nationalgrid

Patrick J. Van Rossem
Project Manager

November 6, 2014

Mr. R. Scott Deyette
Chief, Inspection Unit
Remedial Bureau C
Division of Environmental Remediation,
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233

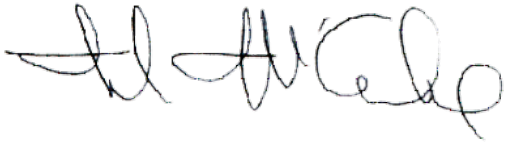
Subject: Feasibility Study Report
Babylon Former MGP Site
West Babylon, New York

Dear Mr. Deyette,

Enclosed please find one (1) hard copy of the Feasibility Study Report (FS) for the Babylon Former MGP Site, submitted in accordance with the requirements and provisions of the Order on Consent A2-0552-0606 (February 2007) between National Grid and the New York State Department of Environmental Conservation (NYSDEC). The report incorporates the modifications suggested in your letter dated September 26, 2014 and refined in our telephone conversation on October 14, 2014.

As we have discussed, National Grid is planning on meeting with the property owners that will be involved with the remedy to discuss the results of the evaluation of alternatives. Please call me at (516) 545-4075 should you have any comments or questions regarding this submittal.

Sincerely,



for

Patrick J. Van Rossem
Project Manager
Environmental SIR Department

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AECOM Environment

Submitted to:
National Grid
Hicksville, New York

Submitted by:
AECOM
Chelmsford, MA
60287690
November, 2014

Feasibility Study

Former Babylon Manufactured Gas Plant Site
West Babylon, New York
Administrative Order on Consent Index A2-0552-0606

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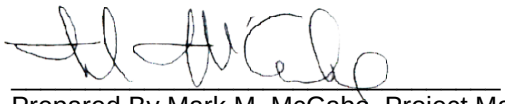
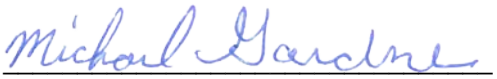


Prepared By Mark M. McCabe, Project Manager



Reviewed By Mike Gardner, Senior Engineer, PE

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List of Acronyms

AWQSGVs	Ambient Water Quality Standards or Guidance Values
bgs	Below ground surface
BTEX	Benzene, toluene, ethylbenzene, and xylene
cy	Cubic yards
COI	Constituent of Interest
DER-10	NYSDEC Technical Guidance for Site Investigation and Remediation
DNAPL	Dense non-aqueous phase liquid
ft.	Feet
FWIA	Fish and Wildlife Impact Assessment
GRA	General Response Action
HASP	Health and Safety Plan
ISMP	Interim Site Management Plan
ISS	*In situ* solidification
LNAPL	Light non-aqueous phase liquid
MGP	Manufactured Gas Plant
NAPL	Non-aqueous phase liquid
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PAHs	Polycyclic aromatic hydrocarbons
PSA	Preliminary Site Assessment
QHHEA	Qualitative Human Health Exposure Assessment
RAOs	Remedial Action Objectives
RAWP	Remedial Action Work Plan
RCUSCO	Restricted Commercial Use Soil Cleanup Objectives
RI	Remedial Investigation
RIR	Remedial Investigation Report
RRUSCOs	Restricted Residential Use Soil Cleanup Objectives
SCDHS	Suffolk County Department of Health Services
SMP	Site Management Plan
sq. ft.	Square feet
SVOCs	Semivolatile Organic Compounds
USTs	Underground Storage Tanks
VOCs	Volatile Organic Compounds

Executive Summary

The former Babylon Manufactured Gas Plant (MGP) site is located in a mixed commercial and residential area of West Babylon, Suffolk County. New York. The former MGP was located at 29 Evergreen Street. The site is currently bounded to the south/southwest by the Long Island Railroad (LIRR) tracks, to the west/northwest by residential dwellings, and to the east/northeast by an assisted-living facility. This Feasibility Study (FS) presents the results of the remedial alternative selection process for MGP impacts at the site.

Investigation Results

National Grid has conducted a series of investigations at the site since 2001 to characterize the potential impacts of MGP residuals at the site, resulting in the following findings:

Soil

Concentrations of constituents of interest (COI) in surface soil and vadose zone soil were relatively low, and the results from the Remedial Investigation (RI) indicated that they did not pose a potential risk. Estimated quantities for the impacts observed in the saturated zone are discussed below.

- **On-site** – The most significant MGP impacts are limited to a defined area of the site immediately adjacent to the downgradient property line, i.e., abutting the LIRR property. Approximately 200 cy of soil have constituent concentrations that are above the NYSDEC Part 375 commercial criteria for VOCs or CP-51 criteria for PAHs. The material is present at depths ranging from 8 to 25 ft. below ground surface (bgs). Evidence of lenses of contamination was also observed on-site at depths of 8 to 25 ft. bgs (250 cy) Lesser impacts, as defined by observations of stringers and blebs, were observed at depths of 12 to 25 ft. bgs (300 cy).
- **Off-site Commercial Property** – Analytical results did not indicate constituent concentrations that are greater than the applicable NYSDEC criteria, but lenses of contamination were observed at depths of 34 to 40 ft. bgs (100 cy). Lesser impacts, i.e., stringers and blebs, were observed at depths of 11 to 44 ft. bgs (1,000 cy).
- **Railroad Right of Way** – The soil under the LIRR is not readily accessible. For the purpose of this evaluation, it is assumed that impacted soil, i.e., with possible constituents above the applicable NYSDEC criteria and visible impacts, is present under the LIRR property at depths and locations consistent with the adjacent on-site and Commercial Property areas. This could include up to 6,000 cy of impacted media.

Groundwater

Monitoring data from on-site wells indicates concentrations above Ambient Water Quality Standard or Guidance Values (AWQSGV) at on-site locations for benzene, ethylbenzene and naphthalene.

Groundwater data associated with the off-site Commercial Property were obtained using geoprobe grab samples as the property owner preferred not to have permanent wells installed. Low levels of benzene and ethylbenzene (marginally above the associated AWQSGV) were observed at two locations proximate to the LIRR property line. The results also indicated a broader distribution of a

range of PAHs at levels that are also marginally above the AWQSGV. These include some constituents whose aqueous solubility was less than the observed concentration. These results demonstrate the potential for a positive bias in the results due to the effect of entrained particulate matter in the aqueous samples that are collected with a geoprobe. Considering this, naphthalene with a relatively higher aqueous solubility, should provide a better means of evaluating off-site groundwater impacts. The average naphthalene concentration on the Commercial Property is 32 µg/L vs. the associated AWQSGV of 10 µg/L. Naphthalene concentrations above the standard are primarily located within the defined gravel sand zone that is located on all three properties.

A review of the data presented in the Remedial Investigation Report (RIR) indicates that the source material for the dissolved-phase impacts, as defined by concentrations above the Protection of Groundwater soil cleanup objectives (SCOs), are limited to “shallow” soil impacts (8 to 10 ft. bgs) in on-site areas that likely extend into the LIRR property. The soil data demonstrates that the majority of samples collected from the off-site Commercial Property do not exhibit detectable levels of naphthalene, and none of the off-site samples contain naphthalene concentrations that are above the Protection of Groundwater SCOs criterion. The results indicate that residual material identified on the off-site Commercial Property is not a significant source of off-site dissolved-phase impact.

The Qualitative Human Health Exposure Assessment (QHHEA) and FWIRA indicate that MGP impacts in soil, groundwater or soil gas do not pose a significant risk given the current uses of the properties. As a result, the potentially complete exposure pathways to be addressed in the FS would be limited to subsurface construction associated with utility work, etc. or a change in conditions involving residential site use.

Evaluation of Remedial Alternatives

This FS has been prepared in accordance with NYSDEC DER-10 Guidance to define remedial action goals/objectives, and identify an appropriate approach to address the environmental conditions encountered at the site. Summaries of activities/conclusions associated with the sequential steps in the alternative analysis process are provided in the following sections.

Defining Remedial Goals/Objectives

The goal for remedial activities at the Babylon site is to eliminate or mitigate the potential risk posed by MGP residuals, and to remove the source of MGP contamination to the extent feasible. Achieving the Remedial Goal for the site will require that the remediation activities result in the elimination of the potential exposure pathways identified in the QHHEA for media that exceed the applicable standards, criteria, and guidance (SCGs); and remove sources of MGP contamination to the extent feasible. Therefore, the following generic Remedial Action Objectives (RAOs) developed by NYSDEC were used for the accessible areas of the site:

- Prevent ingestion/direct contact with contaminated soil.
- Prevent ingestion of groundwater with contaminant levels above drinking water standards.
- Prevent migration of contaminants that would result in groundwater contamination, to the extent practicable.
- Remove the source of groundwater contamination, to the extent practicable.

The RAOs were used in the subsequent phases of the alternative analysis to facilitate the evaluation of general response actions and associated remedial technologies. The physical limitations imposed by the site setting were considered when evaluating the ability of a response action or technology to achieve the remedial goals for the site.

Screening of General Response Actions

The results from the site investigation activities identified MGP impacts in soil and groundwater. The initial step in the process of selecting an appropriate remedial alternative was the identification of a set of general response actions (GRAs). An evaluation of the selected approaches was conducted to identify those GRAs that are generally applicable for use at the site. They were evaluated in the preferred order of response identified in DER-10, i.e., Removal/Treatment, Containment, and Elimination of Exposure using the following criteria: appropriateness to address MGP impacts and site-specific applicability. Note that the remaining GRA: Treatment at the Point of Exposure, was determined not to be an applicable response action for MGP residuals. Elimination of Exposure in the form of a Site Management plan was retained for all media/locations as a means to effectively control potential exposure pathways. The following discussion provides a summary of the results from the evaluation of the remaining GRAs:

Soil – Removal and Treatment were retained to address concentrations above constituent criteria and potential source material, i.e., residuals that will impact groundwater quality. Containment was not specifically retained since Removal/Treatment are expected to affect containment by eliminating residual impacts and the potential for future migration.

Groundwater – The removal/treatment of on-site source material (Soil above) was assumed to provide the most effective means to address on-site groundwater impacts. As a result, the discussion of GRAs was limited to dissolved-phase impacts. Removal, i.e., pump and treat, was not retained since the inaccessible material in the LIRR area will likely continue to have an impact to groundwater, potentially to the current levels that are marginally above standards. Treatment was retained to help address the dissolved-phase plume and possibly reduce constituent concentrations. Containment was not retained for further evaluation since containment of the dissolved-phase plume will be accomplished by Treatment (above).

Technology Approach/Screening

The second step in the analysis was to evaluate specific treatment processes/approaches associated with those general response actions that have the potential to provide remedial benefit at the site. The technologies/approaches were reviewed based on their site-specific applicability and ability to achieve the Remedial Goals that have been developed for the site, i.e., elimination of risk, and contaminant reduction to the extent feasible. The evaluation resulted in the identification of the following set of preferred approaches/technologies for achieving the Remedial Goals in each of the site media:

- **Site Management Plans** would provide the best means of eliminating exposure pathways and controlling potential risk.
- **Excavation** will provide an effective means of reducing levels of “shallow” soil contamination, i.e., depths less than 20 ft. bgs.
- **Product Recovery** will provide an effective means for removing any concentrated contamination at depths below 20 ft. bgs.

- **Solidification** will provide an effective means to access the entire depth of impacts (up to 25 ft. bgs), as well as the most efficient means to ensure complete contact/treatment with subsurface media and reduce the potential for off-site migration of residuals.
- **Natural Attenuation** will provide the most effective means to improve groundwater quality in both the on-site and off-site areas following the removal/treatment of source material located in the on-site area. Biologically-enhanced treatment could be used at a future date in the event that an increased rate of biological degradation is desired.

Alternatives Evaluation

The preferred technologies/approaches were assembled into a set of five remedial alternatives for the site. The alternatives were evaluated using a set of prescribed criteria that included: overall protection of human health and the environment, compliance with standards, criteria and guidance (SCGs), long-term effectiveness and permanence, reduction in toxicity, mobility, and volume (TMV), short-term effectiveness, implementability, cost effectiveness and land use. The final criterion, community acceptance, will be evaluated later as part of the public hearings, which are part of the Citizen Participation Plan. Descriptions of the alternatives and summaries of their associated evaluations are provided below:

Alternative 1 – NO ACTION

NO ACTION does not require any intrusive work; however, it does not help to mitigate potential exposure pathway risks and does not meet the Remedial Goals for the project.

Alternative 2 – Removal of MGP Residuals using Recovery Wells, Natural Attenuation of Dissolved-Phase Impacts, Site Management Plans

This alternative includes the following:

- Product Recovery Wells within impacted areas of the site and the off-site commercial property.
- Natural Attenuation of dissolved- phase impacts on the on-site and off-site commercial properties.
- Implementation of Site Management Plans on the on-site and off-site commercial properties to address potential human health risk associated with exposure to residual impacts in soil and groundwater.

The alternative will retain the current use of the property and would be completed within approximately 1 month at an estimated cost of $600,000.

Alternative 3 – Treatment of On-Site Soil, Removal of Off-Site Residuals using Recovery Wells, Natural Attenuation of Dissolved-Phase Impacts, Site Management Plans

This alternative includes the following:

- Solidification of 1,300 cy of on-site soil, with the off-site disposal of approximately 350 cy of spoils.
- Product recovery within impacted areas of the off-site commercial property.

- Natural Attenuation of dissolved-phase impacts on the on-site and off-site commercial properties.
- Implementation of Site Management Plans for the on-site and off-site commercial properties to address potential human health risk associated with exposure to residual impacts in soil and groundwater.

The alternative will retain the current use of the property and would be completed within 1 to 2 months of field work at an estimated cost of $ 1,740,000.

Alternative 4 – Removal of On-Site Soil, Removal of Off-Site Residuals using Recovery Wells, Natural Attenuation of Dissolved-Phase Impacts, Site Management Plans

This alternative includes the following:

- Installation of 250 linear feet of sheet pile to a depth of 50 ft, bgs to support excavation to a practical depth of 20 ft. bgs and control the intrusion of water.
- Excavation and disposal of 600 cy of subsurface soil from the on-site area, with backfilling and restoration.
- Product recovery within impacted areas of the off-site commercial property.
- Natural Attenuation of dissolved- phase impacts on both the on-site and off-site commercial properties.
- Implementation of Site Management Plans on the on-site and off-site commercial properties to address potential human health risk associated with exposure to residual impacts in soil and groundwater.

The alternative will retain the current use of the property and would be completed within approximately 2 months of field work at an estimated cost of $ 3,050,000.

Alternative 5 – Restoration of On-site and Commercial Properties to Unrestricted Use

This alternative includes the following:

- Installation of 250 linear feet of a secant pile wall to a depth of 60 ft. bgs to support excavation of the accessible impacts on-site; and 200 linear feet of a secant pile wall to a depth of 70 ft. bgs to support excavation of the accessible impacts in the off-site area;
- Excavation and disposal of 600 cy of subsurface soil from the on-site area, and 1,100 cy of soil from the off-site area, with backfilling and restoration;
- Installation of 3 product recovery wells along the upgradient boundary of the off-site commercial property to collect/recover mobile residuals from the inaccessible LIRR property; and
- Implementation of Interim Site Management Plans on the on-site and off-site commercial properties as to address potential risk during the restoration of groundwater quality.

The alternative will retain the current use of the property and would be completed within approximately 4 months at an estimated cost of $10,235,000.

Recommended Alternative

The Treatment of On-Site Soil, Removal of Off-Site Residuals using Recovery Wells, Natural Attenuation of Dissolved-Phase Impacts, and Site Management Plans (Alternative 3) is the proposed remedial alternative for the site.

Alternative 3 was chosen because it will meet the remedial goals for the site in the most efficient and practical manner. It provides the best opportunity to control direct contact risk and address the entire quantity of accessible source material to facilitate the stability of the dissolved-phase plume. Additionally, it will minimize the impact to the community by limiting the amount of time on-site, as well as reducing fugitive emissions and truck traffic associated with off-site management of MGP residuals. Note that the railroad property that lies between the on-site and off-site commercial properties areas is considered inaccessible for active remediation. SMPs will be used to address remaining contamination from the site.

A brief discussion of the reasons that the other alternatives were not recommended is provided below.

Alternative 1 – NO ACTION does not address potential exposure pathway risks and does not meet the Remedial Goals for the project.

Alternative 2 – Removal of MGP Residuals using Recovery Wells, Natural Attenuation of Dissolved-Phase Impacts, and Site Management Plans meets the Remedial Goals and is implementable, but will not address all of the on-site soil impacts.

Alternative 4 – Removal of On-Site Soil, Removal of Off-Site Residuals using Recovery Wells, Natural Attenuation of Dissolved-Phase Impacts, and Site Management Plans meets the Remedial Goals and is implementable, but does not address source material located in areas below 20 ft. bgs. Additionally, the alternative would have a greater impact on the community due to the extended duration of the program, and increased potential for fugitive emissions and truck traffic.

Alternative 5 – Restoration of On-site and Commercial Properties to Unrestricted Use does not provide additional benefit in risk reduction for the significant increase in cost, and would likely not be implementable from the standpoint of the off-site property owner.

Pre-Design Investigation

A pre-design investigation will be conducted in preparation for the development of a Remedial Action Work Plan (RAWP) for the site, with activities conducted to:

- Collect geotechnical information for soil in the on-site area adjacent to the railroad property.
- Conduct treatability testing to determine the appropriate composition of the grout mix for solidification.
- Conduct a limited investigation in the on-site area to ensure that subsurface structures are no longer present in the proposed treatment area and confirm the potential suitability of the vadose zone soil as backfill.

1.0 Introduction

The Feasibility Study (FS) has been prepared in accordance with the most recent and applicable guidelines of the NYSDEC DER-10, Technical Guidance for Site Investigation and Remediation (DER-10) (NYSDEC, 2010), to define site-specific remedial action goals/objectives, and identify an appropriate approach to address the environmental conditions encountered at the site. The document is formatted in the following manner:

- Summaries of the site history and results from investigation are presented in Section 2
- Site-specific remedial goals and associated remedial action objectives to achieve those goals are established in Section 3
- The applicability of general response actions, e.g., containment, to address MGP impacts is evaluated in Section 4
- The site-specific appropriateness of technologies associated with applicable response actions, sheet pile and slurry wall, is determined in Section 5
- Appropriate/ effective technologies are assembled into alternatives and evaluated against established criteria in Section 6
- An appropriate site remedy is proposed in Section 7
- References are provided in Section 8

The appendices provide summary tables for pertinent investigation data, as well as cost information to support the evaluation of the remedial alternatives.

2.0 Site History and Investigation Summary

The following discussion provides a description of the former Babylon MGP site, including a summary of its history, and summaries of the findings from the remedial investigation and risk assessment. Sections of the discussion have been excerpted from the Remedial Investigation Report (RIR), prepared on December 12, 2012 by Tetra Tech EC, Inc.

2.1 Site Description and History

2.1.1 Site Location and Description

The site is located at 29 Evergreen Street in a mixed commercial and residential area of West Babylon, Suffolk County, New York (Figure 1-1), and is located approximately 4,000 feet west of the Carlls River, approximately 3,000 feet east of Santopogue Creek, and approximately one and a half miles north of the Great South Bay. The property is approximately 0.79 acres in size, and is currently bounded to the south/southwest by the Long Island Railroad (LIRR) tracks, to the west/northwest by residential dwellings, and to the east/northeast by an assisted-living facility. The site is secured by a gated perimeter fence, and the surface cover for approximately 60 percent of the site is asphalt paving. Approximately 10 percent of the site has grass covering and 30 percent is gravel and the building footprint. A multi-story building is located on the eastern end of the site. The topography of the site is essentially flat and the elevation is approximately 20 feet mean sea level (msl).

2.1.2 Site History

2.1.2.1 Manufactured Gas Plant

According to the Preliminary Site Assessment (PSA), the production of MGP water gas (Lowe Process) began at the Site during January 1911 and continued through 1917, under the ownership of the South Shore Gas Company. According to Brown's Directory, after the Long Island Lighting Company (LILCO) was founded in 1910 it absorbed the South Shore Gas Company. Gas production for the site was attributed to LILCO in 1918, and there is no information available regarding any gas production after 1918. LILCO was the owner of the site from 1915 until 1961.

2.1.2.2 Post-Manufactured Gas Plant

Park Avenue Fuel Oil, Inc. occupied the Site starting in 1980. Prior to Park Avenue Fuel Oil, Inc., the property was occupied by a manufacturer of fluorescent lights (Crown Light Manufacturing). The precise dates of ownership and/or occupancy of the site by Crown Light Manufacturing are not known. The site is currently owned by the same proprietor that owned Park Avenue Fuel Oil, Inc. In 2006, a boat-related business was utilizing the Site.

According to the Closure Report for the Excavation of Underground Storage Tanks at Park Avenue Fuel, dated February 2001, Tyree Brothers Environmental Services, Inc. (TBES) removed three underground storage tanks (USTs) at the Site in 2000. One 20,000 gallon compartmentalized diesel/kerosene and two 25,000 gallon fuel oil were removed from an area in the northwest portion of the site. The tanks were located approximately three feet below grade. The tanks were emptied before removal. Tyree collected soil samples from the excavation sidewalls and bottom, and one groundwater grab sample was collected from the bottom of the excavation.

Sample results indicated concentrations of volatile organic compounds (VOCs) below NYSDEC guidance values, and only, three semi-volatile organic compounds (SVOCs) were detected above the STARS guidance values. One groundwater sample was collected, and analytical results indicated VOC and SVOC concentrations below NYSDEC groundwater standards. No petroleum odors were noted in any of the samples, and no indication is given in the closure reports that any non-aqueous phase liquid (NAPL) was observed.

2.2 Investigation Summary

National Grid has conducted a Preliminary Site Assessment and Remedial Investigation at the site. The results have been documented in the following reports:

- Preliminary Site Assessment Report, (VHB, 2003)
- Remedial Investigation Report (Tetra Tech, 2012)

Summaries of the findings are provided below.

2.2.1 Site Geology

The site is located within the Atlantic Coastal Plain Physiographic Province (Geologic Map, 1970). The southern portion of Long Island is comprised of a low glacial outwash plain. This outwash slopes southward towards the Atlantic Ocean from the southernmost terminal moraine deposited by glacial advances during the Pleistocene Era. The area near the site is underlain by eight geologic units comprised of unconsolidated deposits of sand, gravel, and clay deposited in parallel beds overlying bedrock.

Three soil samples were collected during the RI and analyzed for grain size distribution analysis, bulk density, porosity, and specific gravity. The three geotechnical samples were described as tan, poorly graded sand with gravel. Porosity ranged from 0.185 to 0.392, and specific gravity ranged from 2.58 to 2.79. Fill, consisting of sand, silt, gravel and debris, covers the top 1 to 11 feet of the Site. Below the fill, sand was encountered followed by a gravel layer. Below the gravel layer, sand was encountered to the bottom of the borings.

2.2.2 Site Hydrogeology

2.2.2.1 Groundwater

The unconsolidated materials overlying bedrock comprise Long Island's groundwater sources. Three major aquifers are identified: the Upper Glacial aquifer, the Magothy aquifer, and a deeper, less accessible Lloyd aquifer overlying the Paleozoic metamorphic basement rocks. Two major confining units are identified: 1) the Pleistocene Gardiners Clay is found mainly on the southern part of Long Island and generally restricts groundwater flow between the Upper Glacial and Magothy aquifers, and 2) the Raritan confining unit. The Raritan confining unit is approximately 200 feet thick and restricts groundwater flow between the Lloyd and Magothy aquifers.

Groundwater in the vicinity of the site is not currently used as a drinking water source, nor is it expected to be used in the future. West Babylon relies on the Suffolk County Water Authority, a municipal supply system, to provide water to residences and businesses. The public supply wells nearest the site are located 0.5 mile northwest of the Site, at the Albin Avenue Well Field. The three wells at this location are screened between 557 and 592 feet bgs. Little potential exists for current and/or future use of shallow groundwater at the Site to be a source of drinking water because of the

fact the local water supply is from the deeper Magothy aquifer and not from the shallow Glacial aquifer.

Precipitation is the primary source of fresh water on Long Island during natural conditions. Long Island receives, on average, 44 inches of precipitation per year distributed equally throughout the year (approximately 3 to 4 inches per month). During the winter, most of the precipitation is the result of regional storms. During the summer, most of the precipitation is associated with local thunderstorms (Franke and McClymonds, 1972).

Three shallow monitoring wells were installed during the RI field program. The shallow monitoring wells were screened across the water table and the screen intervals ranged from 8 to 18 feet bgs. Groundwater levels measured on February 2, 2009 ranged from 6.78 feet below top of inner casing at MW-01 to 8.18 feet below the top of inner casing at MW-03. Based on these groundwater levels, groundwater generally flows to the southeast. The estimated hydraulic gradient is 0.0012 feet per foot.

2.2.3 Investigation Data Summary

This section presents a summary of the findings of the previous investigations and includes field observations and analytical results by media including soil, groundwater, and soil gas.

2.2.3.1 Surface Soil

Twelve surface soil samples were collected during the RI from the interval 0 to 2 inches bgs. Total BTEX (benzene, toluene, ethylbenzene, xylenes) concentrations ranged from non-detect (ND) in nine surface soil samples to 0.015 milligrams per kilogram (mg/kg).

Total polycyclic aromatic hydrocarbons (PAH) concentrations ranged from ND in seven surface soil samples to 23 mg/kg. Benzo(a)pyrene was detected at a concentration above the NYSDEC Restricted Commercial Use Soil Cleanup Objective (RCUSCO) in a single surface soil sample. However, this sample was collected from just below or adjacent to weathered asphalt and this detection is most likely related to the disposition of the sample location on the site rather than impacts from former Site operations.

Cyanide was not detected above the quantitation limit in any of the surface soil samples collected. Visual or olfactory impacts were not observed in any of the surface soil samples collected from the Site or from the off-site property to the south during the RI.

2.2.3.2 Subsurface Soil

Visual and olfactory impacts were observed in some of the subsurface soil samples collected from the Site during the RI. Visual and olfactory MGP-related impacts were observed between 10 ft. and 30 ft. bgs at borings located on the Site. These impacts included tar staining, sheens, blebs, lenses, and stringers with associated naphthalene-like odors. Visual and olfactory impacts associated with petroleum-related sources were also identified in on-site soil borings from 3 feet bgs to 25 feet bgs and consisted of oil staining, sheens, and blebs and lenses with very light to strong associated fuel-like (mostly gasoline-like) odors. These soil borings are generally located in the vicinity of an area excavated during a previous non-MGP related UST removal performed at the Site, or southwest to southeast of the former gas holder.

Visual and olfactory impacts were observed in subsurface soils at the off-site property to the south. Tar blebs and stringers and naphthalene odors were observed at depths ranging from 7.5 to 44 feet

bgs. Staining, sheens, and blebs and lenses of fuel oil with a moderate to strong gasoline odor, as well as blebs of viscous oil with faint petroleum-related odors, were observed at depths ranging from 8.5 feet bgs to 41 feet bgs.

Forty-five subsurface soil samples (including field duplicates) were collected during the RI from intervals identified in the field during field screening of the soil borings. Total BTEX concentrations ranged from not detected (ND) in 41 of the 45 subsurface soil samples to 180 mg/kg.

Total PAH concentrations ranged from ND in 11 samples to 3,400 mg/kg. Cyanide was not detected above the RCUSCO in any samples.

2.2.3.3 Groundwater

One round of groundwater samples was collected from three on-site monitoring wells on February 2, 2009. NAPL was not detected in the monitoring wells during the 2009 sampling event. VOC constituents were detected in groundwater from the three monitoring wells at levels below NYSDEC Ambient Water Quality Standards and Guidance Values for Class GA Groundwater. Similar to VOCs, SVOCs were not detected above NYSDEC standards and guidance values in the groundwater samples collected from the three monitoring wells.

Discrete groundwater samples were collected from Hydropunch™ samplers at 12 locations on the off-site property. Benzene, ethylbenzene, isopropylbenzene and naphthalene were detected at concentrations above the NYSDEC standard at five locations. The groundwater samples also contained concentrations of 1,1-biphenyl, benzo(a)anthracene, benzo(a)pyrene, chrysene, fluorene, and phenanthrene above their respective NYSDEC standards and guidance values. Total cyanide was detected in only one groundwater sample, at a level that is significantly below the NYSDEC standard.

The Suffolk County Department of Health Services (SCDHS) installed six monitoring wells located south of the Site in February and April 2011. PAHs were detected in two of the six wells located immediately downgradient of the site. PAHs were detected at lower range concentrations in the following sampling intervals 1.34 µg/L PAHs at 10 to 15 ft. bgs; 0.5 µg/L at 15 to 20 ft. bgs and 1.66 µg/L PAHs at 20 to 25 ft. bgs.

2.2.3.4 Soil Gas

Five soil vapor samples were collected from five soil vapor points installed at the site, and the property located south of the site, to quantify soil vapor concentrations. BTEX constituents, compounds that are found in fuels as well as MGP residuals, were detected across the site at concentrations ranging 1.18 to 44.3 µg/m^3. Also detected were 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 2,2,4-trimethylpentane, 2-butanone, 4-ethyltoluene, 4-methyl-2-pentanone, acetone, carbon disulfide, carbon tetrachloride, chloroform, chloromethane, cyclohexane, Freon-12, heptane, hexane, methylene chloride, tert-butyl alcohol, tetrachloroethene, tetrahydrofuran, trichloroethene, and trichlorofluoromethane. Most of these compounds were present at concentrations below 10 µg/m^3, and were not detected in soil and groundwater samples from the site.

2.3 Qualitative Human Health Exposure Assessment

The Qualitative Human Health Exposure Assessment (QHHEA) in the RIR presented an evaluation of the complete and potentially complete exposure pathways associated with human exposure to

constituents of concern (COCs) at the Site. The QHHEA was prepared in accordance with guidance provided in the DER-10 Technical Guidance for Site Investigation and Remediation (NYSDEC, 2010).

2.3.1 Soil

The results from site investigations indicate limited on-site areas where constituent levels in surface soil are elevated above NYSDEC criteria for direct contact. A review of data from subsurface locations indicate more widespread areas with evidence of MGP and petroleum residuals, including staining, sheens, blebs, lenses, and stringers of petroleum impacts and MGP-related impacts with associated petroleum-like and/or naphthalene odors, respectively. Petroleum-related impacts were generally observed in the shallower zones, closer to the water table, while the MGP-related impacts were generally observed deeper. However, the site is currently used for truck parking or container storage and is covered with asphalt. The asphalt cover reduces potential exposure of current/potential future receptors to site soil.

To the south of the railroad right-of-way, which parallels the site boundary is a commercial/ light industrial property that includes a large warehouse and production facilities and large asphalt parking areas. Investigation locations on this property exhibited subsurface soils that had MGP-related impacts such as coatings and lenses of MGP-related impacts, with associated MGP-related odors, naphthalene-like odors, or petroleum-related impacts consisting of oil staining, sheens, or staining with associated fuel-like odors. However, the depth of these impacts (11 to 45 ft. bgs) reduces the risk of potential exposure to current/potential future receptors.

2.3.2 Groundwater

The West Babylon community relies on a public water source to supply water to residences and businesses. The Suffolk County Water Authority is the water supplier to West Babylon. The public supply wells nearest the Site are located 0.5 mile northwest (upgradient) of the site, at the Albin Avenue Well Field. The three wells at this location are screened between 557 and 592 feet bgs. Therefore, current or future use of site-specific groundwater beneath the site via a private well as a source of drinking water is unlikely.

2.3.3 Potential Exposure to Impacted Air

The results for MGP constituents of interest in soil gas samples were generally consistent with the background values for indoor air established by NYSDOH (NYSDOH, 2005) and therefore should not present a vapor intrusion risk to on-site or off-site receptors.

2.4 Fish and Wildlife Impact Analysis

A Fish and Wildlife Impact Analysis (FWIA) was conducted in two steps to:

1) Identify fish and wildlife resources that may potentially be affected by site-related contaminants, and if such resources are present, provide the necessary information for inclusion in the FWIA section of the RI
2) Identify contaminant transport pathways from the site to areas supporting fish and wildlife resources, and perform a criteria-specific comparison of contaminant concentrations to appropriate ecological benchmark criteria and guidance values.

Results of the FWIA indicated the following:

- There are no significant fish and wildlife resources on the Babylon Former MGP Site.
- Exposure pathways were determined to be potentially complete for surface soils in only a small fraction (<0.25 acres) of the site where native vegetation was present. The majority of the site is covered by gravel, asphalt, or building footprints.

Given the small size of the Site, lack of terrestrial or aquatic habitat present, and the limited number of criteria exceedances in surface soils and under current conditions, the site does not pose a significant risk to fish or wildlife resources.

2.5 Site Conceptual Model and Risk Assessment Summary

The results presented in the RIR are appropriate to delineate site impacts and identify potentially complete exposure pathways. The information indicates that historically, MGP residuals were likely released from the former gas holder in an area near the center of the site. Evidence of resulting impacts are present in soil along a limited area of the southern boundary of the former MGP site at depths of 10 to 25 ft. below ground surface (bgs). Samples from these areas exhibit characteristics, e.g., observations of sheen, presence of stringers/blebs of product that are consistent with MGP source material. There is evidence that MGP residuals have migrated into off-site areas including the adjacent off-site commercial property at soil depths of 11 to 45 ft. bgs. Although data was not presented in the RI, it is assumed that soil impacts, in the form of sheen, blebs, etc., are also present within subsurface areas of the LIRR property located between the site and the commercial property. Each of the affected properties are zoned for commercial use. Other samples from these general areas exhibited characteristics consistent with petroleum impacts, which may have facilitated the off-site migration of the “heavier” MGP residuals.

The RI also provides information on groundwater and soil gas impacts. The dissolved-phase plume, as delineated by exceedances of NYSDEC Ambient Water Quality Standards and Guidance Values (AWQSGVs), extends off-site and is generally consistent with the locations of MGP and petroleum impacts.

The FWIRA and qualitative risk assessment indicate that MGP impacts in soil, groundwater or soil gas do not pose a significant risk given the current uses of the properties. As a result, the potentially complete exposure pathways to be addressed in the FS would be limited to subsurface construction associated with utility work, etc. or a change in conditions involving residential site use.

3.0 Remedial Action Goals and Objectives

The goal for remedial activities will be to eliminate or mitigate the potential risk posed by MGP residuals, and remove the source of MGP contamination to the extent feasible. Achieving the Remedial Goals for the site will require that the remediation activities result in the elimination of the potential exposure pathways identified in the RIR, and the removal of sources of MGP contamination to the extent feasible given the physical limitations of the site. Therefore, the following generic Remedial Action Objectives (RAOs) developed by NYSDEC will be used for the accessible areas of the site:

- Prevent ingestion/direct contact with contaminated soil.
- Prevent ingestion of groundwater with contaminant levels above drinking water standards.
- Prevent migration of contaminants that would result in groundwater contamination, to the extent practicable.
- Remove the source of groundwater contamination, to the extent practicable.

The RAOs will be used in the subsequent phases of the alternative analysis to facilitate the evaluation of general response actions (GRAs) and associated remedial technologies. When evaluating the ability of a response action or technology to achieve the RAOs, the physical limitations imposed by the site setting will be considered.

4.0 Identification and Screening of General Response Actions

The results from the investigation activities discussed in Section 2 of this document have identified MGP impacts in soil and groundwater at on-site locations as well as at a nearby commercial property that is located downgradient of the site. Summary tables providing the laboratory results for collected soil and groundwater samples are included as Appendices A and B, respectively. The following discussion provides a summary of those impacts and a review of the applicability of general response actions to address the associated potential risk to human health and the environment.

4.1 Summary of Media Impacts

4.1.1 Soil

The areal and vertical distribution of soil impacts are illustrated in Figures 4-1 (plan view) and 4-2a, b and c (cross-sections), with the calculated quantities of impacted media presented in Table 4-1. The area of impacted soil has been defined using the following criteria:

- Locations where concentrations in subsurface soils that are greater than the NYSDEC CP-51 criteria for polynuclear aromatic hydrocarbons (PAHs) and NYSDEC Part 375 commercial criteria for other constituents.
- Locations where observations from boring logs indicate the presence of “lenses” of more concentrated residuals such as non-aqueous phase liquid (NAPL). Note that for the purpose of this evaluation, NAPL has been considered a “soil” impact.
- Locations where observations from boring logs indicate the presence of lesser observations of impacts (blebs and stringers).

The locations where those criteria have been met are summarized in Appendix C, with a description of the impacts and associated quantities of soil provided below. Note that the MGP impacts in soil are limited/localized and at a depth where the potential exposure pathways are limited to subsurface construction/utility workers that could potentially encounter the water table during deeper excavation activities.

4.1.1.1 On-Site Areas

Constituent-based impacts in subsurface soil are limited to PAH concentrations greater than the CP-51 criteria (500 mg/Kg total PAH) at the following locations:

- SB-1 (18-20 ft.)
- SB-2 (8-10 ft.)
- SB-7 (7-9 ft.)
- WBSB-4 (8-12 ft.)

The concentration of benzene at SB-2 (8-10 ft.) was determined to be greater than the NYSDEC criteria for residential use. The SB-2 location also exhibited evidence of lenses of MGP residuals at

the 8-13 ft. and 20-25 ft. intervals. Lenses of residuals were also observed at the 21-22 ft. interval at SB-4. All of the subsurface soil impacts are located in the saturated zone.

