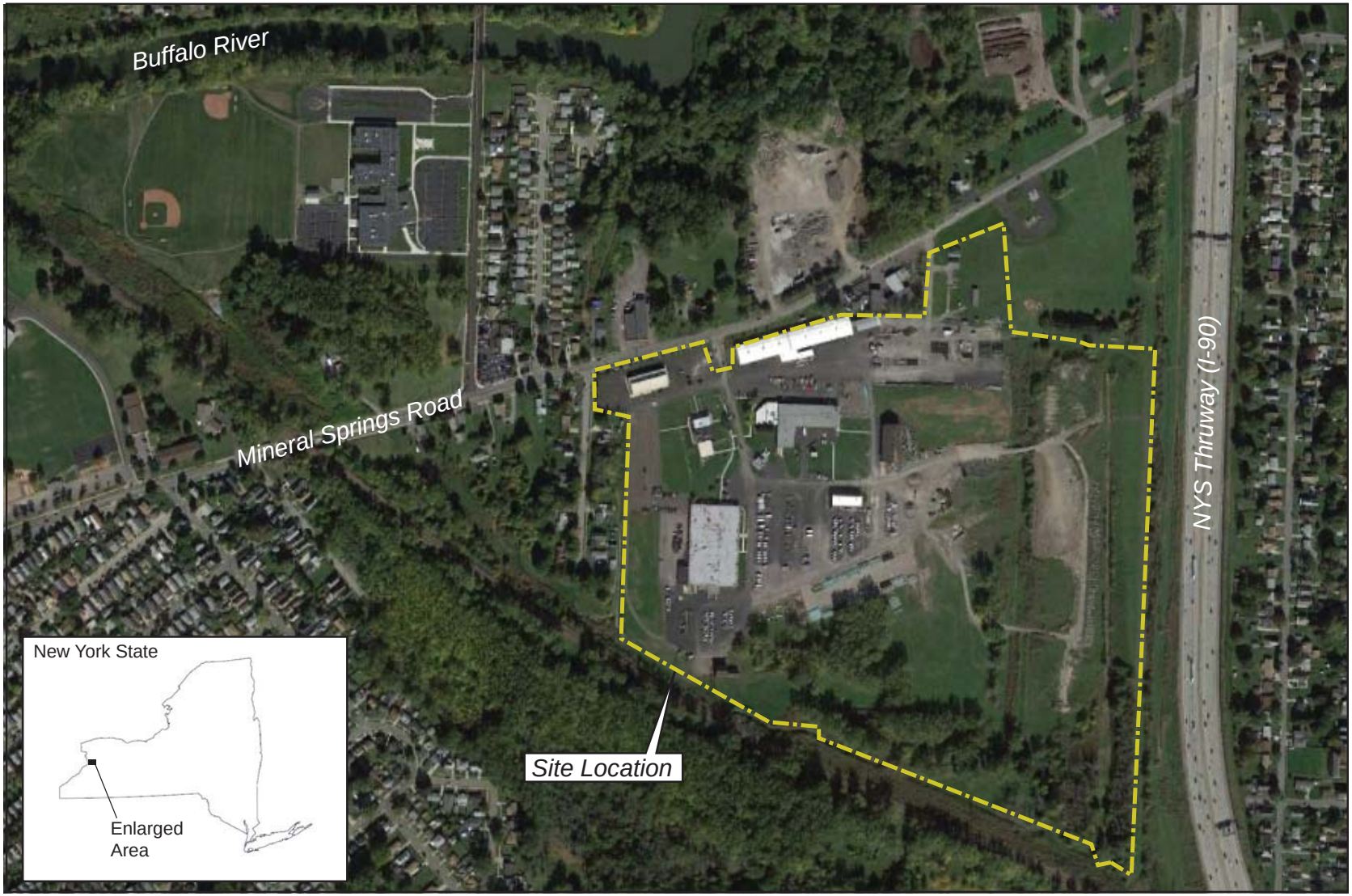
Table 1. 2018 Semiannual Monitoring Summary
Mineral Springs Road MGP Site
National Fuel Gas Distribution Corporation
West Seneca, New York

Location	Cyanide, Total USEPA SW846 9014	Cyanide, Free USEPA SW846 9016	BTEX USEPA SW846 8260C	PAHs USEPA SW846 8270D	TDS/TSS SM 2540C/2540D	Specific Conductivity Field Measurement	Water Elevation	Benchmark Elevation (ft. MSL, top of PVC casing)
Upgradient Site Perimeter								
MW-17	x	x	x	x		x	x	587.28
Downgradient Site Perimeter								
MW-13	x	x	x	x		x	x	591.85
MW-14	x	x				x	x	589.53
MW-15							x	590.93
MW-20	x	x				x	x	587.06
MW-21	x	x				x	x	587.84
MW-22	x	x				x	x	592.50
MW-23	x	x	x	x		x	x	589.28
Onsite Purifier Residuals Impacted Areas								
MW-12	x	x				x	x	591.40
MW-16	x	x				x	x	588.99
Onsite Hydrocarbon Impacted Areas								
MW-07			x	x		x	x	587.01
MW-10			x	x		x	x	587.61
MW-11A [2]	x [2]	x [2]	x	x	x [2]	x	x	589.78
MW-19			x	x		x	x	589.83
Onsite Surface Water								
SW-01 [2]	x	x	x	x	x [2]	x [2]	x	top of headwall = 587.0
SW-02 [2]	x	x	x	x	x [2]	x [2]	x [2]	MW-11A ref. pt
SW-03 [2]	x [2]	x [2]			x [2]	x [2]		
SW-04 [2]	x [2]	x [2]			x [2]	x [2]		
SW-05 [2]	x [2]	x [2]			x [2]	x [2]		
QA/QC Samples (frequency)								
Trip Blank			x					(one per shipment)
Field Duplicate	x	x	x	x				(one per event)
Equipment Blank	x	x	x	x				(one per event)
DNAPL Recovery								
RTW-1	No Sample Collection							(purge well of accumulated DNAPL)
Total	17	17	12	11	12	18	16	
Container, Preservative	250 mL plastic, NaOH	250 mL plastic amber, NaOH	40 mL VOA vial, HCl (x3)	250 mL glass amber, NP (x2)	500 mL plastic, unpreserved			

Notes:

1. Elevations are from the 2007 survey, except for MW-20, which was resurveyed in August 2009 due to a repair.
2. Supplemental sampling at this location was conducted in August 2017, April 2018 and August 2018.

Figures



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Notes:
Aerial Imagery Sourced from Google Maps (http://www.maps.google.com) dated 2016.

National Fuel Gas Corporation Mineral Springs Facility	GEI Consultants	SITE LOCATION
West Seneca, New York	Project #1801042	September 2018 Figure 1

PROPERTY LINE
PERIMETER FENCE
MW-17
SW-05
SW-04
SOIL PLACEMENT AREA
MW-18
NORTH CULVERT
EDD
SW-03
SW-02
MW-12
RTW1
ETBE
MW-11A
SOUTH CULVERT
CLASS D STREAM
ESNAC
ESHC
FORMER BLDG 11
MW-19
SETLE
MW-22
ESSAC
NTBE
CTBE
BLDG 10
B10AC
BLDG 9
SPE
WTBE
FORMER BLDG 8
PERIMETER FENCE
MW-13
BLDG 2
B8WAC
MW-10
MW-7
CC
B3EAC
APRE
MW-16
SW-01
BLDG 1
MINERAL SPRINGS ROAD
DPE
BLDG 14
BLDG 5
BLDG 3
B3SAC
COLLAPSED/SEPARATED STORM SEWER AREA
MW-23
OVERHEAD TRANSMISSION TOWER
BLDG 4
SWPRE
MW-15
BURIED ELECTRIC LINE
MW-14
CM
CALAIS STREET
MW-21
MW-20
PERIMETER FENCE

LEGEND

	EXISTING STRUCTURE
	REMEDIAL CONSTRUCTION
	FORMER STRUCTURE
	EXISTING EXCAVATION LIMITS
MW-7	MONITORING WELLS
SW-01	SURFACE WATER SAMPLE LOCATION
APRE	ADDITIONAL PURIFIER RESIDUALS EXCAVATION
B3EAC	BUILDING 3 EAST ASPHALT CAP
B3SAC	BUILDING 3 SOUTH ASPHALT CAP
B8WAC	BUILDING 8 WEST ASPHALT CAP
B10AC	BUILDING 10 ASPHALT CAP
CC	CLAY CAP
CM	CORRECTIVE MEASURE WEST PROPERTY LINE
CTBE	CENTRAL TAR BOILS EXCAVATION
DPE	DIESEL PAD EXCAVATION
EDD	EASTERN DRAINAGE DITCH
ESHC	EASTERN SWALE HDPE CAP
ESNAC	EASTERN SWALE NORTH ASPHALT CAP
ESSAC	EASTERN SWALE SOUTH ASPHALT CAP
ETBE	EASTERN TAR BOILS EXCAVATION
NTBE	NORTHERN TAR BOILS EXCAVATION
RTW1	RECOVERY TEST WELL AND DNAPL SHED
SETLE	SOUTHEASTERN TAR LENSES EXCAVATION
SPE	SEPARATOR PITS EXCAVATION
SWPRE	SOUTHWEST RESIDUALS EXCAVATION
WTBE	WESTERN TAR BOILS EXCAVATION
	CLAY CAP
	ASPHALT CAP
	HDPE CAP
	REMEDIAL EXCAVATION

PREVIOUSLY REMEDIATED AREAS ARE SHADED RED

150 0 300

GRAPHIC SCALE IN FEET

Figure modified from original presented by AECOM titled “Site Figure- Mineral Springs Road Facility, National Fuel Gas:” dated 6/23/15.

National Fuel Gas Corporation
Mineral Springs Facility

West Seneca, New York

GEI

Project #1801042

SITE LAYOUT

September 2018 Figure 2

PROPERTY LINE
PERIMETER FENCE
SOIL PLACEMENT AREA
NORTH CULVERT
EDD
SOUTH CULVERT
CLASS D STREAM
MW-17 (580.59)
SW-04
SW-05
MW-18
SW-03
SW-02 (581.58)
(580.76)
MW-11A
MW-12 (579.75)
RTW1
ETBE
ESNAC
ESHC
(580.03) MW-19
SETLE
FORMER BLDG 11
MW-22 (579.55)
ESSAC
NTBE
CTBE
BLDG 10
B10AC
BLDG 9
SPE
WTBE
FORMER BLDG 8
CC
PERIMETER FENCE
MW-13 (578.31)
BLDG 2
B8WAC
(579.86) MW-7
MW-10 (579.97)
B3EAC
APRE
(579.34) MW-16
(na) SW-01
BLDG 14
BLDG 1
MINERAL SPRINGS ROAD
DPE
(577.75) MW-23
BLDG 5
BLDG 3
B3SAC
COLLAPSED/SEPARATED STORM SEWER AREA
OVERHEAD TRANSMISSION TOWER
BLDG 4
SWPRE
(579.33) MW-15
BURIED ELECTRIC LINE
MW-14 (577.60)
CM
CALAIS STREET
(576.90) MW-20
MW-21 (576.78)
PERIMETER FENCE
580
581
579
578
577

LEGEND

- EXISTING STRUCTURE
- REMEDIAL CONSTRUCTION
- FORMER STRUCTURE
- EXISTING EXCAVATION LIMITS
- MW-7 — MONITORING WELLS
- SW-01 — SURFACE WATER SAMPLE LOCATION
- (583.52) — GROUNDWATER ELEVATION (FASL, 8/14//2018)
- GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION

APRE	ADDITIONAL PURIFIER RESIDUALS EXCAVATION
B3EAC	BUILDING 3 EAST ASPHALT CAP
B3SAC	BUILDING 3 SOUTH ASPHALT CAP
B8WAC	BUILDING 8 WEST ASPHALT CAP
B10AC	BUILDING 10 ASPHALT CAP
CC	CLAY CAP
CM	CORRECTIVE MEASURE WEST PROPERTY LINE
CTBE	CENTRAL TAR BOILS EXCAVATION
DPE	DIESEL PAD EXCAVATION
EDD	EASTERN DRAINAGE DITCH
ESHC	EASTERN SWALE HDPE CAP
ESNAC	EASTERN SWALE NORTH ASPHALT CAP
ESSAC	EASTERN SWALE SOUTH ASPHALT CAP
ETBE	EASTERN TAR BOILS EXCAVATION
NTBE	NORTHERN TAR BOILS EXCAVATION
RTW1	RECOVERY TEST WELL AND DNAPL SHED
SETLE	SOUTHEASTERN TAR LENSES EXCAVATION
SPE	SEPARATOR PITS EXCAVATION
SWPRE	SOUTHWEST RESIDUALS EXCAVATION
WTBE	WESTERN TAR BOILS EXCAVATION

- CLAY CAP
- ASPHALT CAP
- HDPE CAP
- REMEDIAL EXCAVATION

PREVIOUSLY REMEDIATED AREAS ARE SHADED RED

150 0 300

GRAPHIC SCALE IN FEET

Figure modified from original presented by AECOM titled "Site Figure- Mineral Springs Road Facility, National Fuel Gas:" dated 6/23/15.