- Impacts in the “upper” saturated zone (8-20 ft. bgs) include locations exhibiting visible evidence of MGP impacts and concentrations above soil cleanup criteria. They are limited to an area of 2,100 sq. ft. and a volume of approximately 600 cy, based on an assumed average thickness of approximately 8 ft.
- Impacts in the “lower” saturated zone (20-25 ft. bgs) are limited to locations exhibiting visible evidence of MGP impacts. The observations indicate an estimated area of 800 sq. ft. and a volume of approximately 150 cy, based on an assumed average thickness of approximately 5 ft.

4.1.1.2 Off-Site Areas

Soil impacts on the off-site commercial property are defined by observations of lenses of MGP residuals at SB-15 (34 -40 ft.), as well as lesser impacts (blebs and stringers) at SB-8, SB-10, SB-13 and SB-15 at depths ranging from 10 – 44 ft. bgs. These locations indicate an estimated area of 1,500 sq. ft., and a volume of approximately 1,100 cy, based on an assumed average thickness of 17 ft.

Although data was not presented in the RI, it is assumed that soil impacts are also present within subsurface areas of the LIRR property located between the site and the commercial property. The LIRR property consists of active rail line track on an embankment that is elevated approximately 10 ft. above the adjacent property grades. For the purpose of this evaluation, these impacts have been assumed to be consistent in areal extent and thickness as the adjacent areas. As a result, the impacts are assumed to cover 6,500 sq. ft. with an average thickness of 25 ft, providing for 6,000 cy of impacted soil in the area beneath the tracks. Due to its use as an active rail line and the elevated nature of the embankment, the LIRR property is considered “inaccessible” for the purpose of evaluating active remediation alternatives.

4.1.2 Groundwater

The results from the site investigation indicate that groundwater impacts are limited and appear to be sufficiently delineated for the purpose of evaluating remedial alternatives. Note that the off-site samples of groundwater were collected using a grab sampling technique that could bias the results for higher molecular weight PAHs due to the potential for particulate entrainment. In fact the dissolved phase concentrations for several PAHs, e.g., benzo(a)pyrene and chrysene, were observed to exceed their aqueous solubilities. As a result, the following discussion of dissolved-phase impacts is limited to VOCs and low molecular weight PAHs such as naphthalene.

A summary of the locations exhibiting concentrations greater than the AWQSGVs is illustrated in Figure 4-2. The concentrations greater than the AWQSGVs are associated with the following locations, intervals and constituents:

- On-site
  - MW-03 S (10-15) – benzene, ethylbenzene, xylenes and naphthalene; and
  - MW-03D (20-25) – naphthalene
- Off-site
  - SB-08 (11.5) - naphthalene

- SB-10 (11-12) - benzene, ethylbenzene, and naphthalene
- SB-20 (15-19) – benzene, ethylbenzene
- SB-20 (15-39) – naphthalene
- SB-22 (15-29) – naphthalene
- SB-25 (25) – naphthalene

As indicated, the VOC concentrations above NYSDEC criteria are located within the shallow range of the saturated zone, and naphthalene extends into the deeper intervals. The results from downgradient wells demonstrate that impacted groundwater does not affect public supply wells and attenuates well before reaching a potential receptor.

A review of the RIR data indicates that the source material for the dissolved-phase impacts, as defined by concentrations above the Protection of Groundwater SCOs, are limited to “shallow” soil impacts (8 to 10 ft. bgs) in on-site areas that likely extend into the LIRR property (Figure 4-3). The soil data demonstrates that the majority of samples collected from the Commercial Property do not exhibit detectable levels of naphthalene, and none of the off-site samples contain naphthalene concentrations that are above the Protection of Groundwater SCOs. The results indicate that residual material identified on the Commercial Property is not a significant source of off-site dissolved-phase impacts

4.2 General Response Actions

The following section provides an evaluation to identify a set of GRAs available to address site media and determine if they are generally applicable for use in on-site and off-site areas. The response actions have been grouped by the media (soil and groundwater) that they are designed to treat, as well as by the preferred order of response identified in DER-10, i.e., removal/treatment, containment and elimination of exposure. Note that treatment at the point of exposure has not been included in the evaluation since it is generally not applicable to MGP residuals in soil and groundwater. The GRAs are evaluated using the following criteria: appropriateness to address MGP impacts and site-specific applicability. The findings from the evaluation are summarized in Table 4-2. A subsequent evaluation of specific technologies for those response actions determined to be applicable for use at the site will be conducted in Section 5 of the document.

4.2.1 Soil

4.2.1.1 Removal/Treatment

Removal activities at MGP sites can generally take the form of excavation of impacted soil or recovery of mobile residuals. Each approach provides a means to permanently eliminate contamination, with impacted media managed at a permitted off-site facility.

Treatment generally involves in-situ management of MGP residuals to either decrease the concentration of constituents or physically change the media to decrease the potential mobility of contaminants, or limit their ability to affect groundwater quality.

Appropriateness

Excavation and off-site disposal is routinely used at MGP sites in areas with “open’ access and residuals located at depths less than 20 ft. bgs. Product recovery or in-situ treatment can be used to address impacts at greater depths or in areas with limited access.

Site Applicability

Given the access limitations posed by the active railway treatment/removal may be appropriate to address up to 25 percent of the soil impacts at the site.

4.2.1.2 Containment

Containment can be used to isolate subsurface impacts to control risk.

Appropriateness

Soil caps are routinely used to eliminate direct contact pathways to subsurface impacts at MGP sites and barrier walls are frequently used to control the migration of mobile residuals in subsurface areas.

Site Applicability

Containment remedies would not provide significant benefit at the site. The majority of soil impacts are located at depths greater than 8 ft. bgs, and the preferred response actions of removal/treatment (above) are expected to provide a permanent means to address mobile residuals.

4.2.1.3 Elimination of Exposure

Engineering Controls

Engineering Controls would likely be limited to the containment approaches discussed above. A general discussion of the approach, as well as a review of the associated appropriateness and applicability, have been provided previously in Section 4.2.1.2.

Institutional Controls

Institutional Controls, such as a Site Management Plan, would provide a legally enforceable mechanism for limiting site activities to control potential exposure pathways.

Appropriateness

Institutional Controls are routinely use to control potential risk at MGP sites.

Site Applicability

Institutional Controls will require negotiations/agreement with the property owners, but should be implementable.

4.2.2 Groundwater

4.2.2.1 Removal/Treatment

Groundwater concentrations are marginally above NYSDEC standards, and can be addressed through two means: the treatment/removal of source material (i.e., impacted soil that, through contact with groundwater or infiltrating storm water can result in increased constituent concentrations in the aquifer), or specific treatment of the dissolved phase to reduce constituent levels. The most significant improvement in groundwater quality would come from the removal or treatment of MGP impacts in “soil”, as discussed previously in Section 4.2.1.1. Therefore, the following general response actions are intended to specifically address dissolved-phase impacts, and would likely be used in conjunction with the soil remedies described in the previous section.

4.2.3 Removal/Treatment

4.2.3.1 Extraction and Treatment

Extraction and treatment of contaminated groundwater (pump and treat) is a source reduction process that uses well points/pumps to remove contaminated groundwater for treatment on the surface, with subsequent management at a publicly owned treatment works (POTW).

Appropriateness

Groundwater extraction is used infrequently at MGP sites due to the fact that source material is often left in place as a result of accessibility issues. Even though some quantity of contaminated groundwater could be removed and treated, it is likely that residual soil impacts would provide a continuing source of contamination.

Site Applicability

Given the distribution of residual soil impacts, including areas under the railway property, it is likely that groundwater would continue to exhibit constituent concentrations that exceed regulatory criteria.

4.2.3.2 In Situ Treatment

In situ treatment of groundwater would reduce dissolved-phase constituent levels using relatively passive means, i.e., without extraction. Methods could include natural attenuation and biological enhancement.

Appropriateness

MGP constituents are readily amenable to *in situ* treatment to enhance biological degradation.

Site Applicability

Treatment is most effective after the removal/treatment of significant soil impacts, and when applied at the downgradient limit of the source material.

4.2.4 Containment

Containment would involve extraction of groundwater to provide hydraulic control. A general discussion of the approach, as well as a review of the associated applicability and protectiveness has been provided previously as Extraction and Treatment (Section 4.2.3.1).

4.2.5 Elimination of Exposure

4.2.5.1 Engineering Controls

Engineering Controls would be limited to hydraulic containment. A general discussion of the approach, as well as a review of the associated applicability and protectiveness has been provided previously as Extraction and Treatment (Section 4.2.3.1).

4.2.5.2 Institutional Controls

Institutional Controls, such as a Site Management Plan, would provide an enforceable mechanism for limiting site activities to control potential exposure pathways.

Appropriateness

Institutional Controls are routinely used at MGP sites to control potential exposure pathways.

Site Applicability

Institutional Controls will require negotiations/agreement with the property owners, but should be implementable.

5.0 Technology/Approach Screening

The following discussion provides a review of specific technologies/approaches associated with those general response actions that have the potential to provide remedial benefit at the site. They are grouped according to area, i.e., on-site/off-site, and the media that they are designed to treat. The approaches are reviewed based on their ability to achieve the general remedial goals that have been developed for the site, i.e., ability to eliminate the potential risk from exposure and reduce levels of contamination. Based on the results from the evaluation, preferred technologies/approaches are identified for each grouping and will be used in the subsequent development of remedial alternatives in Section 6. The results from the technology/approach evaluation for on-site and off-site areas are summarized in Tables 5-1 and 5-2, respectively.

5.1 On-Site

On-site soil impacts are limited to a defined area of the site immediately adjacent to the downgradient property line, i.e., abutting the LIRR property. Approximately 200 cy of soil have constituent concentrations that are above NYSDEC Part 375 commercial criteria for VOCs or CP-51 criteria for PAHs. The material is present at depths ranging from 8 to 25 ft. bgs. Evidence of lenses of contamination were also observed on-site at depths of 8 to 25 ft. bgs (250 cy). Lesser impacts, as defined by observations of stringers and blebs, were observed at depths of 12 to 25 ft. bgs (300 cy).

Monitoring data from on-site wells indicates concentrations above Ambient Water Quality Standard or Guidance Values (AWQSGV) at on-site locations for benzene, ethylbenzene and naphthalene.

5.1.1 Soil

The review of general response actions conducted in Section 4 demonstrates that Removal/Treatment and Elimination of Exposure (Site Management Plan) have been retained as applicable approaches to reduce contamination and address potential risk, respectively. Containment measures have not been carried through for evaluation since the existing vadose zone soil provides an appropriate barrier to isolate MGP impacts in soil from the majority of receptors, and Removal/Treatment options would provide a permanent means to address mobile residuals. Elimination of Exposure (Engineering Controls) have not been carried through since the controls would likely be containment measures and have the same limitations. Discussions of the specific technologies/approaches that have been retained for evaluation are provided below.

5.1.1.1 Removal

<u>Excavation</u>

Excavation and disposal/treatment of impacted soils is a physical process that removes the contaminated soil for ex-situ management. Excavation and off-site disposal would consist of the following basic elements: site preparation, excavation shoring, dewatering, removal of impacted soils, treatment prior to shipment (if required), loading, transport, and disposal, backfilling, and site restoration. It is assumed that excavation would proceed to a practical depth, e.g., 20 ft. bgs in saturated conditions.

Risk Elimination

Excavation and disposal would not eliminate direct the potential direct contact risk to the limited receptors, i.e. construction personnel working in areas below the water table since residual material would still be present at depths below 20 ft. bgs.

Contaminant Reduction

Excavation would be appropriate to eliminate contamination in on-site areas to a practical depth of approximately 20 ft. bgs.

Product Recovery

Product recovery is a process to remove mobile residuals from the subsurface to reduce contaminant levels to their residual saturation point. Extraction wells would be installed within the source area and screened within the depth interval where the impacts had been observed, i.e., up to 25 ft. bgs. Collected product would be removed periodically to an end point that would be negotiated with the NYSDEC. The collected product would be managed off-site at a permitted facility.

Risk Elimination

Product recovery would not eliminate the potential human health risk to construction personnel working in the saturated zone, but would reduce the potential for source material to migrate from the site.

Contaminant Reduction

The approach would reduce levels of contamination to the residual saturation point of site media and enhance the ability of biological processes to improve groundwater quality.

5.1.1.2 Treatment

In situ treatment would provide the ability to access impacted soil to a greater depth than excavation. The following discussion provides a review of chemical oxidation and solidification.

Chemical Oxidation

In situ chemical oxidation (ISCO) is a source reduction process that injects a chemical oxidant into the pore space of the contaminated soils. An appropriate reagent would be selected to react with the constituents of interest and oxidize them into non-toxic reaction products. Conventional ISCO treatment requires the installation of multiple vertical injection wells in the treatment area. Liquid chemical mixtures would be prepared and injected using pumps, hoses, and tanks. The effectiveness of ISCO is highly dependent on subsurface soil conditions and nature of the contaminants present. Several injection events are typically required to overcome both the effect of naturally occurring organic carbon, metals, and minerals present in the subsurface and the potential for uneven distribution of reagents. Additionally, although research is ongoing with several commercial companies, ISCO has not been demonstrated to be effective on heavily impacted media, i.e., soil containing free product, at MGP sites.

Risk Elimination

Chemical oxidation would reduce levels of contamination, but would not eliminate the potential risk from direct contact with soil by construction personnel working in the saturated zone, or eliminate the source of dissolved-phase impacts.

Contaminant Reduction

Chemical oxidation would reduce contamination, but may not be effective in areas with saturated product.

Solidification

In situ solidification (ISS) is a source containment process that uses cement slurry to immobilize the constituents of interest in the soil by decreasing the relative permeability of the impacted media. Auger/jet grout rigs or excavators are typically used to introduce cement slurry producing a monolithic solidified mass to "isolate" the areas of contamination from groundwater flow.

ISS would occur in three phases. In the preparation phase, utilities would be identified/addressed and major subsurface obstructions such as concrete debris and foundations would be removed by conventional excavation. In the second phase, impacted soils in the accessible areas would be mixed with the cement slurry and allowed to cure to a solidified mass. The solidification process results in an increase in soil volume, typically ranging from 10 to 30%, with the excess material, or "spoils," typically transported off-site for disposal at a permitted landfill. The third phase would be site restoration including final grading, addition of clean surface soil, and seeding or other appropriate surfacing.

Risk Elimination

Solidification would not affect the potential direct contact risk to construction personnel working in the saturated zone, but would eliminate the potential for impacts to migrate from the site.

Contaminant Reduction

ISS treatment would not result in a decrease in constituent concentration in soil, but would reduce the level of dissolved-phase impacts.

5.1.1.3 Elimination of Exposure

A Site Management Plan could be used to place restrictions on activities where there was a reasonable potential for direct contact with impacted media, i.e. the saturated zone. The controls would limit access to impacted soil, and require the use of established practices to ensure the safe handling and proper on-site management/off-site disposal of impacted soil.

Risk Elimination

The implementation of the practices detailed in a Site Management Plan would eliminate potential risk by controlling exposure pathways.

Contaminant Reduction

The use of a Site Management Plan would not decrease levels of contamination.

5.1.2 Groundwater

The evaluation of general response actions for dissolved-phase impacts demonstrated that Treatment and Elimination of Exposure (Site Management Plan) should be carried through for further evaluation. Removal, Containment and Elimination of Exposure (Engineering Controls) of dissolved-phase impacts were not carried through for further evaluation since it is likely that residual soil impacts would provide a continuing source of contamination.

5.1.2.1 Treatment

Natural Attenuation

Naturally occurring soil and groundwater bacteria have been demonstrated to reduce the dissolved-phase concentrations of MGP constituents of interest through biological processes. The processes can be either aerobic of anaerobic in nature, with aerobic activity providing the most efficient means of degradation. Natural attenuation is generally improved with the removal/treatment of source material and can frequently achieve a stable dissolved-phase plume.

Risk Elimination

Natural attenuation can provide a stable dissolved-phase plume, but is not likely to eliminate the potential risk.

Contaminant Reduction

Natural attenuation can reduce constituent concentrations to a steady-state condition.

Biologically-Enhanced Treatment

Biologically-Enhanced Treatment is a process where nutrients or other additives are injected into the subsurface environment in order to encourage natural biodegradation of dissolved-phase constituents through aerobic mechanisms. The effectiveness of treatment is uncertain due to the potential for non-uniform distribution of nutrients due to variations in the permeability of subsurface media.

Risk Elimination

Biologically-enhanced natural attenuation processes can provide a stable, i.e., contained dissolved-phase plume, but is not likely to eliminate the potential risk.

Contaminant Reduction

Biologically- enhanced natural attenuation processes can reduce constituent concentrations to a steady-state condition.

5.1.2.2 Elimination of Exposure

A Site Management Plan could be used to place restrictions on site activities and the use of groundwater.

Risk Elimination

The implementation of the practices detailed in a Site Management Plan would eliminate potential risk by controlling exposure pathways.

Contaminant Reduction

The use of a Site Management Plan would not decrease levels of contamination.

5.2 Off-Site

Analytical results from soil samples did not indicate the presence of constituent concentrations above the applicable NYSDEC criteria, but lenses of contamination were observed at depths of 34 to 40 ft. bgs (100 cy). Lesser impacts, i.e., stringers and blebs, were observed at depths of 10 to 44 ft. bgs

(1,000 cy). The results indicate that residual material identified on the off-site Commercial Property is not a significant source of the off-site dissolved-phase impacts. The soil data demonstrates that the majority of samples collected from the Commercial Property do not exhibit detectable levels of naphthalene, and none of the off-site soil samples contain naphthalene concentrations that are above the Protection of Groundwater SCOs.

Groundwater data associated with the off-site Commercial Property indicated low levels of benzene and ethylbenzene, that were determined to be marginally above the associated AWQSGV, were observed at two locations proximate to the LIRR property line. The results also indicated a broader distribution of a range of PAHs at levels that are also marginally above the AWQSGV. A review of the RIR data indicates that the source material for the dissolved-phase impacts, as defined by concentrations above the Protection of Groundwater SCOs, are limited to “shallow” soil impacts (8 to 10 ft. bgs) in on-site areas that likely extend into the LIRR property.

5.2.1 Soil

As discussed previously in Section 4.2.1, Removal/Treatment and Elimination of Exposure (Site Management Plan) have been retained as applicable approaches to reduce contamination and address the potential risk to construction personnel working in the saturated zone, respectively.

5.2.1.1 Removal

Excavation

A description of Excavation was provided previously in Section 5.1.1.1.

Risk Elimination

Excavation would not eliminate risk since the most significant impacts are all located below the practical depth of excavation (20 ft. bgs).

Contaminant Reduction

Excavation would eliminate some “lesser” impacts (blebs/stringers), but would not address the most significant MGP impacts (saturated lenses of product).

Product Recovery

A description of Product Recovery was provided previously in Section 5.1.1.1. Recovery wells could be installed within the source area and screened within the depth interval where the impacts have been observed, i.e., up to 44 ft. bgs.

Risk Elimination

Product recovery would not eliminate the human health risk, but would reduce the potential for source material to migrate, and provide an effective means to contain/remove residuals migrating from the LIRR property.

Contaminant Reduction

The approach would reduce levels of contamination in the most significant impacts to the residual saturation point of site media and enhance the ability of biological processes to improve groundwater quality in off-site areas.

5.2.1.2 Treatment

In situ treatment would provide the ability to access impacted soil to a greater depth than excavation. The following discussion provides a review of chemical oxidation and solidification.

Chemical Oxidation

A description of *In situ* chemical oxidation (ISCO) was provided previously in Section 5.1.1.2.

Risk Elimination

Chemical oxidation would reduce levels of contamination, but would not eliminate risk from direct contact with soil, or eliminate the source of dissolved-phase impacts.

Contaminant Reduction

Chemical oxidation would reduce contamination, but may not be effective in areas with saturated product.

Solidification

A description of *In situ* solidification (ISS) was provided previously in Section 5.1.1.2.

Risk Elimination

Solidification would not affect the potential direct contact risk, but would eliminate the potential for impacts to migrate from the site.

Contaminant Reduction

ISS treatment would not result in a decrease in constituent concentration in soil, but would reduce the level of dissolved-phase impacts.

5.2.1.3 Elimination of Exposure

A description of the use of a Site Management Plan to eliminate the potential exposure from impacted soil was provided previously in Section 5.1.1.3.

Risk Elimination

The implementation of the practices detailed in a Site Management Plan would eliminate potential risk by controlling exposure pathways.

Contaminant Reduction

The use of a Site Management Plan would not decrease levels of contamination.

5.2.2 Groundwater

The evaluation of general response actions for groundwater demonstrated that Treatment and Elimination of Exposure (Site Management Plan) should be carried through for further evaluation. Removal, Containment and Elimination of Exposure (Engineering Controls), since it is likely that residual soil impacts would provide a continuing source of contamination.

5.2.2.1 Treatment

Natural Attenuation

A description of Natural Attenuation was provided previously in Section 5.1.2.1.

Risk Elimination

Natural attenuation can provide a stable, i.e., contained dissolved-phase plume, but is not likely to eliminate the potential risk.

Contaminant Reduction

Natural attenuation can reduce constituent concentrations to a steady-state condition.

Biologically- Enhanced Treatment

A description of Biologically-Enhanced Treatment was provided previously in Section 5.1.2.1.

Risk Elimination

Biological enhancement of natural attenuation processes can provide a stable, i.e., contained dissolved-phase plume, but is not likely to eliminate the potential risk.

Contaminant Reduction

Biological enhancement of natural attenuation processes can reduce constituent concentrations to a steady-state condition.

5.2.2.2 Elimination of Exposure

A description of the use of a Site Management Plan to eliminate the potential exposure from impacted groundwater was provided previously in Section 5.1.2.2.

Risk Elimination

The implementation of the practices detailed in a Site Management Plan would eliminate potential risk by controlling exposure pathways.

Contaminant Reduction

The use of a Site Management Plan would not decrease levels of contamination.

5.2.3 Preferred Approaches for Impacted Media

The review of options for managing impacted soil and groundwater has identified the most appropriate approaches for achieving the remedial goals given the physical limitations of the site. The evaluation demonstrated that the implementation of a Site Management Plan would provide the best means of eliminating exposure pathways and controlling potential risk. The following technologies will also be retained and used to develop alternatives for detailed evaluation in Section 6 of this document.

5.2.3.1 Soil

On-Site Area

Excavation will provide an effective means of reducing the quantity of contamination for on-site soil since it provides the potential to remove “shallow”, i.e., depths less than 20 ft. bgs, impacted soil. Product Recovery is appropriate for removing any concentrated impacts at all depths. Solidification will provide the best means to access the entire depth of impacts (up to 25 ft. bgs), as well as the most efficient means to ensure complete contact/treatment with subsurface media and reduce the potential for off-site migration of residuals.

Off-Site Area

Since the depths of soil impacts are located below the practical depth of excavation, product recovery wells will provide an effective means for reducing higher levels of contamination.

5.2.3.2 Groundwater

Natural Attenuation will provide an appropriate means to improve groundwater quality in both the on-site and off-site areas following the removal/treatment of source material located in the on-site area. Biologically-enhanced treatment could be used at a future date in the event that an improved rate of biological degradation is required.

6.0 Alternatives Evaluation

The preferred technologies/approaches from the previous section have been assembled into a set of five remedial alternatives that include the following:

- Alternative 1 – NO ACTION
- Alternative 2 – Removal of MGP Residuals using Recovery Wells, Natural Attenuation of Dissolved-Phase Impacts, Site Management Plans
- Alternative 3 – Treatment of On-Site Soil, Removal of Off-Site Residuals using Recovery Wells, Natural Attenuation of Dissolved-Phase Impacts, Site Management Plans
- Alternative 4 – Removal of On-Site Soil, Removal of Off-Site Residuals using Recovery Wells, Natural Attenuation of Dissolved-Phase Impacts, Site Management Plans
- Alternative 5 – Restoration of On-site and Commercial Properties to Unrestricted Use

This section reviews these alternatives on their ability to meet the site-specific Remedial Goals and Remedial Action Objectives (RAOs) as well as the following criteria:

- Overall protection of human health and the environment - considers how the remedial alternative prevents or mitigates potential risks under current and likely future conditions. Alternatives that maintain the current condition of no significant risk or that permanently reduce or eliminate exposure pathways under any reasonable future site use without causing significant risks during implementation, are rated HIGH. A MEDIUM rating is applied to alternatives that provide adequate protection of human health and the environment but have one or more potential drawbacks, such as reliance on long-term maintenance or institutional controls, and uncertainty regarding the final levels of contamination. A Low rating applies to alternatives that do not protect against reasonably foreseeable future exposures to site contaminants or may increase the likelihood of certain exposure scenarios (e.g., increased contaminant mobility or toxicity). A rating of UNACCEPTABLE is given to alternatives that, on balance, pose more risks to human health and the environment than no action.
- Compliance with standards, criteria and guidance values (SCGs) - addresses whether the remedy will meet the remedial goals and SCGs presented in Section 3. For the purpose of this evaluation, the principal applicable standards/criteria have been assumed to be the NYSDEC Part 375 soil criteria for restricted commercial use and the Ambient Water Quality SCGs for groundwater. A High rating is given to alternatives that are expected to achieve all the remedial goals and either achieves the SCGs or is expected to result in significant reductions (90% or more) in current concentrations. A Medium rating is given if an alternative will achieve the remedial goals, but is not expected to achieve the SCGs. A Low rating is given if an alternative is not expected to achieve most of the remedial goals and SCGs.
- Long-term effectiveness and permanence - evaluates the magnitude of remaining risks and the adequacy and reliability of controls. Alternatives receive a High rating if there is a reasonable expectation that the primary objectives can be met and maintained. If an alternative has been successfully implemented at another MGP site under similar conditions and demonstrated long-term effectiveness, the remedial action generally receive a rating of

Medium. A Low rating is given to alternatives that had a reasonable expectation of providing a permanent remedy. Alternatives with a Medium rating may result in contaminants remaining in place and may require long-term maintenance of controls. A Low rating is given to alternatives that do not remove or treat contaminants, do not provide adequate controls to prevent future exposure scenarios, or rely on on-going maintenance of controls that will be difficult to assure. A rating of UNACCEPTABLE is given to technologies that have been tested under similar conditions, and were found to be ineffective.

- Reduction in toxicity, mobility, and volume (TMV) - considers the quantity of contaminants that are permanently destroyed, immobilized, or otherwise treated. The degree to which the treatment may be irreversible, and the nature and amount of treatment residuals are considered. Alternatives that remove contaminants from the site or that fully treat (i.e., mineralize) contaminants receive a High rating. A Medium rating is provided to alternatives that immobilize contaminants, reduce contaminants to less toxic forms, or provide only partial treatment. Treatment alternatives that are reversible or provide no significant reduction in toxicity, mobility, or volume receive a Low rating. A rating of UNACCEPTABLE is given to technologies, which under similar circumstances increased the toxicity, mobility, or volume of contaminants.
- Short-term effectiveness - evaluates potential risks to the public, remediation workers, and the environment during implementation of the remedy. The duration of remedial activities is also considered. Alternatives with minimal intrusive site work receive a High rating for short-term effectiveness. Alternatives that pose short-term risks that can be effectively managed receive a rating of Medium. Alternatives receive a rating of Low if they present significant short-term risks and the ability to fully control these risks is uncertain. In general, alternatives that include bringing partially treated or untreated contaminants to the surface receive a Medium rating if potential exposures are short and easily controlled. If contaminants are brought to the surface over a long period and exposures are difficult to control, a Low rating is given to the alternative. A rating of UNACCEPTABLE is given to alternatives that, despite implementation of control technologies, would still present unacceptable risks to receptors.
- Implementability - considers potential obstacles to construction of the remedy at the site. The availability of personnel and equipment to implement the remedy is considered as is the need for permits and the likelihood of obtaining regulatory approvals. Site owner acceptance of the alternative is also a key issue. The expected effectiveness and ability to monitor the effectiveness of the alternative are also considered. Alternatives that are known to have been successfully implemented at similar sites receive a High rating. Alternatives that are likely to be implemented successfully but where uncertainty exists in terms of effectiveness, ability to confirm treatment, or require extensive permitting receives a Medium rating. A Low rating is given to alternatives that are expected to be difficult to implement. A rating of UNACCEPTABLE is given to alternatives that are not possible to implement.
- Cost Effectiveness– compares the effectiveness of the alternative to its cost. Alternatives receive a High rating if they are determined to be effective (ratings of Medium/High for the criteria for permanence, reduction of TMV and short term effectiveness) and the cost is less than the average value for the alternatives evaluated (excluding NO ACTION and those determined to not be implementable). A Medium rating is applied if the effectiveness ratings are Medium/High and the cost is greater than the average cost of the alternatives evaluated. A Low rating will be used if the alternative has received a one of more Low ratings for effectiveness or implementability, regardless of cost.

- Land Use – evaluates the ability of a remedy to allow the use of the site/surroundings for purposes that are consistent with its current, intended or reasonably anticipated uses. A High rating will be applied to alternatives that maintain, or elevate the use of a site so that it is consistent with area zoning, e.g., industrial, commercial, residential, and surroundings. A Medium rating will be applied to alternatives that maintain the use of the site if not consistent with area zoning. A Low rating will be used for alternatives that do not maintain the current use of the site.

The final criterion, community acceptance, will be evaluated at a later date during the public hearings which are part of the Citizen Participation Plan.

Each of the proposed alternatives is described below, and evaluated in terms of the above criteria and the site-specific Remedial Goals, i.e., eliminating potential exposure pathways, and removing sources of MGP contamination to the extent feasible. As required in DER-10, the description of each alternative includes a discussion of its size/configuration, schedule, disposal options, permit requirements and other factors required for evaluation. A summary of the findings from the evaluation is presented in Table 6-1.

6.1 Alternative 1 – NO ACTION

The evaluation of NO ACTION is included to provide a baseline for the comparison of the other alternatives.

6.1.1 Evaluation Related to Remedial Goals

6.1.1.1 Elimination/Mitigation of Potential Exposure Pathways

NO ACTION would not change current conditions at the site and therefore, would not eliminate or mitigate the potential exposure pathways for soil, groundwater or sediment.

6.1.1.2 Reduction of Contamination

NO ACTION would have no effect on the levels of contamination at the site. The only means of contaminant reduction would be via natural attenuation processes. The timeframe for remediation with this alternative is estimated to be more than 100 years for natural processes to degrade constituents of interest at subsurface locations. This option would not have any spatial, disposal or permit requirements. There are also no limitations or other factors necessary to evaluate this alternative. It is noted that the levels of contamination at the Site are not very elevated and are likely stable, and this alternative is feasible for the site.

6.1.2 Evaluation Related to Review Criteria

6.1.2.1 Overall protection of public health and the environment

NO ACTION for soil, groundwater and sediment is rated as Low for overall protection of public health and the environment. Although current site conditions do not pose a significant risk to public health, NO ACTION would not reduce the potential human health risk posed during future subsurface construction activities, or changes in site use.

6.1.2.2 Compliance with standards, criteria and guidance (SCGs)

NO ACTION is rated as Low for this criterion. This alternative does not achieve the RAOs and does not result in site-wide compliance with the SCGs. NO ACTION would not result in the reduction of

contaminant concentrations in soil or groundwater, other than from the potential effect of natural processes.

6.1.2.3 Long-term effectiveness and permanence

NO ACTION is rated Low for this criterion. Since no activities would be conducted to remediate site impacts, contaminants will remain in place with no means to control the potential exposure pathways.

6.1.2.4 Reduction in toxicity, mobility and volume

NO ACTION is rated Low for this criterion. NO ACTION would not result in the reduction of contaminant concentrations or volumes in soil or groundwater other than from the potential effect of natural processes. Additionally, contaminants would remain in place with no means to control off-site migration.

6.1.2.5 Short-term effectiveness

NO ACTION is rated High for this criterion. This alternative poses no significant potential implementation risks to the public, remediation workers, or the environment as no intrusive site work is proposed.

6.1.2.6 Implementability

NO ACTION is rated High for this criterion since implementation would require no coordination with stakeholders owners and would provide no disruption.

6.1.2.7 Cost Effectiveness

There would be no cost for this alternative. It is rated Low based on an inability to meet the remedial goals for the site.

6.1.2.8 Land Use

The alternative is rated High for Land Use since it will maintain the use of the property and surroundings for their current and intended purposes.

6.2 Alternative 2 – Removal of MGP Residuals using Recovery Wells, Natural Attenuation of Dissolved-Phase Impacts, Site Management Plans

This alternative includes the following:

- Product recovery within impacted areas of the site and the off-site commercial property.
- Natural Attenuation of dissolved- phase impacts on the on-site and off-site commercial properties.
- Implementation of Site Management Plans (SMPs) on the on-site and off-site commercial properties to address potential human health risk associated with exposure to residual impacts in soil and groundwater.

6.2.1 Description of Activities

Site preparation activities would include the performance of a utility survey and delineation of soil stockpile/loading areas and construction of decontamination pads/facilities.

6.2.1.1 Product Recovery in On-Site and Accessible Off-Site Areas

Product recovery wells will be installed within the areas where lenses of impact have been observed at a general spacing of approximately 20 feet on center. Nine (9) wells will be installed within the on-site source area (2,100 sq. ft.) and will be screened from 10 to 30 ft. bgs. Three (3) wells are expected to be installed initially within the source area on the off-site commercial property and screened from 30 to 40 ft. bgs. Additional wells will be installed as required to improve the efficiency of the collection process, based on the results of the initial monitoring efforts. Note that specific details of the product recovery effort will be developed during the remedial design phase of the program. All well risers will be constructed of 4-inch diameter schedule 40 PVC. Recovery well screens (10 ft. lengths) will be constructed of 4-inch diameter 0.020-inch slot wire wrap stainless steel. Centralizers will be installed at the top and bottom of each screen. The wells will be installed as follows:

- Soil borings will be advanced, and soil samples collected for observation.
- The bottom of the well screen will be set at the bottom of the observed NAPL saturated interval.
- In the event that multiple intervals of NAPL saturation are observed (separated by low permeability soils) they will be screened individually.

A quantity of cement/bentonite grout that has been calculated to fill the annulus between the sump and the borehole to the screen-sump connection will be placed in the bottom of the boring. The well casing assembly, consisting of the sump, cement basket, screen, and casing will be lowered into the borehole, and a sand filter pack will be placed around the well screen and the riser (to a minimum of two feet above the top of the well screen).

The annular space above the filter pack will be filled with a bentonite seal (3 to 4 ft. thick).Note that additional bentonite seals will be used at locations with multiple screen intervals are installed. The annular space above the bentonite seal will be filled with a grout mixture utilizing a tremie pipe to fill the annulus from the grout seal to one foot below the top of casing (TOC). If necessary and settling of the grout mixture occurs, the annulus will be filled again with the grout mixture to 1 foot below TOC. Each recovery well will be completed in a 2 ft. by 2 ft. traffic rated well vault. The elevation of the top of the vaults will be set to be flush with the proposed final ground surface for the properties. Installed wells will be surveyed for elevation and location using a licensed New York surveyor.

A minimum of 24-hours post-installation, each well will be developed using surge and pump procedures to remove drilling fluids and fine grain material from the sump, well screen, and filter pack. Initial gauging activities will be conducted approximately 30 days after well development to ensure the starting product thickness, product head, and potentiometric surface head are all representative of formation conditions. Initially, an aggressive monitoring schedule (e.g., weekly for a period up to one month) will be implemented to collect sufficient data to identify locations where significant quantities of product are likely to be present, and to estimate associated recharge rates. The results from the evaluation will be used to develop a schedule for subsequent monitoring, or in some instances, the performance of bail down testing in support of the refinement of the NAPL Conceptual Site Model.

6.2.1.2 Natural Attenuation of Dissolved-Phase Impacts

The conceptual model for microbial activity at former MGP sites assumes that microorganisms will preferentially use oxygen as a terminal electron acceptor (TEA) as they oxidize the organic compounds to carbon dioxide and water. However, when oxygen is not present, microorganisms may use alternate electron acceptors in order to metabolize available organic constituents under anaerobic

conditions. These alternate TEAs include nitrate (reduction), ferric iron (Fe^{+3}) (reduction), sulfate (reduction), and carbon dioxide (methanogenesis).

As part of the remedial activities, groundwater monitoring wells will be installed on the on-site and off-site commercial properties. They will be sampled for constituents of interest to evaluate the effect of soil remediation activities and the stability of the dissolved-phase plume. Additionally the monitoring program will include the analysis of samples for appropriate geochemical parameters to document evidence of subsurface microbial activity. These parameters will include:

- Dissolved Oxygen – low levels of dissolved oxygen (DO) in the presence of residual constituents may indicate areas where microbial activity is taking place under aerobic conditions.
- Oxidation Reduction Potential – highly positive ORP values indicate areas where reactions are taking place under aerobic conditions, while lower to negative values indicate areas where anaerobic reactions predominate.
- Sulfate – a decrease in sulfate concentrations in areas of residual COI may indicate that microbes are utilizing sulfate (SO_4^{2-}) as a TEA, reducing sulfate to sulfide (S^{2-}).
- Methane – the presence of methane in groundwater indicates the anaerobic biodegradation of organic compounds.

Levels of other TEAs including: ferric iron, sulfate and nitrate will also be evaluated to identify opportunities for biological enhancement to improve the rate of biological degradation.

6.2.1.3 Site Management Plans

A Site Management Plan (SMP) will be developed for the on-site and off-site commercial properties to address the potential human health risk posed by remaining contamination within the saturated zone. Specifically, the SMPs will detail processes to manage remaining contamination at the site in support of the Environmental Easement granted to NYSDEC as a requirement of site closure, and address the means for implementing the institutional controls that will be mandated by the Easement. The institutional controls will place restrictions on site use to prevent future exposure to remaining contamination, e.g., controlling disturbances of impacted soil/sediment and prohibit the of groundwater without treatment to render it safe for intended use. The following documents will be included in the SMP:

- **Engineering and Institutional Control Plan** – will include a description of the controls and define the criteria for their termination. The plan will provide specific details regarding the mechanisms that will be used to implement, maintain, monitor and enforce the controls.
- **Excavation Work Plan** – will be developed to support future activities that will disturb remaining contaminated material. The plan will define notification requirements; soil screening methods; stockpiling methods; material excavation and load out requirements, methods for transport, disposal/cover system restoration, and include a contingency plan in the event that unanticipated sources of contamination are encountered. Supporting information will include example site-specific health and safety and community air monitoring plans**.**
- **Monitoring Plan** - will define the inspection and maintenance requirements for site systems, including requirements for documenting site use; procedures for inspection of the soil cover and reporting for product recovery activities.

- **Operation and Maintenance Plan** – will define the requirements to documenting product recovery and the performance of associated monitoring activities. It will address routine and non-routine operation.

Note that specific requirements of any Institutional Controls will require the review and approval of site stakeholders.

6.2.1.4 Summary of Remedial Processes

Product recovery at on-site and accessible off-site locations and natural attenuation are the remedial processes included in Alternative 2.

1) Size and configuration of process options:
   a. On-Site Product Recovery – 9 wells installed within a 2,100 sq. ft. source area.
   b. Off-Site Product Recovery –3 wells installed within a 750 sq. ft. source area
2) Time for remediation:
   a. Product Recovery – conducted to an endpoint negotiated with NYSDEC, assumed to be less than 2 years
   b. Natural Attenuation- monitoring conducted to demonstrate plume stability following source treatment/removal, assumed to be less than 5 years
3) Spatial requirements:
   a. On-Site Product Recovery – 9 wells with 2 ft. x 2 ft. traffic vaults
   b. Off-Site Product Recovery – 3 wells with 2 ft. x 2 ft. traffic vaults
4) Options for disposal:
   a. Recovered Product – thermal treatment
5) Limitations or other factors necessary to evaluate the alternative:
   a. Natural Attenuation – installation of monitoring wells and evaluation of natural attenuation parameters
6) Permitting Requirements
   a. No specific permits are anticipated

6.2.2 Evaluation Related to Remedial Goals

6.2.2.1 Elimination/Mitigation of Potential Exposure Pathways

The alternative will control potential exposure pathways through the implementation/enforcement of Site Management Plans.

6.2.2.2 Reduction of Contamination

This alternative will provide the ability to collect/remove the most significant impacts (recoverable product) from the on-site and off-site commercial properties, as well as residuals migrating to and from the inaccessible area (LIRR property) of the site. The approach will also reduce dissolved-phase impacts through biological processes.

6.2.3 Evaluation Related to Review Criteria

6.2.3.1 Overall Protection Of Public Health And The Environment

The alternative is rated as Medium for overall protection of public health and the environment since it addresses potential risk, but will rely on the use of institutional controls to eliminate potential exposure pathways.

6.2.3.2 Compliance With Standards, Criteria And Guidance (SCGs)

The alternative is rated Medium for compliance with SCGs. It will meet the remedial goals, and the soil SCGs for migration to groundwater will no longer be applicable due to the use restrictions imposed by the SMPs. However, the alternative will not achieve compliance with NYSDEC criteria for groundwater or direct contact with soil.

6.2.3.3 Long-Term Effectiveness And Permanence

The alternative is rated High for long-term effectiveness and permanence. The approaches are routinely used at MGP sites and soil impacts are located at depths where direct contact is not likely. The restrictions of the SMPs are consistent with current and anticipated future site activities.

6.2.3.4 Reduction In Toxicity, Mobility And Volume

The alternative is rated Medium for the reduction in toxicity, mobility and volume. The approach will provide for the collection/removal of recoverable product from the site and control the migration of residuals. Additionally, biological processes will reduce the dissolved-phase concentrations of MGP constituents.

6.2.3.5 Short-Term Effectiveness

The alternative is rated High for this criterion. This alternative poses no significant potential implementation risks to the public, remediation workers, or the environment as intrusive site work is limited to the installation of recovery wells.

6.2.3.6 Implementability

The alternative is rated High for this criterion since implementation would require limited coordination with site owners and would provide minimal disruption.

6.2.3.7 Cost Effectiveness

The estimated capital cost of the alternative is $238,000 based on the installation of 12 monitoring wells at $10,000 per well. Additional monitoring and oversight costs are estimated to be $336,000, based on 2 years of quarterly product recovery ($10,000 per event) and 5 years of groundwater monitoring ($10,000 per event) to demonstrate plume stability. The total project costs, including contingency at 20% is estimated to be $600,000. The estimate is rated High for cost effectiveness since it is implementable and meets the remedial goals in the most cost effective manner.

6.2.3.8 Land Use

The alternative is rated High for Land Use since it will maintain the use of the property and surroundings for their current and intended purposes.

6.3 Alternative 3 – Treatment of On-Site Soil, Removal of Off-Site Residuals using Recovery Wells, Natural Attenuation of Dissolved-Phase Impacts, Site Management Plans

This alternative includes the following:

1) Solidification of 1,300 cy of on-site soil, with the off-site disposal of approximately 350 cy of spoils.
2) Product recovery within impacted areas of the off-site commercial property.
3) Natural Attenuation of dissolved- phase impacts on the on-site and off-site commercial properties.
4) Implementation of Site Management Plans (SMP) on the on-site and off-site commercial properties to address potential human health risk associated with exposure to residual impacts in soil and groundwater.

6.3.1 Description of Activities

Site preparation activities would include erecting security fencing, relocation of utilities, installation of erosion controls, delineation of soil stockpile/loading areas, construction of decontamination pads/facilities and the removal of pavement from the treatment area.

6.3.1.1 Solidification of Impacted Soil at On-Site Locations

Solidification would involve the introduction of cement slurry (grout) into impacted media to decrease permeability and increase strength. Treatment will create a solidified mass that will eliminate the potential for MGP residuals to migrate from the site and "isolate" the areas of contamination from groundwater flow. Solidification will control the ability of on-site source material to adversely affect groundwater.

The solidification of on-site material would occur in three phases: the stabilization of areas adjacent to the railroad property, temporary removal/stockpiling of vadoze zone soil and solidification of remaining impacted soil. The determination of the approach for solidification (i.e., auger mixing or excavator mixing) will be made during the remedial design phase of the program. The selection of the appropriate technique will be based on site-specific limitations, anticipated processing rate and equipment limitations imposed by the proximity of the active rail lines.

Activities in the initial phase will be conducted to ensure that the stability of the railroad embankment will be maintained during construction. During the implementation of the remedy, the embankment may be stabilized by installing ISS columns, installing temporary sheeting, utilizing pre-engineered shoring systems, benching, or a combination of techniques.

After the embankment support has been installed, vadose zone soils (constituent levels expected to meet applicable NYSDEC criteria) will be removed to provide access to the impacted saturated zone soil. The excavated soil (400 cy) will be stockpiled on-site for reuse. The soil in the saturated zone (1,300 cy) will then be solidified, with samples analyzed to demonstrate compliance with the established performance criteria. Spoils (assumed to be approximately 350 cy) will be accumulated and transported off-site for disposal at a permitted landfill.

Stockpiled soil will be sampled and analyzed to ensure that it is acceptable for reuse. The results from the RIR indicate that the vadose zone soil will meet the restricted residential and protection of groundwater soil cleanup objectives over the solidified soil in the treatment area. Soil not meeting NYSDEC criteria will be transported off-site and managed at a permitted facility. Additional backfill will be obtained from a commercial off-site source to restore the site grade and the site will be repaved. It is estimated that site mobilization, solidification, soil management, site restoration and demobilization can be completed within a 1-2-month period.

6.3.1.2 Product Recovery in Accessible Off-Site Areas

Product recovery wells will be installed within the 750 sq. ft. source area, i.e., the area of impacted soil, at a spacing of approximately 20 feet on center. A description of the construction of the recovery wells and associated activities has been provided previously in Section 6.2.1.1.

6.3.1.3 Natural Attenuation of Dissolved-Phase Impacts

A discussion of Natural Attenuation has been provided previously in Section 6.2.1.2.

6.3.1.4 Site Management Plans

A discussion of Site Management Plans has been provided previously in Section 6.2.1.3. Note that the approach will result in vadose zone soils meeting the NYSDEC Restricted Residential Soil Cleanup Objectives for MGP impacts. As a result, the plans will be limited to addressing groundwater use and excavation activities in the saturated zones of the on-site and off-site commercial properties.

6.3.1.5 Summary of Remedial Processes

The solidification of on-site soil, product recovery at off-site locations and natural attenuation are the remedial processes included in Alternative 3.

1) Size and configuration of process options:
    a. Solidification – conducted over a 2,100 sq; ft; area to a depth of 25 ft. bgs
    b. Product Recovery – 3 wells installed within a 750 sq. ft. source area (approximately 20 ft. on center)
2) Time for remediation:
    a. Solidification (field work) – will be conducted within a 1-2-month period
    b. Product Recovery – conducted to an endpoint negotiated with NYSDEC, assumed to be less than 2 years
    c. Natural Attenuation- monitoring conducted to demonstrate plume stability following source treatment/removal, assumed to be less than 5 years
3) Spatial requirements:
    a. Solidification – active remediation - 2,100 sq. ft.; batch plant - 1,500 sq. ft.; temporary soil stockpile – 1,800 sq. ft.; spoils stockpile 2,700 sq. ft.
    b. Product Recovery –3 wells with 2 ft. x 2 ft. traffic vaults
4) Options for disposal:
    a. Impacted Soil – thermal desorption

b. Solidification Spoils – land disposal

c. Recovered Product – thermal treatment

5) Limitations or other factors necessary to evaluate the alternative:

a. Solidification – treatability test to determine the composition of the grout mix

b. Natural Attenuation – installation of monitoring wells and evaluation of natural attenuation parameters

6) Permitting Requirements

a. No specific permits are anticipated

6.3.2 Evaluation Related to Remedial Goals

6.3.2.1 Elimination/Mitigation of Potential Risk

The alternative will eliminate the potential for human health risk through the containment of subsurface impacts in areas where exposure pathways can be controlled by the implementation/enforcement of Site Management Plans.

6.3.2.2 Reduction of Contamination

The alternative will provide the ability to collect/remove the most significant impacts (recoverable product) from the off-site commercial property, as well as residuals migrating from the inaccessible area (LIRR property) of the site. The approach will also reduce dissolved-phase impacts through biological processes.

6.3.3 Evaluation Related to Review Criteria

6.3.3.1 Overall protection of public health and the environment

The alternative is rated Medium for overall protection of public health and the environment since it addresses potential risk, but will rely on the use of institutional controls to eliminate potential exposure pathways.

6.3.3.2 Compliance with standards, criteria and guidance (SCGs)

The alternative is rated Medium for compliance with SCGs. It will meet the remedial goals, and will achieve the Restricted Residential Soil Cleanup Objectives for MGP constituents in the vadose zone of the on-site property. Additionally, the soil SCGs for migration to groundwater will no longer be applicable due to the use restrictions imposed by the SMPs. However, the alternative will not achieve compliance with NYSDEC criteria for groundwater or direct contact with soil on the LIRR property.

6.3.3.3 Long-Term Effectiveness And Permanence

The alternative is rated High for long-term effectiveness and permanence. The approaches are routinely used at MGP sites and soil impacts are located at depths where direct contact is not likely. The restrictions of the SMPs are consistent with current and anticipated future site activities.

6.3.3.4 Reduction In Toxicity, Mobility And Volume

The alternative is rated Medium for the reduction in toxicity, mobility and volume. The approach will immobilize impacts located in on-site areas and provide for the collection/removal of mobile product

from the off-site areas of the site. Additionally, biological processes will reduce the dissolved-phase concentrations of MGP constituents.

6.3.3.5 Short-Term Effectiveness

The alternative is rated Medium for short-term effectiveness since its implementation will pose short-term risks, e.g., noise dust, odor, that can be controlled.

6.3.3.6 Implementability

The alternative is rated High for implementability. The approaches have been used previously at MGP sites and achieved the desired results. They should be acceptable to the property owners.

6.3.3.7 Cost Effectiveness

The estimated capital cost of the alternative is $ 1,053,000, with transportation and disposal estimated to be $67,400. Additional monitoring and oversight costs are estimated to be $330,000. The total project costs (Table D-1), including contingency at 20% is estimated to be $1,740,000. The estimate is rated High for cost effectiveness since it is implementable and meets the remedial goals in a cost effective manner.

6.3.3.8 Land Use

The alternative is rated High for Land Use since it will maintain the use of the property and surroundings for their current and intended purposes.

6.4 Alternative 4 – Removal of On-Site Soil, Removal of Off-Site Residuals using Recovery Wells, Natural Attenuation of Dissolved-Phase Impacts, Site Management Plans

This alternative includes the following:

1. Installation of 250 linear feet of sheet pile to a depth of 50 ft. bgs to support excavation to a practical depth of 20 ft. bgs and control the intrusion of water.
2. Excavation and disposal of 600 cy of subsurface soil from the on-site area, with backfilling and restoration.
3. Product recovery within impacted areas of the off-site commercial property.
4. Natural Attenuation of dissolved- phase impacts on both the on-site and off-site commercial properties.
5. Implementation of Site Management Plans (SMP) on the on-site and off-site commercial properties, to address potential human health risk associated with exposure to residual impacts in soil and groundwater.

6.4.1 Description of Activities

Site preparation activities would include erecting security fencing, relocation of utilities, installation of erosion controls, delineation of soil stockpile/loading areas, and construction of decontamination pads/facilities.

6.4.1.1 Installation of Sheet Pile

Sheet pile would be installed around the perimeter of the on-site soil impacts to provide support for the excavation and minimize the intrusion of groundwater into the excavation. Approximately 250 linear feet of sheet pile would be needed to be installed to a total depth of 50 ft. bgs to support an excavation to the practical depth of 20 ft. bgs.

The sheet pile wall will consist of steel or synthetic interlocking, typically one to three feet wide, and will be installed (driven or vibrated) in a repeating, interlocking pattern that creates a “ribbed” wall. The installation of sheet pile will be completed within a 3 to 4-week period

6.4.1.2 Excavation of Impacted Soil

After the sheet pile has been installed, vadose zone soils (constituent levels expected to meet applicable NYSDEC criteria) will be removed to provide access to the impacted saturated zone soil. The excavated soil (500 cy) will be stockpiled on-site for reuse. Well points will then be installed within the sheet pile barrier to draw down groundwater as the excavation proceeds to the required depth. Collected water would be stored in transportable settling tanks, and pretreated (filtration/activated carbon) for subsequent management at the publically owned treatment works (POTW) under permit. It has been assumed, for the purpose of this evaluation that a 50 gpm water treatment system will be required.

Excavation will be conducted using a long-stick excavator will proceed as the groundwater is drawn down to a depth of 20 ft. bgs. Excavated soil will be free drained within the excavation and subsequently placed in lined and covered stockpile areas on site or loaded directly into trucks. Vadose zone soil that is expected to meet applicable NYSDEC criteria (400 cy) will be stockpiled on-site for reuse. Excavated soil that exhibits residual free liquid would require additional treatment using drying/stabilization agents prior to shipment. Waste characterization sampling would be conducted either pre- or post-excavation for acceptance at the selected disposal facility. Material would be shipped by truck using appropriate procedures/documentation (waste profile sheets/manifests). Trucks would be inspected, decontaminated as necessary, and covered prior to leaving the site. Excavation activities are expected to be completed within a 2-week period.

Once the excavation depth is reached, samples would be collected from the base and sidewalls to document site conditions, and the excavation would be backfilled using clean overburden and common borrow from a clean off-site source and graded. Remediation support equipment (water treatment system, soil stockpile areas, decontamination area, and site trailers) would be removed, and site features would be restored. Backfilling and restoration activities are expected to be completed within a 2- week period.

6.4.1.3 Product Recovery in Accessible Off-Site Areas

Details of product recovery activities were provided previously in Section 6.3.1.1.

6.4.1.4 Natural Attenuation

Details of Natural Attenuation to address dissolved-phase impacts were provided previously in Section 6.2.1.2.

6.4.1.5 Site Management Plans

Details of the SMP to address potential human health risk for soil and groundwater were provided previously in Section 6.2.1.3. Note that the approach will result in vadose zone soils meeting the NYSDEC Restricted Residential Soil Cleanup Objectives for MGP impacts. As a result, the plans will be limited to addressing groundwater use and excavation activities in the saturated zones of the on-site and off-site commercial properties.

6.4.1.6 Summary of Remedial Processes

The installation of sheet pile, removal of subsurface soil to a depth of 20 ft. bgs from on-site locations product recovery from off-site locations and natural attenuation of dissolved-phase impacts are the remedial processes included in Alternative 4. A summary of these remedial processes is provided below.

1) Size and configuration of process options:
    a. Sheet Pile – 250 linear feet to a depth of 50 ft. bgs
    b. Excavation – conducted over a 2,100 sq; ft; area to a depth of 20 ft. bgs
    c. Product Recovery – 3 wells installed within a 750 sq. ft. source area (approximately 20 ft. on center)
2) Time for remediation:
    a. Sheet Pile (field work) – installation and removal can be completed within a 4-week period
    b. Excavation (field work) – will be conducted within a 2- week period
    c. Product Recovery – conducted to an endpoint negotiated with NYSDEC, assumed to be less than 2 years
    d. Natural Attenuation- monitoring conducted to demonstrate plume stability following source treatment/removal, assumed to be less than 5 years
3) Spatial requirements:
    a. Excavation – active remediation - 2,100 sq. ft.; water treatment plant - 1,000 sq. ft.; temporary soil stockpile – 2,500 sq. ft.; disposal soil stockpile 2,700 sq. ft.
    b. Product Recovery – 3 wells with 2 ft. x 2 ft. traffic vaults
4) Options for disposal:
    a. Impacted Soil – thermal desorption
    b. Treated Groundwater – POTW
    c. Recovered Product – thermal treatment
5) Limitations or other factors necessary to evaluate the alternative:
    a. Sheet Pile – geotechnical testing
    b. Natural Attenuation – installation of monitoring wells and evaluation of natural attenuation parameters
6) Permitting Requirements

a. Industrial Pretreatment Permit for the disposal of collected groundwater at the POTW.

6.4.2 Evaluation Related to Remedial Goals

6.4.2.1 Elimination/Mitigation of Potential Risk

The alternative will eliminate the potential for human health risk through the containment of subsurface impacts in areas where exposure pathways can be controlled by the implementation/enforcement of Site Management Plans.

6.4.2.2 Reduction of Contamination

The alternative will provide the ability to remove the majority of the soil impacts from the on-site area. Additionally, it will provide the ability to collect/remove any recoverable product from the off-site commercial property and from the inaccessible area (LIRR property) of the site. The approach will also reduce dissolved-phase impacts through biological processes.

6.4.3 Evaluation Related to Review Criteria

6.4.3.1 Overall protection of public health and the environment

The alternative is rated Medium for overall protection of public health and the environment since it addresses potential risk, but will rely on the use of institutional controls to eliminate potential exposure pathways.

6.4.3.2 Compliance with standards, criteria and guidance (SCGs)

The alternative is rated Medium for compliance with SCGs. It will meet the remedial goals, and achieve the Restricted Residential Cleanup Objectives for MGP constituents in the vadoze zone soils on-site. Additionally, the soil SCGs for migration to groundwater will no longer be applicable due to the use restrictions imposed by the SMPs. However, the alternative will not achieve compliance with NYSDEC criteria for groundwater or direct contact with soil on the LIRR property.

6.4.3.3 Long-term effectiveness and permanence

The alternative is rated High for long-term effectiveness and permanence. The approaches are routinely used at MGP sites and soil impacts are located at depths where direct contact is not likely. The restrictions of the SMPs are consistent with current and anticipated future site activities.

6.4.3.4 Reduction in toxicity, mobility and volume

The alternative is rated Medium for the reduction in toxicity, mobility and volume. The approach will not address the potential mobility of the residuals located at depths greater than 20 ft. bgs. It will provide for the collection/removal of mobile product from the off-site areas of the site. Additionally, biological processes will reduce the dissolved-phase concentrations of MGP constituents.

6.4.3.5 Short-term effectiveness

The alternative is rated Low for short-term effectiveness. Its implementation will pose short-term risks, e.g., noise dust, odor, that may be difficult to control since the size of the on-site area will likely limit the ability to use a temporary containment structure.

6.4.3.6 Implementability

The alternative is rated High for implementability. The approaches have been used previously at MGP sites and achieved the desired results. They should be acceptable to the property owners.

6.4.3.7 Cost Effectiveness

The estimated capital cost of the alternative is $ 2,008,000, with transportation and disposal estimated to be $118,400. Additional monitoring and oversight costs are estimated to be $415,000. The total project costs (Table D-2) including contingency at 20% is estimated to be $3,050,000. The estimate is rated Medium for cost effectiveness since it is implementable, but does not meet the remedial goals in the most cost effective manner.

6.4.3.8 Land Use

The alternative is rated High for Land Use since it will maintain the use of the property and surroundings for their current and intended purposes.

6.5 Alternative 5 – Restoration of On-site and Commercial Properties to Unrestricted Use

This alternative includes the following:

1) Installation of 250 linear feet of a secant pile wall to a depth of 60 ft. bgs to support excavation of the accessible impacts on-site; and 200 linear feet of a secant pile wall to a depth of 70 ft. bgs to support excavation of the accessible impacts in the off-site area.
2) Excavation and disposal of 600 cy of subsurface soil from the on-site area, and 1,100 cy of soil from the off-site area, with backfilling and restoration.
3) Installation of 3 product recovery wells along the upgradient boundary of the off-site commercial property to collect/recover mobile residuals from the inaccessible LIRR property.
4) Implementation of Site Management Plans (SMP) on the on-site and off-site commercial properties to address potential human health risk.

6.5.1 Description of Activities

Site preparation activities would include erecting security fencing, relocation of utilities, installation of erosion controls, delineation of soil stockpile/loading areas, and construction of decontamination pads/facilities. It is anticipated that the work would be conducted sequentially at the on-site and off-site properties.

6.5.1.1 Installation of Secant Pile Walls

The proposed extent of the excavations would exceed the practical depth of sheet pile. An alternative approach, the installation secant pile walls, will be used to support the excavation and control the intrusion of groundwater. Approximately 250 linear feet of wall will be installed around the perimeter of the on-site area to a total depth of 60 ft. bgs to support an excavation to a depth of 25 ft. bgs. Up to 200 linear feet of wall will be installed on the off-site commercial property to a depth of 70 ft. bgs to support the excavation of impacted soil at a depth of 40 ft. bgs.

The secant pile wall will consist of a series of overlapping grout columns (2-ft. diameter) that are reinforced with steel sections or rebar. The columns will be installed with an auger-type drill rig, with

temporary casing used to support the installation of the columns. The walls will remain in place at the conclusion of the program. The installation of the walls will be completed within a 1-month period for each area.

6.5.1.2 Excavation of Impacted Soil

After the secant pile wall has been installed, vadose zone soils (constituent levels expected to meet applicable NYSDEC criteria) will be removed to provide access to the impacted saturated zone soil. The excavated soil (500 cy on-site and 1,100 cy off-site) will be stockpiled on-site for reuse. Well points will then be installed within the enclosed areas to draw down groundwater as the excavations proceed to the required depth. Collected water would be stored in transportable settling tanks, and pretreated (filtration/activated carbon) for subsequent management at the publically owned treatment works (POTW) under permit. It has been assumed, for the purpose of this evaluation that a 100 gpm water treatment system will be required to support the excavation activities.

Excavated soil (600 cy on-site and 1,100 cy off-site) will be free drained within the excavations and subsequently placed in lined and covered stockpile areas on site or loaded directly into trucks. Saturated zone soil that is expected to meet applicable NYSDEC criteria (700 cy) will be stockpiled on-site for reuse. Excavated soil that exhibits residual free liquid would require additional treatment using drying/stabilization agents prior to shipment. Waste characterization sampling would be conducted either pre- or post-excavation for acceptance at the selected disposal facility. Material would be shipped by truck using appropriate procedures/documentation (waste profile sheets/manifests). Trucks would be inspected, decontaminated as necessary, and covered prior to leaving the site. Excavation activities are expected to be completed within a 3-week period for each area.

Once the excavation depth is reached, samples would be collected from the base to document site conditions, and the excavation would be backfilled using clean overburden and common borrow from a clean off-site source and graded. Remediation support equipment (water treatment system, soil stockpile areas, decontamination area, and site trailers) would be removed, and site features would be restored. Backfilling and restoration activities are expected to be completed within a 2-week period for each area.

6.5.1.3 Product Recovery in Accessible Off-Site Areas

Product recovery wells will be installed outside of the secant pile wall along the boundary of the off-site commercial property and the LIRR property. Three wells will be located with a spacing of 20 ft. on-center and screened at the depths of observed “lenses’ of MGP impacts (35 to 45 ft. bgs). A description of the construction of the recovery wells was provided previously in Section 6.2.1.1.

6.5.1.4 Natural Attenuation

Details of Natural Attenuation were provided previously in Section 6.2.1.2.

6.5.1.5 Site Management Plans

Details of the SMP to address potential human health risk for soil sediment and groundwater were provided previously in Section 6.2.1.3. Note that the approach will result in vadose zone soils meeting the NYSDEC Restricted Residential Soil Cleanup Objectives for MGP impacts. As a result, the plans will be limited to addressing groundwater use and excavation activities in the saturated zones of the on-site and off-site commercial properties.

6.5.1.6 Summary of Remedial Processes

The installation of shoring, removal of impacted soil at accessible locations and product recovery along the downgradient boundary of the inaccessible LIRR property are the remedial processes included in Alternative 4. A summary of these remedial processes is provided below.

1) Size and configuration of process options:
    a. Shoring
        i. On-site – 250 linear feet of secant pile wall to a depth of 60 ft. bgs
        ii. Off-site – 200 linear feet of secant pile wall to a depth of 70 ft. bgs
    b. Excavation
        i. On-site – conducted over a 2,100 sq. ft. area to a depth of 30 ft. bgs
        ii. Off-site – conducted over a 1,500 sq. ft. area to a depth of 40 ft. bgs
    c. Product Recovery – 3 wells installed along the boundary between the LIRR property and the off-site commercial property (approximately 20 ft. on center)
2) Time for remediation:
    a. Shoring (field work) – 1 month for each of the two areas
    b. Excavation (field work)– 2 weeks for each of the two areas
    c. Product Recovery – conducted to an endpoint negotiated with NYSDEC, assumed to be less than 2 years
    d. Natural Attenuation- monitoring conducted to demonstrate plume stability following source treatment/removal, assumed to be less than 5 years
3) Spatial requirements:
    a. Excavation
        i. On-site: active remediation - 2,100 sq. ft.; water treatment plant - 1,000 sq. ft.; temporary soil stockpile – 2,500 sq. ft.; disposal soil stockpile 4,000 sq. ft.
        ii. Off-site: active remediation –7500 sq. ft.; water treatment plant - 1,000 sq. ft.; temporary soil stockpile – 2,000 sq. ft.; disposal soil stockpile 5,000 sq. ft.
    b. Product Recovery – 3 wells with 2 ft. x 2 ft. traffic vaults
4) Options for disposal:
    a. Impacted Soil – thermal desorption
    b. Treated Groundwater – POTW
    c. Recovered Product – thermal treatment
5) Limitations or other factors necessary to evaluate the alternative:
    a. Secant Pile Wall – geotechnical testing
    b. Natural Attenuation – installation of monitoring wells and evaluation of natural attenuation parameters
6) Permitting Requirements

a. Industrial Pretreatment Permit for the disposal of collected groundwater at the POTW.

6.5.2 Evaluation Related to Remedial Goals

6.5.2.1 Elimination/Mitigation of Potential Risk

The alternative will eliminate the potential for human health risk through the containment of subsurface impacts in areas where exposure pathways can be controlled by the implementation/enforcement of Site Management Plans.

6.5.2.2 Reduction of Contamination

The alternative will provide the ability to remove the soil impacts from the on-site and off-site commercial areas (approximately 25% of total site impacts). Additionally, it will provide the ability to collect/remove the residuals migrating from the inaccessible area (LIRR property) of the site. The approach will also reduce dissolved-phase impacts through biological processes.

6.5.3 Evaluation Related to Review Criteria

6.5.3.1 Overall protection of public health and the environment

The alternative is rated Medium for overall protection of public health and the environment since it addresses potential risk, but will rely on the use of institutional controls to eliminate potential exposure pathways.

6.5.3.2 Compliance with standards, criteria and guidance (SCGs)

The alternative is rated Medium for compliance with SCGs. It will meet the remedial goals; however, the alternative will not achieve compliance with NYSDEC criteria for groundwater or direct contact with soil located on the LIRR property.

6.5.3.3 Long-term effectiveness and permanence

The alternative is rated High for long-term effectiveness and permanence. The approaches are routinely used at MGP sites and soil impacts on the LIRR property are located at depths where direct contact is not likely. The restrictions of the SMPs are consistent with current and anticipated future site activities.

6.5.3.4 Reduction in toxicity, mobility and volume

The alternative is rated Medium for the reduction in toxicity, mobility and volume. The approach will address the impacts from the on-site and accessible off-site areas, but will not address the majority of site impacts (75% of site total) that are located on the LIRR property. Product recovery will remove the most significant impacts (mobile product from the LIRR property).

6.5.3.5 Short-term effectiveness

The alternative is rated Low for short-term effectiveness. Its implementation will pose short-term risks, e.g., noise dust, odor, that may prove difficult to control since the size of the work areas will likely limit the ability to use a temporary containment structure.

6.5.3.6 Implementability

The alternative is rated Low for implementability since the property owners are not likely to accept the levels of disruption and extended duration of the remedial activities.

6.5.3.7 Cost Effectiveness

The estimated capital cost of the alternative is $ 7,394,000, with transportation and disposal estimated to be $275,600. The most significant expenses for this alternative that requires excavation to depths up to 40 ft. bgs within the saturated zone are in shoring ($5,665,000) and dewatering ($1,625,000). Additional monitoring and oversight costs are estimated to be $520,000. The total project costs (Table D-3), including contingency at 20% is estimated to be $10,235,000. The estimate is rated Low for cost effectiveness since it is likely not to be implementable due to the concerns of the off-site property owner and has the highest estimated cost of the alternatives evaluated.

6.5.3.8 Land Use

The alternative is rated High for Land Use since it will maintain the use of the property and surroundings for their current and intended purposes.

7.0 Recommended Alternative

The Treatment of On-Site Soil, Removal of Off-Site Residuals using Recovery Wells, Natural Attenuation of Dissolved-Phase Impacts, and Site Management Plans (Alternative 3) is the proposed remedial alternative for the site. This alternative includes:

1) Solidification of 1,300 cy of on-site soil, with the off-site disposal of approximately 350 cy of spoils.
2) Product recovery within impacted areas of the off-site commercial property.
3) Natural Attenuation of dissolved- phase impacts on both the on-site and off-site commercial properties.
4) Implementation of Site Management Plans (SMP) on the on-site and off-site commercial properties to address potential human health risk associated with exposure to residual impacts in soil.

Alternative 3 was chosen because it will meet the remedial goals for the site in the most efficient and practical manner. It provides the best opportunity to control direct contact risk and address the entire quantity of accessible source material to facilitate the stability of the dissolved-phase plume. Additionally, the approach would limit the short-term impact of the remediation on the community by reducing the time of active remediation, and limiting the potential for fugitive emissions and truck traffic associated with the off-site management of MGP residuals. A detailed description of the proposed remedy and an analysis of the remedy's compliance with the seven evaluation criteria are discussed in Section 6.2. An illustration of the general layout of the remedy is provided in Figures 7-1 (plan view) and 7-2 (cross-section). Note that the railroad property that lies between the on-site and off-site commercial properties areas has been considered inaccessible for active remediation. Potential risks in this area will be addressed through the implementation of a SMP.

7.1 Alternatives Summary

A brief discussion of the reasons that the other Alternatives were not recommended is provided below.

Alternative 1 – NO ACTION does not address potential risks and does not meet the Remedial Goals for the project.

Alternative 2 – Removal of MGP using Recovery Wells, Natural Attenuation of Dissolved-Phase Impacts, and Site Management Plans meets the Remedial Goals and is implementable, but will not address all of the on-site soil impacts.

Alternative 4 – Removal of On-Site Soil, Removal of Off-Site Residuals using Recovery Wells, Natural Attenuation of Dissolved-Phase Impacts, and Site Management Plans meets the Remedial Goals and is implementable, but does not address source material located in areas below 20 ft. bgs. Additionally, the open excavation (on-site) would provide the potential for increased fugitive emissions and the required transportation of MGP residuals for off-site management would increase truck traffic through the community.

Alternative 5 – Restoration of On-site and Commercial Properties to Unrestricted Use does not provide additional benefit in risk reduction for the significant increase in cost, and would likely not be implementable from the standpoint of the off-site property owner.

7.2 Pre-Design Investigation

A pre-design investigation will be conducted to collect additional site data related to the proposed Alternative 3 activities in support of the preparation of a Remedial Action Work Plan (RAWP) for the site. Overviews of the proposed investigation activities are provided below.

7.2.1 Geotechnical Investigation

Geotechnical data will be collected to define the structural requirements of the solidification mixture. Three (3) borings will be installed along the on-site property boundary with the railroad property. The borings will be installed from the ground surface to a depth of 45 ft. bgs to address the anticipated depth of treatment (approximately 25 ft. bgs). Two-inch diameter by 24-inch long split-spoon samples will be collected continuously at all borings to the boring termination depth following in accordance with ASTM Method D1586. Soils collected in the split spoons will be field classified in accordance with ASTM Method D2487. Up to three (3) samples will be collected from each boring and analyzed for grain size, bulk density, and moisture content. Additional samples for subsequent treatability testing will be composited from boring locations/intervals exhibiting the most significant MGP impacts.

7.2.2 Treatability Testing

Samples of the MGP-related source material will be collected from soil boring locations/intervals that exhibit significant levels of visual /olfactory impact. The samples will be composited into two 5-gallon containers for use in bench-scale treatability testing.

Upon receipt at the treatability lab, the samples will be screened to remove oversized material, i.e., >0.5 inches, and generally homogenized to provide material appropriate for replicate testing. The unit weight of several samples will be determined to provide a basis for conversion from weight-based (lab use) to volume-based (production use) dosing rates.

Tests will be conducted using a cementitious material of 4:1 ground granulated blast furnace slag (GGBFS)/ Portland cement at a broad range of addition rates, e.g., 5%, 8% and 11% to wet weight of soil. The mixes will be evaluated after 7 days of curing using a pocket penetrometer and for Unconfined Compressive Strength (UCS) using ASTM Method D-2166. Note that GGBFS is proposed for use because it is locally available and has been demonstrated to improve results for UCS.

A second round of testing will be conducted to evaluate additional cement mixes and to determine the benefit of the use of additives, e.g., bentonite typically at rates of 0.25 to 0.5 % - by wt., to improve permeability. These tests will be conducted using a target ratio of 1:1 water to cementitious mixture to ensure the relative comparison of results across the range of addition rates. The rates will be adjusted to achieve a “pumpable” slurry during production. Note that more “exotic” additives such as organoclay and activated carbon will not be tested since, due to cost/availability, they are generally not practical for production use.

UCS testing will be conducted after 7 and 28 days of curing. Permeability testing will be conducted on those samples that achieve an acceptable UCS value, i.e., >50 psi.

7.2.3 Pre-Characterization Sampling

Additional soil borings/test pits will be installed in on-site areas to refine the delineation of impacts and ensure that significant subsurface structures are not present in the proposed treatment area. The location of structures and visibly impacted media will be identified. Samples from vadose zone soils from within the proposed treatment area may also be analyzed to support their reuse as clean backfill.

8.0 References

New York State Department of Environmental Conservation (NYSDEC), 2010, DER-10 Technical Guidance for Site Investigation and Remediation, New York State department of Environmental Conservation, May 2010.

New York State Department of Environmental Conservation (NYSDEC), 2010, DER-31 Green Remediation Policy, New York State department of Environmental Conservation, August 2011.

New York State Department of Health (NYSDOH), 2006, Final NYSDOH CEH BEEI Vapor Intrusion Guidance, Appendix C : Volatile organic chemicals in air – summary of background databases, October 2006.

New York Codes Rules and Regulations (NYCRR) Subpart 375-6 Remedial Program Soil Cleanup Objectives, New York State Department of Environmental Conservation (NYSDEC), December, 2006.

New York Codes Rules and Regulations (NYCRR) Subpart 703, Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations, New York State Department of Environmental Conservation (NYSDEC), June 1998.

Tetra Tech, 2012, Remedial Investigation Report for the Babylon Former MGP Site, West Babylon, Suffolk county, New York, December 2012.