National Fuel Gas Corporation
Mineral Springs Facility
West Seneca, New York

GEI Consultants

GROUNDWATER POTENTIOMETRIC SURFACE MAP

Project #1801042 | September 2018 | Figure 3

Appendix A

GEI April 2018 Site Inspection Memorandum

Memo

To:	Brad Walker– National Fuel Gas
From:	Kelly McIntosh
C:	File
Date:	5/4/2018
Re:	Field Memo – Mineral Springs Site – Annual Inspection April 25, 2018
	GEI Project No. 1403480

Kelly McIntosh. P.E. (GEI) conducted the annual inspection of caps and covers at the Mineral Springs Site on the afternoon of April 25, 2018. Brad Walker (National Fuel Gas), Dave Szymanski (NYSDEC) and Michael Cummings (GEI) were also in attendance and participated in the walk-through. Annual inspection findings are summarized briefly below and are recorded on the attached Annual Site Inspection Form. A Periodic Review Report (PRR) will be prepared and submitted later this year.

SUMMARY OF 2018 INSPECTION FINDINGS

No blue stained soil was observed at any location on-site. Other relevant observations at each area are presented below.

Clay Caps

Eastern Drainage Ditch (EDDCC): No blue stained soil or bank erosion was observed. An animal burrow was observed (Photo 1). The capped areas were free of trees and no hydrocarbon sheens were observed. Litter, including plastic sheeting and packing material was observed throughout the area.

Clay Cap South of Building 14 (B14CC): No blue stained soil or erosion was observed. No animal burrows were observed. The vegetative cover was intact and free of trees and no hydrocarbon sheens were observed (Photo 2).

The subsidence associated with the collapse of the storm sewer on adjacent property appears stable relative to prior years and has not encroached to the cutoff wall or outer edge of the clay cap (as determined by soils borings implemented for the Corrective Measures Work Plan). The stone placed in the area remains intact and has not subsided or eroded.

HDPE Caps

Eastern Drainage Ditch (EDDHC): No blue stained soil or bank erosion was observed. No animal burrows were observed. The HDPE area was free of trees and no hydrocarbon sheens were observed. Litter, including plastic sheeting and packing material was observed throughout the area (Photo 3).

HDPE Cap in Eastern Swale (ESHC): No blue stained soil or edge erosion was observed. No animal burrows were observed. The vegetative cover was intact and free of trees. The capped areas were free of trees and no hydrocarbon sheens were observed (Photo 4).

Asphalt Caps

Asphalt Cap North of Eastern Swale (ESNAC): No blue stained soil or edge erosion was observed. Surface cracks in the sealant were abundant, but none appeared open through the asphalt wearing course layer (Photo 5).

Asphalt Cap South of Eastern Swale (ESSAC): No blue stained soil or edge erosion was observed. Surface cracks in the sealant were abundant, but none appeared open through the asphalt wearing course layer (Photo 6).

Building 10 Asphalt Cap (B10AC): This cap was recently repaired and remains free of cracks. No blue stained soil or edge erosion was observed.

Building 3 South Asphalt Cap (B3SAC): No blue stained soil or edge erosion was observed. Surface cracks in the sealant were abundant, and some were open into the asphalt wearing course layer (Photo 7). Some resealing or asphalt maintenance should be planned for before these cracks become deteriorated. Seams with concrete structures and catch basins should be resealed where gaps have developed.

Building 3 East Asphalt Cap (B3EAC): No blue stained soil or edge erosion was observed. Surface cracks in the sealant were abundant, but none appeared open through the asphalt wearing course layer (Photo 8).

Building 8 West Asphalt Cap (B8WAC): No blue stained soil or edge erosion was observed. Surface cracks in the sealant were abundant, but none appeared open through the asphalt wearing course layer except near a catch basin as shown on Photo 9.

Other Areas

Backfill in formerly excavated areas was intact and no subsidence or ponding of surface water was observed. No hydrocarbon sheens were observed in the Class D Stream.

RECOMMENDATIONS

The B3SAC area exhibits abundant surface cracking in the sealant and some were open into the asphalt wearing course layer. Resealing or asphalt maintenance should be performed before cracks become deteriorated. Seams with concrete structures and catch basins should be resealed where gaps have developed. The asphalt surrounding the storm water catch basin area at B8WAC requires repair.

Annual Site Inspection Form

Mineral Springs Road Former MGP

Inspection by: Kelly McIntosh
Signature: Kelly McIntosh

Affiliation: GEI Consultants
Date: April 25, 2018

ASPHALT CAP SOUTH OF BUILDING #3

Cracks or ruts?	(Yes)	No
Erosion at edges?	Yes	(No)
Blue-stained soil?	Yes	(No)

Comments:
Seams with concrete need to be resealed, some cracks need repair

ASPHALT CAP EAST OF BUILDING #3

Cracks or ruts?	(Yes)	No
Erosion at edges?	Yes	No
Blue-stained soil?	Yes	No

Comments:
Surface cracking only, no open cracks through asphalt wearing course layer.

ASPHALT CAP NORTH OF EASTERN SWALE

Cracks or ruts?	(Yes)	No
Erosion at edges?	Yes	(No)
Blue-stained soil?	Yes	(No)

Comments:
Surface cracking only, no open cracks

ASPHALT CAP SOUTH OF EASTERN SWALE

Cracks or ruts?	(Yes)	No
Erosion at edges?	Yes	(No)
Blue-stained soil?	Yes	(No)

Comments:
Surface cracking, no open cracks

HDPE/SOIL CAP IN EASTERN SWALE

Cracks or ruts?	Yes	(No)
Erosion at edges?	Yes	(No)
Blue-stained soil?	Yes	(No)

Comments:

CLAY CAP BEHIND BUILDING #14

Animal dens/borrows?	Yes	(No)
Erosion?	Yes	(No)
Trees?	Yes	(No)
Blue-stained soil?	Yes	(No)

Comments:
Storm sewer (off-site) collapse has not encroached on capped area.

EASTERN DRAINAGE DITCH

Animal dens/borrows?	(Yes)	No clay cap only
Erosion?	Yes	(No)
Trees?	Yes	(No)
Blue-stained soil?	Yes	(No)
Hydrocarbon sheen?	Yes	(No)
Inadequate Signage?	Yes	(No)
Trash / Debris?	(Yes)	No

Comments:
Animal burrow visible in clay capped area. Litter (plastic packing material) present

BACKFILLED EXCAVATIONS

Excessive settlement?	Yes	(No)
Ponding of surface water?	Yes	(No)
Tar boils?	Yes	(No)
Blue-stained soil?	Yes	(No)

Comments:

CLASS D STREAM

Hydrocarbon sheen?	Yes	(No)

Comments:

SITE FENCE

Damage / Holes?	Yes	(No)

Comments:

BIO AC
Cracks: No
Erosion at Edges: No
Blue stained Soil: No

FIELD OBSERVATION PHOTOGRAPHS

Project:	Mineral Springs Facility PRR Inspection Site No. #V00195	**Date: 04/25/18**	
Client:	National Fuel Gas	**Report No. PRR'18**	
Inspection by:	Kelly McIntosh	**Page:**	1 of 9
		GEI Proj. No.	1801042

Photo 1. View looking east, north of Class D stream. Animal burrow in east drainage ditch clay cap area.

FIELD OBSERVATION PHOTOGRAPHS

Project:	Mineral Springs Facility PRR Inspection Site No. #V00195	**Date: 04/25/18**	
Client:	National Fuel Gas	**Report No. PRR'18**	
Inspection by:	Kelly McIntosh	**Page:**	2 of 9
		GEI Proj. No.	1801042

Photo 2. View looking west across clay cap in the area of Building 14.

FIELD OBSERVATION PHOTOGRAPHS

Project: Mineral Springs Facility PRR Inspection Site No. #V00195
Client: National Fuel Gas
Inspection by: Kelly McIntosh

Date: 04/25/18

Report No. PRR'18
Page: 3 of 9
GEI Proj. No. 1801042

Photo 3. South view of East Drainage Ditch HDPE Cap area.

FIELD OBSERVATION PHOTOGRAPHS

Project:	Mineral Springs Facility PRR Inspection Site No. #V00195	**Date: 04/25/18**	
Client:	National Fuel Gas	**Report No. PRR'18**	
Inspection by:	Kelly McIntosh	**Page:**	4 of 9
		GEI Proj. No.	1801042

Photo 4. View looking west at French drain in Eastern Swale HDPE Cap (ESHC)

FIELD OBSERVATION PHOTOGRAPHS

Project:	Mineral Springs Facility PRR Inspection Site No. #V00195	**Date: 04/25/18**	
Client:	National Fuel Gas	**Report No. PRR'18**	
Inspection by:	Kelly McIntosh	**Page:**	5 of 9
		GEI Proj. No.	1801042

Photo 5. East view at Eastern Swale North Asphalt Cap (ESNAC).

FIELD OBSERVATION PHOTOGRAPHS

Project:	Mineral Springs Facility PRR Inspection Site No. #V00195	**Date: 04/25/18**	
Client:	National Fuel Gas	**Report No. PRR'18**	
Inspection by:	Kelly McIntosh	**Page:**	6 of 9
		GEI Proj. No.	1801042

Photo 6. North west view at Eastern Swale South Asphalt Cap (ESSAC).

FIELD OBSERVATION PHOTOGRAPHS

Project:	Mineral Springs Facility PRR Inspection Site No. #V00195	**Date: 04/25/18**	
Client:	National Fuel Gas	**Report No. PRR'18**	
Inspection by:	Kelly McIntosh	**Page:**	7 of 9
		GEI Proj. No.	1801042

Photo 7. East view of Building 3 South Asphalt Cap (B3SAC). Surface cracks in sealant and some open to asphalt wearing course layer.

FIELD OBSERVATION PHOTOGRAPHS

Project:	Mineral Springs Facility PRR Inspection Site No. #V00195	**Date: 04/25/18**	
Client:	National Fuel Gas	**Report No. PRR'18**	
Inspection by:	Kelly McIntosh	**Page:**	8 of 9
		GEI Proj. No.	1801042

Photo 8. North view of Bldg. 3 East Asphalt Cap (B3EAC) with surface cracks and prior sealing.

Photo 9. Building 8 West Asphalt Cap (B8WAC) cracking at storm sewer catch basin.