Tables

Table 4-1
Babylon Former Manufactured Gas Plant Site
Estimated Quantities of Impacted Soil [1]

Media	Zone	Total			Inaccessible Areas [2]			Accessible Areas		
		Average Thickness (ft)	Area (sq. ft.)	Quantity (cu.yds.)	Average Thickness	Area (sq. ft.)	Quantity (cu.yds.)	Average Thickness	Area (sq. ft.)	Quantity (cu.yds.)
	Upper Saturated Zone (8-20 ft bgs)	8	2,100	600				8	2,100	600
	Lower Saturated zone (below 20 ft. bgs)	5	810	150				5	810	150
Off-Site	**Railroad Property**									
	Saturated zone (below 8 ft. bgs)	25	6,500	6,019	25	6,500	6,019	0	0	0
	Commercial Property									
	Upper Saturated Zone (8-20 ft bgs)	7	1,500	389				7	1,500	389
	Lower Saturated zone (below 20 ft. bgs)	12	1,500	667				12	1,500	667
Total On-site				750			0			750
Total Off-site				7,074			6,019			1,056
Total Site				7,825			6,019			1,806

Notes:
1 Contains significant impact, i.e. saturated thickness of product, or constituent exceedances of NYSDEC Part 375 Restricted Commercial Use Soil Cleanup Objectives, or criteria provided in NYSDEC Soil Cleanup Guidance CP-51; and less significant impacts such as stringers and blebs.
2 Soil in areas that will not be accessible for ground intrusive activities due to the presence of active rail lines.
3 bgs = below ground surface

Table 4-2
Babylon Former MGP Site
Summary of General Response Actions

Media	General Response Actions	Appropriatness for MGP Residuals	Site Applicability
Soil	**Removal/Treatment**	Implementable in areas that have reasonableclearance/access. They are routinely used at former MGP sites	Could be used to remove/treat up to 25 % of soil impacts at the site. The remainder of the impacts are located on the railroad property and considered inaccessible.
	Containment	A cap could be placed to cover impacts in subsurface soil, and a barrier wall could be used to control the migration of mobile MGP residuals	Site data indicates that shallow soil (up to 8 ft bgs) is not impacted so an additional cap is not required to eliminate direct contact. Removal/treatment of subsurface soil will provide a permanent means to address the migration of MGP residauls.
	Elimination of Exposure	Engineering and institutional controls are implementable at the site and are routinely used at MGP site to eliminate exposure pathways	Engineering controls are not likely to provide significant benefit (see Containment above), but insitutional controls would be implementable with agreement by the property owners, and provide the ability to eliminate risk.
	Treatment at Point of Exposure	Not appropriate for media that pose a potential direct contact risk	Not Applicable
Groundwater [1]	**Removal/Treatment**	Could be applied at on-site and commercial off-site areas.	Groundwater is not currently used at the site. Removal or treatment would not provide a benefit given that the presence of residual soil impacts would likely re-contaminate water.
	Containment	Would require Removal/Treatment of groundwater to affect hydraulic control. See Removal/Treatment (above).	See Removal/Treatment (above)
	Elimination of Exposure	Engineering and Institutional Controls are implementable at the site and are routinely used at MGP site to eliminate exposure pathways	Engineering controls are not likely to provide significant benefit (see Removal/Treatment above), but insitutional controls would be implemntable with agreement by the property owners, and provide the ability to eliminate risk.
	Treatment at Point of Exposure	Not appropriate for media that pose a potential direct contact risk	Not Applicable

Notes:
1 Since the principal improvement in GW quality will result from the removal/treament of source material, i.e. impacted soil, respose action evaluations are limited to dissolved-phase impacts.

Table 5-1

Babylon Former Manufactured Gas Plant Site
Summary of Technology Screening for On-Site Area

Media	General Response Action	Technology/Approach	Ability to Meet Remedial Goals [1]		Preferred Technology
			Eliminate Risk	Contaminant Reduction	
Soil	Removal	Excavation - implementable, but will not be able to access impacts below a practical depth of 20 ft bgs	No -would not eliminate the direct contact risk in on-site areas since residual material would still be present at depths below 20 ft. bgs	Yes - excavation would remove approximately 70 % of on-site impacts, and less than 10% of the total soil impacts at the site..	Excavation - provides the ability to remove the maximum, practical quantity of impacted soil
		Product Recovery -recovery wells could be installed throughout the entire depth of impacts in the source area to reduce the concentrations of MGP by-product to its residual saturation point.	No - would not eliminate risk in on-site aeas since residuals would be left in place, but would eliminte the potential for off-site migration of MGP residuals.	Yes- contaminants would be removed and enhance conditions for the aerobic degradation of source material providing for a decrease in contaminants over time	Product Recovery -provides the ability to remove the most highly concentrated impacts from all depths of the on-site area
	Treatment	In-situ Oxidation - introduction of oxidant could reduce the strength of some source material, but effectiveness is highly dependent on subsurface conditions and the nature of the impacts.	No - would not eliminate the risk from direct contact in on-site areas or eliminate the source of dissolved-phase impacts.	Yes- would reduce contamination, but may not be effective in areas with saturated product.	Solidification - provides the ability to effectively contact impacted media at subsurface locations and would be effective at eliminating the potential for residuals to migrate off-site
		Solidification could access the entire depth of on-site impacts and reduce the permeability of site media to isolate source material.	No - would not eliminate risk since residual contamination would be left in-place, but would eliminate the potential for off-site migration of residuals	Yes- would not significantly reduce contaminant levels in soil, but would reduce the levels of dissolved-phase impacts	
	Elimination of Exposure	Site Management Plan - Restrictions on site activities would require agreement with property owners, but would be implementable	Yes - would eliminate the potential exposure pathway for human health risk.	No - would not reduce contaminant levels	Site Management Plan to address potential human health risk
Groundwater [2]	Treatment	Natural Attenuation - Naturally occuring bacateria in soil and groundwater can reduce dissolved-phase concentrations of MGP constituents	No - natural attenuation can provide a stable plume, but is not likely to eliminate potential risk	Yes - natural attenuation can reduce contamination to a steady-state condition	Natural Attenuation will provide an appropriate means to improve groundwater quality. Biological enhancement could be implemented in the future, if required.
		Biological Enhancement - Introduction of nutrients to facilitate aerobic biological processes and increase the rate of degradation	No - enhanced natural attenuation can provide a stable plume, but is not likely to eliminate potential risk	Yes - enhanaced natural attenuation can reduce contamination to a steady-state condition	
	Elimination of Exposure	Site Management Plan - Restrictions on site activities would require agreement with property owners, but would be implementable	Yes - would eliminate the potential exposure pathway	No - would not reduce contaminant levels	Site Management Plan to address potential human health risk

Notes:

1 Remedial Goals
Soil: -Eliminate the potential for direct contact with MGP residuals, and to the extent feasible reduce constituent concentrations that exceed CP-51 and Part 375 Soil Cleanup objectives for non-residential use
-Reduce MGP impacts that are adversely impacting GW quality to the extent feasible
GW: -Eliminate the potential for direct contact/use at locations having MGP constituent concentrations that exceed AWQSGVs

2 Since the principal improvement in GW quality will result from the removal/treament of source material, i.e. impacted soil, technology evaluations are limited to dissolved-phase impacts.

Table 5-2
Babylon Former Manufactured Gas Plant Site
Summary of Technology Screening for Off-Site Area

Media	General Response Action	Technology/Approach	Ability to Meet Remedial Goals [1]		Preferred Technology
			Eliminate Risk	Contaminant Reduction	
Soil	**Removal**	Excavation - implementable, but will not be able to access impacts below a practical depth of 20 ft bgs	No -would not eliminate the direct contact risk in accesible off-site areas since the most significant impacts below 20 ft. bgs	Yes - would remove contamination, but would not address the most significant impacts.	Product Recovery will provide the best means to reduce levels of contamination since the most significant impacts are located below the practical depth of excavation.
		Product Recovery -recovery wells could be installed throughout the entire depth of impacts in the source area to reduce the concentrations of MGP by-product to its residual saturation point.	No - would not eliminate risk in the accessible off-site areas, but would reduce the potentail for source material to migrate and provide an effective means to contain/remove residuals migrating from the LIRR property.	Yes- contaminants would be removed and enhance conditions for the aerobic degradation of source material providing for a decrease in contaminants over time	
	Treatment	In-situ Oxidation - introduction of oxidant could reduce the strength of some source material, but effectiveness is highly dependent on subsurface conditions and the nature of the impacts.	No - would not eliminate the risk from direct contact in off-site areas or eliminate the source of dissolved-phase impacts.	Yes- would reduce contamination, but may not be effective in areas with saturated product.	Treatment options would not provide an improvement in risk elimination/contaminant reduction over the preferred removal approach and would not provide an ability to remove contamination originating on the LIRR property.
		Solidification could access the entire depth of on-site impacts and reduce the permeability of site media to isolate source material.	No - would not eliminate risk since residual contamination would be left in-place, but would eliminate the potential for off-site migration of residuals	Yes- would not significantly reduce contaminant levels in soil, but would reduce the levels of dissolved-phase impacts	
	Elimination of Exposure	Site Management Plan - Restrictions on site activities would require agreement with property owners, but would be implementable	Yes - would eliminate the potential exposure pathway for human health risk.	No - would not reduce contaminant levels	Site Management Plan to address potential human health risk
Groundwater [2]	**Treatment**	Natural Attenuation - Naturally occuring bacateria in soil and groundwater can reduce dissolved-phase concentrations of MGP constituents	No - natural attenuation can provide a stable plume, but is not likely to eliminate potential risk	Yes - natural attenuation can reduce contamination to a steady-state condition	Natural Attenuation will provide an appropriate means to improve groundwater quality. Biological enhancement could be implemented in the future, if required.
		Biological Enhancement - Introduction of nutrients to facilitate aerobic biological processes and increase the rate of degradation	No - enhanced natural attenuation can provide a stable plume, but is not likely to eliminate potential risk	Yes - enhanaced natural attenuation can reduce contamination to a steady-state condition	
	Elimination of Exposure	Site Management Plan - Restrictions on site activities would require agreement with property owners, but would be implementable	Yes - would eliminate the potential exposure pathway	No - would not reduce contaminant levels	Site Management Plan to address potential human health risk

Notes:
1 Remedial Goals
Soil: -Eliminate the potential for direct contact with MGP residuals, and to the extent feasible reduce constituent concentrations that exceed CP-51 and Part 375 Soil Cleanup objectives for non-residential use
-Reduce MGP impacts that are adversely impacting GW quality to the extent feasible
GW: -Eliminate the potential for direct contact/use at locations having MGP constituent concentrations that exceed AWQSGVs
2 Since the principal improvement in GW quality will result from the removal/treament of source material, i.e. impacted soil, technology evaluations are limited to dissolved-phase impacts.

Table 6-1
Babylon Former MGP Site
Summary of Alternatives Evaluation

Objective/Media to be Addressed	**1** **No Action**	**2** **Removal of MGP Residuals using Recovery Wells, Natural Attentuation of Dissolved-Phase Impacts and Site Management Plans**	**3** **Treatment of On-Site soil, Removal of Off-Site Residuals using Recovery Wells, Natural Attentuation of Dissolved-Phase Impacts and Site Management Plans**	**4** **Removal of On-Site soil, Removal of Off-Site Residuals using Recovery Wells, Natural Attentuation of Dissolved-Phase Impacts and Site Management Plans**	**5** **Restoration of On-Site and Accessible Off-Site Properties to Unrestricted Conditions**
On-Site Area					
Exposure Pathway Elimination	No Activity	Product Recovery, Site Management Plan	Treatment, Site Management Plan	Excavation of Impacted Soil, Site Management Plan	Excavation of Impacted Soil
Reduction of Contaminants - Impacted Soil	No Activity	Product Recovery	Solidification of Impacted Soil	Excavation of Shallow Soil Impacts	Excavation of Impacted Soil
- Groundwater	No Activity	Source Removal and Natural Attenuation	Source Treatment and Natural Attenuation	Source Removal and Natural Attenuation	Source Removal, Natural Attenuation
Off-Site Area (Accessible)					
Exposure Pathway Elimination	No Activity	Site Management Plan	Site Management Plan	Site Management Plan	Source Removal, Natural Attenuation
Reduction of Contaminants - Impacted Soil	No Activity	Product Recovery	Product Recovery	Product Recovery	Source Removal
- Groundwater	No Activity	Source Removal and Natural Attenuation	Source Removal and Natural Attenuation	Source Removal and Natural Attenuation	Source Removal and Natural Attenuation
1 Overall Protection of Public Health and Environment	**Low** - does not address potential risks	**Medium** - controls potential human health risk, but relies on long-term institutional controls to eliminate exposure pathways	**Medium** - controls potential human health risk, but relies on long-term institutional controls to eliminate exposure pathways	**Medium** - controls potential human health risk, but relies on long-term institutional controls to eliminate exposure pathways	**Medium** - controls potential human health risk, but relies on long-term institutional controls on th LIRR property to eliminate exposure pathways
2 Compliance with Standards, Criteria and Guidance	**Low** - does not achieve the remedial action objectives and does not result in site-wide compliance with SCGs	**Medium** - achieves the Remedial Goals. Will achieve Restricted Residential Soil Cleanup Objectives in vadose zone, but will not achieve SCGs for direct contact with soil in saturated zone or soil under the LIRR Right of Way. Part 375 soil criteria for GW protection would not be applicable due to use restriction.	**Medium** - achieves the Remedial Goals. Will achieve Restricted Residential Soil Cleanup Objectives in vadose zone, but will not achieve SCGs for direct contact with soil in saturated zone or soil under the LIRR Right of Way. Part 375 soil criteria for GW protection would not be applicable due to use restriction.	**Medium** - achieves the Remedial Goals. Will achieve Restricted Residential Soil Cleanup Objectives in vadose zone, but will not achieve SCGs for direct contact with soil in saturated zone or soil under the LIRR Right of Way. Part 375 soil criteria for GW protection would not be applicable due to use restriction.	**Medium** - achieves the Remedial Goals. Will achieve Restricted Residential Soil Cleanup Objectives in vadose zone, but will not achieve SCGs for direct contact with soil in saturated zone or soil under the LIRR Right of Way. Part 375 soil criteria for GW protection would not be applicable due to use restriction.
3 Long-term Effectiveness and Permanence	**Low** - contaminants will remain in place with no means to control potential exposure pathways	**High** - approaches are routinely used at MGP sites, and restrictions to control potential exposure pathways are consistent with current and future site use.	**High** - approaches are routinely used at MGP sites, and restrictions to control potential exposure pathways are consistent with current and future site use.	**High** - approaches are routinely used at MGP sites, and restrictions to control potential exposure pathways are consistent with current and future site use.	**High** - approaches are routinely used at MGP sites, the depth of impacts on the LIRR propert will minimize the potnetail for direct contact, and restrictions to control potential exposure pathways are consistent with current and future site use.
4 Reduction of Toxicity, Mobility or Volume	**Low** - provides no significant reduction in contaminant levels	**Medium -** will provide for the collection/removal of the most significant impacts (mobile product), control the migration of residuals, and reduce dissolved-phase impacts through biological processes.	**Medium -** will immobilize on-site impacts, remove product from off-site areas and reduce dissolved-phase impacts thrpugh natural biological processes.	**Medium -** will eliminate 70 % of on-site impacts, but will not affect the potential mobility of deeper impacts (below 20 ft. bgs). It will remove product from off-site areas and reduce dissolved-phase impacts thrpugh natural biological processes.	**Medium** - the approach will address the impacts from the on-site and accessible off-site areas, but will not address the majority of site impacts (75% of site total)that are located on the LIRR property. Product recovery will remove the most significant impacts (mobile product0 from the LIRR property
5 Short-term Effectiveness	**High** - no intrusive site work	**High** - the alteranive involves a minimum of intrusive site work.	**Medium** - provides short-term risks (noise, odor, dust) that can be controlled.	**Low** - noise, odor, dust may be difficult to control given the size of the site and limited potentail to use a temporary containment structure.	**Low** - noise, odor, dust may be difficult to control given the size of the sites and limited potential to use temporary containment structures.
6 Implementability	**High** - no coordination with, or disruption to stakeholders	**High** - implementation would require limited coordination with site owners and would provide minimal disruption.	**High** - alternatives have been implemented at similar sites, achieved the expected results and should be acceptable to the property owners.	**High** - alternatives have been implemented at similar sites, achieved the expected results and should be acceptable to the property owners.	**Low** - the off-site property owner is not likely to accept the levels of disruption and extended duration of the remedial activities.
Duration					
Implementation	NA	1 month	approximately 3 months	up to 3 months	up to 4 months
Monitoring	NA	5 years	5 years	5 years	2 years
7 Cost Effectiveness	Low	Good	High	Medium	Low
Estimated Cost (including contingency)	No Cost	$600,000	$1,740,000	$3,050,000	$10,235,000
Capitol Costs	No Capitol Cost	$238,000	$1,053,000	$2,008,000	$7,734,000
Annual O & M Costs	No O&M Cost	$67,200	$62,400	$62,400	$62,400
8 Land Use	**High** - will maintain the use of the property and surroundings for their current and intended purposes	**High** - will maintain the use of the property and surroundings for their current and intended purposes	**High** - will maintain the use of the property and surroundings for their current and intended purposes. Vadose zone soil will meet Restricted Residential Soil Cleanup Objectives	**High** - will maintain the use of the property and surroundings for their current and intended purposes. Vadose zone soil will meet Restricted Residential Soil Cleanup Objectives	**High** - will maintain the use of the property and surroundings for their current and intended purposes. Vadose zone soil will meet Restricted Residential Soil Cleanup Objectives

Notes:

Figures

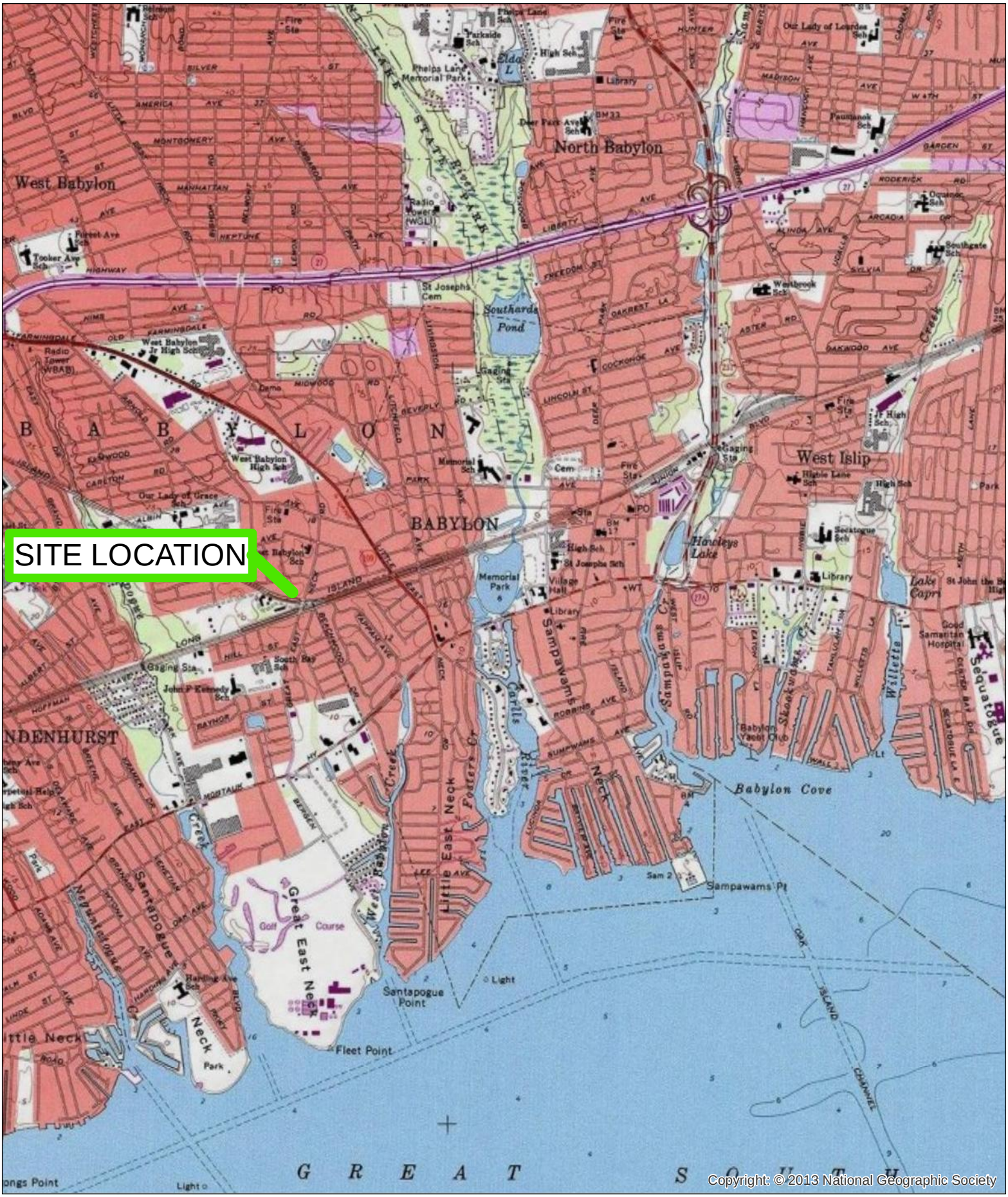

Figure:	Site Locus Babykon Former MGP Site West Babylon, New York		
1-1	Scale:	Date:	Project Number:
	As Shown	01/2014	6028769.2000

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2 TECHNOLOGY PARK DRIVE
WESTFORD, MA 01886
PHONE: (978) 589-3000
WEB: WWW.AECOM.COM

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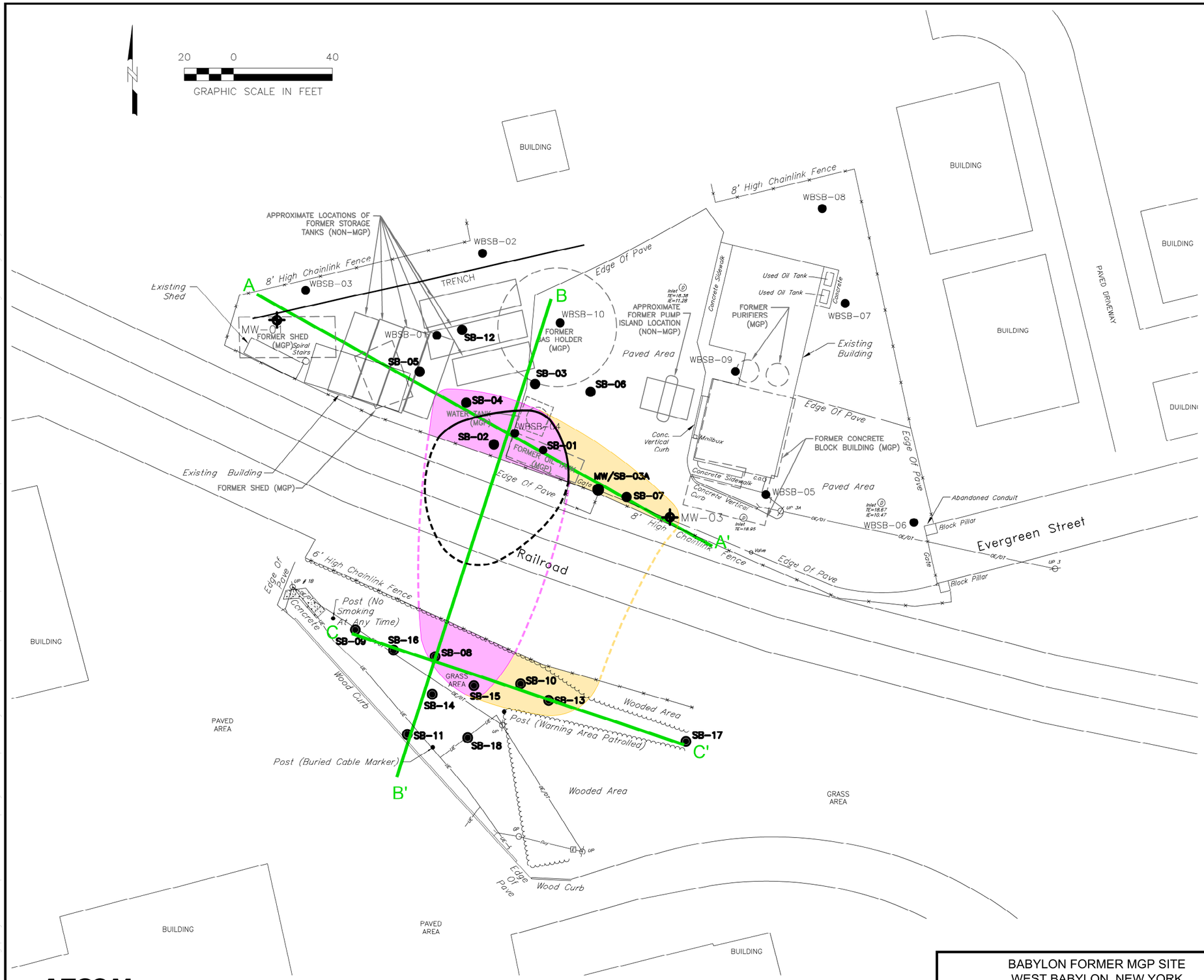
1 inch = 2,500 feet

0 2,500 5,000 10,000
Feet

Path: J:\Rem_Eng\Project Files\National Grid\Babylon Site\7.0 Project Documents\GIS\2013-Site Loc.mxd



LEGEND

- PSA SOIL SAMPLE LOCATION
- RI SOIL SAMPLE LOCATION
- RI SOIL/GROUNDWATER SAMPLE LOCATION
- MONITORING WELL LOCATION
- FORMER MGP STRUCTURE
- FORMER FUEL TANK STRUCTURE
- CROSS-SECTION LOCATION LINE
- UTILITY POLE
- DRAIN
- CLEAN OUT
- MAILBOX
- VALVE
- GUY WIRE
- UNDERGROUND ELECTRIC
- OVERHEAD ELECTRIC/TELEPHONE
- TREE LINE
- ELECTRIC BOX
- POST
- MGP CONSTITUENT CONCENTRATIONS GREATER THAN NYSDEC COMMERCIAL CRITERIA
- VISIBLE EVIDENCE OF IMPACTS - LENSES
- VISIBLE EVIDENCE OF IMPACTS - STRINGERS/BLEBS
- *DASHED BOUNDARIES WHERE INFERRED

CONCENTRATIONS ABOVE COMMERCIAL CLEANUP CRITERIA

LOCATION	INTERVAL FT/BGS	TOTAL PAHs	TOTAL BTEX
SB-01	18-20	3,400	
SB-02	8-10	2,200	190
	20-25	4,800	
SB-07	6.8-8.5	640	
WBSB-4	8-12	523	

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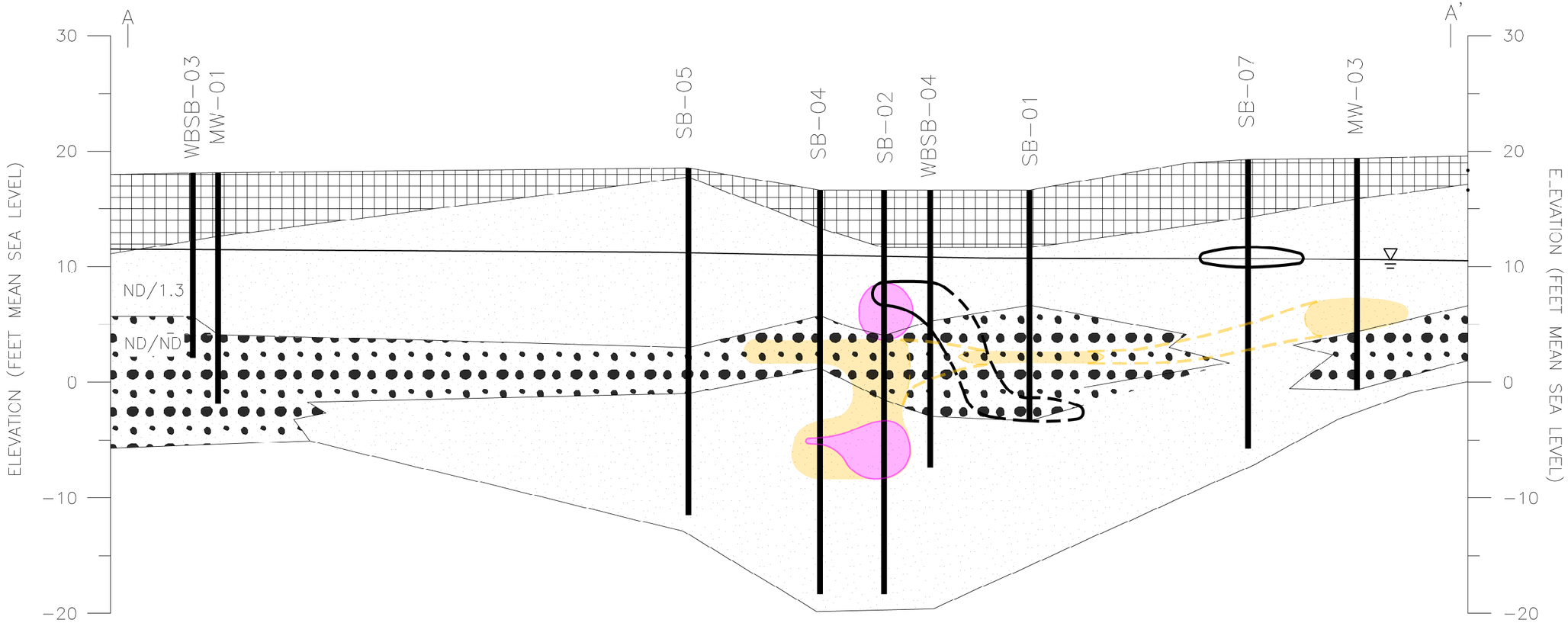
BABYLON FORMER MGP SITE
WEST BABYLON, NEW YORK
60287690.200

DATE: 01/29/2014 | DRWN: BcV/C-MA

MGP RESIDUAL IMPACTS IN SOIL AND CROSS SECTION LOCATIONS

FIGURE 4-1



LEGEND

- FINE SAND/SILT MIX WITH VARYING AMOUNTS OF GRAVEL. OBSERVED FILL MATERIALS INCLUDE BRICK, ASPHALT, CONCRETE, AND COAL FRAGMENTS
- FINE TO COARSE SAND WITH VARYING AMOUNTS OF FINE TO COARSE GRAVEL
- FINE TO COARSE GRAVEL, SOME MEDIUM TO COARSE SAND
- SOIL BORING
- SB-01 — SB: SOIL BORING; 01: BORING ID
- GROUNDWATER TABLE (APPROXIMATE)
- MGP CONSTITUENT CONCENTRATIONS GREATER THAN NYSDEC COMMERCIAL CRITERIA
- VISIBLE EVIDENCE OF IMPACTS - LENSES
- VISIBLE EVIDENCE OF IMPACTS - STRINGERS/BLEBS
- * DASHED BOUNDARIES WHERE INFERRED

NOTES:

1. VERTICAL SCALE: 2X
2. GEOLOGIC CONTACTS DASHED WHERE INFERRED.

CONCENTRATIONS ABOVE COMMERCIAL CLEANUP CRITERIA

LOCATION	INTERVAL FT/BGS	TOTAL PAHs	TOTAL BTEX
SB-01	18-20	3,400	
SB-02	8-10	2,200	190
	20-25	4,800	
SB-07	6.8-8.5	640	
WBSB-4	8-12	523	

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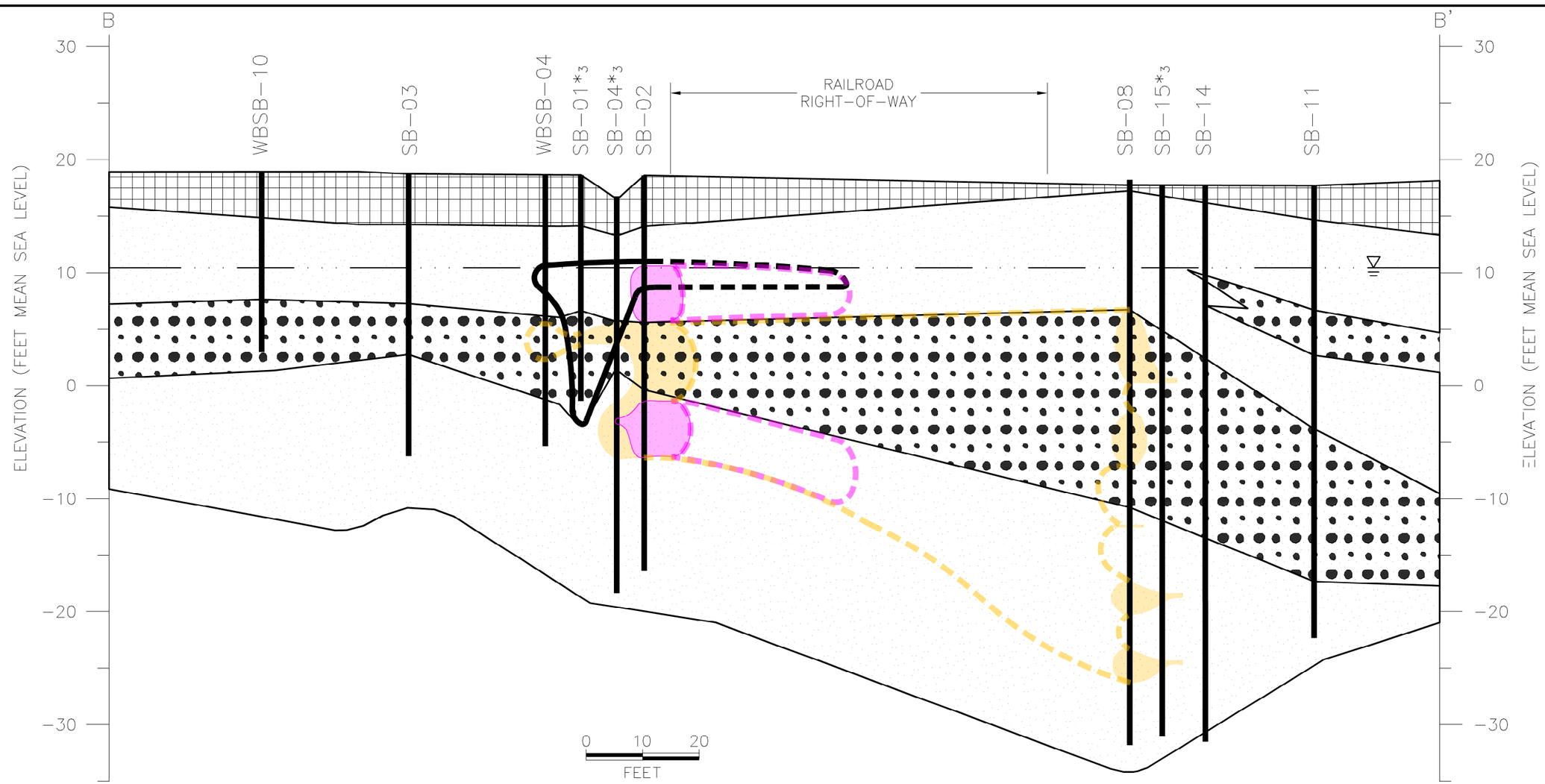
60287690.200

DATE: 01/29/2014 | DRWN: BcV/C-MA

MGP RESIDUAL IMPACTS IN SOIL CROSS SECTION A-A'

FIGURE 4-1a



LEGEND

- FINE SAND/SILT MIX WITH VARYING AMOUNTS OF GRAVEL. OBSERVED FILL MATERIALS INCLUDE BRICK, ASPHALT, CONCRETE, AND COAL FRAGMENTS
- FINE TO COARSE SAND WITH VARYING AMOUNTS OF FINE TO COARSE GRAVEL
- FINE TO COARSE GRAVEL, SOME MEDIUM TO COARSE SAND
- SOIL BORING
- SB-02 — SB: SOIL BORING; 02: BORING ID
- GROUNDWATER TABLE (APPROXIMATE)
- MGP CONSTITUENT CONCENTRATIONS GREATER THAN NYSDEC COMMERCIAL CRITERIA
- VISIBLE EVIDENCE OF IMPACTS - LENSES
- VISIBLE EVIDENCE OF IMPACTS - STRINGERS/BLEBS
- * DASHED BOUNDARIES WHERE INFERRED

NOTES:

1. VERTICAL SCALE: 2X
2. GEOLOGIC CONTACTS DASHED WHERE INFERRED.
3. SB-1 & SB-15 PROJECTED >15' TO CROSS SECTION

CONCENTRATIONS ABOVE COMMERCIAL CLEANUP CRITERIA

LOCATION	INTERVAL FT/BGS	TOTAL PAHs	TOTAL BTEX
SB-01	18-20	3,400	
SB-02	8-10	2,200	190
	20-25	4,800	
SB-07	6.8-8.5	640	
WBSB-4	8-12	523	

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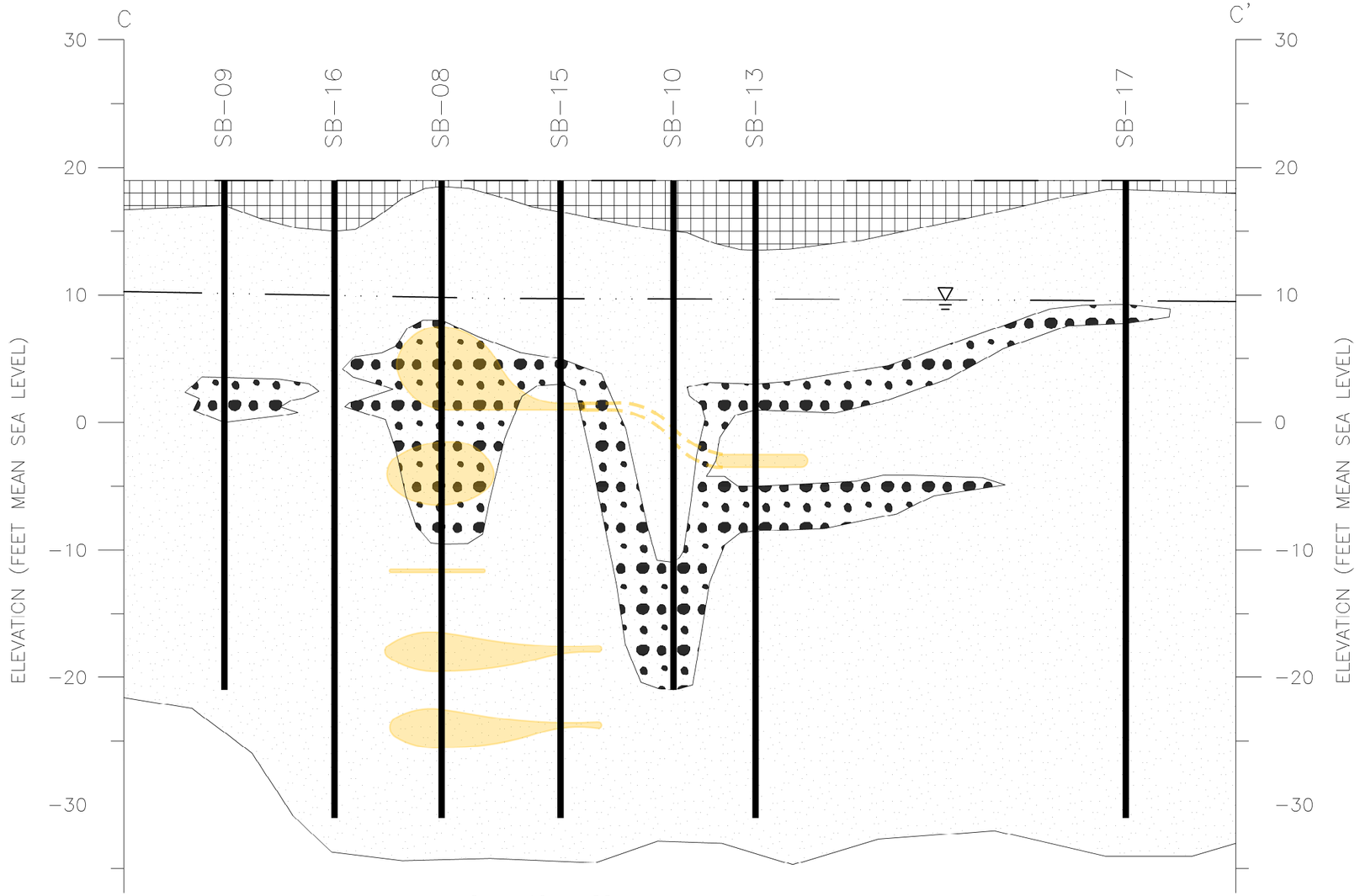
BABYLON FORMER MGP SITE
WEST BABYLON, NEW YORK
60287690.200

DATE: 01/29/2014 | DRWN: BcV/C-MA

MGP RESIDUAL IMPACTS IN SOIL CROSS SECTION B-B'

FIGURE 4-1b



NOTES:

1. VERTICAL SCALE: 2X
2. GEOLOGIC CONTACTS DASHED WHERE INFERRED.

LEGEND

- FINE SAND/SILT MIX WITH VARYING AMOUNTS OF GRAVEL. OBSERVED FILL MATERIALS INCLUDE BRICK, ASPHALT, CONCRETE, AND COAL FRAGMENTS
- FINE TO COARSE SAND WITH VARYING AMOUNTS OF FINE TO COARSE GRAVEL
- FINE TO COARSE GRAVEL, SOME MEDIUM TO COARSE SAND
- SOIL BORING
- SB-01 — SB: SOIL BORING; 01: BORING ID
- GROUNDWATER TABLE (APPROXIMATE)
- VISIBLE EVIDENCE OF IMPACTS - STRINGERS/BLEBS
- * DASHED BOUNDARIES WHERE INFERRED

CONCENTRATIONS ABOVE COMMERCIAL CLEANUP CRITERIA

LOCATION	INTERVAL FT/BGS	TOTAL PAHs	TOTAL BTEX
SB-01	18-20	3,400	
SB-02	8-10	2,200	190
	20-25	4,800	
SB-07	6.8-8.5	640	
WBSB-4	8-12	523	

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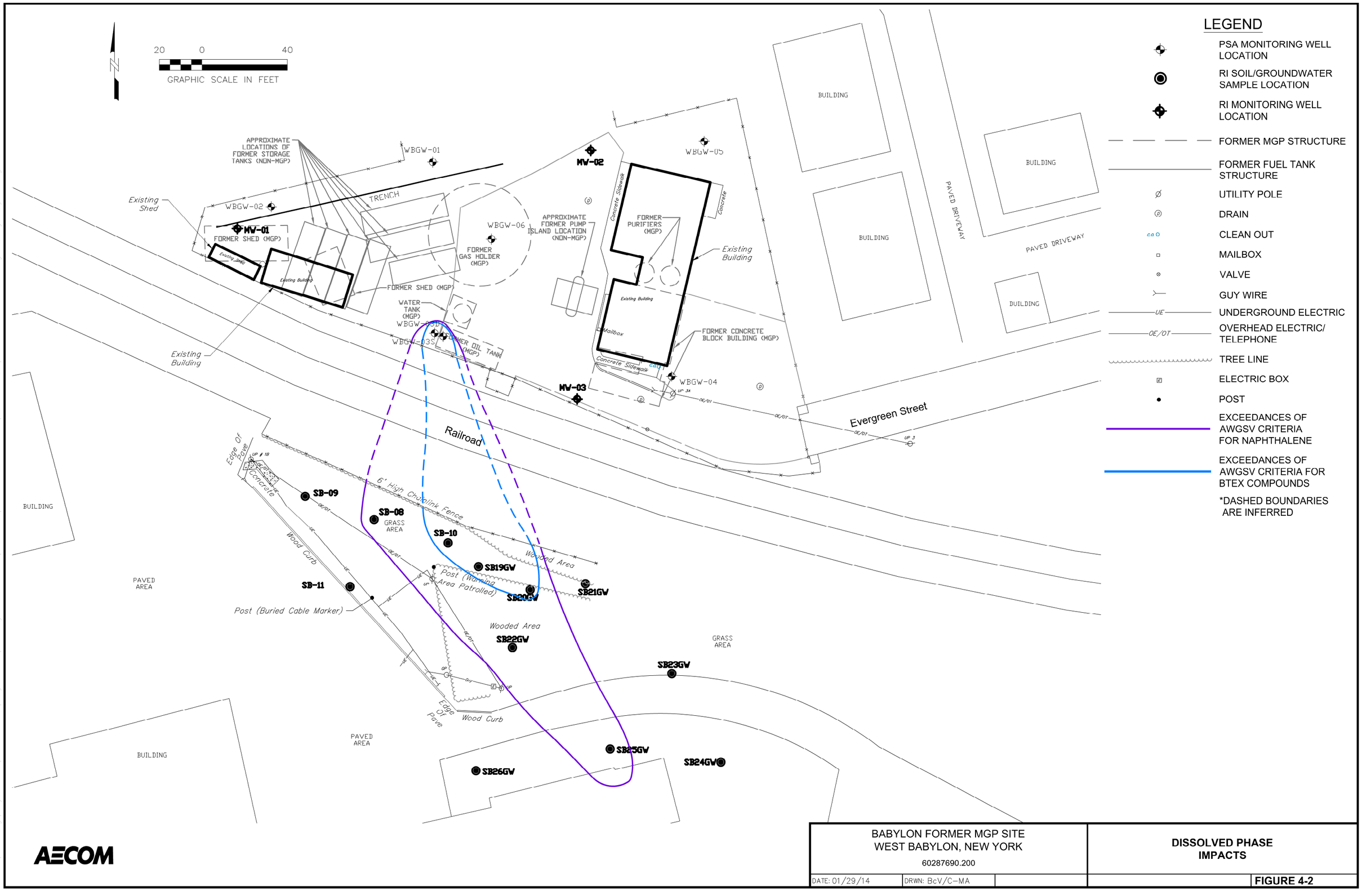
WEST BABYLON, NEW YORK
60287690.200

DATE: 01/29/2014 | DRWN: BcV/C-MA

MGP RESIDUAL IMPACTS IN SOIL CROSS SECTION C-C'

FIGURE 4-1c



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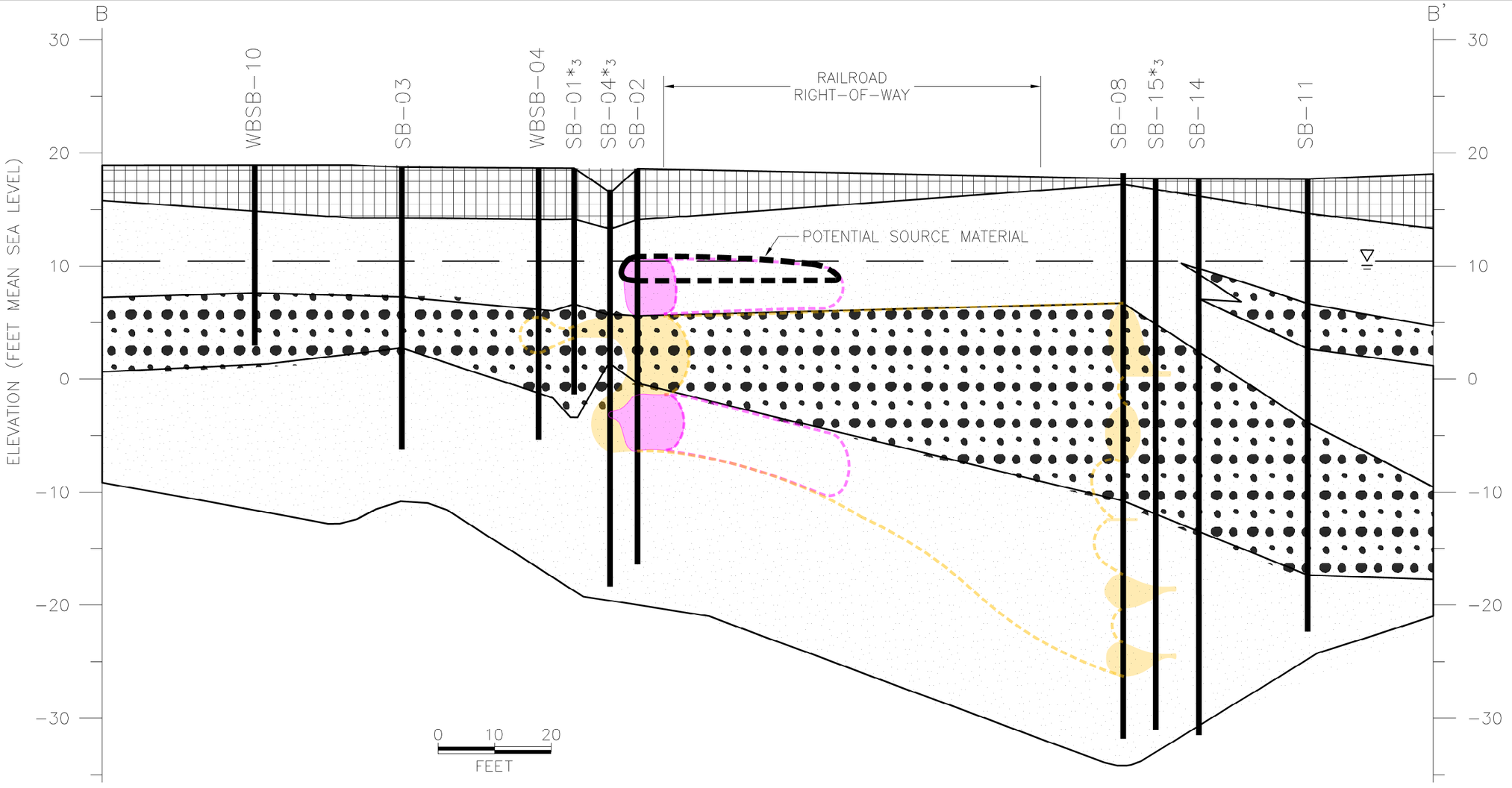
BABYLON FORMER MGP SITE WEST BABYLON, NEW YORK 60287690.200			**DISSOLVED PHASE IMPACTS**
DATE: 01/29/14	DRWN: BcV/C-MA		**FIGURE 4-2**



LEGEND

- FINE SAND/SILT MIX WITH VARYING AMOUNTS OF GRAVEL. OBSERVED FILL MATERIALS INCLUDE BRICK, ASPHALT, CONCRETE, AND COAL FRAGMENTS
- FINE TO COARSE SAND WITH VARYING AMOUNTS OF FINE TO COARSE GRAVEL
- FINE TO COARSE GRAVEL, SOME MEDIUM TO COARSE SAND
- SOIL BORING
- SB-02 — SB: SOIL BORING; 02: BORING ID
- GROUNDWATER TABLE (APPROXIMATE)
- POTENTIAL SOURCE MATERIAL MGP CONSTITUENT CONCENTRATIONS GREATER THAN NYSDEC MIGRATION TO GROUNDWATER CRITERIA
- VISIBLE EVIDENCE OF IMPACTS - LENSES
- VISIBLE EVIDENCE OF IMPACTS - STRINGERS/BLEBS
- * DASHED BOUNDARIES WHERE INFERRED

NOTES:

1. VERTICAL SCALE: 2X
2. GEOLOGIC CONTACTS DASHED WHERE INFERRED.

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BABYLON FORMER MGP SITE WEST BABYLON, NEW YORK 60287690.200			**LOCATION OF POTENTIAL SOURCE MATERIAL (CROSS SECTION B-B')**
DATE: 01/29/2014	DRWN: BcV/C-MA		**FIGURE 4-3**

20 0 40

GRAPHIC SCALE IN FEET

N

BUILDING

8' High Chainlink Fence

WBSB-02

WBSB-03

TRENCH

WBSB-01

SB-12

SB-05

Existing Buildings

Edge Of Pave

WBSB-10

FORMER GAS HOLDER (MGP)

Paved Area

SB-03

SB-06

Inlet TE=15.36 IE=11.28

Concrete Sidewalk

FORMER PURIFIERS (MGP)

WBSB-08

WBSB-07

Existing Building

WBSB-09

AREA FOR SOLIDIFICATION (8FT BGS UP TO 25FT BGS)

Conc. Vertical Curb

SB-04

WATER TANK (MGP)

SB-02

WBSB-04

SB-01

FORMER OIL TANK (MGP)

MW/SB-03A

SB-07

Gate

Edge Of Pave

8' High Chainlink Fence

Concrete Vertical Curb

WBSB-05

Paved Area

Inlet TE=18.67 IE=10.47

Inlet TE=18.95

WBSB-06

FORMER CONCRETE BLOCK BUILDING (MGP)

Edge Of Pave

Gate

Evergreen Street

BUILDING

BUILDING

BUILDING

PAVED DRIVEWAY

6' High Chainlink Fence

Edge Of Pave

Concrete

SB-09

SB-16

SB-08

SB-10

GRASS AREA

SB-15

SB-14

SB-11

SB-18

SB-17

Wood Curb

Railroad

Edge Of Pave

Wood Curb

PAVED AREA

GRASS AREA

BUILDING

PAVED AREA

BUILDING

BUILDING

LEGEND

- PSA SOIL SAMPLE LOCATION
- RI SOIL SAMPLE LOCATION
- RI SOIL/GROUNDWATER SAMPLE LOCATION
- TYPICAL RECOVERY WELL LOCATION
- FORMER MGP STRUCTURE
- FORMER FUEL TANK STRUCTURE
- UTILITY POLE
- DRAIN
- CLEAN OUT
- FENCE
- VALVE
- GUY WIRE
- UNDERGROUND ELECTRIC
- OVERHEAD ELECTRIC/TELEPHONE
- TREE LINE
- ELECTRIC BOX
- POST
- AREA FOR SOLIDIFICATION
- MGP CONSTITUENT CONCENTRATIONS GREATER THAN NYSDEC COMMERCIAL CRITERIA
- VISIBLE EVIDENCE OF IMPACTS - LENSES
- VISIBLE EVIDENCE OF IMPACTS - STRINGERS/BLEBS
- * DASHED BOUNDARIES WHERE INFERRED

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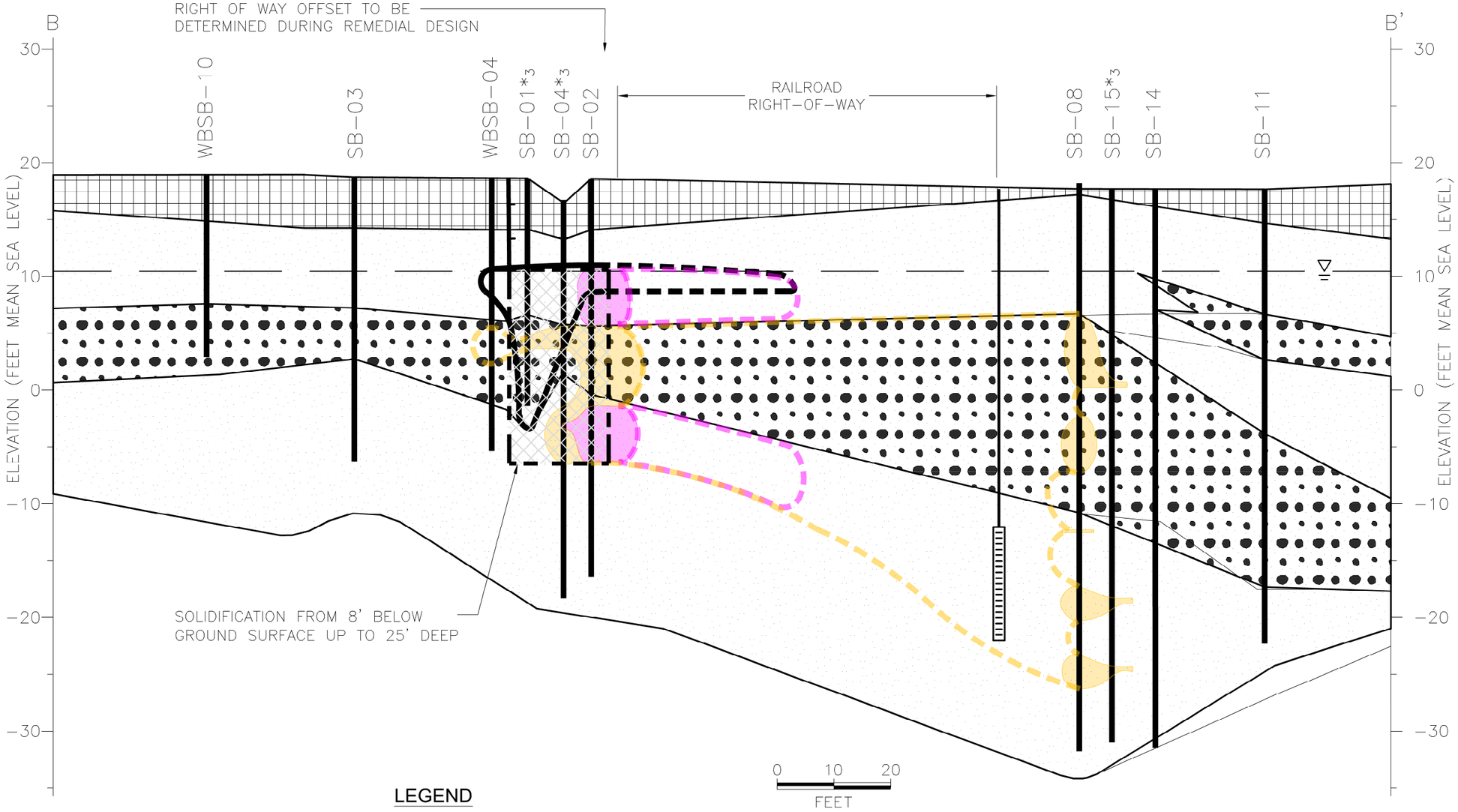
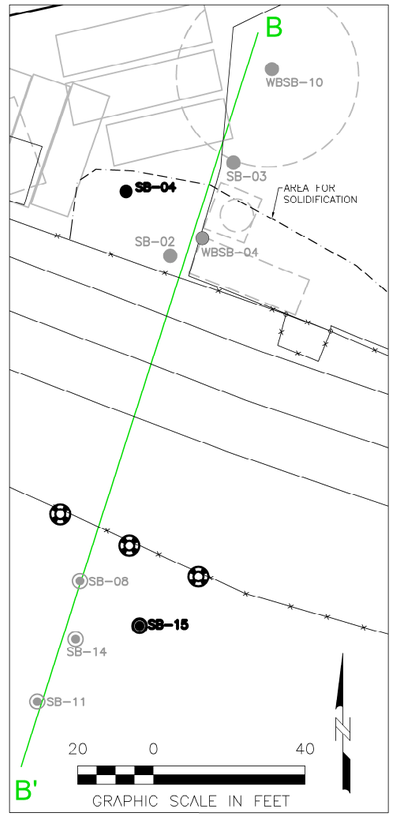
BABYLON FORMER MGP SITE
WEST BABYLON, NEW YORK
60287690.200

RECOMMENDED REMEDY (PLAN VIEW)

DATE: 01/29/14 | DRWN: BcV/C-MA | **FIGURE 7-1**





SECTION LOCATION

LEGEND

- FINE SAND/SILT MIX WITH VARYING AMOUNTS OF GRAVEL. OBSERVED FILL MATERIALS INCLUDE BRICK, ASPHALT, CONCRETE, AND COAL FRAGMENTS
- FINE TO COARSE SAND WITH VARYING AMOUNTS OF FINE TO COARSE GRAVEL
- FINE TO COARSE GRAVEL, SOME MEDIUM TO COARSE SAND
- EXISTING SOIL BORING
- SB-02 — SB: SOIL BORING; 02: BORING ID
- GROUNDWATER TABLE (APPROXIMATE)
- TYPICAL RECOVERY WELL AND SCREENED INTERVAL
- TYPICAL RECOVERY WELL LOCATION (PLAN VIEW)
  NOTE: RECOVERY WELL LOCATIONS TO BE DETERMINED DURING REMEDIAL DESIGN
- PROPOSED SOLIDIFICATION
- MGP CONSTITUENT CONCENTRATIONS GREATER THAN NYSDEC COMMERCIAL CRITERIA
- VISIBLE EVIDENCE OF IMPACTS - LENSES
- VISIBLE EVIDENCE OF IMPACTS - STRINGERS/BLEBS
- * DASHED BOUNDARIES WHERE INFERRED

NOTES:

1. VERTICAL SCALE: 2X
2. GEOLOGIC CONTACTS DASHED WHERE INFERRED.

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BABYLON FORMER MGP SITE WEST BABYLON, NEW YORK 60287690.200			**RECOMMENDED REMEDY (CROSS SECTION B-B')**
DATE: 01/29/2014	DRWN: BcV/C-MA		**FIGURE 7-2**

Appendix A

Summary of Soil Results

Table 1

Results for Volatile Organic Compounds in Surface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-01		SB-02		SB-03		SB-04	
Sample ID	of Public Health	SB-01-0-2		SB-02-0-2		SB-03-0-2		SB-04-0-2	
Lab Sample No.	Commercial	A1136-01		A1136-03RE		A1136-06		A1168-12	
Sampling Date	Soil Cleanup	1/13/2009		1/14/2009		1/14/2009		1/14/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
1,1,1-Trichloroethane	500	0.0049	U	0.0052	UJ	0.0049	U	0.0052	U
1,1,2,2-Tetrachloroethane	NC	0.0046	UJ	0.0049	UJ	0.0046	U	0.0049	U
1,1,2-Trichloroethane	NC	0.0032	U	0.0034	UJ	0.0032	U	0.0034	U
1,1,2-Trichlorotrifluoroethane	NC	0.0088	U	0.0093	UJ	0.0088	U	0.0093	U
1,1-Dichloroethane	240	0.0058	U	0.0062	UJ	0.0058	U	0.0062	U
1,1-Dichloroethene	500	0.0052	U	0.0055	UJ	0.0052	U	0.0055	U
1,2,4-Trichlorobenzene	NC	0.0034	UJ	0.0036	UJ	0.0034	U	0.0036	U
1,2-Dibromo-3-Chloropropane	NC	0.0053	UJ	0.0056	UJ	0.0053	U	0.0056	U
1,2-Dibromoethane	NC	0.0043	J	0.0045	UJ	0.0043	U	0.0045	U
1,2-Dichlorobenzene	500	0.0045	UJ	0.0047	UJ	0.0045	U	0.0047	U
1,2-Dichloroethane	30	0.0043	U	0.0045	UJ	0.0043	U	0.0045	U
1,2-Dichloropropane	NC	0.0049	U	0.0052	UJ	0.0049	U	0.0052	U
1,3-Dichlorobenzene	280	0.0035	UJ	0.0037	UJ	0.0035	U	0.0037	U
1,4-Dichlorobenzene	130	0.0040	UJ	0.0042	UJ	0.0040	U	0.0042	U
2-Butanone	NC	0.026	U	0.028	UJ	0.026	U	0.028	U
2-Hexanone	NC	0.023	U	0.024	UJ	0.023	U	0.024	U
4-Methyl-2-Pentanone	NC	0.020	U	0.021	UJ	0.020	U	0.021	U
Acetone	500	0.089	U	0.12	J	0.089	U	0.094	U
Benzene	44	0.011	J	0.015	J	0.0038	U	0.0040	U
Bromodichloromethane	NC	0.0036	U	0.0039	UJ	0.0036	U	0.0039	U
Bromoform	NC	0.0042	U	0.0045	UJ	0.0042	U	0.0045	U
Bromomethane	NC	0.011	U	0.011	UJ	0.011	U	0.011	UJ
Carbon Disulfide	NC	0.0056	U	0.0059	UJ	0.0056	U	0.0060	U
Carbon Tetrachloride	22	0.0031	U	0.0032	UJ	0.0031	U	0.0033	U
Chlorobenzene	500	0.0040	U	0.0042	UJ	0.0040	U	0.0042	U
Chloroethane	NC	0.0096	U	0.010	UJ	0.0096	U	0.010	U
Chloroform	350	0.0046	U	0.0049	UJ	0.0046	U	0.0049	U
Chloromethane	NC	0.0069	U	0.0073	UJ	0.0069	U	0.0073	U
cis-1,2-Dichloroethene	500	0.0067	U	0.0071	UJ	0.0067	U	0.0071	U
cis-1,3-Dichloropropene	NC	0.0035	U	0.0037	UJ	0.0035	U	0.0037	U

Table 1

Results for Volatile Organic Compounds in Surface Soil

Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-01		SB-02		SB-03		SB-04	
Sample ID	of Public Health	SB-01-0-2		SB-02-0-2		SB-03-0-2		SB-04-0-2	
Lab Sample No.	Commercial	A1136-01		A1136-03RE		A1136-06		A1168-12	
Sampling Date	Soil Cleanup	1/13/2009		1/14/2009		1/14/2009		1/14/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Cyclohexane	NC	0.0053	U	0.0056	UJ	0.0053	U	0.0056	U
Dibromochloromethane	NC	0.0034	U	0.0036	UJ	0.0034	U	0.0036	U
Dichlorodifluoromethane	NC	0.010	U	0.011	UJ	0.010	U	0.011	U
Ethyl Benzene	390	0.0042	U	0.0044	UJ	0.0042	U	0.0044	U
Isopropylbenzene	NC	0.0043	UJ	0.0045	UJ	0.0043	U	0.0045	U
Methyl Acetate	NC	0.0088	U	0.0093	UJ	0.0088	U	0.0093	U
Methyl tert-butyl Ether	500	0.0046	U	0.0049	UJ	0.0046	U	0.0049	U
Methylcyclohexane	NC	0.0043	U	0.0046	UJ	0.0043	U	0.0046	U
Methylene Chloride	500	0.013	U	0.013	UJ	0.013	U	0.022	J
Styrene	NC	0.0032	U	0.0034	UJ	0.0032	U	0.0034	U
Tetrachloroethene	150	0.0065	U	0.0068	UJ	0.0065	U	0.0068	U
Toluene	500	0.0046	U	0.0048	UJ	0.0046	U	0.0049	U
trans-1,2-Dichloroethene	500	0.0064	U	0.0068	UJ	0.0064	U	0.0068	U
t-1,3-Dichloropropene	NC	0.0044	U	0.0046	UJ	0.0044	U	0.0046	U
Trichloroethene	200	0.0038	U	0.0040	UJ	0.0038	U	0.0040	U
Trichlorofluoromethane	NC	0.0062	U	0.0066	UJ	0.0062	U	0.0066	U
Vinyl Chloride	13	0.0072	U	0.0076	UJ	0.0072	U	0.0076	U
m/p-Xylenes	500*	0.0097	U	0.010	UJ	0.0097	U	0.010	U
o-Xylene	500*	0.0040	U	0.0042	UJ	0.0040	U	0.0042	U
Total VOCs		0.011		0.14		ND		0.022	
Total BTEX		0.011		0.015		ND		ND	

Notes:

U - Non-detect based on data validation.

J - Estimated based on data validation.

R - Rejected based on data validation.

-- = Data rejected based on data calidation.

NC - No criteria.

ND - Not detected.

* - criteria is for total xylene.

NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.

SB-01-0-2: SB = Soil Boring, 01 = Boring ID, 0-2 = 0 to 2 inches bgs.

Data reported in number of significant figures reported by the laboratory.

Table 1

Results for Volatile Organic Compounds in Surface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-05		SB-06		SB-07		SB-08	
Sample ID	of Public Health	SB-05-0-2		SB-06-0-2		SB-07-0-2		SB-08-0-2	
Lab Sample No.	Commercial	A1168-02		A1168-05		A1168-08		A1208-01	
Sampling Date	Soil Cleanup	1/15/2009		1/15/2009		1/15/2009		1/20/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
1,1,1-Trichloroethane	500	0.0052	U	0.0050	U	0.0050	U	0.0055	U
1,1,2,2-Tetrachloroethane	NC	0.0048	U	0.0046	U	0.0047	U	0.0052	U
1,1,2-Trichloroethane	NC	0.0033	U	0.0032	U	0.0032	U	0.0035	U
1,1,2-Trichlorotrifluoroethane	NC	0.0091	U	0.0088	U	0.0088	U	0.0098	U
1,1-Dichloroethane	240	0.0061	U	0.0058	U	0.0059	U	0.0065	U
1,1-Dichloroethene	500	0.0054	U	0.0052	U	0.0053	U	0.0058	U
1,2,4-Trichlorobenzene	NC	0.0036	U	0.0034	U	0.0035	U	0.0038	U
1,2-Dibromo-3-Chloropropane	NC	0.0055	U	0.0053	U	0.0054	U	0.0059	U
1,2-Dibromoethane	NC	0.0045	U	0.0043	U	0.0043	U	0.0048	U
1,2-Dichlorobenzene	500	0.0047	U	0.0045	U	0.0045	U	0.0050	U
1,2-Dichloroethane	30	0.0045	U	0.0043	U	0.0043	U	0.0048	U
1,2-Dichloropropane	NC	0.0051	U	0.0049	U	0.0049	U	0.0055	U
1,3-Dichlorobenzene	280	0.0036	U	0.0035	U	0.0035	U	0.0039	U
1,4-Dichlorobenzene	130	0.0042	U	0.0040	U	0.0041	U	0.0045	U
2-Butanone	NC	0.027	U	0.026	U	0.026	U	0.029	U
2-Hexanone	NC	0.024	U	0.023	U	0.023	U	0.025	U
4-Methyl-2-Pentanone	NC	0.021	U	0.020	U	0.020	U	0.022	U
Acetone	500	0.092	U	0.089	U	0.090	U	0.099	U
Benzene	44	0.0039	U	0.0038	U	0.0038	U	0.0042	U
Bromodichloromethane	NC	0.0038	U	0.0037	U	0.0037	U	0.0041	U
Bromoform	NC	0.0044	U	0.0042	U	0.0043	U	0.0047	U
Bromomethane	NC	0.011	UJ	0.011	UJ	0.011	U	0.012	U
Carbon Disulfide	NC	0.0059	U	0.0056	U	0.0057	U	0.0063	U
Carbon Tetrachloride	22	0.0032	U	0.0031	U	0.0031	U	0.0034	U
Chlorobenzene	500	0.0041	U	0.0040	U	0.0040	U	0.0044	U
Chloroethane	NC	0.010	U	0.0096	U	0.0097	U	0.011	U
Chloroform	350	0.0048	U	0.0046	U	0.0047	U	0.0052	U
Chloromethane	NC	0.0072	U	0.0069	U	0.0070	U	0.0077	U
cis-1,2-Dichloroethene	500	0.0070	U	0.0067	U	0.0068	U	0.0075	U
cis-1,3-Dichloropropene	NC	0.0036	U	0.0035	U	0.0035	U	0.0039	U

Table 4-1
Results for Volatile Organic Compounds in Surface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-05		SB-06		SB-07		SB-08	
Sample ID	of Public Health	SB-05-0-2		SB-06-0-2		SB-07-0-2		SB-08-0-2	
Lab Sample No.	Commercial	A1168-02		A1168-05		A1168-08		A1208-01	
Sampling Date	Soil Cleanup	1/15/2009		1/15/2009		1/15/2009		1/20/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Cyclohexane	NC	0.0055	U	0.0053	U	0.0054	U	0.0059	U
Dibromochloromethane	NC	0.0036	U	0.0034	U	0.0035	U	0.0038	U
Dichlorodifluoromethane	NC	0.010	U	0.010	U	0.010	U	0.011	U
Ethyl Benzene	390	0.0043	U	0.0042	U	0.0042	U	0.0047	U
Isopropylbenzene	NC	0.0045	U	0.0043	U	0.0043	U	0.0048	U
Methyl Acetate	NC	0.0092	U	0.0088	U	0.0089	U	0.0098	U
Methyl tert-butyl Ether	500	0.0048	U	0.0046	U	0.0047	U	0.0052	U
Methylcyclohexane	NC	0.0045	U	0.0043	U	0.0044	U	0.0048	U
Methylene Chloride	500	0.038		0.017	J	0.013	U	0.014	U
Styrene	NC	0.0034	U	0.0032	U	0.0033	U	0.0036	U
Tetrachloroethene	150	0.0067	U	0.0065	U	0.0065	U	0.0072	U
Toluene	500	0.0048	U	0.0046	U	0.0046	U	0.0051	U
trans-1,2-Dichloroethene	500	0.0067	U	0.0064	U	0.0065	U	0.0072	U
t-1,3-Dichloropropene	NC	0.0046	U	0.0044	U	0.0044	U	0.0049	U
Trichloroethene	200	0.0040	U	0.0038	U	0.0038	U	0.0042	U
Trichlorofluoromethane	NC	0.0065	U	0.0062	U	0.0063	U	0.0069	U
Vinyl Chloride	13	0.0075	U	0.0072	U	0.0073	U	0.0080	U
m/p-Xylenes	500*	0.010	U	0.0097	U	0.0098	U	0.011	U
o-Xylene	500*	0.0041	U	0.0040	U	0.0040	U	0.0044	U
Total VOCs		0.038		0.017		ND		ND	
Total BTEX		ND		ND		ND		ND	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
R - Rejected based on data validation.
-- = Data rejected based on data calidation.
NC - No criteria.
ND - Not detected.
* - criteria is for total xylene.
NYSDEC Remedial Program Soil Cleanup Objectives,
Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-0-2: SB = Soil Boring, 01 = Boring ID, 0-2 = 0 to 2 inches bgs.
Data reported in number of significant figures reported by the laboratory.