Appendix B

Summary of Historical Groundwater and Surface Water Data

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07
DATE	Aug-95	May-96	Jul-97	Feb-98	Jun-99	Apr-00	Apr-01	Jul-01	Nov-01	Apr-02	Jun-02	Nov-02	Apr-03	Jul-03	Nov-03	Mar-04	Jun-04	Nov-04	Apr-05	Jul-05	Apr-06	Aug-06	Apr-07	Aug-07	Apr-08
Benzene	3320	1210	4900		5100	5200	4800	3900	3300	2700	2200	3000	2100	1900	3200	2800	2000	1700	2800	2000	2900	2600	2000	1900	490
Toluene	389	20	750		2000	2700	2500	3400	1700	1500	1200	1400	1200	930	1700	1800	1300	930	1100	840	1100	570	620	100	270
Ethylbenzene	2400	410	2900		3700	3600	3300	2000	2100	2300	1900	2200	1900	1900	2700	2500	2500	1800	2700	2200	3100	2500	2500	2000	410
Xylene (sum of isomers)	1038	63	1200		1800	1900	1800	1600	1100	1200	1100	1100	1100	1000	1400	1200	1400	1000	1600	1300	1800	1500	1400	1100	270
Total BTEX	7147	1703	9750		12600	13400	12400	10900	8200	7700	6400	7700	6300	5730	9000	8300	7200	5430	8200	6340	8900	7170	6520	5100	1440
Acenaphthene	240	150	180		180	180	150	140	160	80	120	150	nd	160	120	160	180	160	130	220	120	130	nd	130	19
Acenaphthylene	nd	nd	nd		nd	nd	nd	2.2	nd	nd	nd	nd	nd	nd	nd	nd	3	nd	nd	nd	nd	nd	nd	nd	2.5
Anthracene	nd	nd	nd		nd	nd	nd	3.6	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	5.4	3.9	nd	3	2.5
Benzo(a)Anthracene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)Pyrene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(b)Fluoranthene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(g,h,i)Perylene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(k)Fluoranthene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Chrysene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Dibenzo(a,h)Anthracene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.47	nd	nd	nd	nd
Fluoranthene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Fluorene	nd	28	45		nd	nd	nd	28	nd	nd	nd	33	nd	nd	27	nd	42	nd	24	46	32	24	nd	25	7.6
Indeno(1,2,3-cd)Pyrene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Naphthalene	3270	3000	2400		4100	5900	3400	3400	3600	2200	2600	5000	3100	3800	3200	3700	2700	4600	3500	3600	3000	3600	3700	3100	430
Phenanthrene	nd	nd	37		nd	nd	nd	32	nd	nd	nd	30	nd	nd	nd	nd	38	nd	nd	nd	33	28	nd	25	2.5
Pyrene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
2-Methylnaphthalene							180	190	200	100	180	230	nd	280	170	270	320	300	230	400	350	250	270	230	24
Total PAHs	3510	3178	2662		4280	6080	3730	3796	3960	2380	2900	5443	3100	4240	3517	4130	3283	5060	3884	4266	3541	4036	3970	3513	488
Cyanide, total (Exygen/ Test America)			189																						
Cyanide, total (Clarkson Univ.)																									
Cyanide, free (Exygen/ Test America)																									
Cyanide, free (Clarkson Univ.)																									
Water Elevation (feet)			580.13	581.68	579.84	581.70	581.50	579.98	580.58	582.01	580.96	580.26	581.66	580.31	580.32	582.45	581.24	581.36	582.28	579.76	581.90	579.24	582.58	578.21	581.99

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07
DATE	Sep-08	Apr-09	Aug-09	Apr-10	Aug-10	Apr-11	Sep-11	Apr-12	Aug-12	Apr-13	Aug-13	Apr-14	Aug-14	Apr-15	Aug-15	Apr-16	Aug-16	Apr-17	Aug-17	Apr-18	Aug-18
Benzene	1100	780	850	330	840	690	600	690	420	660	450	620	570	1,100	1,100	660	1,100	710	1,100	840	410
Toluene	590	420	250	96	44	210	37	77	6.9	210	9.2	94	14	110	30	32	14	36	39	36	nd
Ethylbenzene	1500	1100	1000	520	1200	1200	800	1000	470	1000	600	1800	870	1,900	1,600	1,100	1,300	1,000	1,600	1800 J	580
Xylene (sum of isomers)	910	820	700	360	820	770	510	660	270	680	440	980	590	1,400	1,200	660	780	650	940	1,100	300
Total BTEX	4100	3120	2800	1,306	2,904	2,870	1,947	2,427	1,167	2,550	1,499	3,494	2,044	4,510	3,930	2,452	3,194	2,396	3,679	3,776	1,290
Acenaphthene	69	32	36	15	60	76	49	64	49	64	63	100	74	130	120	93	78	100	100	150 J	72
Acenaphthylene	nd	0.63	nd	nd	nd	nd	nd	nd	nd	2.0	0.83	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Anthracene	1.5	nd	nd	0.23	1.4	nd	0.98	1.5	1.3	1.6	1.7	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)Anthracene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)Pyrene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(b)Fluoranthene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(g,h,i)Perylene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(k)Fluoranthene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Chrysene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Dibenzo(a,h)Anthracene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Fluoranthene	nd	nd	nd	0.2	0.27	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Fluorene	13	6.4	6.2	2.7	12	13	9.6	11	11	13	12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Indeno(1,2,3-cd)Pyrene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Naphthalene	1000	1600	1400	650	1700	2100	1500	1700	870	1,700	1,100	2,500	1,600	3,400	3,000	2,200	1,600	2,300	2,300	3,200	1,300
Phenanthrene	12	4.3	4.6	2.1	11	16	9.5	11	9.1	12	11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Pyrene	nd	nd	nd	nd	0.28	nd	nd	nd	0.17	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
2-Methylnaphthalene	120	73	84	33	110	160	90	120	66	130	82	260	110	300	250	170	120	190	190	260	110
Total PAHs	1215.5	1684.33	1495	688.23	1834.95	2365	1610.08	1843.5	1006.57	1,922.6	1,270.53	2,860	1,784	3,830	3,370	2,463	1,798	2,590	2,590	3,610	1,482
Cyanide, total (Exygen/ Test America)																					
Cyanide, total (Clarkson Univ.)																					
Cyanide, free (Exygen/ Test America)																					
Cyanide, free (Clarkson Univ.)																					
Water Elevation (feet)	580.83	581.93	581.01	582.26	580.00	583.60	579.76	581.56	578.61	582.22	581.02	582.41	579.61	582.17	580.15	582.36	578.09	581.96	581.44	582.21	579.86

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10
DATE	Aug-95	May-96	Jul-97	Feb-98	Jun-99	Apr-00	Apr-01	Jul-01	Nov-01	Apr-02	Jun-02	Nov-02	Apr-03	Jul-03	Nov-03	Mar-04	Jun-04	Nov-04	Apr-05	Jul-05	Apr-06	Aug-06	Apr-07	Aug-07	Apr-08
Benzene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	1.2	nd	nd	nd	nd	nd	0.83	nd	nd	nd	nd	nd	nd
Toluene	nd	nd	nd		nd	nd	nd	nd	nd	0.89	nd	nd	0.81	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Ethylbenzene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	0.9	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.3	nd
Xylene (sum of isomers)	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.66	nd
Total BTEX	0	0	0		0	0	0	0	0	0.89	0	0	2.91	0	0	0	0	0	0.83	0	0	0	0	1.96	0
Acenaphthene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Acenaphthylene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Anthracene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)Anthracene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)Pyrene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(b)Fluoranthene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(g,h,i)Perylene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(k)Fluoranthene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Chrysene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Dibenzo(a,h)Anthracene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Fluoranthene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Fluorene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Indeno(1,2,3-cd)Pyrene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Naphthalene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	2.1	nd	nd	nd	nd	nd	nd	0.78	nd	43	nd	nd	2.3	nd
Phenanthrene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Pyrene	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
2-Methylnaphthalene							nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	3.8	nd	nd	nd	nd
Total PAHs	0	0	0		0	0	0	0	0	0	0	2.1	0	0	0	0	0	0	0.78	0	46.8	0	0	2.3	0
Cyanide, total (Exygen/ Test America)			334																						
Cyanide, total (Clarkson Univ.)																									
Cyanide, free (Exygen/ Test America)																									
Cyanide, free (Clarkson Univ.)																									
Water Elevation (feet)			579.87	581.44	579.33	581.19	581.07	579.64	580.10	581.61	580.51	579.51	581.23	579.93	579.16	581.92	580.80	580.90	581.78	579.53	581.15	580.04	582.06	578.19	581.51

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10
DATE	Sep-08	Apr-09	Aug-09	Apr-10	Aug-10	Apr-11	Sep-11	Apr-12	Aug-12	Apr-13	Aug-13	Apr-14	Aug-14	Apr-15	Aug-15	Apr-16	Aug-16	Apr-17	Aug-17	Apr-18	Aug-18
Benzene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Toluene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Ethylbenzene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.0	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Xylene (sum of isomers)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Total BTEX	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0
Acenaphthene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Acenaphthylene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Anthracene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)Anthracene	nd	nd	nd	nd	0.27	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)Pyrene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.65	nd
Benzo(b)Fluoranthene	nd	nd	nd	nd	nd	0.18	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.80	nd
Benzo(g,h,i)Perylene	nd	nd	nd	nd	0.28	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.71	nd
Benzo(k)Fluoranthene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.51	0.11 J
Chrysene	nd	nd	nd	nd	0.41	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.60	nd
Dibenzo(a,h)Anthracene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Fluoranthene	nd	nd	nd	nd	nd	0.77	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.34	nd	nd	4.00	nd
Fluorene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Indeno(1,2,3-cd)Pyrene	nd	nd	nd	nd	0.35	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.64	nd
Naphthalene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.65	2.2	nd	nd	1.0	1.6	0.91	0.68	nd	nd	nd
Phenanthrene	nd	nd	nd	nd	nd	0.69	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	3.30	nd
Pyrene	nd	nd	nd	nd	nd	0.53	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	2.00	nd
2-Methylnaphthalene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Total PAHs	0	0	0	0	1.31	2.17	0	0	0	0	0.65	2.2	0	0	1.0	1.6	0.9	0.68	0	15.21	0.11
Cyanide, total (Exygen/ Test America)																					
Cyanide, total (Clarkson Univ.)																					
Cyanide, free (Exygen/ Test America)																					
Cyanide, free (Clarkson Univ.)																					
Water Elevation (feet)	580.45	581.10	580.82	580.49	580.56	583.39	579.53	581.05	579.85	581.63	580.40	581.76	579.31	581.64	580.15	581.81	578.29	581.54	581.07	581.21	579.97

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-11 / MW-11A	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A
DATE	Aug-95	May-96	Jul-97	Feb-98	Jun-99	Apr-00	Apr-01	Jul-01	Nov-01	Apr-02	Jun-02	Nov-02	Apr-03	Jul-03	Nov-03	Mar-04	Jun-04	Nov-04	Apr-05	Jul-05	Apr-06	Aug-06	Apr-07	Aug-07	Apr-08
Benzene			35		nd	nd	nd	nd		nd	nd	nd	nd	350	80	50	270	150	140	250	67	140	100	180	230
Toluene			17		nd	nd	nd	68		nd	3.8	nd	nd	230	1.2	0.7	35	nd	1.2	7	0.56	1.2	0.99	nd	5.5
Ethylbenzene			94		nd	nd	nd	nd		nd	nd	nd	nd	650	3.5	6.9	30	5.4	9.6	38	2.5	8.7	2.8	5.5	69
Xylene (sum of isomers)			83		7	nd	nd	nd		nd	nd	nd	nd	410	9.1	9.2	38	16	16	30	8.1	14	5.5	29	41
Total BTEX			229		7	0	0	68		0	4	0	0	1640	94	67	373	171	167	325	78	164	109	215	346
Acenaphthylene			9		2	nd	nd	nd		nd	nd	nd	nd	12	8.4	nd	7.9	9.4	2.8	8.9	5.1	nd	5.8	0.93	6.9
Acenaphthene			7		nd	nd	nd	nd		nd	nd	nd	nd	4.4	3.1	1.2	4.5	5.9	4.5	5.6	nd	nd	nd	2.7	5.6
Anthracene			nd		nd	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	0.5	1.6	nd	nd	nd	nd	nd	nd	2.2
Benzo(a)Anthracene			nd		nd	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)Pyrene			nd		nd	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(b)Fluoranthene			nd		nd	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(g,h,i)Perylene			nd		nd	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(k)Fluoranthene			nd		nd	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Chrysene			nd		nd	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Dibenzo(a,h)Anthracene			nd		nd	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Fluoranthene			nd		nd	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	0.3	nd	nd	nd	nd	0.57	nd
Fluorene			nd		nd	nd	nd	nd		nd	nd	nd	nd	2.2	nd	nd	1.9	2.3	1.3	1.7	1.5	nd	nd	nd	5.1
Indeno(1,2,3-cd)Pyrene			nd		nd	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Naphthalene			140		12	nd	nd	nd		nd	nd	nd	nd	150	130	nd	39	31	nd	20	2.9	nd	nd	0.79	7.1
Phenanthrene			nd		nd	nd	nd	nd		nd	nd	nd	nd	2.7	2.2	nd	3.7	6.4	nd	2	nd	nd	nd	nd	1.5
Pyrene			nd		nd	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	0.3	0.73	0.46	0.33	nd	nd	nd	1.2	nd
2-Methylnaphthalene							nd	nd		nd	nd	nd	nd	31	4.4	nd	0.26	nd	nd	0.15	nd	nd	nd	nd	nd
Total PAHs			156		14	0	0	0		0	0	0	0	202	148	1	58	57	9	39	10	0	6	6	28
Cyanide, total (Exygen/ Test America)			1040						1340																
Cyanide, total (Clarkson Univ.)																									
Cyanide, free (Exygen/ Test America)									nd																
Cyanide, free (Clarkson Univ.)																									
Water Elevation (feet)			580.28	582.26	579.82	583.55	583.85	579.28	581.30	583.85	581.32	581.03	582.97	580.70	581.11	583.03	581.54	581.87	582.74	580.09	582.38	580.78	583.07	578.46	582.43