Table 1

Results for Volatile Organic Compounds in Surface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-09		SB-10		SB-11		SB-12	
Sample ID	of Public Health	SB-09-0-2		SB-10-0-2		SB-11-0-2		SB-12-0-2	
Lab Sample No.	Commercial	A1208-08		A1208-11		A1208-22		A1234-01	
Sampling Date	Soil Cleanup	1/20/2009		1/21/2009		1/21/2009		1/22/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
1,1,1-Trichloroethane	500	0.0055	U	0.0055	U	0.0052	U	0.0052	U
1,1,2,2-Tetrachloroethane	NC	0.0052	U	0.0051	U	0.0049	U	0.0049	U
1,1,2-Trichloroethane	NC	0.0035	U	0.0035	U	0.0034	U	0.0034	U
1,1,2-Trichlorotrifluoroethane	NC	0.0098	U	0.0097	U	0.0093	U	0.0092	U
1,1-Dichloroethane	240	0.0065	U	0.0064	U	0.0062	U	0.0062	U
1,1-Dichloroethene	500	0.0058	U	0.0057	U	0.0055	U	0.0055	U
1,2,4-Trichlorobenzene	NC	0.0038	U	0.0038	U	0.0036	U	0.0036	U
1,2-Dibromo-3-Chloropropane	NC	0.0059	U	0.0059	U	0.0056	U	0.0056	U
1,2-Dibromoethane	NC	0.0048	U	0.0047	U	0.0045	U	0.0045	U
1,2-Dichlorobenzene	500	0.0050	U	0.0049	U	0.0047	U	0.0047	U
1,2-Dichloroethane	30	0.0048	U	0.0047	U	0.0045	U	0.0045	U
1,2-Dichloropropane	NC	0.0055	U	0.0054	U	0.0052	U	0.0052	U
1,3-Dichlorobenzene	280	0.0039	U	0.0039	U	0.0037	U	0.0037	U
1,4-Dichlorobenzene	130	0.0045	U	0.0044	U	0.0042	U	0.0042	U
2-Butanone	NC	0.029	U	0.029	U	0.028	U	0.028	U
2-Hexanone	NC	0.025	U	0.025	U	0.024	U	0.024	U
4-Methyl-2-Pentanone	NC	0.022	U	0.022	U	0.021	U	0.021	U
Acetone	500	--	R	0.098	U	0.094	U	0.093	U
Benzene	44	0.0042	U	0.0041	U	0.0040	U	0.0040	U
Bromodichloromethane	NC	0.0041	U	0.0040	U	0.0039	U	0.0038	U
Bromoform	NC	0.0047	U	0.0047	U	0.0045	U	0.0045	U
Bromomethane	NC	0.012	U	0.012	U	0.011	U	0.011	U
Carbon Disulfide	NC	0.0063	U	0.0062	U	0.0059	U	0.0059	U
Carbon Tetrachloride	22	0.0034	U	0.0034	U	0.0032	U	0.0032	U
Chlorobenzene	500	0.0044	U	0.0044	U	0.0042	U	0.0042	U
Chloroethane	NC	0.011	U	0.011	U	0.010	U	0.010	U
Chloroform	350	0.0052	U	0.0051	U	0.0049	U	0.0049	U
Chloromethane	NC	0.0077	U	0.0076	U	0.0073	U	0.0073	U
cis-1,2-Dichloroethene	500	0.0075	U	0.0074	U	0.0071	U	0.0071	U
cis-1,3-Dichloropropene	NC	0.0039	U	0.0039	U	0.0037	U	0.0037	U

Ta -1

Results for Volatile Organic Compounds in Surface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-09		SB-10		SB-11		SB-12	
Sample ID	of Public Health	SB-09-0-2		SB-10-0-2		SB-11-0-2		SB-12-0-2	
Lab Sample No.	Commercial	A1208-08		A1208-11		A1208-22		A1234-01	
Sampling Date	Soil Cleanup	1/20/2009		1/21/2009		1/21/2009		1/22/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Cyclohexane	NC	0.0059	U	0.0059	U	0.0056	U	0.0056	U
Dibromochloromethane	NC	0.0038	U	0.0038	U	0.0036	U	0.0036	U
Dichlorodifluoromethane	NC	0.011	U	0.011	U	0.011	U	0.011	U
Ethyl Benzene	390	0.0047	U	0.0046	U	0.0044	U	0.0044	U
Isopropylbenzene	NC	0.0048	U	0.0047	U	0.0045	U	0.0045	U
Methyl Acetate	NC	0.0098	U	0.0097	U	0.0093	U	0.0093	U
Methyl tert-butyl Ether	500	0.0052	U	0.0051	U	0.0049	U	0.0049	U
Methylcyclohexane	NC	0.0048	U	0.0048	U	0.0046	U	0.0046	U
Methylene Chloride	500	0.014	U	0.014	U	0.013	U	0.013	U
Styrene	NC	0.0036	U	0.0036	U	0.0034	U	0.0034	U
Tetrachloroethene	150	0.0072	U	0.0071	U	0.0068	U	0.0068	U
Toluene	500	0.0051	U	0.0051	U	0.0048	U	0.012	J
trans-1,2-Dichloroethene	500	0.0072	U	0.0071	U	0.0068	U	0.0068	U
t-1,3-Dichloropropene	NC	0.0049	U	0.0048	U	0.0046	U	0.0046	U
Trichloroethene	200	0.0042	U	0.0042	U	0.0040	U	0.0040	U
Trichlorofluoromethane	NC	0.0069	U	0.0068	U	0.0066	U	0.0065	U
Vinyl Chloride	13	0.0080	U	0.0079	U	0.0076	U	0.0076	U
m/p-Xylenes	500*	0.011	U	0.011	U	0.010	U	0.010	U
o-Xylene	500*	0.0044	U	0.0044	U	0.0042	U	0.0042	U
Total VOCs		ND		ND		ND		0.012	
Total BTEX		ND		ND		ND		0.012	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
R - Rejected based on data validation.
-- = Data rejected based on data calidation.
NC - No criteria.
ND - Not detected.
* - criteria is for total xylene.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-0-2: SB = Soil Boring, 01 = Boring ID, 0-2 = 0 to 2 inches bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-2
Results for Semi-Volatile Organic Compounds in Surface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-01		SB-02		SB-03		SB-04	
Sample ID	of Public Health	SB-01-0-2		SB-02-0-2		SB-03-0-2		SB-04-0-2	
Lab Sample No.	Commercial	A1136-01		A1136-03		A1136-06		A1168-12	
Sampling Date	Soil Cleanup	1/13/2009		1/14/2009		1/14/2009		1/14/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
1,1-Biphenyl	NC	1.0	U	0.011	U	1.0	U	0.22	U
2,2-oxybis(1-Chloropropane)	NC	1.4	U	0.015	U	1.4	U	0.31	U
2,4,5-Trichlorophenol	NC	1.0	U	0.011	U	1.0	U	0.22	U
2,4,6-Trichlorophenol	NC	0.80	U	0.0086	U	0.80	U	0.17	U
2,4-Dichlorophenol	NC	0.82	U	0.0088	U	0.82	U	0.18	U
2,4-Dimethylphenol	NC	1.0	U	0.011	U	1.0	U	0.22	U
2,4-Dinitrophenol	NC	1.8	U	0.020	U	1.8	U	0.40	U
2,4-Dinitrotoluene	NC	1.1	U	0.012	U	1.1	U	0.25	U
2,6-Dinitrotoluene	NC	1.2	U	0.013	U	1.2	U	0.27	U
2-Chloronaphthalene	NC	0.83	U	0.009	U	0.83	U	0.18	U
2-Chlorophenol	NC	0.93	U	0.010	U	0.93	U	0.20	U
2-Methylnaphthalene	NC	0.97	U	0.010	U	0.97	U	0.21	U
2-Methylphenol	NC	0.91	U	0.0099	U	0.91	U	0.20	U
2-Nitroaniline	NC	1.6	U	0.017	U	1.6	U	0.35	U
2-Nitrophenol	NC	1.3	U	0.014	U	1.3	U	0.27	U
3,3-Dichlorobenzidine	NC	2.6	U	0.028	U	2.6	U	0.57	U
3+4-Methylphenols	NC	1.0	U	0.011	U	1.0	U	0.23	U
3-Nitroaniline	NC	2.3	U	0.025	U	2.3	U	0.50	U
4,6-Dinitro-2-methylphenol	NC	4.6	U	0.050	U	4.6	U	1.0	U
4-Bromophenyl-phenylether	NC	1.6	U	0.017	U	1.6	U	0.34	U
4-Chloro-3-methylphenol	NC	1.0	U	0.011	U	1.0	U	0.22	U
4-Chloroaniline	NC	2.3	U	0.024	U	2.3	U	0.49	U
4-Chlorophenyl-phenylether	NC	1.3	U	0.014	U	1.3	U	0.29	U
4-Nitroaniline	NC	2.7	U	0.029	U	2.7	U	0.59	U
4-Nitrophenol	NC	2.0	U	0.022	U	2.0	U	0.44	U
Acenaphthene	500	0.74	U	0.008	U	0.74	U	0.16	U
Acenaphthylene	500	0.50	U	0.048	J	0.50	U	0.11	U
Acetophenone	NC	1.0	U	0.011	U	1.0	U	0.22	U

Table 4-2
Results for Semi-Volatile Organic Compounds in Surface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-01		SB-02		SB-03		SB-04	
Sample ID	of Public Health	SB-01-0-2		SB-02-0-2		SB-03-0-2		SB-04-0-2	
Lab Sample No.	Commercial	A1136-01		A1136-03		A1136-06		A1168-12	
Sampling Date	Soil Cleanup	1/13/2009		1/14/2009		1/14/2009		1/14/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Isophorone	NC	1.1	U	0.012	U	1.1	U	0.25	U
Naphthalene	500	0.83	U	0.042	J	0.83	U	0.18	U
Nitrobenzene	NC	0.81	U	0.0087	U	0.81	U	0.18	U
N-Nitroso-di-n-propylamine	NC	1.2	U	0.013	U	1.2	U	0.27	U
N-Nitrosodiphenylamine	NC	2.6	U	0.028	U	2.6	U	0.56	U
Pentachlorophenol	6.7	3.9	U	0.042	U	3.9	U	0.85	U
Phenanthrene	500	1.1	U	0.059	J	1.1	U	2.9	J
Phenol	500	0.95	U	0.010	U	0.96	U	0.21	U
Pyrene	500	0.75	U	0.26	J	0.75	U	4.0	J
Total SVOCs		0.011		1.5		ND		25	
Total PAHs		ND		1.5		ND		23	
Total Carcinogenic PAHs		ND		0.73		ND		9.6	
Total Non-Carcinogenic PAHs		ND		0.74		ND		13	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
R - Rejected based on data validation.
-- = Data rejected based on data calidation.
NC - No criteria.
ND - Not detected.
Shading indicates concentration exceeds soil cleanup objective.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-0-2: SB = Soil Boring, 01 = Boring ID, 0-2 = 0 to 2 inches bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-2
Results for Semi-Volatile Organic Compounds in Surface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-05		SB-06		SB-07		SB-08	
Sample ID	of Public Health	SB-05-0-2		AB-06-0-2		SB-07-0-2		SB-08-0-2	
Lab Sample No.	Commercial	A1168-02		A1168-05		A1168-08		A1208-01	
Sampling Date	Soil Cleanup	1/15/2009		1/15/2009		1/15/2009		1/20/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
1,1-Biphenyl	NC	0.21	U	0.21	U	0.010	U	0.011	U
2,2-oxybis(1-Chloropropane)	NC	0.30	U	0.29	U	0.014	U	0.016	U
2,4,5-Trichlorophenol	NC	0.21	U	0.21	U	0.010	U	0.011	U
2,4,6-Trichlorophenol	NC	0.17	U	0.16	U	0.0081	U	0.0089	U
2,4-Dichlorophenol	NC	0.17	U	0.17	U	0.0082	U	0.0091	U
2,4-Dimethylphenol	NC	0.21	U	0.21	U	0.010	U	0.011	U
2,4-Dinitrophenol	NC	0.38	U	0.37	U	0.018	U	0.020	U
2,4-Dinitrotoluene	NC	0.24	U	0.23	U	0.011	U	0.013	U
2,6-Dinitrotoluene	NC	0.26	U	0.25	U	0.012	U	0.014	U
2-Chloronaphthalene	NC	0.17	U	0.17	U	0.0084	U	0.0093	U
2-Chlorophenol	NC	0.19	U	0.19	U	0.0094	U	0.010	U
2-Methylnaphthalene	NC	0.20	U	0.20	U	0.0098	U	0.011	U
2-Methylphenol	NC	0.19	U	0.19	U	0.0092	U	0.010	U
2-Nitroaniline	NC	0.34	U	0.33	U	0.016	U	0.018	U
2-Nitrophenol	NC	0.26	U	0.26	U	0.013	U	0.014	U
3,3-Dichlorobenzidine	NC	0.54	U	0.53	U	0.026	U	0.029	U
3+4-Methylphenols	NC	0.22	U	0.21	U	0.011	U	0.012	U
3-Nitroaniline	NC	0.48	U	0.47	U	0.023	U	0.025	U
4,6-Dinitro-2-methylphenol	NC	0.97	U	0.95	U	0.047	U	0.052	U
4-Bromophenyl-phenylether	NC	0.33	U	0.32	U	0.016	U	0.017	U
4-Chloro-3-methylphenol	NC	0.21	U	0.21	U	0.010	U	0.011	U
4-Chloroaniline	NC	0.47	U	0.46	U	0.023	U	0.025	U
4-Chlorophenyl-phenylether	NC	0.27	U	0.27	U	0.013	U	0.015	U
4-Nitroaniline	NC	0.56	U	0.55	U	0.027	U	0.030	U
4-Nitrophenol	NC	0.43	U	0.42	U	0.021	U	0.023	U
Acenaphthene	500	0.16	U	0.15	U	0.0075	U	0.0083	U
Acenaphthylene	500	0.11	U	0.10	U	0.0051	U	0.0056	U
Acetophenone	NC	0.21	U	0.21	U	0.010	U	0.011	U

Table 4-2
Results for Semi-Volatile Organic Compounds in Surface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-05		SB-06		SB-07		SB-08	
Sample ID	of Public Health	SB-05-0-2		AB-06-0-2		SB-07-0-2		SB-08-0-2	
Lab Sample No.	Commercial	A1168-02		A1168-05		A1168-08		A1208-01	
Sampling Date	Soil Cleanup	1/15/2009		1/15/2009		1/15/2009		1/20/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Anthracene	500	0.24	U	0.24	U	0.012	U	0.013	U
Atrazine	NC	0.51	U	0.50	U	0.025	U	0.027	U
Benzaldehyde	NC	0.24	U	0.24	U	0.012	U	0.013	U
Benzo(a)anthracene	5.6	0.99	J	0.17	U	0.10	J	0.0092	U
Benzo(a)pyrene	1	1.0	J	0.21	U	0.076	J	0.011	U
Benzo(b)fluoranthene	5.6	1.4	J	0.51	U	0.16	J	0.028	U
Benzo(g,h,i)perylene	500	0.95	J	0.51	U	0.12	J	0.028	U
Benzo(k)fluoranthene	56	0.33	U	0.32	U	0.057	J	0.018	U
bis(2-Chloroethoxy)methane	NC	0.16	U	0.16	U	0.0080	U	0.0088	U
bis(2-Chloroethyl)ether	NC	0.094	U	0.092	U	0.0045	U	0.0050	U
bis(2-Ethylhexyl)phthalate	NC	0.27	U	0.27	U	0.013	U	0.52	
Butylbenzylphthalate	NC	0.45	U	0.44	U	0.022	U	0.024	U
Caprolactam	NC	0.86	U	0.84	U	0.042	U	0.046	U
Carbazole	NC	0.55	U	0.54	U	0.027	U	0.029	U
Chrysene	56	0.95	J	0.13	U	0.13	J	0.0071	U
Dibenz(a,h)anthracene	0.56	0.53	U	0.52	U	0.026	U	0.028	U
Dibenzofuran	NC	0.22	U	0.22	U	0.011	U	0.012	U
Diethylphthalate	NC	0.24	U	0.24	U	0.012	U	0.013	U
Dimethylphthalate	NC	0.21	U	0.21	U	0.010	U	0.011	U
Di-n-butylphthalate	NC	0.34	U	0.33	U	0.016	U	0.018	U
Di-n-octyl phthalate	NC	0.25	U	0.25	U	0.012	U	0.013	U
Fluoranthene	500	1.9	J	0.17	U	0.15	J	0.0093	U
Fluorene	500	0.19	U	0.19	U	0.0093	U	0.010	U
Hexachlorobenzene	NC	0.22	U	0.21	U	0.010	U	0.012	U
Hexachlorobutadiene	NC	0.29	U	0.28	U	0.014	U	0.016	U
Hexachlorocyclopentadiene	NC	0.37	U	0.36	U	0.018	U	0.02	U
Hexachloroethane	NC	0.23	U	0.23	U	0.011	U	0.013	U
Indeno(1,2,3-cd)pyrene	5.6	0.18	U	0.18	U	0.064	J	0.0097	U

Table 4-2
Results for Semi-Volatile Organic Compounds in Surface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-05		SB-06		SB-07		SB-08	
Sample ID	of Public Health	SB-05-0-2		AB-06-0-2		SB-07-0-2		SB-08-0-2	
Lab Sample No.	Commercial	A1168-02		A1168-05		A1168-08		A1208-01	
Sampling Date	Soil Cleanup	1/15/2009		1/15/2009		1/15/2009		1/20/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Isophorone	NC	0.24	U	0.23	U	0.011	U	0.013	U
Naphthalene	500	0.17	U	0.17	U	0.0084	U	0.0092	U
Nitrobenzene	NC	0.17	U	0.16	U	0.0081	U	0.0090	U
N-Nitroso-di-n-propylamine	NC	0.26	U	0.25	U	0.013	U	0.014	U
N-Nitrosodiphenylamine	NC	0.54	U	0.53	U	0.026	U	0.029	U
Pentachlorophenol	6.7	0.81	U	0.80	U	0.039	U	0.043	U
Phenanthrene	500	1.1	J	0.22	U	0.10	J	0.012	U
Phenol	500	0.20	U	0.20	U	0.0097	U	0.011	U
Pyrene	500	1.7	J	0.15	U	0.20	J	0.0084	U
Total SVOCs		10		ND		1.2		0.52	
Total PAHs		10		ND		1.2		ND	
Total Carcinogenic PAHs		4.3		ND		0.59		ND	
Total Non-Carcinogenic PAHs		5.7		ND		0.57		ND	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
R - Rejected based on data validation.
-- = Data rejected based on data calidation.
NC - No criteria.
ND - Not detected.
Shading indicates concentration exceeds soil cleanup objective.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-0-2: SB = Soil Boring, 01 = Boring ID, 0-2 = 0 to 2 inches bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-2
Results for Semi-Volatile Organic Compounds in Surface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-09		SB-10		SB-11		SB-12	
Sample ID	of Public Health	SB-09-0-2		SB-10-0-2		SB-11-0-2		SB-12-0-2	
Lab Sample No.	Commercial	A1208-08		A1208-11		A1208-22		A1234-01	
Sampling Date	Soil Cleanup	1/20/2009		1/21/2009		1/21/2009		1/22/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
1,1-Biphenyl	NC	0.23	U	0.011	U	0.11	U	0.21	U
2,2-oxybis(1-Chloropropane)	NC	0.32	U	0.016	U	0.15	U	0.30	U
2,4,5-Trichlorophenol	NC	0.23	U	0.011	U	0.11	U	--	R
2,4,6-Trichlorophenol	NC	0.18	U	0.0088	U	0.086	U	--	R
2,4-Dichlorophenol	NC	0.18	U	0.0090	U	0.088	U	--	R
2,4-Dimethylphenol	NC	0.23	U	0.011	U	0.11	U	--	R
2,4-Dinitrophenol	NC	0.41	U	0.020	U	0.20	U	--	R
2,4-Dinitrotoluene	NC	0.25	U	0.013	U	0.12	U	0.24	U
2,6-Dinitrotoluene	NC	0.27	U	0.014	U	0.13	U	0.26	U
2-Chloronaphthalene	NC	0.19	U	0.0092	U	0.090	U	0.18	U
2-Chlorophenol	NC	0.21	U	0.010	U	0.10	U	--	R
2-Methylnaphthalene	NC	0.22	U	0.011	U	0.10	U	0.20	U
2-Methylphenol	NC	0.20	U	0.010	U	0.099	U	--	R
2-Nitroaniline	NC	0.36	U	0.018	U	0.17	U	0.34	U
2-Nitrophenol	NC	0.28	U	0.014	U	0.14	U	--	R
3,3-Dichlorobenzidine	NC	0.58	U	0.029	U	0.28	U	0.55	U
3+4-Methylphenols	NC	0.23	U	0.012	U	0.11	U	--	R
3-Nitroaniline	NC	0.51	U	0.025	U	0.25	U	0.48	U
4,6-Dinitro-2-methylphenol	NC	1.0	U	0.051	U	0.50	U	--	R
4-Bromophenyl-phenylether	NC	0.35	U	0.017	U	0.17	U	0.33	U
4-Chloro-3-methylphenol	NC	0.23	U	0.011	U	0.11	U	--	R
4-Chloroaniline	NC	0.51	U	0.025	U	0.24	U	0.48	U
4-Chlorophenyl-phenylether	NC	0.29	U	0.014	U	0.14	U	0.28	U
4-Nitroaniline	NC	0.60	U	0.030	U	0.29	U	0.57	U
4-Nitrophenol	NC	0.46	U	0.022	U	0.22	U	--	R
Acenaphthene	500	0.17	U	0.0082	U	0.080	U	0.16	U
Acenaphthylene	500	0.11	U	0.0055	U	0.054	U	0.11	U
Acetophenone	NC	0.23	U	0.011	U	0.11	U	0.22	U

Table 4-2
Results for Semi-Volatile Organic Compounds in Surface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-09		SB-10		SB-11		SB-12	
Sample ID	of Public Health	SB-09-0-2		SB-10-0-2		SB-11-0-2		SB-12-0-2	
Lab Sample No.	Commercial	A1208-08		A1208-11		A1208-22		A1234-01	
Sampling Date	Soil Cleanup	1/20/2009		1/21/2009		1/21/2009		1/22/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Anthracene	500	0.26	U	0.013	U	0.12	U	0.24	U
Atrazine	NC	0.54	U	0.027	U	0.26	U	0.51	U
Benzaldehyde	NC	0.26	U	0.013	U	0.12	U	0.24	UJ
Benzo(a)anthracene	5.6	0.18	U	0.0091	U	0.089	U	0.17	U
Benzo(a)pyrene	1	0.23	U	0.011	U	0.11	U	0.21	U
Benzo(b)fluoranthene	5.6	0.55	U	0.027	U	0.27	U	0.78	J
Benzo(g,h,i)perylene	500	0.56	U	0.027	U	0.27	U	0.53	U
Benzo(k)fluoranthene	56	0.35	U	0.017	U	0.17	U	0.33	U
bis(2-Chloroethoxy)methane	NC	0.18	U	0.0087	U	0.085	U	0.17	U
bis(2-Chloroethyl)ether	NC	0.10	U	0.0049	U	0.048	U	0.095	U
bis(2-Ethylhexyl)phthalate	NC	0.29	U	0.44		0.14	U	0.28	U
Butylbenzylphthalate	NC	0.49	U	0.024	U	0.23	U	0.46	U
Caprolactam	NC	0.92	U	0.045	U	0.45	U	0.87	U
Carbazole	NC	0.59	U	0.029	U	0.28	U	0.55	U
Chrysene	56	0.14	U	0.0070	U	0.069	U	0.13	U
Dibenz(a,h)anthracene	0.56	0.56	U	0.028	U	0.27	U	0.53	U
Dibenzofuran	NC	0.24	U	0.012	U	0.11	U	0.22	U
Diethylphthalate	NC	0.26	U	0.013	U	0.13	U	0.25	U
Dimethylphthalate	NC	0.22	U	0.011	U	0.11	U	0.21	U
Di-n-butylphthalate	NC	0.36	U	0.018	U	0.17	U	0.34	U
Di-n-octyl phthalate	NC	0.27	U	0.013	U	0.13	U	0.25	U
Fluoranthene	500	0.19	U	0.0092	U	0.090	U	1.3	J
Fluorene	500	0.21	U	0.010	U	0.10	U	0.20	U
Hexachlorobenzene	NC	0.23	U	0.011	U	0.11	U	0.22	U
Hexachlorobutadiene	NC	0.31	U	0.015	U	0.15	U	0.29	U
Hexachlorocyclopentadiene	NC	0.39	U	0.019	U	0.19	U	0.37	U
Hexachloroethane	NC	0.25	U	0.012	U	0.12	U	0.24	U
Indeno(1,2,3-cd)pyrene	5.6	0.19	U	0.0096	U	0.094	U	0.18	U

Table 4-2
Results for Semi-Volatile Organic Compounds in Surface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-09		SB-10		SB-11		SB-12	
Sample ID	of Public Health	SB-09-0-2		SB-10-0-2		SB-11-0-2		SB-12-0-2	
Lab Sample No.	Commercial	A1208-08		A1208-11		A1208-22		A1234-01	
Sampling Date	Soil Cleanup	1/20/2009		1/21/2009		1/21/2009		1/22/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Isophorone	NC	0.25	U	0.012	U	0.12	U	0.24	U
Naphthalene	500	0.19	U	0.0091	U	0.090	U	0.18	U
Nitrobenzene	NC	0.18	U	0.0089	U	0.087	U	0.17	U
N-Nitroso-di-n-propylamine	NC	0.28	U	0.014	U	0.13	U	0.26	U
N-Nitrosodiphenylamine	NC	0.58	U	0.028	U	0.28	U	0.55	U
Pentachlorophenol	6.7	0.87	U	0.043	U	0.42	U	--	R
Phenanthrene	500	0.24	U	0.012	U	0.12	U	0.23	U
Phenol	500	0.21	U	0.011	U	0.10	U	--	R
Pyrene	500	0.17	U	0.0083	U	0.081	U	1.1	J
Total SVOCs		ND		0.44		ND		3.2	
Total PAHs		ND		ND		ND		2.4	
Total Carcinogenic PAHs		ND		ND		ND		ND	
Total Non-Carcinogenic PAHs		ND		ND		ND		2.4	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
R - Rejected based on data validation.
-- = Data rejected based on data calidation.
NC - No criteria.
ND - Not detected.
Shading indicates concentration exceeds soil cleanup objective.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-0-2: SB = Soil Boring, 01 = Boring ID, 0-2 = 0 to 2 inches bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-3
Results for Total Cyanide in Surface Soil
Babylon Former MGP Site

Sample Location	NYSDEC	SB-01		SB-02		SB-03		SB-04	
Sample ID	Protection of	SB-01-0-2		SB-02-0-2		SB-03-0-2		SB-04-0-2	
Lab Sample No.	Public Health	A1136-01		A1136-03		A1136-06		A1168-12	
Sampling Date	Commercial Soil	1/13/2009		1/14/2009		1/14/2009		1/14/2009	
Matrix	Cleanup Objectives	SOIL		SOIL		SOIL		SOIL	
Units	mg/kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Total Cyanide	27	0.523	U	0.563	U	0.520	U	0.566	U

Notes:
U - Non-detect based on data validation.
NYSDEC Remedial Program Soil Cleanup Objectives,
Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-0-2: SB = Soil Boring, 01 = Boring ID, 0-2 = 0 to 2 inches bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-3
Results for Total Cyanide in Surface Soil
Babylon Former MGP Site

Sample Location	NYSDEC	SB-05		SB-06		SB-07		SB-08	
Sample ID	Protection of	SB-05-0-2		SB-06-0-2		SB-07-0-2		SB-08-0-2	
Lab Sample No.	Public Health	A1168-02		A1168-05		A1168-08		A1208-01	
Sampling Date	Commercial Soil	1/15/2009		1/15/2009		1/15/2009		1/20/2009	
Matrix	Cleanup Objectives	SOIL		SOIL		SOIL		SOIL	
Units	mg/kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Total Cyanide	27	0.542	U	0.535	U	0.527	U	0.581	U

Notes:
U - Non-detect based on data validation.
NYSDEC Remedial Program Soil Cleanup Objectives,
Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-0-2: SB = Soil Boring, 01 = Boring ID, 0-2 = 0 to 2 inches bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-3
Results for Total Cyanide in Surface Soil
Babylon Former MGP Site

Sample Location	NYSDEC	SB-09		SB-10		SB-11		SB-12	
Sample ID	Protection of	SB-09-0-2		SB-10-0-2		SB-11-0-2		SB-12-0-2	
Lab Sample No.	Public Health	A1208-08		A1208-11		A1208-22		A1234-01	
Sampling Date	Commercial Soil	1/20/2009		1/21/2009		1/21/2009		1/22/2009	
Matrix	Cleanup Objectives	SOIL		SOIL		SOIL		SOIL	
Units	mg/kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Total Cyanide	27	0.584	U	0.577	U	0.562	U	0.549	U

Notes:
U - Non-detect based on data validation.
NYSDEC Remedial Program Soil Cleanup Objectives,
Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-0-2: SB = Soil Boring, 01 = Boring ID, 0-2 = 0 to 2 inches bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-4
Results for Total Organic Carbon in Surface Soil
Babylon Former MGP Site

Sample Location	SB-01		SB-02		SB-03		SB-04		SB-05	
Sample ID	SB-01-0-2		SB-02-0-2		SB-03-0-2		SB-04-0-2		SB-05-0-2	
Lab Sample No.	A1136-01		A1136-03		A1136-06		A1168-12		A1168-02	
Sampling Date	1/13/2009		1/14/2009		1/14/2009		1/14/2009		1/15/2009	
Matrix	SOIL		SOIL		SOIL		SOIL		SOIL	
Units	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Total Organic Carbon (TOC)	6,279	J	2,860	J	2,700	J	9,048		8,663	

Notes:
J - Estimated based on data validation.
SB-01-0-2: SB = Soil Boring, 01 = Boring ID,
0-2 = 0 to 2 inches bgs.

Table 4-4
Results for Total Organic Carbon in Surface Soil
Babylon Former MGP Site

Sample Location	SB-06	SB-07	SB-08	SB-09	SB-10
Sample ID	SB-06-0-2	SB-07-0-2	SB-08-0-2	SB-09-0-2	SB-10-0-2
Lab Sample No.	A1168-05	A1168-08	A1208-01	A1208-08	A1208-11
Sampling Date	1/15/2009	1/15/2009	1/20/2009	1/20/2009	1/21/2009
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL
Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Total Organic Carbon (TOC)	2,390	5,285	13,168	21,383	12,682

Notes:
J - Estimated based on data validation.
SB-01-0-2: SB = Soil Boring, 01 = Boring ID,
0-2 = 0 to 2 inches bgs.

Table 4-4
Results for Total Organic Carbon in Surface Soil
Babylon Former MGP Site

Sample Location	SB-11		SB-12	
Sample ID	SB-11-0-2		SB-12-0-2	
Lab Sample No.	A1208-22		A1234-01	
Sampling Date	1/21/2009		1/22/2009	
Matrix	SOIL		SOIL	
Units	mg/Kg		mg/Kg	
Total Organic Carbon (TOC)	19,884		18,778	

Notes:
J - Estimated based on data validation.
SB-01-0-2: SB = Soil Boring, 01 = Boring ID,
0-2 = 0 to 2 inches bgs.

Table 4-5
Results for Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-01		SB-01		SB-02		SB-02		SB-03	
Sample ID	of Public Health	SB-01-9-11		SB-01-18-20		SB-02-8-10		SB-02-33-35		SB-03-10-11	
Lab Sample No.	Commercial	A1168-01		A1136-02		A1136-04		A1136-05		A1136-07	
Sampling Date	Soil Cleanup	1/14/2009		1/13/2009		1/14/2009		1/14/2009		1/14/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
1,1,1-Trichloroethane	500	0.0053	U	0.0052	U	0.056	U	0.0057	U	0.0054	U
1,1,2,2-Tetrachloroethane	NC	0.0050	UJ	0.0049	U	0.053	U	0.0054	U	0.0050	U
1,1,2-Trichloroethane	NC	0.0034	U	0.0033	U	0.046	U	0.0037	U	0.0034	U
1,1,2-Trichlorotrifluoroethane	NC	0.0094	U	0.0092	U	0.088	U	0.010	U	0.0095	U
1,1-Dichloroethane	240	0.0062	U	0.0061	U	0.069	U	0.0068	U	0.0063	U
1,1-Dichloroethene	500	0.0056	U	0.0055	U	0.096	U	0.0061	U	0.0056	U
1,2,4-Trichlorobenzene	NC	0.0037	UJ	0.0036	U	0.056	U	0.0040	U	0.0037	U
1,2-Dibromo-3-Chloropropane	NC	0.0057	UJ	0.0056	U	0.79	J	0.0062	U	0.0057	U
1,2-Dibromoethane	NC	0.0046	J	0.0045	U	0.037	U	0.0050	U	0.0046	U
1,2-Dichlorobenzene	500	0.0048	UJ	0.0047	U	0.057	U	0.0052	U	0.0048	U
1,2-Dichloroethane	30	0.0046	U	0.0045	U	0.059	U	0.0050	U	0.0046	U
1,2-Dichloropropane	NC	0.0052	U	0.0051	U	0.066	U	0.0057	U	0.0053	U
1,3-Dichlorobenzene	280	0.0037	UJ	0.0037	U	0.040	U	0.0041	U	0.0038	U
1,4-Dichlorobenzene	130	0.0043	UJ	0.0042	U	0.032	U	0.0047	U	0.0043	U
2-Butanone	NC	0.028	U	0.027	U	0.28	U	0.030	U	0.028	U
2-Hexanone	NC	0.024	U	0.024	U	0.25	U	0.026	U	0.025	U
4-Methyl-2-Pentanone	NC	0.021	U	0.021	U	0.25	U	0.023	U	0.022	U
Acetone	500	0.095	U	0.093	U	0.31	U	0.10	U	0.096	U
Benzene	44	0.0040	U	0.0039	U	4.4		0.0044	U	0.0041	U
Bromodichloromethane	NC	0.0039	U	0.0038	U	0.033	U	0.0042	U	0.0039	U
Bromoform	NC	0.0045	U	0.0044	U	0.063	UJ	0.0049	U	0.0046	U
Bromomethane	NC	0.011	U	0.011	U	0.20	U	0.012	U	0.011	U
Carbon Disulfide	NC	0.0060	U	0.0059	U	0.029	U	0.0065	U	0.0061	U
Carbon Tetrachloride	22	0.0033	U	0.0032	U	0.039	U	0.0036	U	0.0033	U
Chlorobenzene	500	0.0042	U	0.0041	U	0.040	U	0.0046	U	0.0043	U
Chloroethane	NC	0.010	U	0.010	U	0.11	U	0.011	U	0.010	U
Chloroform	350	0.0050	U	0.0049	U	0.065	U	0.0054	U	0.0050	U
Chloromethane	NC	0.0074	U	0.0073	U	0.053	U	0.008	U	0.0075	U
cis-1,2-Dichloroethene	500	0.0072	U	0.0070	U	0.10	U	0.0078	U	0.0073	U
cis-1,3-Dichloropropene	NC	0.0037	U	0.0037	U	0.042	U	0.0041	U	0.0038	U

Table 4-5
Results for Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-01		SB-01		SB-02		SB-02		SB-03	
Sample ID	of Public Health	SB-01-9-11		SB-01-18-20		SB-02-8-10		SB-02-33-35		SB-03-10-11	
Lab Sample No.	Commercial	A1168-01		A1136-02		A1136-04		A1136-05		A1136-07	
Sampling Date	Soil Cleanup	1/14/2009		1/13/2009		1/14/2009		1/14/2009		1/14/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Cyclohexane	NC	0.0057	U	0.0056	U	0.082	U	0.0062	U	0.0057	U
Dibromochloromethane	NC	0.0037	U	0.0036	U	0.033	U	0.0040	U	0.0037	U
Dichlorodifluoromethane	NC	0.011	U	0.010	U	0.13	U	0.012	U	0.011	U
Ethyl Benzene	390	0.32		0.0044	U	71	D	0.0048	U	0.0045	U
Isopropylbenzene	NC	0.49	J	0.0045	U	8.7		0.0050	U	0.0046	U
Methyl Acetate	NC	0.0094	U	0.0092	U	0.065	U	0.010	U	0.0095	U
Methyl tert-butyl Ether	500	0.0050	U	0.0049	U	0.033	U	0.0054	U	0.0050	U
Methylcyclohexane	NC	0.0046	U	0.0045	U	1.0		0.0050	U	0.0047	U
Methylene Chloride	500	0.014	U	0.013	U	0.055	U	0.015	U	0.014	U
Styrene	NC	0.0035	U	0.0034	U	0.027	U	0.0038	U	0.0035	U
Tetrachloroethene	150	0.0069	U	0.0068	U	0.14	U	0.0075	U	0.0070	U
Toluene	500	0.0049	U	0.0048	U	2.1		0.0053	U	0.0050	U
trans-1,2-Dichloroethene	500	0.0069	U	0.0067	U	0.063	U	0.0074	U	0.0069	U
t-1,3-Dichloropropene	NC	0.0047	U	0.0046	U	0.045	U	0.0051	U	0.0047	U
Trichloroethene	200	0.0041	U	0.0040	U	0.049	U	0.0044	U	0.0041	U
Trichlorofluoromethane	NC	0.0066	U	0.0065	U	0.076	U	0.0072	U	0.0067	U
Vinyl Chloride	13	0.0077	U	0.0075	U	0.043	U	0.0084	U	0.0078	U
m/p-Xylenes	500*	0.089		0.010	U	67	D	0.011	U	0.010	U
o-Xylene	500*	0.096		0.0041	U	32	D	0.0046	U	0.0043	U
Total VOCs		1.0		ND		190		ND		ND	
Total BTEX		0.51		ND		180		ND		ND	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
D - Diluted based on data validation.
R - Rejected based on data validation.
-- = Data rejected based on data validation.
NC - No criteria.
ND - Not detected based on data validation.
* - criteria is for total xylene.
NYSDEC Remedial Program Soil Cleanup Objectives,
Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-5
Results for Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-03		SB-03		SB-04		SB-04		SB-04		SB-04	
Sample ID	of Public Health	SB-03-11-13		SB-03-20-25		SB-04-9-12		SB-14-9-12		SB-04-16-18		SB-04-23-25	
Lab Sample No.	Commercial	A1136-08		A1136-09		A1168-13		A1138-17		A1168-14		A1168-15	
Sampling Date	Soil Cleanup	1/14/2009		1/14/2009		1/14/2009		Duplicate of		1/14/2009		1/14/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SB-04-9-12		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
1,1,1-Trichloroethane	500	0.0053	U	0.0052	U	0.0054	U	0.0054	U	0.0052	U	0.0054	U
1,1,2,2-Tetrachloroethane	NC	0.0050	U	0.0049	U	0.0051	U	0.0050	U	0.0049	U	0.0051	U
1,1,2-Trichloroethane	NC	0.0034	U	0.0034	U	0.0035	U	0.0034	U	0.0034	U	0.0035	U
1,1,2-Trichlorotrifluoroethane	NC	0.0093	U	0.0093	U	0.0095	U	0.0095	U	0.0093	U	0.0096	U
1,1-Dichloroethane	240	0.0062	U	0.0062	U	0.0064	U	0.0063	U	0.0062	U	0.0064	U
1,1-Dichloroethene	500	0.0056	U	0.0055	U	0.0057	U	0.0056	U	0.0055	U	0.0057	U
1,2,4-Trichlorobenzene	NC	0.0037	U	0.0036	U	0.0038	U	0.0037	U	0.0036	U	0.0038	U
1,2-Dibromo-3-Chloropropane	NC	0.0057	U	0.0056	U	0.0058	U	0.0058	U	0.0056	U	0.0058	U
1,2-Dibromoethane	NC	0.0046	U	0.0045	U	0.0047	U	0.0046	U	0.0045	U	0.0047	U
1,2-Dichlorobenzene	500	0.0048	U	0.0047	U	0.0049	U	0.0049	U	0.0047	U	0.0049	U
1,2-Dichloroethane	30	0.0046	U	0.0045	U	0.0047	U	0.0046	U	0.0045	U	0.0047	U
1,2-Dichloropropane	NC	0.0052	U	0.0052	U	0.0053	U	0.0053	U	0.0052	U	0.0053	U
1,3-Dichlorobenzene	280	0.0037	U	0.0037	U	0.0038	U	0.0038	U	0.0037	U	0.0038	U
1,4-Dichlorobenzene	130	0.0043	U	0.0042	U	0.0044	U	0.0043	U	0.0042	U	0.0044	U
2-Butanone	NC	0.028	U	0.028	U	0.029	U	0.028	U	0.028	U	0.029	U
2-Hexanone	NC	0.024	U	0.024	U	0.025	U	0.025	U	0.024	U	0.025	U
4-Methyl-2-Pentanone	NC	0.021	U	0.021	U	0.022	U	0.022	U	0.021	U	0.022	U
Acetone	500	0.095	U	0.094	U	0.097	U	0.096	U	0.094	U	0.097	U
Benzene	44	0.0040	U	0.0040	U	0.0041	U	0.0041	U	0.0040	U	0.0041	U
Bromodichloromethane	NC	0.0039	U	0.0039	U	0.0040	U	0.0040	U	0.0039	U	0.0040	U
Bromoform	NC	0.0045	U	0.0045	U	0.0046	U	0.0046	U	0.0045	U	0.0046	U
Bromomethane	NC	0.011	U	0.011	U	0.012	U	0.011	U	0.011	U	0.012	U
Carbon Disulfide	NC	0.0060	U	0.0059	U	0.0061	U	0.0061	U	0.0059	U	0.0061	U
Carbon Tetrachloride	22	0.0033	U	0.0032	U	0.0034	U	0.0033	U	0.0032	U	0.0034	U
Chlorobenzene	500	0.0042	U	0.0042	U	0.0043	U	0.0043	U	0.0042	U	0.0043	U
Chloroethane	NC	0.010	U	0.010	U	0.011	U	0.010	U	0.010	U	0.011	U
Chloroform	350	0.0050	U	0.0049	U	0.0051	U	0.0050	U	0.0049	U	0.0051	U
Chloromethane	NC	0.0074	U	0.0073	U	0.0076	U	0.0075	U	0.0073	U	0.0076	U
cis-1,2-Dichloroethene	500	0.0072	U	0.0071	U	0.0073	U	0.0073	U	0.0071	U	0.0073	U
cis-1,3-Dichloropropene	NC	0.0037	U	0.0037	U	0.0038	U	0.0038	U	0.0037	U	0.0038	U

Table 4-5
Results for Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-03		SB-03		SB-04		SB-04		SB-04		SB-04	
Sample ID	of Public Health	SB-03-11-13		SB-03-20-25		SB-04-9-12		SB-14-9-12		SB-04-16-18		SB-04-23-25	
Lab Sample No.	Commercial	A1136-08		A1136-09		A1168-13		A1138-17		A1168-14		A1168-15	
Sampling Date	Soil Cleanup	1/14/2009		1/14/2009		1/14/2009		Duplicate of		1/14/2009		1/14/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SB-04-9-12		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Cyclohexane	NC	0.0057	U	0.0056	U	0.0058	U	0.0058	U	0.0056	U	0.0058	U
Dibromochloromethane	NC	0.0037	U	0.0036	U	0.0038	U	0.0037	U	0.0036	U	0.0038	U
Dichlorodifluoromethane	NC	0.011	U	0.011	U	0.011	U	0.011	U	0.011	U	0.011	U
Ethyl Benzene	390	0.0044	U	0.0044	U	0.0045	U	0.0045	U	0.0044	U	0.0046	U
Isopropylbenzene	NC	0.0046	U	0.0045	U	0.0047	U	0.0046	U	0.026	J	0.0047	U
Methyl Acetate	NC	0.0094	U	0.0093	U	0.0096	U	0.0095	U	0.0093	U	0.0096	U
Methyl tert-butyl Ether	500	0.0050	U	0.0049	U	0.0051	U	0.005	U	0.0049	U	0.0051	U
Methylcyclohexane	NC	0.0046	U	0.0046	U	0.0047	U	0.0047	U	0.0046	U	0.0047	U
Methylene Chloride	500	0.014	U	0.013	U	0.014	U	0.014	U	0.013	U	0.014	U
Styrene	NC	0.0034	U	0.0034	U	0.0035	U	0.0035	U	0.0034	U	0.0035	U
Tetrachloroethene	150	0.0069	U	0.0068	U	0.0070	U	0.0070	U	0.0068	U	0.0071	U
Toluene	500	0.0049	U	0.0048	U	0.0050	U	0.0050	U	0.0048	U	0.0050	U
trans-1,2-Dichloroethene	500	0.0068	U	0.0068	U	0.0070	U	0.0069	U	0.0068	U	0.0070	U
t-1,3-Dichloropropene	NC	0.0047	U	0.0046	U	0.0048	U	0.0047	U	0.0046	U	0.0048	U
Trichloroethene	200	0.0041	U	0.0040	U	0.0041	U	0.0041	U	0.0040	U	0.0042	U
Trichlorofluoromethane	NC	0.0066	U	0.0066	U	0.0068	U	0.0067	U	0.0066	U	0.0068	U
Vinyl Chloride	13	0.0077	U	0.0076	U	0.0078	U	0.0078	U	0.0076	U	0.0079	U
m/p-Xylenes	500*	0.010	U	0.010	U	0.011	U	0.010	U	0.010	U	0.011	U
o-Xylene	500*	0.0042	U	0.0042	U	0.0043	U	0.0043	U	0.0042	U	0.0043	U
Total VOCs		ND		ND		ND		ND		0.026		ND	
Total BTEX		ND		ND		ND		ND		ND		ND	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
D - Diluted based on data validation.
R - Rejected based on data validation.
-- = Data rejected based on data validation.
NC - No criteria.
ND - Not detected based on data validation.
* - criteria is for total xylene.
NYSDEC Remedial Program Soil Cleanup Objectives,
Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-5
Results for Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-04		SB-05		SB-05		SB-06		SB-06		SB-07		SB-07	
Sample ID	of Public Health	SB-04-33-35		SB-05-9-11		SB-05-28-30		SB-06-9-11		SB-06-28-30		SB-07-6.5-8.5		SB-07-23-25	
Lab Sample No.	Commercial	A1168-16		A1168-03		A1168-04		A1168-06		A1168-07		A1168-09		A1168-10	
Sampling Date	Soil Cleanup	1/14/2009		1/15/2009		1/15/2009		1/15/2009		1/15/2009		1/15/2009		1/15/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
1,1,1-Trichloroethane	500	0.0054	U	0.0058	U	0.0055	U	0.0051	U	0.0054	U	0.0064	U	0.0053	U
1,1,2,2-Tetrachloroethane	NC	0.0050	U	0.0054	U	0.0051	U	0.0048	U	0.0051	U	0.0060	U	0.0050	U
1,1,2-Trichloroethane	NC	0.0034	U	0.0037	U	0.0035	U	0.0033	U	0.0035	U	0.0041	U	0.0034	U
1,1,2-Trichlorotrifluoroethane	NC	0.0095	U	0.010	U	0.0097	U	0.0090	U	0.0095	U	0.011	U	0.0094	U
1,1-Dichloroethane	240	0.0063	U	0.0068	U	0.0064	U	0.0060	U	0.0064	U	0.0076	U	0.0062	U
1,1-Dichloroethene	500	0.0056	U	0.0061	U	0.0058	U	0.0054	U	0.0057	U	0.0068	U	0.0056	U
1,2,4-Trichlorobenzene	NC	0.0037	U	0.0040	U	0.0038	U	0.0036	U	0.0038	U	0.0045	U	0.0037	U
1,2-Dibromo-3-Chloropropane	NC	0.0057	U	0.0062	U	0.0059	U	0.0055	U	0.0058	U	0.0069	U	0.0057	U
1,2-Dibromoethane	NC	0.0046	U	0.0050	U	0.0047	U	0.0044	U	0.0047	U	0.0055	U	0.0046	U
1,2-Dichlorobenzene	500	0.0048	U	0.0052	U	0.0050	U	0.0046	U	0.0049	U	0.0058	U	0.0048	U
1,2-Dichloroethane	30	0.0046	U	0.0050	U	0.0047	U	0.0044	U	0.0047	U	0.0055	U	0.0046	U
1,2-Dichloropropane	NC	0.0053	U	0.0057	U	0.0054	U	0.0051	U	0.0053	U	0.0064	U	0.0052	U
1,3-Dichlorobenzene	280	0.0038	U	0.0041	U	0.0039	U	0.0036	U	0.0038	U	0.0045	U	0.0037	U
1,4-Dichlorobenzene	130	0.0043	U	0.0047	U	0.0044	U	0.0041	U	0.0044	U	0.0052	U	0.0043	U
2-Butanone	NC	0.028	U	0.031	U	0.029	U	0.027	U	0.029	U	0.034	U	0.028	U
2-Hexanone	NC	0.025	U	0.027	U	0.025	U	0.024	U	0.025	U	0.030	U	0.024	U
4-Methyl-2-Pentanone	NC	0.022	U	0.023	U	0.022	U	0.021	U	0.022	U	0.026	U	0.021	U
Acetone	500	0.096	U	0.10	U	0.098	U	0.092	U	0.097	U	0.11	U	0.095	U
Benzene	44	0.0041	U	0.0044	U	0.0041	U	0.0039	U	0.0041	U	0.0049	U	0.004	U
Bromodichloromethane	NC	0.0039	U	0.0043	U	0.0040	U	0.0038	U	0.0040	U	0.0047	U	0.0039	U
Bromoform	NC	0.0046	U	0.0049	U	0.0047	U	0.0044	U	0.0046	U	0.0055	U	0.0045	U
Bromomethane	NC	0.011	U	0.012	UJ	0.012	UJ	0.011	UJ	0.012	UJ	0.014	U	0.011	UJ
Carbon Disulfide	NC	0.0061	U	0.0066	U	0.0062	U	0.0058	U	0.0061	U	0.0073	U	0.0060	U
Carbon Tetrachloride	22	0.0033	U	0.0036	U	0.0034	U	0.0032	U	0.0034	U	0.0040	U	0.0033	U
Chlorobenzene	500	0.0043	U	0.0046	U	0.0044	U	0.0041	U	0.0043	U	0.0051	U	0.0042	U
Chloroethane	NC	0.010	U	0.011	U	0.011	U	0.010	U	0.011	U	0.012	U	0.010	U
Chloroform	350	0.005	U	0.0054	U	0.0051	U	0.0048	U	0.0051	U	0.0060	U	0.0050	U
Chloromethane	NC	0.0075	U	0.0081	U	0.0077	U	0.0072	U	0.0076	U	0.0090	U	0.0074	U
cis-1,2-Dichloroethene	500	0.0073	U	0.0079	U	0.0074	U	0.0069	U	0.0073	U	0.0087	U	0.0072	U
cis-1,3-Dichloropropene	NC	0.0038	U	0.0041	U	0.0039	U	0.0036	U	0.0038	U	0.0045	U	0.0037	U

Table 4-5
Results for Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-04		SB-05		SB-05		SB-06		SB-06		SB-07		SB-07	
Sample ID	of Public Health	SB-04-33-35		SB-05-9-11		SB-05-28-30		SB-06-9-11		SB-06-28-30		SB-07-6.5-8.5		SB-07-23-25	
Lab Sample No.	Commercial	A1168-16		A1168-03		A1168-04		A1168-06		A1168-07		A1168-09		A1168-10	
Sampling Date	Soil Cleanup	1/14/2009		1/15/2009		1/15/2009		1/15/2009		1/15/2009		1/15/2009		1/15/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Cyclohexane	NC	0.0057	U	0.0062	U	0.0059	U	0.0055	U	0.0058	U	0.0069	U	0.0057	U
Dibromochloromethane	NC	0.0037	U	0.0040	U	0.0038	U	0.0036	U	0.0038	U	0.0045	U	0.0037	U
Dichlorodifluoromethane	NC	0.011	U	0.012	U	0.011	U	0.010	U	0.011	U	0.013	U	0.011	U
Ethyl Benzene	390	0.0045	U	0.0049	U	0.0046	U	0.0043	U	0.0045	U	0.011	J	0.0045	U
Isopropylbenzene	NC	0.0046	U	0.0050	U	0.0047	U	0.0044	U	0.0047	U	0.032	J	0.0046	U
Methyl Acetate	NC	0.0095	U	0.010	U	0.0097	U	0.0091	U	0.0096	U	0.011	U	0.0094	U
Methyl tert-butyl Ether	500	0.0050	U	0.0054	U	0.0051	U	0.0048	U	0.0051	U	0.0060	U	0.0050	U
Methylcyclohexane	NC	0.0047	U	0.0051	U	0.0048	U	0.0045	U	0.0047	U	0.0056	U	0.0046	U
Methylene Chloride	500	0.014	U	0.027	J	0.018	J	0.013	U	0.014	U	0.016	U	0.017	J
Styrene	NC	0.0035	U	0.0038	U	0.0036	U	0.0033	U	0.0035	U	0.0042	U	0.0035	U
Tetrachloroethene	150	0.0070	U	0.0076	U	0.0071	U	0.0067	U	0.0070	U	0.0084	U	0.0069	U
Toluene	500	0.0050	U	0.0054	U	0.0051	U	0.0047	U	0.0050	U	0.0059	U	0.0049	U
trans-1,2-Dichloroethene	500	0.0069	U	0.0075	U	0.0071	U	0.0066	U	0.0070	U	0.0083	U	0.0069	U
t-1,3-Dichloropropene	NC	0.0047	U	0.0051	U	0.0048	U	0.0045	U	0.0048	U	0.0057	U	0.0047	U
Trichloroethene	200	0.0041	U	0.0045	U	0.0042	U	0.0039	U	0.0041	U	0.0049	U	0.0041	U
Trichlorofluoromethane	NC	0.0067	U	0.0073	U	0.0069	U	0.0064	U	0.0068	U	0.0080	U	0.0066	U
Vinyl Chloride	13	0.0078	U	0.0084	U	0.0079	U	0.0074	U	0.0078	U	0.0093	U	0.0077	U
m/p-Xylenes	500*	0.010	U	0.011	U	0.011	U	0.010	U	0.011	U	0.013	U	0.010	U
o-Xylene	500*	0.0043	U	0.0046	U	0.0044	U	0.0041	U	0.0043	U	0.016	J	0.0042	U
Total VOCs		ND		0.027		0.018		ND		ND		0.059		0.017	
Total BTEX		ND		ND		ND		ND		ND		0.027		ND	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
D - Diluted based on data validation.
R - Rejected based on data validation.
-- = Data rejected based on data validation.
NC - No criteria.
ND - Not detected based on data validation.
* - criteria is for total xylene.
NYSDEC Remedial Program Soil Cleanup Objectives,
Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-5
Results for Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-08		SB-08		SB-08		SB-08		SB-09		SB-09		SB-10	
Sample ID	of Public Health	SB-08-9-13		SB-18-9-13		SB-08-22-24		SB-08-48-50		SB-09-9-11		SB-09-38-40		SB-10-9-10	
Lab Sample No.	Commercial	A1208-04		A1208-05		A1208-06		A1208-07		A1208-09		A1208-10		A1208-12	
Sampling Date	Soil Cleanup	1/20/2009		Duplicate of		1/20/2009		1/20/2009		1/20/2009		1/20/2009		1/21/2009	
Matrix	Objectives	SOIL		SB-08-9-13		SOIL		SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
1,1,1-Trichloroethane	500	0.0054	U	0.0057	U	0.0054	U	0.0059	U	0.0054	U	0.0064	U	0.0052	U
1,1,2,2-Tetrachloroethane	NC	0.0050	U	0.0053	U	0.0050	U	0.0055	U	0.0051	U	0.0060	U	0.0049	U
1,1,2-Trichloroethane	NC	0.0034	U	0.0036	U	0.0034	U	0.0038	U	0.0035	U	0.0041	U	0.0034	U
1,1,2-Trichlorotrifluoroethane	NC	0.0095	U	0.010	U	0.0095	U	0.010	U	0.0095	U	0.011	U	0.0092	U
1,1-Dichloroethane	240	0.0063	U	0.0067	U	0.0063	U	0.0069	U	0.0064	U	0.0075	U	0.0062	U
1,1-Dichloroethene	500	0.0056	U	0.0060	U	0.0056	U	0.0062	U	0.0057	U	0.0067	U	0.0055	U
1,2,4-Trichlorobenzene	NC	0.0037	U	0.0039	U	0.0037	U	0.0041	U	0.0038	U	0.0044	U	0.0036	U
1,2-Dibromo-3-Chloropropane	NC	0.0057	U	0.0061	U	0.0058	U	0.0063	U	0.0058	U	0.0068	U	0.0056	U
1,2-Dibromoethane	NC	0.0046	U	0.0049	U	0.0046	U	0.0051	U	0.0047	U	0.0055	U	0.0045	U
1,2-Dichlorobenzene	500	0.0048	U	0.0051	U	0.0049	U	0.0053	U	0.0049	U	0.0058	U	0.0047	U
1,2-Dichloroethane	30	0.0046	U	0.0049	U	0.0046	U	0.0051	U	0.0047	U	0.0055	U	0.0045	U
1,2-Dichloropropane	NC	0.0053	U	0.0056	U	0.0053	U	0.0058	U	0.0053	U	0.0063	U	0.0052	U
1,3-Dichlorobenzene	280	0.0038	U	0.0040	U	0.0038	U	0.0041	U	0.0038	U	0.0045	U	0.0037	U
1,4-Dichlorobenzene	130	0.0043	U	0.0046	U	0.0043	U	0.0048	U	0.0044	U	0.0052	U	0.0042	U
2-Butanone	NC	0.028	U	0.030	U	0.028	U	0.031	U	0.029	U	0.034	U	0.028	U
2-Hexanone	NC	0.025	U	0.026	U	0.025	U	0.027	U	0.025	U	0.029	U	0.024	U
4-Methyl-2-Pentanone	NC	0.022	U	0.023	U	0.022	U	0.024	U	0.022	U	0.026	U	0.021	U
Acetone	500	--	R	--	R	--	R	--	R	--	R	--	R	--	R
Benzene	44	0.0041	U	0.0043	U	0.0041	U	0.0045	U	0.0041	U	0.0048	U	0.0040	U
Bromodichloromethane	NC	0.0039	U	0.0042	U	0.0040	U	0.0043	U	0.0040	U	0.0047	U	0.0038	U
Bromoform	NC	0.0046	U	0.0048	U	0.0046	U	0.0050	U	0.0046	U	0.0054	U	0.0045	U
Bromomethane	NC	0.011	U	0.012	U	0.011	U	0.013	U	0.012	U	0.014	U	0.011	U
Carbon Disulfide	NC	0.0061	U	0.0064	U	0.0061	U	0.0067	U	0.0061	U	0.0072	U	0.0059	U
Carbon Tetrachloride	22	0.0033	U	0.0035	U	0.0033	U	0.0037	U	0.0034	U	0.0039	U	0.0032	U
Chlorobenzene	500	0.0043	U	0.0045	U	0.0043	U	0.0047	U	0.0043	U	0.0051	U	0.0042	U
Chloroethane	NC	0.010	U	0.011	U	0.010	U	0.011	U	0.011	U	0.012	U	0.010	U
Chloroform	350	0.0050	U	0.0053	U	0.0050	U	0.0055	U	0.0051	U	0.0060	U	0.0049	U
Chloromethane	NC	0.0075	U	0.0079	U	0.0075	U	0.0082	U	0.0076	U	0.0089	U	0.0073	U
cis-1,2-Dichloroethene	500	0.0073	U	0.0077	U	0.0073	U	0.0080	U	0.0073	U	0.0086	U	0.0071	U
cis-1,3-Dichloropropene	NC	0.0038	U	0.0040	U	0.0038	U	0.0041	U	0.0038	U	0.0045	U	0.0037	U

Table 4-5
Results for Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-08		SB-08		SB-08		SB-08		SB-09		SB-09		SB-10	
Sample ID	of Public Health	SB-08-9-13		SB-18-9-13		SB-08-22-24		SB-08-48-50		SB-09-9-11		SB-09-38-40		SB-10-9-10	
Lab Sample No.	Commercial	A1208-04		A1208-05		A1208-06		A1208-07		A1208-09		A1208-10		A1208-12	
Sampling Date	Soil Cleanup	1/20/2009		Duplicate of		1/20/2009		1/20/2009		1/20/2009		1/20/2009		1/21/2009	
Matrix	Objectives	SOIL		SB-08-9-13		SOIL		SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Cyclohexane	NC	0.0057	U	0.0061	U	0.0058	U	0.0063	U	0.0058	U	0.0068	U	0.0056	U
Dibromochloromethane	NC	0.0037	U	0.0039	U	0.0037	U	0.0041	U	0.0038	U	0.0044	U	0.0036	U
Dichlorodifluoromethane	NC	0.011	U	0.011	U	0.011	U	0.012	U	0.011	U	0.013	U	0.011	U
Ethyl Benzene	390	0.0045	U	0.0048	U	0.0045	U	0.0050	U	0.0045	U	0.0054	U	0.0044	U
Isopropylbenzene	NC	0.0046	U	0.0049	U	0.0046	U	0.0051	U	0.0047	U	0.0055	U	0.0045	U
Methyl Acetate	NC	0.0095	U	0.010	U	0.0095	U	0.010	U	0.0096	U	0.011	U	0.0093	U
Methyl tert-butyl Ether	500	0.0050	U	0.0053	U	0.0050	U	0.0055	U	0.0051	U	0.0060	U	0.0049	U
Methylcyclohexane	NC	0.0047	U	0.0049	U	0.0047	U	0.0051	U	0.0047	U	0.0056	U	0.0046	U
Methylene Chloride	500	0.014	U	0.014	U	0.014	U	0.015	U	0.014	U	0.016	U	0.013	U
Styrene	NC	0.0035	U	0.0037	U	0.0035	U	0.0038	U	0.0035	U	0.0042	U	0.0034	U
Tetrachloroethene	150	0.0070	U	0.0074	U	0.0070	U	0.0077	U	0.0070	U	0.0083	U	0.0068	U
Toluene	500	0.0050	U	0.0052	U	0.0050	U	0.0054	U	0.0050	U	0.0059	U	0.0048	U
trans-1,2-Dichloroethene	500	0.0069	U	0.0073	U	0.0069	U	0.0076	U	0.0070	U	0.0082	U	0.0068	U
t-1,3-Dichloropropene	NC	0.0047	U	0.0050	U	0.0047	U	0.0052	U	0.0048	U	0.0056	U	0.0046	U
Trichloroethene	200	0.0041	U	0.0043	U	0.0041	U	0.0045	U	0.0041	U	0.0049	U	0.0040	U
Trichlorofluoromethane	NC	0.0067	U	0.0071	U	0.0067	U	0.0074	U	0.0068	U	0.0080	U	0.0065	U
Vinyl Chloride	13	0.0078	U	0.0082	U	0.0078	U	0.0085	U	0.0078	U	0.0092	U	0.0076	U
m/p-Xylenes	500*	0.010	U	0.011	U	0.010	U	0.012	U	0.011	U	0.012	U	0.010	U
o-Xylene	500*	0.0043	U	0.0045	U	0.0043	U	0.0047	U	0.0043	U	0.0051	U	0.0042	U
Total VOCs		ND		ND		ND		ND		ND		ND		ND	
Total BTEX		ND		ND		ND		ND		ND		ND		ND	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
D - Diluted based on data validation.
R - Rejected based on data validation.
-- = Data rejected based on data validation.
NC - No criteria.
ND - Not detected based on data validation.
* - criteria is for total xylene.
NYSDEC Remedial Program Soil Cleanup Objectives,
Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-5
Results for Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-10		SB-10		SB-11		SB-11		SB-12		SB-12		SB-13	
Sample ID	of Public Health	SB-10-23-25		SB-10-38-40		SB-11-9-11		SB-11-38-40		SB-12-10-12		SB-12-23-25		SB13-10-11	
Lab Sample No.	Commercial	A1208-20		A1208-21		A1208-23		A1208-24		A-1234-02		A1234-03		B2236-01	
Sampling Date	Soil Cleanup	1/21/2009		1/21/2009		1/21/2009		1/21/2009		1/22/2009		1/22/2009		40304	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
1,1,1-Trichloroethane	500	0.0059	U	0.0057	U	0.0053	U	0.0058	U	0.0054	U	0.0057	U	0.0055	U
1,1,2,2-Tetrachloroethane	NC	0.0055	U	0.0053	U	0.0049	U	0.0055	U	0.0051	U	0.0054	U	0.0055	U
1,1,2-Trichloroethane	NC	0.0038	U	0.0037	U	0.0034	U	0.0037	U	0.0035	U	0.0037	U	0.0055	U
1,1,2-Trichlorotrifluoroethane	NC	0.010	U	0.010	U	0.0093	U	0.010	U	0.0096	U	0.010	U	0.0055	U
1,1-Dichloroethane	240	0.0069	U	0.0067	U	0.0062	U	0.0069	U	0.0064	U	0.0067	U	0.0055	U
1,1-Dichloroethene	500	0.0062	U	0.0060	U	0.0056	U	0.0061	U	0.0057	U	0.0060	U	0.0055	U
1,2,4-Trichlorobenzene	NC	0.0041	U	0.0040	U	0.0037	U	0.0040	U	0.0038	U	0.0040	U	0.0055	U
1,2-Dibromo-3-Chloropropane	NC	0.0063	U	0.0061	U	0.0057	U	0.0062	U	0.0058	U	0.0061	U	0.0055	U
1,2-Dibromoethane	NC	0.0051	U	0.0049	U	0.0046	U	0.0050	U	0.0047	U	0.0049	U	0.0055	U
1,2-Dichlorobenzene	500	0.0053	U	0.0052	U	0.0048	U	0.0053	U	0.0049	U	0.0052	U	0.0055	U
1,2-Dichloroethane	30	0.0051	U	0.0049	U	0.0046	U	0.0050	U	0.0047	U	0.0049	U	0.0055	U
1,2-Dichloropropane	NC	0.0058	U	0.0056	U	0.0052	U	0.0058	U	0.0054	U	0.0057	U	0.0055	U
1,3-Dichlorobenzene	280	0.0041	U	0.0040	U	0.0037	U	0.0041	U	0.0038	U	0.0040	U	0.0055	U
1,4-Dichlorobenzene	130	0.0048	U	0.0046	U	0.0043	U	0.0047	U	0.0044	U	0.0046	U	0.0055	U
2-Butanone	NC	0.031	U	0.030	U	0.028	U	0.031	U	0.029	U	0.030	U	0.027	U
2-Hexanone	NC	0.027	U	0.026	U	0.024	U	0.027	U	0.025	U	0.026	U	0.027	U
4-Methyl-2-Pentanone	NC	0.024	U	0.023	U	0.021	U	0.023	U	0.022	U	0.023	U	0.027	U
Acetone	500	–	R	–	R	–	R	–	R	0.097	U	0.10	U	0.026	J
Benzene	44	0.0044	U	0.0043	U	0.0040	U	0.0044	U	0.0041	U	0.0043	U	0.0055	U
Bromodichloromethane	NC	0.0043	U	0.0042	U	0.0039	U	0.0043	U	0.0040	U	0.0042	U	0.0055	U
Bromoform	NC	0.0050	U	0.0049	U	0.0045	U	0.0050	U	0.0046	U	0.0049	U	0.0055	U
Bromomethane	NC	0.013	U	0.012	U	0.011	U	0.012	U	0.012	U	0.012	U	0.0055	U
Carbon Disulfide	NC	0.0067	U	0.0065	U	0.0060	U	0.0066	U	0.0062	U	0.0065	U	0.0055	U
Carbon Tetrachloride	22	0.0036	U	0.0035	U	0.0033	U	0.0036	U	0.0034	U	0.0036	U	0.0055	U
Chlorobenzene	500	0.0047	U	0.0046	U	0.0042	U	0.0047	U	0.0043	U	0.0046	U	0.0055	U
Chloroethane	NC	0.011	U	0.011	U	0.010	U	0.011	U	0.011	U	0.011	U	0.0055	U
Chloroform	350	0.0055	U	0.0053	U	0.0049	U	0.0055	U	0.0051	U	0.0054	U	0.0055	U
Chloromethane	NC	0.0082	U	0.0080	U	0.0074	U	0.0081	U	0.0076	U	0.0080	U	0.0055	U
cis-1,2-Dichloroethene	500	0.0080	U	0.0077	U	0.0072	U	0.0079	U	0.0074	U	0.0078	U	0.0055	U
cis-1,3-Dichloropropene	NC	0.0041	U	0.0040	U	0.0037	U	0.0041	U	0.0038	U	0.0040	U	0.0055	U

Table 4-5
Results for Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-10		SB-10		SB-11		SB-11		SB-12		SB-12		SB-13	
Sample ID	of Public Health	SB-10-23-25		SB-10-38-40		SB-11-9-11		SB-11-38-40		SB-12-10-12		SB-12-23-25		SB13-10-11	
Lab Sample No.	Commercial	A1208-20		A1208-21		A1208-23		A1208-24		A-1234-02		A1234-03		B2236-01	
Sampling Date	Soil Cleanup	1/21/2009		1/21/2009		1/21/2009		1/21/2009		1/22/2009		1/22/2009		40304	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Cyclohexane	NC	0.0063	U	0.0061	U	0.0057	U	0.0062	U	0.0058	U	0.0061	U	0.0055	U
Dibromochloromethane	NC	0.0041	U	0.0040	U	0.0037	U	0.0040	U	0.0038	U	0.0040	U	0.0055	U
Dichlorodifluoromethane	NC	0.012	U	0.012	U	0.011	U	0.012	U	0.011	U	0.012	U	0.0055	U
Ethyl Benzene	390	0.0049	U	0.0048	U	0.0044	U	0.0049	U	0.0046	U	0.0048	U	0.031	
Isopropylbenzene	NC	0.0051	U	0.0049	U	0.0046	U	0.0050	U	0.0047	U	0.0049	U	0.77	E
Methyl Acetate	NC	0.010	U	0.010	U	0.0094	U	0.010	U	0.0097	U	0.010	U	0.0055	U
Methyl tert-butyl Ether	500	0.0055	U	0.0053	U	0.0049	U	0.0055	U	0.0051	U	0.0054	U	0.0055	U
Methylcyclohexane	NC	0.0051	U	0.0050	U	0.0046	U	0.0051	U	0.0047	U	0.0050	U	0.12	
Methylene Chloride	500	0.015	U	0.015	U	0.014	U	0.015	U	0.014	U	0.015	U	0.0055	U
Styrene	NC	0.0038	U	0.0037	U	0.0034	U	0.0038	U	0.0035	U	0.0037	U	0.0055	U
Tetrachloroethene	150	0.0077	U	0.0074	U	0.0069	U	0.0076	U	0.0071	U	0.0075	U	0.0055	U
Toluene	500	0.0054	U	0.0053	U	0.0049	U	0.0054	U	0.0050	U	0.0053	U	0.0055	U
trans-1,2-Dichloroethene	500	0.0076	U	0.0074	U	0.0068	U	0.0075	U	0.0070	U	0.0074	U	0.0055	U
t-1,3-Dichloropropene	NC	0.0052	U	0.0050	U	0.0047	U	0.0051	U	0.0048	U	0.0051	U	0.0055	U
Trichloroethene	200	0.0045	U	0.0044	U	0.0041	U	0.0045	U	0.0042	U	0.0044	U	0.0055	U
Trichlorofluoromethane	NC	0.0073	U	0.0071	U	0.0066	U	0.0073	U	0.0068	U	0.0072	U	0.0055	U
Vinyl Chloride	13	0.0085	U	0.0083	U	0.0077	U	0.0085	U	0.0079	U	0.0083	U	0.0055	U
m/p-Xylenes	500*	0.011	U	0.011	U	0.010	U	0.011	U	0.011	U	0.011	U	0.058	
o-Xylene	500*	0.0047	U	0.0046	U	0.0042	U	0.0047	U	0.0043	U	0.0046	U	0.1	
Total VOCs		ND		ND		ND		ND		ND		ND		1.105	
Total BTEX		ND		ND		ND		ND		ND		ND		0.189	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
D - Diluted based on data validation.
R - Rejected based on data validation.
-- = Data rejected based on data validation.
NC - No criteria.
ND - Not detected based on data validation.
* - criteria is for total xylene.
NYSDEC Remedial Program Soil Cleanup Objectives,
Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-5
Results for Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-13		SB-13		SB-13		SB-14		SB-14		SB-15		SB-15	
Sample ID	of Public Health	SB13-10-11DL		SB13-16-17		SB13-25-26		SB14-10-11.5		SB14-49-50		SB15-15-16		SB15-49-50	
Lab Sample No.	Commercial	B2236-01DL		B2236-02		B2236-03		B2236-04		B2236-05		B2236-06		B2236-07	
Sampling Date	Soil Cleanup	40304		40304		40304		40304		40304		40304		40304	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
1,1,1-Trichloroethane	500	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
1,1,2,2-Tetrachloroethane	NC	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
1,1,2-Trichloroethane	NC	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
1,1,2-Trichlorotrifluoroethane	NC	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
1,1-Dichloroethane	240	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
1,1-Dichloroethene	500	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
1,2,4-Trichlorobenzene	NC	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
1,2-Dibromo-3-Chloropropane	NC	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
1,2-Dibromoethane	NC	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
1,2-Dichlorobenzene	500	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
1,2-Dichloroethane	30	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
1,2-Dichloropropane	NC	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
1,3-Dichlorobenzene	280	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
1,4-Dichlorobenzene	130	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
2-Butanone	NC	2.7	U	0.031	U	0.03	U	0.027	U	0.03	U	0.027	U	0.031	U
2-Hexanone	NC	2.7	U	0.031	U	0.03	U	0.027	U	0.03	U	0.027	U	0.031	U
4-Methyl-2-Pentanone	NC	2.7	U	0.031	U	0.03	U	0.027	U	0.03	U	0.027	U	0.031	U
Acetone	500	2.7	U	0.031	U	0.0079	J	0.013	J	0.03	U	0.027	U	0.031	U
Benzene	44	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Bromodichloromethane	NC	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Bromoform	NC	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Bromomethane	NC	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Carbon Disulfide	NC	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Carbon Tetrachloride	22	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Chlorobenzene	500	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Chloroethane	NC	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Chloroform	350	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Chloromethane	NC	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
cis-1,2-Dichloroethene	500	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
cis-1,3-Dichloropropene	NC	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U

Table 4-5
Results for Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-13		SB-13		SB-13		SB-14		SB-14		SB-15		SB-15	
Sample ID	of Public Health	SB13-10-11DL		SB13-16-17		SB13-25-26		SB14-10-11.5		SB14-49-50		SB15-15-16		SB15-49-50	
Lab Sample No.	Commercial	B2236-01DL		B2236-02		B2236-03		B2236-04		B2236-05		B2236-06		B2236-07	
Sampling Date	Soil Cleanup	40304		40304		40304		40304		40304		40304		40304	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Cyclohexane	NC	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Dibromochloromethane	NC	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Dichlorodifluoromethane	NC	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Ethyl Benzene	390	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Isopropylbenzene	NC	0.25	JD	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Methyl Acetate	NC	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Methyl tert-butyl Ether	500	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Methylcyclohexane	NC	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Methylene Chloride	500	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Styrene	NC	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Tetrachloroethene	150	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Toluene	500	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
trans-1,2-Dichloroethene	500	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
t-1,3-Dichloropropene	NC	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Trichloroethene	200	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Trichlorofluoromethane	NC	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Vinyl Chloride	13	0.55	U	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
m/p-Xylenes	500*	1.1	U	0.012	U	0.012	U	0.011	U	0.012	U	0.011	U	0.012	U
o-Xylene	500*	0.13	JD	0.0061	U	0.006	U	0.0055	U	0.0059	U	0.0055	U	0.0062	U
Total VOCs		0.38		ND		0.0079		0.013		ND		ND		ND	
Total BTEX		0.13		ND		ND		ND		ND		ND		ND	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
D - Diluted based on data validation.
R - Rejected based on data validation.
-- = Data rejected based on data validation.
NC - No criteria.
ND - Not detected based on data validation.
* - criteria is for total xylene.
NYSDEC Remedial Program Soil Cleanup Objectives,
Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-5
Results for Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-16		SB-16		SB-17		SB-17		SB-18		SB-18		SB-98	
Sample ID	of Public Health	SB16-12-13		SB16-49-50		SB17-11.25-12.25		SB17-49-50		SB18-10-12		SB18-49-50		SB98-10-12	
Lab Sample No.	Commercial	B2236-08		B2236-09		B2236-10		B2236-11		B2236-14		B2236-15		B2236-16	
Sampling Date	Soil Cleanup	40305		40305		40305		40305		40305		40305		40305	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
1,1,1-Trichloroethane	500	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
1,1,2,2-Tetrachloroethane	NC	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
1,1,2-Trichloroethane	NC	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
1,1,2-Trichlorotrifluoroethane	NC	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
1,1-Dichloroethane	240	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
1,1-Dichloroethene	500	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
1,2,4-Trichlorobenzene	NC	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
1,2-Dibromo-3-Chloropropane	NC	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
1,2-Dibromoethane	NC	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
1,2-Dichlorobenzene	500	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
1,2-Dichloroethane	30	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
1,2-Dichloropropane	NC	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
1,3-Dichlorobenzene	280	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
1,4-Dichlorobenzene	130	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
2-Butanone	NC	0.027	U	0.03	U	0.027	U	0.029	U	0.027	U	0.031	U	0.028	U
2-Hexanone	NC	0.027	U	0.03	U	0.027	U	0.029	U	0.027	U	0.031	U	0.028	U
4-Methyl-2-Pentanone	NC	0.027	U	0.03	U	0.027	U	0.029	U	0.027	U	0.031	U	0.028	U
Acetone	500	0.027	U	0.03	U	0.027	U	0.029	U	0.027	U	0.031	U	0.028	U
Benzene	44	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Bromodichloromethane	NC	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Bromoform	NC	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Bromomethane	NC	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Carbon Disulfide	NC	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Carbon Tetrachloride	22	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Chlorobenzene	500	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Chloroethane	NC	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Chloroform	350	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Chloromethane	NC	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
cis-1,2-Dichloroethene	500	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
cis-1,3-Dichloropropene	NC	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U