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-11 / MW-11A	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A	MW-11A
DATE	Sep-08	Apr-09	Aug-09	Apr-10	Aug-10	Apr-11	Sep-11	Apr-12	Aug-12	Apr-13	Aug-13	Apr-14	Aug-14	Apr-15	Aug-15	Apr-16	Aug-16	Apr-17	Aug-17	Apr-18	Aug-18
Benzene	210	190	200	77	150	15	170	31	85	20	32	nd	7.3	nd	12	8.8	44	12	11	4.2	7.1
Toluene	nd	nd	nd	0.78	1.9	nd	nd	nd	1.4	nd	nd	nd	nd	nd	nd	nd	0.74	1	nd	nd	v
Ethylbenzene	71	67	80	35	56	5.7	63	7.1	34	7.3	5.7	nd	nd	nd	nd	nd	2.3	0.34	nd	nd	
Xylene (sum of isomers)	30	24	28	21	27	3.5	25	4.3	15	5.4	4.6	nd	nd	nd	1.4	nd	2	0.77	nd	nd	
Total BTEX	311	281	308	133.78	234.9	24.2	258	42.4	135.4	32.7	42.3	0	7.3	0	13.4	8.8	49.04	14.11	11	4.2	7.1
Acenaphthylene	3.4	3.7	4.6	2.4	3.8	0.72	2.8	1.3	2.2	2.9	4.7	nd	4	nd	3.4	2.9	3.3	2.6	2.8	0.37 J	2.1
Acenaphthene	5	4.1	6.1	3.1	5.1	2.6	4.6	2.0	3.8	1.4	2.1	nd	2.0	nd	1.8	1.7	2.0	1.5	1.4	1.2	2.9
Anthracene	nd	nd	nd	nd	0.3	0.24	nd	nd	nd	nd	0.43	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)Anthracene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)Pyrene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(b)Fluoranthene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(g,h,i)Perylene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(k)Fluoranthene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Chrysene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Dibenzo(a,h)Anthracene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Fluoranthene	nd	0.32	0.52	0.24	0.51	0.45	0.42	nd	0.40	0.36	0.95	nd	nd	nd	0.70	nd	0.48	nd	0.67	nd	0.43 J
Fluorene	0.86	0.89	1.6	0.72	1.2	0.83	nd	nd	0.91	0.52	1.4	nd	0.73	nd	0.64	0.6	0.53	0.46	0.49	nd	0.43 J
Indeno(1,2,3-cd)Pyrene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Naphthalene	2.5	4.1	9.3	0.78	2.6	0.28	4	nd	0.81	0.29	0.57	0.6	nd	1.4	1.20	nd	nd	nd	0.74	nd	nd
Phenanthrene	nd	nd	2.8	nd	0.56	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Pyrene	nd	0.36	0.75	0.27	0.52	0.71	0.56	nd	0.51	0.58	1.3	nd	1	nd	1	0.66	0.73	0.63	0.96	nd	0.71
2-Methylnaphthalene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Total PAHs	11.76	13.47	25.67	7.51	14.59	5.83	12.38	3.3	8.63	6.05	11.45	0.64	7.73	1.40	8.74	5.86	7.04	5.19	7.06	1.57	6.57
Cyanide, total (Exygen/ Test America)																			175	230	260 J
Cyanide, total (Clarkson Univ.)																					
Cyanide, free (Exygen/ Test America)																			5.9	nd	2.8 J
Cyanide, free (Clarkson Univ.)																					
Water Elevation (feet)	581.32	582.35	581.46	582.85	580.37	584.05	580.22	582.07	579.02	582.78	580.94	582.98	579.83	582.74	580.63	583.03	578.48	582.64	582.02	581.63	580.76

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12
DATE	Aug-95	May-96	Jul-97	Feb-98	Jun-99	Apr-00	Apr-01	Jul-01	Nov-01	Apr-02	Jun-02	Nov-02	Apr-03	Jul-03	Nov-03	Mar-04	Jun-04	Nov-04	Apr-05	Jul-05	Apr-06	Aug-06	Apr-07	Aug-07	Apr-08
Benzene			17																						
Toluene			nd																						
Ethylbenzene			nd																						
Xylene (sum of isomers)			nd																						
Total BTEX			17																						
Acenaphthylene			nd																						
Acenaphthene			nd																						
Anthracene			nd																						
Benzo(a)Anthracene			nd																						
Benzo(a)Pyrene			nd																						
Benzo(b)Fluoranthene			nd																						
Benzo(g,h,i)Perylene			nd																						
Benzo(k)Fluoranthene			nd																						
Chrysene			nd																						
Dibenzo(a,h)Anthracene			nd																						
Fluoranthene			nd																						
Fluorene			nd																						
Indeno(1,2,3-cd)Pyrene			nd																						
Naphthalene			nd																						
Phenanthrene			nd																						
Pyrene			nd																						
2-Methylnaphthalene																									
Total PAHs			0																						
Cyanide, total (Exygen/ Test America)			375		294	380	434	1840	393	522	2020	438	440	384	437	134	458	514	2110						
Cyanide, total (Clarkson Univ.)																	461	491	425	413	440	415	459	454	473
Cyanide, free (Exygen/ Test America)						nd	nd	nd	nd	nd	58	7	nd	88	57	19	6	5	817						
Cyanide, free (Clarkson Univ.)																6.7	nd	nd	3.3	2.9	2.6	nd	nd	6.8	25
Water Elevation (feet)			579.45	581.07	578.98	580.90	580.72	579.30	579.54	581.40	580.30	579.29	580.82	579.59	579.75	581.55	580.39	580.51	581.48	579.27	580.96	579.78	581.88	578.7	581.25

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12
DATE	Sep-08	Apr-09	Aug-09	Apr-10	Aug-10	Apr-11	Sep-11	Apr-12	Aug-12	Apr-13	Aug-13	Apr-14	Aug-14	Apr-15	Aug-15	Apr-16	Aug-16	Apr-17	Aug-17	Apr-18	Aug-18
Benzene																					
Toluene																					
Ethylbenzene																					
Xylene (sum of isomers)																					
Total BTEX																					
Acenaphthylene																					
Acenaphthene																					
Anthracene																					
Benzo(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																					
Phenanthrene																					
Pyrene																					
2-Methylnaphthalene																					
Total PAHs																					
Cyanide, total (Exygen/ Test America)					708	837	720	670	480	530	540	526	580	570	890	640	790	536	1,700	810	800 J
Cyanide, total (Clarkson Univ.)	550	472	449	550																	
Cyanide, free (Exygen/ Test America)					6.0	7.0	nd	10	23	10	14	7.5	10	nd	9	6	nd	6.8	7.2	3.1 J	1.9 J
Cyanide, free (Clarkson Univ.)	7.2	4.1	4.7	nd																	
Water Elevation (feet)	580.16	581.10	580.35	581.45	579.50	583.27	579.21	580.82	578.49	581.40	579.87	581.69	579.87	581.34	579.87	581.62	578.08	581.36	580.76	581.34	579.75

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13
DATE	Aug-95	May-96	Jul-97	Feb-98	Jun-99	Apr-00	Apr-01	Jul-01	Nov-01	Apr-02	Jun-02	Nov-02	Apr-03	Jul-03	Nov-03	Mar-04	Jun-04	Nov-04	Apr-05	Jul-05	Apr-06	Aug-06	Apr-07	Aug-07	Apr-08
Benzene			4	nd								1.8			3.7			1.2				1.9		2.1	nd
Toluene			nd	nd								nd			nd			nd				nd		nd	nd
Ethylbenzene			nd	nd								nd			nd			nd				nd		0.38	nd
Xylene (sum of isomers)			nd	nd								nd			nd			nd				nd		nd	nd
Total BTEX			4	0								1.8			3.7			1.2				1.9		2.48	0
Acenaphthene			nd									nd			nd			nd				nd		nd	nd
Acenaphthylene			nd									nd			nd			nd				nd		nd	nd
Anthracene			nd									nd			nd			nd				nd		nd	nd
Benzo(a)Anthracene			nd									nd			nd			nd				nd		nd	nd
Benzo(a)Pyrene			nd									nd			nd			nd				nd		nd	nd
Benzo(b)Fluoranthene			nd									nd			nd			nd				nd		nd	nd
Benzo(g,h,i)Perylene			nd									nd			nd			nd				nd		nd	nd
Benzo(k)Fluoranthene			nd									nd			nd			nd				nd		nd	nd
Chrysene			nd									nd			nd			nd				nd		nd	nd
Dibenzo(a,h)Anthracene			nd									nd			nd			nd				nd		nd	nd
Fluoranthene			nd									nd			nd			nd				nd		nd	nd
Fluorene			nd									nd			nd			nd				nd		nd	nd
Indeno(1,2,3-cd)Pyrene			nd									nd			nd			nd				nd		nd	nd
Naphthalene			nd									nd			nd			nd				2.8		0.88	nd
Phenanthrene			nd									nd			nd			nd				nd		nd	nd
Pyrene			nd									nd			nd			nd				nd		nd	nd
2-Methylnaphthalene												nd			nd			nd				nd		nd	nd
Total PAHs			0									0			0			0				2.8		0.88	0
Cyanide, total (Exygen/ Test America)			323		356	280	129	465	716	nd	157	399	142	423	528	175	108	280	103						
Cyanide, total (Clarkson Univ.)																	145	234	55	363	61	300	3	664	54
Cyanide, free (Exygen/ Test America)						nd	33	119	nd	nd	96	13	nd	51	22	22	nd	nd	45						
Cyanide, free (Clarkson Univ.)																5.3	nd	nd	nd	3	nd	nd	nd	5.3	2.3
Water Elevation (feet)			578.17	579.72	577.70	579.47	579.28	577.91	578.23	579.90	578.80	577.83	579.23	578.13	578.18	579.78	578.69	578.80	579.87	577.95	579.42	578.30	580.29	577.3	579.65

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13
DATE	Sep-08	Apr-09	Aug-09	Apr-10	Aug-10	Apr-11	Sep-11	Apr-12	Aug-12	Apr-13	Aug-13	Apr-14	Aug-14	Apr-15	Aug-15	Apr-16	Aug-16	Apr-17	Aug-17	Apr-18	Aug-18
Benzene			1		0.44		0.72		1.6		2.8		1.3		0.91		1.8		nd	nd	0.48 J
Toluene			nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Ethylbenzene			nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Xylene (sum of isomers)			nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Total BTEX			1		0.44		0.72		1.6		2.8		1.3		0.91		1.8		0	0	0.48
Acenaphthene			nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Acenaphthylene			nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Anthracene			nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Benzo(a)Anthracene			nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Benzo(a)Pyrene			nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Benzo(b)Fluoranthene			nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Benzo(g,h,i)Perylene			nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Benzo(k)Fluoranthene			nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Chrysene			nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Dibenzo(a,h)Anthracene			nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Fluoranthene			nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Fluorene			nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Indeno(1,2,3-cd)Pyrene			nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Naphthalene			nd		nd		nd		nd		nd		nd		nd		nd		0.44	nd	nd
Phenanthrene			nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Pyrene			nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
2-Methylnaphthalene			nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Total PAHs			0		0		0		0		0		0		0		0		0.44	0	0
Cyanide, total (Exygen/ Test America)					449	nd	620	10	670	nd	530	nd	500	nd	400	nd	400	nd	150	11	190 J
Cyanide, total (Clarkson Univ.)	467	27	327	nd																	
Cyanide, free (Exygen/ Test America)					nd	nd	nd	0.87	21	nd	5.7	nd	nd	nd	7.4	nd	nd	nd	22.6	nd	nd / 1.6
Cyanide, free (Clarkson Univ.)	8.2	nd	nd	nd																	
Water Elevation (feet)	578.95	579.44	578.59	579.65	578.10	581.97	577.73	579.09	577.19	579.74	578.43	580.29	577.85	578.53	578.35	578.35	577.12	579.98	579.24	581.29	578.31

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14
DATE	Aug-95	May-96	Jul-97	Feb-98	Jun-99	Apr-00	Apr-01	Jul-01	Nov-01	Apr-02	Jun-02	Nov-02	Apr-03	Jul-03	Nov-03	Mar-04	Jun-04	Nov-04	Apr-05	Jul-05	Apr-06	Aug-06	Apr-07	Aug-07	Apr-08
Benzene			nd																						
Toluene			nd																						
Ethylbenzene			nd																						
Xylene (sum of isomers)			nd																						
Total BTEX			0																						
Acenaphthene			nd																						
Acenaphthylene			nd																						
Anthracene			nd																						
Benzo(a)Anthracene			nd																						
Benzo(a)Pyrene			nd																						
Benzo(b)Fluoranthene			nd																						
Benzo(g,h,i)Perylene			nd																						
Benzo(k)Fluoranthene			nd																						
Chrysene			nd																						
Dibenzo(a,h)Anthracene			nd																						
Fluoranthene			nd																						
Fluorene			nd																						
Indeno(1,2,3-cd)Pyrene			nd																						
Naphthalene			nd																						
Phenanthrene			nd																						
Pyrene			nd																						
2-Methylnaphthalene																									
Total PAHs			0																						
Cyanide, total (Exygen/ Test America)			644		427	800	914	378	449	886	416	487	664	962	583	nd	503	537							
Cyanide, total (Clarkson Univ.)																	514	571		423	305	281	404	422	374
Cyanide, free (Exygen/ Test America)						nd	nd	nd	nd	nd	17	12	nd	9	7	nd	14	13							
Cyanide, free (Clarkson Univ.)																nd	nd	nd		nd	nd	nd	nd	nd	4
Water Elevation (feet)			577.36	579.19	577.03	578.44	578.21	577.21	577.31	578.56	577.61	576.76	577.92	577.23	577.11	578.15	577.55	577.46		577.07	577.99	577.29	577.89	577.43	577.87

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14
DATE	Sep-08	Apr-09	Aug-09	Apr-10	Aug-10	Apr-11	Sep-11	Apr-12	Aug-12	Apr-13	Aug-13	Apr-14	Aug-14	Apr-15	Aug-15	Apr-16	Aug-16	Apr-17	Aug-17	Apr-18	Aug-18
Benzene																					
Toluene																					
Ethylbenzene																					
Xylene (sum of isomers)																					
Total BTEX																					
Acenaphthene																					
Acenaphthylene																					
Anthracene																					
Benzo(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																					
Phenanthrene																					
Pyrene																					
2-Methylnaphthalene																					
Total PAHs																					
Cyanide, total (Exygen/ Test America)					541	623	670	610	610	640	600	610	720	610	740	240	560	508	578	520	760 J
Cyanide, total (Clarkson Univ.)	486	425	422	480																	
Cyanide, free (Exygen/ Test America)					nd	nd	nd	1.7	nd	nd	nd	nd	nd	nd	5.7	nd	nd	nd	38.9	nd	nd
Cyanide, free (Clarkson Univ.)	2.5	4.1	nd	nd																	
Water Elevation (feet)	576.48	577.57	577.15	578.05	577.27	579.98	577.05	577.85	576.63	578.43	577.55	578.66	577.73	577.85	577.63	578.74	576.87	578.55	579.29	578.83	577.60

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15
DATE	Aug-95	May-96	Jul-97	Feb-98	Jun-99	Apr-00	Apr-01	Jul-01	Nov-01	Apr-02	Jun-02	Nov-02	Apr-03	Jul-03	Nov-03	Mar-04	Jun-04	Nov-04	Apr-05	Jul-05	Apr-06	Aug-06	Apr-07	Aug-07	Apr-08
Benzene			nd																						
Toluene			nd																						
Ethylbenzene			nd																						
Xylene (sum of isomers)			nd																						
Total BTEX			0																						
Naphthalene			nd																						
Acenaphthylene			nd																						
Acenaphthene			nd																						
Fluorene			nd																						
Phenanthrene			nd																						
Anthracene			nd																						
Fluoranthene			nd																						
Pyrene			nd																						
Benzo(a)Anthracene			nd																						
Chrysene			nd																						
Benzo(b)Fluoranthene			nd																						
Benzo(k)Fluoranthene			nd																						
Benzo(a)Pyrene			nd																						
Indeno(1,2,3-cd)Pyrene			nd																						
Dibenzo(a,h)Anthracene			nd																						
Benzo(g,h,i)Perylene			nd																						
2-Methylnaphthalene																									
Total PAHs			0																						
Cyanide, total (Exygen/ Test America)			78.8																						
Cyanide, total (Clarkson Univ.)																									
Cyanide, free (Exygen/ Test America)																									
Cyanide, free (Clarkson Univ.)																									
Water Elevation (feet)			579.11	579.81	578.70	580.15	580.55	578.98	579.49	580.98	579.48	578.88	580.40	579.11	579.30	581.04	579.99	---	580.54	579.45	580.54	579.36	---	577.89	580.60

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15
DATE	Sep-08	Apr-09	Aug-09	Apr-10	Aug-10	Apr-11	Sep-11	Apr-12	Aug-12	Apr-13	Aug-13	Apr-14	Aug-14	Apr-15	Aug-15	Apr-16	Aug-16	Apr-17	Aug-17	Apr-18	Aug-18
Benzene																					
Toluene																					
Ethylbenzene																					
Xylene (sum of isomers)																					
Total BTEX																					
Naphthalene																					
Acenaphthylene																					
Acenaphthene																					
Fluorene																					
Phenanthrene																					
Anthracene																					
Fluoranthene																					
Pyrene																					
Benzo(a)Anthracene																					
Chrysene																					
Benzo(b)Fluoranthene																					
Benzo(k)Fluoranthene																					
Benzo(a)Pyrene																					
Indeno(1,2,3-cd)Pyrene																					
Dibenzo(a,h)Anthracene																					
Benzo(g,h,i)Perylene																					
2-Methylnaphthalene																					
Total PAHs																					
Cyanide, total (Exygen/ Test America)																					
Cyanide, total (Clarkson Univ.)																					
Cyanide, free (Exygen/ Test America)																					
Cyanide, free (Clarkson Univ.)																					
Water Elevation (feet)	579.65	580.61	579.65	580.87	579.18	582.58	578.76	NM	576.28	580.93	579.55	581.18	578.77	580.85	579.34	581.1	577.9	580.82	580.38	580.53	579.33

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16
DATE	Aug-95	May-96	Jul-97	Feb-98	Jun-99	Apr-00	Apr-01	Jul-01	Nov-01	Apr-02	Jun-02	Nov-02	Apr-03	Jul-03	Nov-03	Mar-04	Jun-04	Nov-04	Apr-05	Jul-05	Apr-06	Aug-06	Apr-07	Aug-07	Apr-08
Benzene			nd																						
Toluene			nd																						
Ethylbenzene			nd																						
Xylene (sum of isomers)			nd																						
Total BTEX			0																						
Naphthalene			nd																						
Acenaphthylene			nd																						
Acenaphthene			nd																						
Fluorene			nd																						
Phenanthrene			nd																						
Anthracene			nd																						
Fluoranthene			nd																						
Pyrene			nd																						
Benzo(a)Anthracene			nd																						
Chrysene			nd																						
Benzo(b)Fluoranthene			nd																						
Benzo(k)Fluoranthene			nd																						
Benzo(a)Pyrene			nd																						
Indeno(1,2,3-cd)Pyrene			nd																						
Dibenzo(a,h)Anthracene			nd																						
Benzo(g,h,i)Perylene			nd																						
2-Methylnaphthalene																									
Total PAHs			0																						
Cyanide, total (Exygen/ Test America)			346		459	360	214	214	138	174	23	187	203	130	220	254	297	293	307						
Cyanide, total (Clarkson Univ.)																	332	297	305	299	266	368	317	429	467
Cyanide, free (Exygen/ Test America)						nd	nd	147	nd	nd	17	13	nd	89	20	95	12	104	nd						
Cyanide, free (Clarkson Univ.)																3.4	2.8	nd	nd	nd	nd	nd	nd	4	6.9
Water Elevation (feet)			580.17	581.49	579.66	581.81	581.59	580.06	580.77	582.08	580.23	580.34	581.92	580.42	580.95	582.83	581.35	581.72	581.08	579.91	582.14	580.56	582.87	578.25	581.82

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16
DATE	Sep-08	Apr-09	Aug-09	Apr-10	Aug-10	Apr-11	Sep-11	Apr-12	Aug-12	Apr-13	Aug-13	Apr-14	Aug-14	Apr-15	Aug-15	Apr-16	Aug-16	Apr-17	Aug-17	Apr-18	Aug-18
Benzene																					
Toluene																					
Ethylbenzene																					
Xylene (sum of isomers)																					
Total BTEX																					
Naphthalene																					
Acenaphthylene																					
Acenaphthene																					
Fluorene																					
Phenanthrene																					
Anthracene																					
Fluoranthene																					
Pyrene																					
Benzo(a)Anthracene																					
Chrysene																					
Benzo(b)Fluoranthene																					
Benzo(k)Fluoranthene																					
Benzo(a)Pyrene																					
Indeno(1,2,3-cd)Pyrene																					
Dibenzo(a,h)Anthracene																					
Benzo(g,h,i)Perylene																					
2-Methylnaphthalene																					
Total PAHs																					
Cyanide, total (Exygen/ Test America)					602	617	700	840	750	880	740	730	1300	1100	1500	1700	1700	1570	1690	1900	2500 J
Cyanide, total (Clarkson Univ.)	540	531	504	566																	
Cyanide, free (Exygen/ Test America)					7.0	9.0	7.0	9.5	37	32.0	9.5	7.2	20	13.0	20	11	8	17	38.8	18.1 J	18.3
Cyanide, free (Clarkson Univ.)	5.0	5.5	4.4	2.4																	
Water Elevation (feet)	581.7	582.26	581.28	582.21	580.23	584.06	580.04	582.00	576.28	582.59	580.78	582.87	579.61	582.58	580.49	582.87	578.24	582.42	581.99	580.29	579.34

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17
DATE	Aug-95	May-96	Jul-97	Feb-98	Jun-99	Apr-00	Apr-01	Jul-01	Nov-01	Apr-02	Jun-02	Nov-02	Apr-03	Jul-03	Nov-03	Mar-04	Jun-04	Nov-04	Apr-05	Jul-05	Apr-06	Aug-06	Apr-07	Aug-07	Apr-08
Benzene				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.32	nd	nd	nd	nd	nd	nd	nd	nd	nd
Toluene				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Ethylbenzene				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.1	nd
Xylene (sum of isomers)				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.63	nd
Total BTEX				0	0	0	0	0	0	0	0	0	0	0	0	0.32	0	0	0	0	0	0	0	1.73	0
Acenaphthene				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Acenaphthylene				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Anthracene				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)Anthracene				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)Pyrene				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(b)Fluoranthene				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(g,h,i)Perylene				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(k)Fluoranthene				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Chrysene				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Dibenzo(a,h)Anthracene				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Fluoranthene				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Fluorene				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Indeno(1,2,3-cd)Pyrene				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Naphthalene				nd	nd	nd	nd	3	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Phenanthrene				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Pyrene				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
2-Methylnaphthalene							nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Total PAHs				0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cyanide, total (Exygen/ Test America)				34	nd	27	65	38	74	185	127	108	185	50	66	378	106	160	217						
Cyanide, total (Clarkson Univ.)																	142	162	260	161	263	183	369	148	285
Cyanide, free (Exygen/ Test America)						nd	13	nd	nd	nd	nd	nd	nd	16	nd	nd	nd	nd	61						
Cyanide, free (Clarkson Univ.)																nd	nd	nd	nd	nd	5.2	nd	nd	nd	5.9
Water Elevation (feet)				582.36	579.73	581.90	581.96	580.12	580.88	582.38	579.86	580.48	582.01	580.46	580.96	582.40	581.27	581.72	582.71	579.96	582.14	580.62	582.87	578.36	583.02

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17
DATE	Sep-08	Apr-09	Aug-09	Apr-10	Aug-10	Apr-11	Sep-11	Apr-12	Aug-12	Apr-13	Aug-13	Apr-14	Aug-14	Apr-15	Aug-15	Apr-16	Aug-16	Apr-17	Aug-17	Apr-18	Aug-18
Benzene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	12.0
Toluene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Ethylbenzene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	3 J
Xylene (sum of isomers)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Total BTEX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Acenaphthene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Acenaphthylene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Anthracene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)Anthracene	nd	nd	nd	nd	0.61	nd	1.3	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)Pyrene	nd	nd	nd	nd	0.50	nd	1.80	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(b)Fluoranthene	nd	nd	nd	nd	0.54	nd	2	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(g,h,i)Perylene	nd	nd	nd	nd	0.7	nd	1.6	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(k)Fluoranthene	nd	nd	nd	nd	0.59	nd	1.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Chrysene	nd	nd	nd	nd	0.63	nd	1.3	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Dibenzo(a,h)Anthracene	nd	nd	nd	nd	0.83	nd	4.7	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Fluoranthene	nd	nd	nd	nd	nd	nd	0.73	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Fluorene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Indeno(1,2,3-cd)Pyrene	nd	nd	nd	nd	0.76	nd	4.4	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Naphthalene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.75	nd	nd	nd	nd	1.5	0.5	no	0.45	nd	18.0
Phenanthrene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Pyrene	nd	nd	nd	nd	nd	nd	0.75	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
2-Methylnaphthalene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Total PAHs	0	0	0	0	5.16	0	20.08	0	0	0	0.75	0	0	0	0	1.5	0.53	0	0.45	0	18.0
Cyanide, total (Exygen/ Test America)					93	297	230	210	81	160	98	198	160	220	89	240	60	124	173	110	110 J
Cyanide, total (Clarkson Univ.)	144	279	148	242																	
Cyanide, free (Exygen/ Test America)					nd	4	nd	0.98	nd	1.20	nd	nd	nd	nd	9.5	nd	nd	nd	nd	nd	nd
Cyanide, free (Clarkson Univ.)	nd	5.0	nd	nd																	
Water Elevation (feet)	581.13	582.30	581.36	582.61	580.18	583.98	NM	581.93	578.92	582.68	580.77	582.86	579.68	582.58	580.46	582.89	578.43	582.53	581.95	583.30	580.59

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18
DATE	Aug-95	May-96	Jul-97	Feb-98	Jun-99	Apr-00	Apr-01	Jul-01	Nov-01	Apr-02
Benzene				nd	nd	nd	nd	nd	nd	nd
Toluene				nd	nd	nd	nd	1.1	nd	nd
Ethylbenzene				nd	nd	nd	nd	nd	nd	nd
Xylene (sum of isomers)				nd	nd	nd	nd	nd	nd	nd
Total BTEX				0	0	0	0	1.1	0	0
Naphthalene				nd	nd	nd	nd	nd	nd	nd
Acenaphthylene				nd	nd	nd	nd	nd	nd	nd
Acenaphthene				nd	nd	nd	nd	nd	nd	nd
Fluorene				nd	nd	nd	nd	nd	nd	nd
Phenanthrene				nd	nd	nd	nd	nd	nd	nd
Anthracene				nd	nd	nd	nd	nd	nd	nd
Fluoranthene				nd	nd	nd	nd	nd	nd	nd
Pyrene				nd	nd	nd	nd	nd	nd	nd
Benzo(a)Anthracene				nd	nd	nd	nd	nd	nd	nd
Chrysene				nd	nd	nd	nd	nd	nd	nd
Benzo(b)Fluoranthene				nd	nd	nd	nd	nd	nd	nd
Benzo(k)Fluoranthene				nd	nd	nd	nd	nd	nd	nd
Benzo(a)Pyrene				nd	nd	nd	nd	nd	nd	nd
Indeno(1,2,3-cd)Pyrene				nd	nd	nd	nd	nd	nd	nd
Dibenzo(a,h)Anthracene				nd	nd	nd	nd	nd	nd	nd
Benzo(g,h,i)Perylene				nd	nd	nd	nd	nd	nd	nd
2-Methylnaphthalene							nd	nd	nd	nd
Total PAHs				0	0	0	0	0	0	0
Cyanide, total (Exygen/ Test America)				nd	nd	nd	13	nd	nd	nd
Cyanide, total (Clarkson Univ.)										
Cyanide, free (Exygen/ Test America)						nd	nd	24	nd	nd
Cyanide, free (Clarkson Univ.)										
Water Elevation (feet)				585.46	582.65	585.06	585.40	583.84	583.84	582.74

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-18																					
DATE																					
Benzene																					
Toluene																					
Ethylbenzene																					
Xylene (sum of isomers)																					
Total BTEX																					
Naphthalene																					
Acenaphthylene																					
Acenaphthene																					
Fluorene																					
Phenanthrene																					
Anthracene																					
Fluoranthene																					
Pyrene																					
Benzo(a)Anthracene																					
Chrysene																					
Benzo(b)Fluoranthene																					
Benzo(k)Fluoranthene																					
Benzo(a)Pyrene																					
Indeno(1,2,3-cd)Pyrene																					
Dibenzo(a,h)Anthracene																					
Benzo(g,h,i)Perylene																					
2-Methylnaphthalene																					
Total PAHs																					
Cyanide, total (Exygen/ Test America)																					
Cyanide, total (Clarkson Univ.)																					
Cyanide, free (Exygen/ Test America)																					
Cyanide, free (Clarkson Univ.)																					
Water Elevation (feet)																					

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19
DATE	Aug-95	May-96	Jul-97	Feb-98	Jun-99	Apr-00	Apr-01	Jul-01	Nov-01	Apr-02	Jun-02	Nov-02	Apr-03	Jul-03	Nov-03	Mar-04	Jun-04	Nov-04	Apr-05	Jul-05	Apr-06	Aug-06	Apr-07	Aug-07	Apr-08
Benzene					4700	5700	6000	4600	4700	4800	3800	4200	4600		5300	4900	6000	5800	7500	5800	5800	5600	6700	4500	5200
Toluene					nd	nd	nd	160	nd	nd	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Ethylbenzene					nd	280	260	nd	nd	160	150	140	170		130	170	330	180	350	270	260	200	220	100	210
Xylene (sum of isomers)					1500	2200	1500	930	660	580	470	540	560		400	440	1000	660	950	770	730	810	710	470	780
Total BTEX					6200	8180	7760	5690	5360	5540	4420	4880	5330		5830	5510	7330	6640	8800	6840	6790	6610	7630	5070	6190
Acenaphthene					nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.5
Acenaphthylene					nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Anthracene					nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)Anthracene					nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)Pyrene					nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(b)Fluoranthene					nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(g,h,i)Perylene					nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(k)Fluoranthene					nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Chrysene					nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Dibenzo(a,h)Anthracene					nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Fluoranthene					nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Fluorene					nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Indeno(1,2,3-cd)Pyrene					nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Naphthalene					1,900	2,200	2,200	2,000	2,100	2,300	2,000	2,100	2,400	2,100	2,000	2,700	2,900	2,800	3,000	2,600	2,800	3,600	3,100	4,600	4,100
Phenanthrene					nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Pyrene					nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
2-Methylnaphthalene							nd	0.82	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	5.5	4.8	nd	5.5	4.7
Total PAHs					1900	2200	2200	2001	2100	2300	2000	2100	2400	2100	2000	2700	2900	2800	3000	2600	2806	3605	3100	4606	4106
Cyanide, total (Exygen/ Test America)					1100																				
Cyanide, total (Clarkson Univ.)																									
Cyanide, free (Exygen/ Test America)																									
Cyanide, free (Clarkson Univ.)																									
Water Elevation (feet)					577.43	581.36	581.13	579.63	580.12	581.73	579.73	579.83	581.24	580.01	580.19	582.00	580.79	580.98	581.90	579.57	581.42	580.15	582.26	578.2	581.6

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19
DATE	Sep-08	Apr-09	Aug-09	Apr-10	Aug-10	Apr-11	Sep-11	Apr-12	Aug-12	Apr-13	Aug-13	Apr-14	Aug-14	Apr-15	Aug-15	Apr-16	Aug-16	Apr-17	Aug-17	Apr-18	Aug-18
Benzene	3700	3700	3700	4300	4700	4400	4200	3800	4300	4000	4800	5200	5800	5300	5400	4700	4900	4000	5300	5400	4300 J
Toluene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	2.9	nd	nd	nd	nd	nd	100	nd	nd	nd	nd
Ethylbenzene	120	180	170	290	230	280	170	190	130	210	300	550	310	400	430	370	270	410	500	600	310
Xylene (sum of isomers)	510	470	450	340	190	nd	nd	nd	nd	nd	75	nd	nd	nd	nd	nd	200	84	nd	nd	nd
Total BTEX	4330	4350	4320	4930	5120	4680	4370	3990	4430	4210	5178	5750	6110	5700	5830	5070	5170	4410	5800	6000	4610
Acenaphthene	nd	nd	nd	nd	0.27	nd	nd	nd	nd	nd	nd	0.74	nd	nd	nd	nd	nd	nd	nd	nd	nd
Acenaphthylene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Anthracene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)Anthracene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)Pyrene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(b)Fluoranthene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(g,h,i)Perylene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(k)Fluoranthene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Chrysene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Dibenzo(a,h)Anthracene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Fluoranthene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Fluorene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Indeno(1,2,3-cd)Pyrene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Naphthalene	2,600	3,600	3,600	3,300	3,700	3,300	2,700	3,200	2,900	2,600	4,200	5,500	5,400	4,600	5,700	3,900	2,900	6,200	4,400	4,700	4,100
Phenanthrene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Pyrene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
2-Methylnaphthalene	3.5	6.2	6.7	7.2	7.6	9.3	6.1	6.2	11	9.5	nd	210	nd	nd	11	nd	nd	nd	nd	nd	nd
Total PAHs	2603.5	3606.2	3606.7	3307.2	3707.87	3309.3	2706.1	3206.2	2911	2609.5	4,200	5,711	5,400	4,600	5,711	3,900	2,900	6,200	4,400	4,700	4,100
Cyanide, total (Exygen/ Test America)																					
Cyanide, total (Clarkson Univ.)																					
Cyanide, free (Exygen/ Test America)																					
Cyanide, free (Clarkson Univ.)																					
Water Elevation (feet)	580.52	581.46	580.70	581.8	579.78	583.45	579.54	581.21	578.62	581.47	580.27	581.92	579.28	581.68	580.04	581.93	578.15	581.67	581.20	582.25	580.03

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20
DATE	Aug-95	May-96	Jul-97	Feb-98	Jun-99	Apr-00	Apr-01	Jul-01	Nov-01	Apr-02	Jun-02	Nov-02	Apr-03	Jul-03	Nov-03	Mar-04	Jun-04	Nov-04	Apr-05	Jul-05	Apr-06	Aug-06	Apr-07	Aug-07	Apr-08
Benzene					nd																				
Toluene					nd																				
Ethylbenzene					nd																				
Xylene (sum of isomers)					nd																				
Total BTEX					0																				
Acenaphthene					nd																				
Acenaphthylene					nd																				
Anthracene					nd																				
Benzo(a)Anthracene					nd																				
Benzo(a)Pyrene					nd																				
Benzo(b)Fluoranthene					nd																				
Benzo(g,h,i)Perylene					nd																				
Benzo(k)Fluoranthene					nd																				
Chrysene					nd																				
Dibenzo(a,h)Anthracene					nd																				
Fluoranthene					nd																				
Fluorene					nd																				
Indeno(1,2,3-cd)Pyrene					nd																				
Naphthalene					nd																				
Phenanthrene					nd																				
Pyrene					nd																				
2-Methylnaphthalene																									
Total PAHs					0																				
Cyanide, total (Exygen/ Test America)					344	450	295	439	46	455	361	8	506	399	21	501	242	387	644						
Cyanide, total (Clarkson Univ.)																	242	444	402	160	429	172	469	337	494
Cyanide, free (Exygen/ Test America)						nd	13	nd	nd	nd	10	9	nd	44	14	nd	nd	53	13						
Cyanide, free (Clarkson Univ.)																nd	nd	nd	nd	nd	nd	nd	nd	2.6	3.2
Water Elevation (feet)					576.67	579.24	578.86	576.76	577.15	579.20	577.49	576.60	578.34	576.90	577.16	578.96	577.42	577.82	578.82	576.60	578.20	577.07	579.03	575.78	578.43

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20
DATE	Sep-08	Apr-09	Aug-09	Apr-10	Aug-10	Apr-11	Sep-11	Apr-12	Aug-12	Apr-13	Aug-13	Apr-14	Aug-14	Apr-15	Aug-15	Apr-16	Aug-16	Apr-17	Aug-17	Apr-18	Aug-18
Benzene																					
Toluene																					
Ethylbenzene																					
Xylene (sum of isomers)																					
Total BTEX																					
Acenaphthene																					
Acenaphthylene																					
Anthracene																					
Benzo(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																					
Phenanthrene																					
Pyrene																					
2-Methylnaphthalene																					
Total PAHs																					
Cyanide, total (Exygen/ Test America)					139	690	560	790	280	730	390	660	150	890	640	1000	560	874	1000	600	850 J
Cyanide, total (Clarkson Univ.)	115	418	268	495																	
Cyanide, free (Exygen/ Test America)					nd	6	nd	2.2	6.0	4.9	nd	2.0	nd	nd	5.9	nd	nd	nd	33.2	nd	nd
Cyanide, free (Clarkson Univ.)	nd	nd	nd	nd																	
Water Elevation (feet)	577.4	578.78	577.87	578.9	577.11	580.62	576.41	578.45	574.20	579.25	577.23	579.81	579.28	579.37	580.04	579.76	575.85	579.19	578.34	580.68	576.90

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21
DATE	Aug-95	May-96	Jul-97	Feb-98	Jun-99	Apr-00	Apr-01	Jul-01	Nov-01	Apr-02	Jun-02	Nov-02	Apr-03	Jul-03	Nov-03	Mar-04	Jun-04	Nov-04	Apr-05	Jul-05	Apr-06	Aug-06	Apr-07	Aug-07	Apr-08
Benzene					nd																				
Toluene					nd																				
Ethylbenzene					nd																				
Xylene (sum of isomers)					nd																				
Total BTEX					0																				
Naphthalene					nd																				
Acenaphthylene					nd																				
Acenaphthene					nd																				
Fluorene					nd																				
Phenanthrene					nd																				
Anthracene					nd																				
Fluoranthene					nd																				
Pyrene					nd																				
Benzo(a)Anthracene					nd																				
Chrysene					nd																				
Benzo(b)Fluoranthene					nd																				
Benzo(k)Fluoranthene					nd																				
Benzo(a)Pyrene					nd																				
Indeno(1,2,3-cd)Pyrene					nd																				
Dibenzo(a,h)Anthracene					nd																				
Benzo(g,h,i)Perylene					nd																				
2-Methylnaphthalene																									
Total PAHs					0																				
Cyanide, total (Exygen/ Test America)					511	560	898	558	535	756	674	670	637	708	569	714	741	740	664						
Cyanide, total (Clarkson Univ.)																	749	709	688	545	404	448	574	560	543
Cyanide, free (Exygen/ Test America)						nd	14	nd	nd	24	12	13	nd	11	nd	nd	nd	7	20						
Cyanide, free (Clarkson Univ.)																nd	nd	nd	nd	2.6	nd	nd	nd	nd	18.5
Water Elevation (feet)					576.51	578.08	577.68	576.55	576.58	578.03	576.97	576.28	575.32	576.55	576.42	577.70	576.86	576.85	577.71	576.38	577.28	576.75	578.38	576.79	577.42

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21
DATE	Sep-08	Apr-09	Aug-09	Apr-10	Aug-10	Apr-11	Sep-11	Apr-12	Aug-12	Apr-13	Aug-13	Apr-14	Aug-14	Apr-15	Aug-15	Apr-16	Aug-16	Apr-17	Aug-17	Apr-18	Aug-18
Benzene																					
Toluene																					
Ethylbenzene																					
Xylene (sum of isomers)																					
Total BTEX																					
Naphthalene																					
Acenaphthylene																					
Acenaphthene																					
Fluorene																					
Phenanthrene																					
Anthracene																					
Fluoranthene																					
Pyrene																					
Benzo(a)Anthracene																					
Chrysene																					
Benzo(b)Fluoranthene																					
Benzo(k)Fluoranthene																					
Benzo(a)Pyrene																					
Indeno(1,2,3-cd)Pyrene																					
Dibenzo(a,h)Anthracene																					
Benzo(g,h,i)Perylene																					
2-Methylnaphthalene																					
Total PAHs																					
Cyanide, total (Exygen/ Test America)					433	539	420	480	420	490	460	453	430	500	440	430	320	371	946	710	410 J
Cyanide, total (Clarkson Univ.)	417	485	441	508																	
Cyanide, free (Exygen/ Test America)					nd	6	nd	1.6	nd	nd	nd	2.1	nd	nd	5.5	nd	nd	nd	26.6	nd	nd
Cyanide, free (Clarkson Univ.)	4.2	nd	nd	nd																	
Water Elevation (feet)	576.94	577.35	576.93	577.43	576.67	579.32	575.29	577.09	575.89	577.59	576.80	578.24	576.54	577.82	576.89	578.05	576.05	577.87	577.52	579.42	576.78

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22
DATE	Aug-95	May-96	Jul-97	Feb-98	Jun-99	Apr-00	Apr-01	Jul-01	Nov-01	Apr-02	Jun-02	Nov-02	Apr-03	Jul-03	Nov-03	Mar-04	Jun-04	Nov-04	Apr-05	Jul-05	Apr-06	Aug-06	Apr-07	Aug-07	Apr-08
Benzene					6																				
Toluene					nd																				
Ethylbenzene					nd																				
Xylene (sum of isomers)					nd																				
Total BTEX					6																				
Naphthalene					nd																				
Acenaphthylene					nd																				
Acenaphthene					nd																				
Fluorene					nd																				
Phenanthrene					nd																				
Anthracene					nd																				
Fluoranthene					nd																				
Pyrene					nd																				
Benzo(a)Anthracene					nd																				
Chrysene					nd																				
Benzo(b)Fluoranthene					nd																				
Benzo(k)Fluoranthene					nd																				
Benzo(a)Pyrene					nd																				
Indeno(1,2,3-cd)Pyrene					nd																				
Dibenzo(a,h)Anthracene					nd																				
Benzo(g,h,i)Perylene					nd																				
2-Methylnaphthalene																									
Total PAHs					0																				
Cyanide, total (Exygen/ Test America)					487	600	1010	734	460	703	1570	467	604	560	1080	741	504	803	941						
Cyanide, total (Clarkson Univ.)																	676	759	628	534	587	540	642	641	666
Cyanide, free (Exygen/ Test America)						nd	nd	201	nd	nd	49	231	267	88	49	132	nd	207	99						
Cyanide, free (Clarkson Univ.)																nd	8	nd	3.1	2.4	nd	nd	nd	4.3	5.9
Water Elevation (feet)					578.80	580.70	580.51	579.09	579.50	581.25	580.05	579.10	580.62	579.42	579.47	581.27	580.05	580.22	581.28	579.13	580.69	579.60	581.75	578.02	581.03

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22	MW-22
DATE	Sep-08	Apr-09	Aug-09	Apr-10	Aug-10	Apr-11	Sep-11	Apr-12	Aug-12	Apr-13	Aug-13	Apr-14	Aug-14	Apr-15	Aug-15	Apr-16	Aug-16	Apr-17	Aug-17	Apr-18	Aug-18
Benzene																					
Toluene																					
Ethylbenzene																					
Xylene (sum of isomers)																					
Total BTEX																					
Naphthalene																					
Acenaphthylene																					
Acenaphthene																					
Fluorene																					
Phenanthrene																					
Anthracene																					
Fluoranthene																					
Pyrene																					
Benzo(a)Anthracene																					
Chrysene																					
Benzo(b)Fluoranthene																					
Benzo(k)Fluoranthene																					
Benzo(a)Pyrene																					
Indeno(1,2,3-cd)Pyrene																					
Dibenzo(a,h)Anthracene																					
Benzo(g,h,i)Perylene																					
2-Methylnaphthalene																					
Total PAHs																					
Cyanide, total (Exygen/ Test America)					778	1030	860	1000	870	1100	770	746	790	770	990	1600	760	676	830	440	1000 J
Cyanide, total (Clarkson Univ.)	785	704	690	771																	
Cyanide, free (Exygen/ Test America)					nd	7	nd	5.5	26	9.2	14.1	24.0	11.6	11.2	6.5	8.3	nd	12.0	24.6	nd	7.6
Cyanide, free (Clarkson Univ.)	3.3	3.1	3.4	nd																	
Water Elevation (feet)	579.93	580.86	580.03	581.19	579.29	583.13	578.99	580.56	578.26	581.17	579.69	581.51	578.85	581.18	579.53	581.37	577.93	581.20	580.56	582.09	579.55

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23
DATE	Aug-95	May-96	Jul-97	Feb-98	Jun-99	Apr-00	Apr-01	Jul-01	Nov-01	Apr-02	Jun-02	Nov-02	Apr-03	Jul-03	Nov-03	Mar-04	Jun-04	Nov-04	Apr-05	Jul-05	Apr-06	Aug-06	Apr-07	Aug-07	Apr-08
Benzene						nd						nd			nd			nd				nd			
Toluene						nd						nd			nd			nd				nd			
Ethylbenzene						nd						nd			nd			nd				nd			
Xylene (sum of isomers)						nd						nd			nd			nd				nd			
Total BTEX						0						0			0			0				0			
Acenaphthene						nd						nd			nd			nd				nd			
Acenaphthylene						nd						nd			nd			nd				nd			
Anthracene						nd						nd			nd			nd				nd			
Benzo(a)Anthracene						nd						nd			nd			nd				nd			
Benzo(a)Pyrene						nd						nd			nd			nd				nd			
Benzo(b)Fluoranthene						nd						nd			nd			nd				nd			
Benzo(g,h,i)Perylene						nd						nd			nd			nd				nd			
Benzo(k)Fluoranthene						nd						nd			nd			nd				nd			
Chrysene						nd						nd			nd			nd				nd			
Dibenzo(a,h)Anthracene						nd						nd			nd			nd				nd			
Fluoranthene						nd						nd			nd			nd				nd			
Fluorene						nd						nd			nd			nd				nd			
Indeno(1,2,3-cd)Pyrene						nd						nd			nd			nd				nd			
Naphthalene						nd						nd			nd			nd				3.6			
Phenanthrene						nd						nd			nd			nd				nd			
Pyrene						nd						nd			nd			nd				nd			
2-Methylnaphthalene												nd			nd			nd				nd			
Total PAHs						0						0			0			0				3.6			
Cyanide, total (Exygen/ Test America)						480	658	469	654	480	425	728	356	620	729	587	446	437	274						
Cyanide, total (Clarkson Univ.)																	493	560	359	325	267	321	326	374	252
Cyanide, free (Exygen/ Test America)						nd	nd	nd	nd	nd	12	10	nd	15	6	5	9	5	57						
Cyanide, free (Clarkson Univ.)																nd	nd	nd	nd	nd	nd	nd	nd	nd	3.2
Water Elevation (feet)						578.66	578.30	577.40	577.58	578.69	577.83	577.18	578.11	577.40	577.29	578.54	577.83	577.91	578.61	577.44	578.19	577.63	578.95	577.19	578.37

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23
DATE	Sep-08	Apr-09	Aug-09	Apr-10	Aug-10	Apr-11	Sep-11	Apr-12	Aug-12	Apr-13	Aug-13	Apr-14	Aug-14	Apr-15	Aug-15	Apr-16	Aug-16	Apr-17	Aug-17	Apr-18	Aug-18
Benzene	nd		nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Toluene	nd		nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Ethylbenzene	nd		nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Xylene (sum of isomers)	nd		nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Total BTEX	0		0		0		0		0		0		0		0		0		0	0	0
Acenaphthene	nd		nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Acenaphthylene	nd		nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Anthracene	nd		nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Benzo(a)Anthracene	nd		nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Benzo(a)Pyrene	nd		nd		nd		nd		nd		nd		nd		nd		nd		nd	0.33 J	0.37 J
Benzo(b)Fluoranthene	nd		nd		nd		nd		nd		nd		nd		nd		nd		nd	0.53	0.63
Benzo(g,h,i)Perylene	nd		nd		nd		nd		nd		nd		nd		nd		nd		nd	0.38 J	nd
Benzo(k)Fluoranthene	nd		nd		nd		nd		nd		nd		nd		nd		nd		nd	0.24 J	0.27 J
Chrysene	nd		nd		nd		nd		nd		nd		nd		nd		nd		nd	0.33 J	0.41 J
Dibenzo(a,h)Anthracene	nd		nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Fluoranthene	nd		nd		nd		nd		nd		nd		nd		nd		nd		nd	0.61	0.71
Fluorene	nd		nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Indeno(1,2,3-cd)Pyrene	nd		nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Naphthalene	nd		nd		nd		nd		nd		1.2		1.5		0.52		nd		0.46	nd	nd
Phenanthrene	nd		nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	0.39 J
Pyrene	nd		nd		nd		nd		nd		nd		nd		nd		nd		nd	0.48 J	0.59
2-Methylnaphthalene	nd		nd		nd		nd		nd		nd		nd		nd		nd		nd	nd	nd
Total PAHs	0		0		0		0		0		1.2		1.5		0.52		0		0.46	2.9	3.37
Cyanide, total (Exygen/ Test America)					299	307	360	220	330	570	780	684	670	490	480	120	300	236	329	410	320 J
Cyanide, total (Clarkson Univ.)	344	276	320	277																	
Cyanide, free (Exygen/ Test America)					nd	6	4	2.4	nd	0.7	8.1	nd	nd	nd	22.3	nd	nd	nd	166.0	nd	nd
Cyanide, free (Clarkson Univ.)	11.7	nd	nd	nd																	
Water Elevation (feet)	577.83	578.16	577.95	578.44	577.53	580.42	577.09	578.03	576.78	578.59	577.67	579.05	577.43	578.63	577.75	578.86	576.96	577.74	578.53	579.06	577.75

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01
DATE	Aug-95	May-96	Jul-97	Feb-98	Jun-99	Apr-00	Apr-01	Jul-01	Nov-01	Apr-02	Jun-02	Nov-02	Apr-03	Jul-03	Nov-03	Mar-04	Jun-04	Nov-04	Apr-05	Jul-05	Apr-06	Aug-06	Apr-07	Aug-07	Apr-08
Benzene			nd				nd	nd	nd	nd	nd	nd	nd	nd	nd	0.44	nd	nd	nd	nd	nd	nd	nd	Dry	nd
Toluene			nd				nd	nd	nd	nd	2	nd	nd	nd	nd	0.38	nd	nd	nd	0.47	nd	nd	nd		nd
Ethylbenzene			nd				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.23	nd		nd
Xylene (sum of isomers)			nd				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Total BTEX			0				0	0	0	0	2	0	0	0	0	0.82	0	0	0	0.47	0	0.23	0		0
Acenaphthene			nd				nd	1.1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Acenaphthylene			nd				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Anthracene			nd				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Benzo(a)Anthracene			nd				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Benzo(a)Pyrene			nd				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Benzo(b)Fluoranthene			nd				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Benzo(g,h,i)Perylene			nd				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Benzo(k)Fluoranthene			nd				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Chrysene			nd				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Dibenzo(a,h)Anthracene			nd				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Fluoranthene			nd				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.5	nd	nd	nd		nd
Fluorene			nd				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Indeno(1,2,3-cd)Pyrene			nd				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Naphthalene			nd				nd	2.9	nd	nd	nd	1.6	nd	nd	nd	nd	nd	nd	nd	nd	32	nd	nd		2.3
Phenanthrene			nd				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Pyrene			nd				nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.4	nd	nd	nd		nd
2-Methylnaphthalene							nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Total PAHs			0				0	4	0	0	0	1.6	0	0	0	0	0	0	0	0.9	32	0	0		2.3
Cyanide, total (Exygen/ Test America)			12.2				21	55	35	8	405	21	13	88	36	989	40	38	9						
Cyanide, total (Clarkson Univ.)																	46	53	10	5	4	24	nd		14
Cyanide, free (Exygen/ Test America)							nd	16	nd	nd	29	6	nd	10	nd	86	6	19	nd						
Cyanide, free (Clarkson Univ.)																98.1	nd	nd	3.2	2.4	2.3	2.4	5		nd
Water Elevation (feet)					579.80	580.40	580.10	580.00	580.10	581.00	579.60	579.80	580.70	581.40	582.00	582.30	580.60	581.30	581.30	579.90	581.60	580.20	582.80		581.57

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01	SW-01
DATE	Sep-08	Apr-09	Aug-09	Apr-10	Aug-10	Apr-11	Sep-11	Apr-12	Aug-12	Apr-13	Aug-13	Apr-14	Aug-14	Apr-15	Aug-15	Apr-16	Aug-16	Apr-17	Aug-17	Apr-18	Aug-18
Benzene	nd	nd	nd	nd	nd	nd	0.15	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Toluene	nd	nd	nd	nd	nd	nd	0.22	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Ethylbenzene	nd	nd	nd	nd	nd	nd	0.6	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Xylene (sum of isomers)	nd	nd	nd	nd	nd	nd	0.54	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Total BTEX	0	0	0	0	0	0	1.51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acenaphthene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Acenaphthylene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Anthracene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)Anthracene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)Pyrene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.61	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(b)Fluoranthene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(g,h,i)Perylene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.53	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(k)Fluoranthene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.56	nd	nd	nd	nd	nd	nd	nd	nd	nd
Chrysene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Dibenzo(a,h)Anthracene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Fluoranthene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.8	nd	nd	nd	nd	nd	nd	nd	nd	nd
Fluorene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Indeno(1,2,3-cd)Pyrene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Naphthalene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.2	nd	nd	nd	0.76	nd	nd	nd	2.2	0.91
Phenanthrene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.64	nd	nd	nd	nd	nd	nd	nd	nd	nd
Pyrene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.3	nd	nd	nd	nd	nd	nd	nd	nd	nd
2-Methylnaphthalene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Total PAHs	0	0	0	0	0	0	0	0	0	0	0	7.64	0	0	0	0.76	0	0	0	2.2	0.91
Cyanide, total (Exygen/ Test America)					12.6	30.3	11	16	96	14	nd	11	25	7.2	5.2	nd	92	25.5	nd	63	22 J
Cyanide, total (Clarkson Univ.)	5	25	23	3.6																	
Cyanide, free (Exygen/ Test America)					nd	6	nd	1.5	21	2.5	nd	nd	6	nd	7	nd	33	11	nd	5.1 J	nd
Cyanide, free (Clarkson Univ.)	nd	nd	nd	2.6																	
Water Elevation (feet)	581.80	581.55	580.83	582.25	580.19	580.19	580.19	581.6	580.6	581.95	581.65	582.5	581.35	NM	581.23	583.12	NM	581.7	581.76	583.92	NM

Notes:

nd - non-detect

open space - no data

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02
DATE	Aug-95	May-96	Jul-97	Feb-98	Jun-99	Apr-00	Apr-01	Jul-01	Nov-01	Apr-02	Jun-02	Nov-02	Apr-03	Jul-03	Nov-03	Mar-04	Jun-04	Nov-04	Apr-05	Jul-05	Apr-06	Aug-06	Apr-07	Aug-07	Apr-08
Benzene			nd		nd	6	2	nd	nd	1.2	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Dry	nd
Toluene			nd		nd	8	2	nd	nd	0.25	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Ethylbenzene			nd		nd	15	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Xylene (sum of isomers)			nd		nd	24	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Total BTEX			0		0	53	4	0	0	1.45	0	0	0	0	0	0	0	0	0	0	0	0	0		0
Acenaphthene			nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Acenaphthylene			nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Anthracene			nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Benzo(a)Anthracene			nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Benzo(a)Pyrene			nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Benzo(b)Fluoranthene			nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Benzo(g,h,i)Perylene			nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Benzo(k)Fluoranthene			nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Chrysene			nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Dibenzo(a,h)Anthracene			nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Fluoranthene			nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Fluorene			nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Indeno(1,2,3-cd)Pyrene			nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Naphthalene			nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		0.94
Phenanthrene			nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Pyrene			nd		nd	nd	nd	0.77	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
2-Methylnaphthalene							nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Total PAHs			0		0	0	0	0.77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0.94
Cyanide, total (Exygen/ Test America)			77.5		nd	380	121	nd	7	130	nd	1440	17	30	62	48	nd	24	nd						
Cyanide, total (Clarkson Univ.)																	nd	50	nd	nd	3	nd	nd		86
Cyanide, free (Exygen/ Test America)						111	nd	nd	nd	16	nd	42	nd	nd	nd	20	nd	12	nd						
Cyanide, free (Clarkson Univ.)																19.2	nd	6.2	nd	nd	2.3	nd	8.6		50.7
Water Elevation (feet, approximate)					580.3	580.9	580.6	580.5	580.6	581.5	580.1	580.3	581.1	581.8	582.4	582.7	581.0	581.7	581.7	580.3	582.0	580.6	583.2		---

Notes:

nd - non-detect

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix B
Groundwater and Surface Water Monitoring Results
2018 Periodic Review Report
Mineral Springs Road Former Manufactured Gas Plant Site
(all units in µg/L)

SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02	SW-02
DATE	Sep-08	Apr-09	Aug-09	Apr-10	Aug-10	Apr-11	Sep-11	Apr-12	Aug-12	Apr-13	Aug-13	Apr-14	Aug-14	Apr-15	Aug-15	Apr-16	Aug-16	Apr-17	Aug-17	Apr-18	Aug-18
Benzene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Toluene	nd	nd	0.23	0.18	7.2	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Ethylbenzene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Xylene (sum of isomers)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Total BTEX	0	0	0.23	0.18	7.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acenaphthene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Acenaphthylene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Anthracene	nd	nd	nd	nd	0.19	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)Anthracene	nd	nd	0.49	nd	1.5	nd	nd	nd	0.26	nd	nd	nd	2.7	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)Pyrene	nd	nd	0.63	nd	1.1	nd	nd	nd	nd	nd	nd	nd	4.2	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(b)Fluoranthene	nd	nd	1.2	nd	1.3	nd	1.7	nd	nd	nd	nd	1.4	8.3	nd	3.1	nd	nd	nd	nd	0.57	nd
Benzo(g,h,i)Perylene	nd	nd	0.55	nd	1.5	nd	nd	nd	nd	nd	nd	nd	2.2	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(k)Fluoranthene	nd	nd	nd	nd	1.2	nd	nd	nd	nd	nd	nd	0.69	nd	nd	nd	nd	nd	nd	nd	nd	0.13 J
Chrysene	nd	nd	0.85	nd	1.2	nd	nd	nd	0.30	nd	nd	nd	4.70	nd	nd	nd	nd	nd	nd	0.5	nd
Dibenzo(a,h)Anthracene	nd	nd	nd	nd	1.3	nd	nd	nd	nd	nd	nd	nd	0.45	nd	nd	nd	nd	nd	nd	nd	nd
Fluoranthene	nd	nd	1.2	nd	0.63	nd	1.2	nd	0.50	nd	nd	2.40	8.20	nd	3.3	nd	nd	nd	nd	0.81	nd
Fluorene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Indeno(1,2,3-cd)Pyrene	nd	nd	nd	nd	1.3	nd	nd	nd	nd	nd	nd	nd	1.9	nd	nd	nd	nd	nd	nd	nd	nd
Naphthalene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	2.2	nd	nd	nd	nd	nd	nd	nd	nd
Phenanthrene	nd	nd	0.72	nd	nd	nd	nd	nd	nd	nd	nd	nd	2.4	nd	nd	nd	nd	nd	nd	nd	nd
Pyrene	nd	nd	1.1	nd	0.55	nd	0.92	nd	0.33	nd	nd	1.8	6.5	nd	nd	nd	nd	nd	nd	0.58	nd
2-Methylnaphthalene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Total PAHs	0	0	1.82	0	11.77	0	3.82	0	1.39	0	0	6	43.75	0	6.4	0.0	0.0	0	0	2.46	0.13
Cyanide, total (Exygen/ Test America)					369	nd	93	45	14	95	nd	11	15	96	160	12	nd	253	195	130	13 J
Cyanide, total (Clarkson Univ.)	86	16	141	4.4																	
Cyanide, free (Exygen/ Test America)					nd	6	11	11	nd	26	0.76	1.6	nd	30.1	7.2	nd	nd	72	24.6	7.1 J	1.8 J
Cyanide, free (Clarkson Univ.)	10.1	nd	3.0	nd																	
Water Elevation (feet, approximate)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	581.80	583.52	581.58

Notes:

nd - non-detect

As of 2018, Total CN analysis TA Buffalo, Free CN analysis TA Edison

Appendix C

Institutional and Engineering Controls Certification Forms

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. V00195

Site Name NFG - Mineral Springs MGP

Site Address: 365 Mineral Springs Road Zip Code: 14210
City/Town: West Seneca
County: Erie
Site Acreage: 80.0

Reporting Period: September 16, 2017 to September 16, 2018

	YES	NO
1. Is the information above correct?	X	
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?		X
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?		X
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?		X
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?		X

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	X	
7. Are all ICs/ECs in place and functioning as designed?	X	

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

SITE NO. V00195 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
123.16-2-8	National Fuel Gas Distribution Corp.	Ground Water Use Restriction Landuse Restriction

i. All identified capped areas shall continue to be protective of public health and the environment, and shall continue to be maintained and monitored to be consistent with industrial/commercial use.

ii. The owner of the Property shall prohibit the Property from ever being used for purposes other than for an industrial/commercial operation, office, warehouse and garage facility and for the services associated with such use without the express written waiver of such prohibition by the Relevant Agency.

iii. The owner of the Property shall prohibit the use of the groundwater underlying the Property without treatment rendering it safe for drinking water or industrial purposes, as appropriate, unless the user first obtains permission to do so from the Relevant Agency.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
123.16-2-8	Cover System Fencing/Access Control

Box 5

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 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 compete.

YES	NO
X	

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or 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
X	

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. V00195

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 CRAIG K. SWIECH at 365 MINERAL SPRINGS ROAD WEST SENECA, NY 14210
print name print business address

am certifying as OWNER (Owner or Remedial Party)

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

Craig K. Swiech
Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

10/15/18
Date

IC/EC CERTIFICATIONS

Box 7

Professional Engineer 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 Kelly McIntosh (print name) at GEI Consultants, Inc,PC, 90B John Muir Drive Amherst NY 14228 (print business address),

am certifying as a Professional Engineer for the National Fuel Gas (Owner or Remedial Party)

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

Stamp (Required for PE)

Date 10/16/18