Table 4-5
Results for Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-16		SB-16		SB-17		SB-17		SB-18		SB-18		SB-98	
Sample ID	of Public Health	SB16-12-13		SB16-49-50		SB17-11.25-12.25		SB17-49-50		SB18-10-12		SB18-49-50		SB98-10-12	
Lab Sample No.	Commercial	B2236-08		B2236-09		B2236-10		B2236-11		B2236-14		B2236-15		B2236-16	
Sampling Date	Soil Cleanup	40305		40305		40305		40305		40305		40305		40305	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Cyclohexane	NC	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Dibromochloromethane	NC	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Dichlorodifluoromethane	NC	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Ethyl Benzene	390	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Isopropylbenzene	NC	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Methyl Acetate	NC	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Methyl tert-butyl Ether	500	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Methylcyclohexane	NC	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Methylene Chloride	500	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Styrene	NC	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Tetrachloroethene	150	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Toluene	500	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
trans-1,2-Dichloroethene	500	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
t-1,3-Dichloropropene	NC	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Trichloroethene	200	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Trichlorofluoromethane	NC	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Vinyl Chloride	13	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
m/p-Xylenes	500*	0.011	U	0.012	U	0.011	U	0.012	U	0.011	U	0.012	U	0.011	U
o-Xylene	500*	0.0055	U	0.0059	U	0.0054	U	0.0058	U	0.0055	U	0.0061	U	0.0056	U
Total VOCs		ND		ND		ND		ND		ND		ND		ND	
Total BTEX		ND		ND		ND		ND		ND		ND		ND	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
D - Diluted based on data validation.
R - Rejected based on data validation.
-- = Data rejected based on data validation.
NC - No criteria.
ND - Not detected based on data validation.
* - criteria is for total xylene.
NYSDEC Remedial Program Soil Cleanup Objectives,
Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-6
Results for Semi-Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-01		SB-01		SB-02		SB-02		SB-03		SB-03		SB-03		SB-04		SB-04	
Sample ID	of Public Health	SB-01-9-11		SB-01-18-20		SB-02-8-10		SB-02-33-35		SB-03-10-11		SB-03-11-13		SB-03-20-25		SB-04-9-12		SB-14-9-12	
Lab Sample No.	Commercial	A1168-01		A1136-02		A1136-04		A1136-05		A1136-07		A1136-08		A1136-09		A1168-13		A1168-17	
Sampling Date	Soil Cleanup	1/14/2009		1/13/2009		1/14/2009		1/14/2009		1/14/2009		1/14/2009		1/14/2009		1/14/2009		Duplicate of	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SB-04-9-12	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
1,1-Biphenyl	NC	0.11	U	1.1	U	40		0.20	J	0.011	U	0.011	U	0.011	U	0.011	U	0.011	U
2,2-oxybis(1-Chloropropane)	NC	0.15	U	1.5	U	1.6	U	0.017	U	0.016	U	0.015	U	0.015	U	0.015	U	0.016	U
2,4,5-Trichlorophenol	NC	0.11	U	1.1	U	5.6	UD	0.012	U	0.011	U	0.011	U	0.011	U	0.011	U	0.011	U
2,4,6-Trichlorophenol	NC	0.087	U	0.86	U	4.4	UD	0.0095	U	0.0088	U	0.0086	U	0.0086	U	0.0087	U	0.0089	U
2,4-Dichlorophenol	NC	0.089	U	0.88	U	4.5	UD	0.0097	U	0.0090	U	0.0088	U	0.0088	U	0.0089	U	0.0091	U
2,4-Dimethylphenol	NC	0.11	U	1.1	U	5.7	UD	0.012	U	0.011	U	0.011	U	0.011	U	0.011	U	0.011	U
2,4-Dinitrophenol	NC	0.20	U	2.0	U	10	UJD	0.022	U	0.020	U	0.020	J	0.020	UJ	0.020	U	0.020	U
2,4-Dinitrotoluene	NC	0.12	U	1.2	U	1.3	U	0.013	U	0.013	U	0.012	U	0.012	U	0.012	U	0.013	U
2,6-Dinitrotoluene	NC	0.13	U	1.3	U	1.4	U	0.015	U	0.014	U	0.013	U	0.013	U	0.013	U	0.014	U
2-Chloronaphthalene	NC	0.091	U	0.90	U	0.92	U	0.0099	U	0.0092	U	0.0090	U	0.009	U	0.0091	U	0.0093	U
2-Chlorophenol	NC	0.10	U	1.0	U	5.1	UD	0.011	U	0.010	U	0.010	U	0.010	U	0.010	U	0.010	U
2-Methylnaphthalene	NC	11		1.0	U	240	D	1.2		0.011	U	0.010	U	0.010	U	0.011	U	0.011	U
2-Methylphenol	NC	0.10	U	0.99	U	5.0	UD	0.011	U	0.010	U	0.0099	U	0.0099	U	0.010	U	0.010	U
2-Nitroaniline	NC	0.18	U	1.7	U	1.8	U	0.019	U	0.018	U	0.017	U	0.017	U	0.018	U	0.018	U
2-Nitrophenol	NC	0.14	U	1.4	U	6.9	UD	0.015	U	0.014	U	0.014	U	0.014	U	0.014	U	0.014	U
3,3-Dichlorobenzidine	NC	0.28	U	2.8	U	2.9	U	0.031	U	0.029	U	0.028	U	0.028	U	0.028	U	0.029	U
3+4-Methylphenols	NC	0.11	U	1.1	U	5.8	UD	0.012	U	0.012	U	0.011	U	0.011	U	0.011	U	0.012	U
3-Nitroaniline	NC	0.25	U	2.5	U	2.5	U	0.027	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
4,6-Dinitro-2-methylphenol	NC	0.51	U	5.0	U	26	UD	0.055	U	0.051	U	0.050	U	0.05	U	0.051	U	0.052	U
4-Bromophenyl-phenylether	NC	0.17	U	1.7	U	1.7	U	0.019	U	0.017	U	0.017	U	0.017	U	0.017	U	0.017	U
4-Chloro-3-methylphenol	NC	0.11	U	1.1	U	5.6	UD	0.012	U	0.011	U	0.011	U	0.011	U	0.011	U	0.011	U
4-Chloroaniline	NC	0.25	U	2.4	U	2.5	U	0.027	U	0.025	U	0.024	U	0.024	U	0.025	U	0.025	U
4-Chlorophenyl-phenylether	NC	0.14	U	1.4	U	1.4	U	0.016	U	0.014	U	0.014	U	0.014	U	0.014	U	0.015	U
4-Nitroaniline	NC	0.29	U	2.9	U	3.0	U	0.032	U	0.030	U	0.029	U	0.029	U	0.030	U	0.030	U
4-Nitrophenol	NC	0.22	U	2.2	U	11	UD	0.024	U	0.022	U	0.022	U	0.022	U	0.022	U	0.023	U
Acenaphthene	500	2.1	J	0.80	U	160		0.75		0.0082	U	0.0080	U	0.0080	U	0.0081	U	0.0083	U
Acenaphthylene	500	0.95	J	64		28	J	0.14	J	0.0055	U	0.31	J	0.0054	U	0.076	J	0.083	J
Acetophenone	NC	0.11	U	1.1	U	1.1	U	0.012	U	0.011	U	0.011	U	0.011	U	0.011	U	0.011	U
Anthracene	500	2.9	J	270	D	110		0.51		0.013	U	0.29	J	0.012	U	0.013	U	0.040	J
Atrazine	NC	0.26	U	2.6	U	2.7	U	0.029	U	0.027	U	0.026	U	0.026	U	0.026	U	0.027	U
Benzaldehyde	NC	0.13	U	1.2	U	1.3	U	0.014	U	0.013	U	0.012	U	0.012	U	0.013	U	0.013	U
Benzo(a)anthracene	5.6	2.4	J	330	D	75		0.36	J	0.0091	U	1.2		0.039	J	0.044	J	0.059	J
Benzo(a)pyrene	1	1.7	J	250	D	56		0.28	J	0.011	U	1.2		0.011	U	0.087	J	0.12	J
Benzo(b)fluoranthene	5.6	1.5	J	200	D	53		0.22	J	0.027	U	1.0		0.027	U	0.093	J	0.12	J
Benzo(g,h,i)perylene	500	1.1	J	100		18	J	0.12	J	0.027	U	0.43		0.027	U	0.13	J	0.12	J
Benzo(k)fluoranthene	56	0.55	J	72		15	J	0.10	J	0.017	U	0.36	J	0.017	U	0.017	U	0.053	J
bis(2-Chloroethoxy)methane	NC	0.086	U	0.85	U	0.87	U	0.0093	U	0.0087	U	0.0085	U	0.0085	U	0.0086	U	0.0088	U
bis(2-Chloroethyl)ether	NC	0.049	U	0.48	U	0.50	U	0.0053	U	0.0050	U	0.0048	U	0.0048	U	0.0049	U	0.0050	U
bis(2-Ethylhexyl)phthalate	NC	0.14	U	1.4	U	1.5	U	0.016	U	0.014	U	0.014	U	0.014	U	0.061	J	0.015	U
Butylbenzylphthalate	NC	0.24	U	2.3	U	2.4	U	0.026	U	0.024	U	0.023	U	0.023	U	0.024	U	0.024	U
Caprolactam	NC	0.45	U	4.4	U	4.5	U	0.049	U	0.045	U	0.044	U	0.045	U	0.045	U	0.046	U
Carbazole	NC	0.29	U	2.8	U	2.9	U	0.031	U	0.029	U	0.028	U	0.028	U	0.029	U	0.029	U
Chrysene	56	2.3	J	270	D	62		0.32	J	0.0070	U	1.5		0.0069	U	0.045	J	0.081	J
Dibenz(a,h)anthracene	0.56	0.28	U	14	J	2.8	U	0.030	U	0.028	U	0.075	J	0.027	U	0.028	U	0.028	U
Dibenzofuran	NC	0.80	J	1.1	U	14	J	0.068	J	0.012	U	0.011	U	0.011	U	0.012	U	0.012	U
Diethylphthalate	NC	0.13	U	1.3	U	1.3	U	0.014	U	0.013	U	0.013	U	0.013	U	0.013	U	0.013	U
Dimethylphthalate	NC	0.11	U	1.1	U	1.1	U	0.012	U	0.011	U	0.011	U	0.011	U	0.011	U	0.011	U
Di-n-butylphthalate	NC	0.18	U	1.7	U	1.8	U	0.019	U	0.018	U	0.017	U	0.017	U	0.018	U	0.018	U
Di-n-octyl phthalate	NC	0.13	U	1.3	U	1.3	U	0.014	U	0.013	U	0.013	U	0.013	U	0.013	U	0.013	U
Fluoranthene	500	3.7		600	D	150		0.77		0.0092	U	1.2		0.061	J	0.0091	U	0.059	J
Fluorene	500	2.7	J	23	J	110		0.50		0.010	U	0.010	U	0.010	U	0.010	U	0.010	U
Hexachlorobenzene	NC	0.11	U	1.1	U	1.1	U	0.012	U	0.011	U	0.011	U	0.011	U	0.011	U	0.012	U
Hexachlorobutadiene	NC	0.15	U	1.5	U	1.5	U	0.016	U	0.015	U	0.015	U	0.015	U	0.015	U	0.016	U
Hexachlorocyclopentadiene	NC	0.19	U	1.9	U	1.9	U	0.021	U	0.019	U	0.019	U	0.019	U	0.019	U	0.020	U

Table 4-6
Results for Semi-Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-01		SB-01		SB-02		SB-02		SB-03		SB-03		SB-03		SB-04		SB-04	
Sample ID	of Public Health	SB-01-9-11		SB-01-18-20		SB-02-8-10		SB-02-33-35		SB-03-10-11		SB-03-11-13		SB-03-20-25		SB-04-9-12		SB-14-9-12	
Lab Sample No.	Commercial	A1168-01		A1136-02		A1136-04		A1136-05		A1136-07		A1136-08		A1136-09		A1168-13		A1168-17	
Sampling Date	Soil Cleanup	1/14/2009		1/13/2009		1/14/2009		1/14/2009		1/14/2009		1/14/2009		1/14/2009		1/14/2009		Duplicate of	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SB-04-9-12	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Hexachloroethane	NC	0.12	U	1.2	U	1.2	U	0.013	U	0.012	U	0.012	U	0.012	U	0.012	U	0.013	U
Indeno(1,2,3-cd)pyrene	5.6	0.61	J	56		13	J	0.080	J	0.0096	U	0.34	J	0.0094	U	0.061	J	0.067	J
Isophorone	NC	0.12	U	1.2	U	1.2	U	0.013	U	0.012	U	0.012	U	0.012	U	0.012	U	0.013	U
Naphthalene	500	3.1	J	0.89	U	570	D	2.4	D	0.0091	U	0.0090	U	0.059	J	0.0091	U	0.0092	U
Nitrobenzene	NC	0.088	U	0.87	U	0.89	U	0.0095	U	0.0089	U	0.0087	U	0.0087	U	0.0088	U	0.0090	U
N-Nitroso-di-n-propylamine	NC	0.14	U	1.3	U	1.4	U	0.015	U	0.014	U	0.013	U	0.013	U	0.014	U	0.014	U
N-Nitrosodiphenylamine	NC	1.2	J	2.8	U	2.9	U	0.031	U	0.028	U	0.028	U	0.028	U	0.028	U	0.029	U
Pentachlorophenol	6.7	0.42	U	4.2	U	21	UD	0.046	U	0.043	U	0.042	U	0.042	U	0.043	U	0.043	U
Phenanthrene	500	8.7		390	D	400	D	1.8		0.012	U	0.14	J	0.094	J	0.012	U	0.045	J
Phenol	500	0.10	U	1.0	U	5.3	UD	0.011	U	0.011	U	0.010	U	0.010	U	0.010	U	0.011	U
Pyrene	500	5.8		740	D	180		0.96		0.0083	U	1.8		0.076	J	0.0082	U	0.098	J
Total SVOCs		53		3,400		2,300		11		ND		9.8		0.33		0.60		0.95	
Total PAHs		51		3,400		2,200		11		ND		9.8		0.33		0.54		0.95	
Total Carcinogenic PAHs		9.1		1,200		270		1.4		ND		5.7		0.039		0.33		0.5	
Total Non-Carcinogenic PAHs		42		2,200		2,000		9.2		ND		4.2		0.29		0.21		0.45	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
D - Diluted based on data validation.
NC - No criteria.
ND - Not detected.
Shading indicates concentration exceeds soil cleanup objective.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.
Data reported in number of significant figures reported by the laboratory.

Carcinogenic PAHs comprise: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene

Non-carcinogenic PAHs comprise: 2-Methylnaphthalene, acenaphthene, acenaphthylene, anthracene, benzo(g,h,i)perylene, fluoranthene, fluorine, naphthalene, phenanthrene, and pyrene

Table 4-6
Results for Semi-Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-04		SB-04		SB-04		SB-05		SB-05		SB-06		SB-06		SB-07		SB-07	
Sample ID	of Public Health	SB-04-16-18		SB-04-23-25		SB-04-33-35		SB-05-9-11		SB-05-28-30		SB-06-9-11		SB-06-28-30		SB-07-6.5-8.5		SB-07-23-25	
Lab Sample No.	Commercial	A1168-14		A1168-15		A1168-16		A1168-03		A1168-04		A1168-06		A1168-07		A1168-09		A1168-10	
Sampling Date	Soil Cleanup	1/14/2009		1/14/2009		1/14/2009		1/15/2009		1/15/2009		1/15/2009		1/15/2009		1/15/2009		1/15/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
1,1-Biphenyl	NC	0.11	U	1.0	J	0.011	U	0.012	U	0.011	U	0.011	U	0.011	U	0.26	U	0.011	U
2,2-oxybis(1-Chloropropane)	NC	0.15	U	0.078	U	0.016	U	0.017	U	0.016	U	0.015	U	0.015	U	0.37	U	0.015	U
2,4,5-Trichlorophenol	NC	0.11	U	0.056	U	0.011	U	0.012	U	0.011	U	0.011	U	0.011	U	0.26	U	0.011	U
2,4,6-Trichlorophenol	NC	0.086	U	0.044	U	0.0088	U	0.0094	U	0.0089	U	0.0083	U	0.0087	U	0.21	U	0.0087	U
2,4-Dichlorophenol	NC	0.088	U	0.045	U	0.0090	U	0.0096	U	0.0091	U	0.0085	U	0.0089	U	0.21	U	0.0089	U
2,4-Dimethylphenol	NC	0.11	U	0.057	U	0.011	U	0.012	U	0.011	U	0.011	U	0.011	U	0.27	U	0.011	U
2,4-Dinitrophenol	NC	0.20	U	0.10	U	0.020	U	0.021	U	0.020	U	0.019	U	0.020	U	0.47	U	0.020	U
2,4-Dinitrotoluene	NC	0.12	U	0.063	U	0.013	U	0.013	U	0.013	U	0.012	U	0.012	U	0.30	U	0.012	U
2,6-Dinitrotoluene	NC	0.13	U	0.068	U	0.014	U	0.014	U	0.014	U	0.013	U	0.013	U	0.32	U	0.013	U
2-Chloronaphthalene	NC	0.090	U	0.046	U	0.0092	U	0.0098	U	0.0093	U	0.0087	U	0.0091	U	0.22	U	0.0091	U
2-Chlorophenol	NC	0.10	U	0.051	U	0.010	U	0.011	U	0.010	U	0.0097	U	0.010	U	0.24	U	0.010	U
2-Methylnaphthalene	NC	0.10	U	4.9		0.011	U	0.011	U	0.011	U	0.010	U	0.011	U	0.25	U	0.011	U
2-Methylphenol	NC	0.098	U	0.050	U	0.010	U	0.011	U	0.010	U	0.0095	U	0.010	U	0.24	U	0.010	U
2-Nitroaniline	NC	0.17	U	0.089	U	0.018	U	0.019	U	0.018	U	0.017	U	0.018	U	0.42	U	0.018	U
2-Nitrophenol	NC	0.14	U	0.069	U	0.014	U	0.015	U	0.014	U	0.013	U	0.014	U	0.33	U	0.014	U
3,3-Dichlorobenzidine	NC	0.28	U	0.14	U	0.029	U	0.03	U	0.029	U	0.027	U	0.028	U	0.67	U	0.028	U
3+4-Methylphenols	NC	0.11	U	0.058	U	0.012	U	0.012	U	0.012	U	0.011	U	0.011	U	0.27	U	0.011	U
3-Nitroaniline	NC	0.25	U	0.13	U	0.025	U	0.027	U	0.025	U	0.024	U	0.025	U	0.59	U	0.025	U
4,6-Dinitro-2-methylphenol	NC	0.50	U	0.26	U	0.051	U	0.054	U	0.052	U	0.048	U	0.051	U	1.2	U	0.051	U
4-Bromophenyl-phenylether	NC	0.17	U	0.086	U	0.017	U	0.018	U	0.017	U	0.016	U	0.017	U	0.41	U	0.017	U
4-Chloro-3-methylphenol	NC	0.11	U	0.056	U	0.011	U	0.012	U	0.011	U	0.011	U	0.011	U	0.26	U	0.011	U
4-Chloroaniline	NC	0.24	U	0.12	U	0.025	U	0.027	U	0.025	U	0.024	U	0.025	U	0.59	U	0.025	U
4-Chlorophenyl-phenylether	NC	0.14	U	0.072	U	0.014	U	0.015	U	0.015	U	0.014	U	0.014	U	0.34	U	0.014	U
4-Nitroaniline	NC	0.29	U	0.15	U	0.030	U	0.032	U	0.030	U	0.028	U	0.030	U	0.70	U	0.030	U
4-Nitrophenol	NC	0.22	U	0.11	U	0.023	U	0.024	U	0.023	U	0.021	U	0.022	U	0.53	U	0.022	U
Acenaphthene	500	0.68	J	0.45	J	0.0082	U	0.0087	U	0.0083	U	0.0078	U	0.0081	U	0.19	U	0.0081	U
Acenaphthylene	500	3.3	J	4.8		0.055	J	0.0059	U	0.0056	U	0.0053	U	0.0055	U	9.7		0.0055	U
Acetophenone	NC	0.11	U	0.056	U	0.011	U	0.012	U	0.011	U	0.011	U	0.011	U	0.27	U	0.011	U
Anthracene	500	14		3.6		0.075	J	0.014	U	0.013	U	0.012	U	0.013	U	29		0.013	U
Atrazine	NC	0.26	U	0.13	U	0.027	U	0.028	U	0.027	U	0.025	U	0.026	U	0.63	U	0.026	U
Benzaldehyde	NC	0.12	U	0.063	U	0.013	U	0.013	U	0.013	U	0.012	U	0.013	U	0.30	U	0.013	U
Benzo(a)anthracene	5.6	14		2.7		0.11	J	0.0097	U	0.0092	U	0.0086	U	0.0090	U	41		0.0090	U
Benzo(a)pyrene	1	11		2.1		0.084	J	0.012	U	0.011	U	0.011	U	0.011	U	20		0.011	U
Benzo(b)fluoranthene	5.6	8.9		1.9		0.066	J	0.029	U	0.028	U	0.026	U	0.027	U	41		0.027	U
Benzo(g,h,i)perylene	500	6.3		1.2	J	0.027	U	0.029	U	0.028	U	0.026	U	0.027	U	25		0.027	U
Benzo(k)fluoranthene	56	3.2	J	0.44	J	0.045	J	0.018	U	0.018	U	0.016	U	0.017	U	14		0.017	U
bis(2-Chloroethoxy)methane	NC	0.085	U	0.044	U	0.0087	U	0.0093	U	0.0088	U	0.0082	U	0.0086	U	0.20	U	0.0086	U
bis(2-Chloroethyl)ether	NC	0.048	U	0.025	U	0.0050	U	0.0053	U	0.0050	U	0.0047	U	0.0049	U	0.12	U	0.0049	U
bis(2-Ethylhexyl)phthalate	NC	0.14	U	0.072	U	0.015	U	0.015	U	0.015	U	0.014	U	0.014	U	0.34	U	0.014	U
Butylbenzylphthalate	NC	0.23	U	0.12	U	0.024	U	0.025	U	0.024	U	0.023	U	0.024	U	0.56	U	0.024	U
Caprolactam	NC	0.44	U	0.23	U	0.046	U	0.048	U	0.046	U	0.043	U	0.045	U	1.1	U	0.045	U
Carbazole	NC	0.28	U	0.14	U	0.029	U	0.031	U	0.029	U	0.027	U	0.029	U	0.68	U	0.029	U
Chrysene	56	13		2.3		0.11	J	0.0075	U	0.0071	U	0.0067	U	0.0070	U	39		0.0070	U
Dibenz(a,h)anthracene	0.56	1.1	J	0.14	U	0.028	U	0.030	U	0.028	U	0.026	U	0.028	U	3.0	J	0.028	U
Dibenzofuran	NC	0.11	U	0.37	J	0.012	U	0.012	U	0.012	U	0.011	U	0.012	U	0.28	U	0.012	U
Diethylphthalate	NC	0.13	U	0.065	U	0.013	U	0.014	U	0.013	U	0.012	U	0.013	U	0.30	U	0.013	U
Dimethylphthalate	NC	0.11	U	0.055	U	0.011	U	0.012	U	0.011	U	0.010	U	0.011	U	0.26	U	0.011	U
Di-n-butylphthalate	NC	0.17	U	0.089	U	0.018	U	0.019	U	0.018	U	0.017	U	0.018	U	0.42	U	0.018	U
Di-n-octyl phthalate	NC	0.13	U	0.066	U	0.013	U	0.014	U	0.013	U	0.013	U	0.013	U	0.31	U	0.013	U
Fluoranthene	500	17		5.3		0.14	J	0.0098	U	0.0093	U	0.0087	U	0.0091	U	110	D	0.0091	U
Fluorene	500	2.4	J	3.2		0.010	U	0.011	U	0.010	U	0.0097	U	0.010	U	8.2	J	0.010	U
Hexachlorobenzene	NC	0.11	U	0.057	U	0.011	U	0.012	U	0.012	U	0.011	U	0.011	U	0.27	U	0.011	U
Hexachlorobutadiene	NC	0.15	U	0.077	U	0.015	U	0.016	U	0.016	U	0.015	U	0.015	U	0.36	U	0.015	U
Hexachlorocyclopentadiene	NC	0.19	U	0.097	U	0.019	U	0.021	U	0.020	U	0.018	U	0.019	U	0.46	U	0.019	U

Table 4-6
Results for Semi-Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-04		SB-04		SB-04		SB-05		SB-05		SB-06		SB-06		SB-07		SB-07	
Sample ID	of Public Health	SB-04-16-18		SB-04-23-25		SB-04-33-35		SB-05-9-11		SB-05-28-30		SB-06-9-11		SB-06-28-30		SB-07-6.5-8.5		SB-07-23-25	
Lab Sample No.	Commercial	A1168-14		A1168-15		A1168-16		A1168-03		A1168-04		A1168-06		A1168-07		A1168-09		A1168-10	
Sampling Date	Soil Cleanup	1/14/2009		1/14/2009		1/14/2009		1/15/2009		1/15/2009		1/15/2009		1/15/2009		1/15/2009		1/15/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Hexachloroethane	NC	0.12	U	0.062	U	0.012	U	0.013	U	0.013	U	0.012	U	0.012	U	0.29	U	0.012	U
Indeno(1,2,3-cd)pyrene	5.6	4.2		0.79	J	0.0096	U	0.010	U	0.0097	U	0.0091	U	0.0095	U	13		0.0095	U
Isophorone	NC	0.12	U	0.062	U	0.012	U	0.013	U	0.013	U	0.012	U	0.012	U	0.29	U	0.012	U
Naphthalene	500	0.089	U	6.5		0.060	J	0.0097	U	0.0093	U	0.0087	U	0.0091	U	1.7	J	0.0090	U
Nitrobenzene	NC	0.087	U	0.044	U	0.0089	U	0.0095	U	0.0090	U	0.0084	U	0.0088	U	0.21	U	0.0088	U
N-Nitroso-di-n-propylamine	NC	0.13	U	0.069	U	0.014	U	0.015	U	0.014	U	0.013	U	0.014	U	0.32	U	0.014	U
N-Nitrosodiphenylamine	NC	0.28	U	0.14	U	0.029	U	0.030	U	0.029	U	0.027	U	0.028	U	0.67	U	0.028	U
Pentachlorophenol	6.7	0.42	U	0.21	U	0.043	U	0.046	U	0.043	U	0.041	U	0.043	U	1.0	U	0.042	U
Phenanthrene	500	16		13	D	0.21	J	0.013	U	0.012	U	0.011	U	0.012	U	130	D	0.012	U
Phenol	500	0.10	U	0.053	U	0.011	U	0.011	U	0.011	U	0.010	U	0.010	U	0.25	U	0.010	U
Pyrene	500	31	D	7.9		0.21	J	0.11	J	0.0084	U	0.0078	U	0.0082	U	150	D	0.0082	U
Total SVOCs		150		62		1.2		0.11		ND		ND		ND		640		ND	
Total PAHs		150		61		1.2		0.11		ND		ND		ND		640		ND	
Total Carcinogenic PAHs		55		10		0.42		ND		ND		ND		ND		170		ND	
Total Non-Carcinogenic PAHs		91		51		0.75		0.11		ND		ND		ND		460		ND	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
D - Diluted based on data validation.
NC - No criteria.
ND - Not detected.
Shading indicates concentration exceeds soil cleanup objective.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.
Data reported in number of significant figures reported by the laboratory.

Carcinogenic PAHs comprise: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene

Non-carcinogenic PAHs comprise: 2-Methylnaphthalene, acenaphthene, acenaphthylene, anthracene, benzo(g,h,i)perylene, fluoranthene, fluorine, naphthalene, phenanthrene, and pyrene

Table 4-6
Results for Semi-Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-08		SB-08		SB-08		SB-08		SB-09		SB-09		SB-10		SB-10		SB-10	
Sample ID	of Public Health	SB-08-9-13		SB-18-9-13		SB-08-22-24		SB-08-48-50		SB-09-9-11		SB-09-38-40		SB-10-9-10		SB-10-23-25		SB-10-38-40	
Lab Sample No.	Commercial	A1208-04		A1208-08		A1208-06		A1208-07		A1208-09		A1208-10		A1208-12		A1208-20		A1208-21	
Sampling Date	Soil Cleanup	1/20/2009		Duplicate of		1/20/2009		1/20/2009		1/20/2009		1/20/2009		1/21/2009		1/21/2009		1/21/2009	
Matrix	Objectives	SOIL		SB-08-9-13		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
1,1-Biphenyl	NC	1.8	J	3.3	J	0.011	U	0.012	U	0.011	U	0.013	U	0.011	U	0.012	U	0.012	U
2,2-oxybis(1-Chloropropane)	NC	0.16	U	0.16	U	0.016	U	0.017	U	0.015	U	0.018	U	0.015	U	0.017	U	0.017	U
2,4,5-Trichlorophenol	NC	0.11	U	0.12	U	0.011	U	0.012	U	0.011	U	0.013	U	0.011	U	0.012	U	0.012	U
2,4,6-Trichlorophenol	NC	0.088	U	0.091	U	0.0089	U	0.0096	U	0.0087	U	0.010	U	0.0084	U	0.0095	U	0.0095	U
2,4-Dichlorophenol	NC	0.090	U	0.093	U	0.0091	U	0.0098	U	0.0089	U	0.010	U	0.0086	U	0.0097	U	0.0097	U
2,4-Dimethylphenol	NC	0.11	U	0.12	U	0.011	U	0.012	U	0.011	U	0.013	U	0.011	U	0.012	U	0.012	U
2,4-Dinitrophenol	NC	0.20	U	0.21	U	0.020	U	0.022	U	0.020	U	0.023	U	0.019	U	0.022	U	0.022	U
2,4-Dinitrotoluene	NC	0.13	U	0.13	U	0.013	U	0.014	U	0.012	U	0.014	U	0.012	U	0.013	U	0.013	U
2,6-Dinitrotoluene	NC	0.14	U	0.14	U	0.014	U	0.015	U	0.013	U	0.015	U	0.013	U	0.015	U	0.015	U
2-Chloronaphthalene	NC	0.092	U	0.095	U	0.0093	U	0.010	U	0.0091	U	0.010	U	0.0088	U	0.0099	U	0.0099	U
2-Chlorophenol	NC	0.10	U	0.11	U	0.010	U	0.011	U	0.010	U	0.012	U	0.0098	U	0.011	U	0.011	U
2-Methylnaphthalene	NC	2.9	J	4.0		0.011	U	0.012	U	0.011	U	0.012	U	0.010	U	0.011	U	0.011	U
2-Methylphenol	NC	0.10	U	0.10	U	0.010	U	0.011	U	0.010	U	0.011	U	0.0096	U	0.011	U	0.011	U
2-Nitroaniline	NC	0.18	U	0.18	U	0.018	U	0.019	U	0.018	U	0.020	U	0.017	U	0.019	U	0.019	U
2-Nitrophenol	NC	0.14	U	0.14	U	0.014	U	0.015	U	0.014	U	0.016	U	0.013	U	0.015	U	0.015	U
3,3-Dichlorobenzidine	NC	0.29	U	0.30	U	0.029	U	0.031	U	0.028	U	0.032	U	0.027	U	0.031	U	0.031	U
3+4-Methylphenols	NC	0.12	U	0.12	U	0.012	U	0.013	U	0.011	U	0.013	U	0.011	U	0.012	U	0.012	U
3-Nitroaniline	NC	0.25	U	0.26	U	0.025	U	0.027	U	0.025	U	0.028	U	0.024	U	0.027	U	0.027	U
4,6-Dinitro-2-methylphenol	NC	0.51	U	0.53	U	0.052	U	0.056	U	0.051	U	0.058	U	0.049	U	0.055	U	0.055	U
4-Bromophenyl-phenylether	NC	0.17	U	0.18	U	0.017	U	0.019	U	0.017	U	0.020	U	0.017	U	0.019	U	0.019	U
4-Chloro-3-methylphenol	NC	0.11	U	0.12	U	0.011	U	0.012	U	0.011	U	0.013	U	0.011	U	0.012	U	0.012	U
4-Chloroaniline	NC	0.25	U	0.26	U	0.025	U	0.027	U	0.025	U	0.028	U	0.024	U	0.027	U	0.027	U
4-Chlorophenyl-phenylether	NC	0.14	U	0.15	U	0.015	U	0.016	U	0.014	U	0.016	U	0.014	U	0.016	U	0.016	U
4-Nitroaniline	NC	0.30	U	0.31	U	0.030	U	0.032	U	0.029	U	0.034	U	0.029	U	0.032	U	0.032	U
4-Nitrophenol	NC	0.22	U	0.23	U	0.023	U	0.024	U	0.022	U	0.025	U	0.022	U	0.024	U	0.024	U
Acenaphthene	500	1.3	J	2.3	J	0.0083	U	0.0089	U	0.0081	U	0.0093	U	0.0078	U	0.0088	U	0.0088	U
Acenaphthylene	500	7.0		14		0.14	J	0.043	J	0.0055	U	0.0063	U	0.0053	U	0.088	J	0.064	J
Acetophenone	NC	0.11	U	0.12	U	0.011	U	0.012	U	0.011	U	0.013	U	0.011	U	0.012	U	0.012	U
Anthracene	500	17		46	D	0.34	J	0.11	J	0.013	U	0.014	U	0.012	U	0.19	J	0.19	J
Atrazine	NC	0.27	U	0.28	U	0.027	U	0.029	U	0.026	U	0.030	U	0.026	U	0.029	U	0.029	U
Benzaldehyde	NC	0.13	U	0.13	U	0.013	U	0.014	U	0.013	U	0.014	U	0.012	U	0.014	U	0.014	U
Benzo(a)anthracene	5.6	11		27		0.29	J	0.089	J	0.0090	U	0.010	U	0.0087	U	0.13	J	0.15	J
Benzo(a)pyrene	1	7.6		19		0.19	J	0.058	J	0.011	U	0.013	U	0.011	U	0.090	J	0.095	J
Benzo(b)fluoranthene	5.6	6.0		16		0.15	J	0.044	J	0.027	U	0.031	U	0.026	U	0.072	J	0.087	J
Benzo(g,h,i)perylene	500	3.2	J	7.0		0.10	J	0.030	U	0.027	U	0.031	U	0.026	U	0.029	U	0.054	J
Benzo(k)fluoranthene	56	2.4	J	5.0		0.056	J	0.019	U	0.017	U	0.020	U	0.017	U	0.019	U	0.019	U
bis(2-Chloroethoxy)methane	NC	0.087	U	0.090	U	0.0088	U	0.0095	U	0.0086	U	0.0099	U	0.0083	U	0.0094	U	0.0094	U
bis(2-Chloroethyl)ether	NC	0.050	U	0.051	U	0.0050	U	0.0054	U	0.0049	U	0.0056	U	0.0047	U	0.0053	U	0.0053	U
bis(2-Ethylhexyl)phthalate	NC	0.15	U	0.15	U	0.015	U	0.016	U	0.014	U	0.016	U	0.36	U	0.016	U	0.41	U
Butylbenzylphthalate	NC	0.24	U	0.25	U	0.024	U	0.026	U	0.024	U	0.027	U	0.023	U	0.026	U	0.026	U
Caprolactam	NC	0.45	U	0.47	U	0.046	U	0.049	U	0.045	U	0.051	U	0.044	U	0.049	U	0.049	U
Carbazole	NC	0.29	U	0.30	U	0.029	U	0.032	U	0.029	U	0.033	U	0.028	U	0.031	U	0.031	U
Chrysene	56	11		28		0.24	J	0.068	J	0.007	U	0.0080	U	0.0068	U	0.12	J	0.13	J
Dibenz(a,h)anthracene	0.56	0.63	J	1.7	J	0.028	U	0.030	U	0.028	U	0.032	U	0.027	U	0.030	U	0.030	U
Dibenzofuran	NC	1.3	J	2.6	J	0.012	U	0.013	U	0.012	U	0.013	U	0.011	U	0.013	U	0.013	U
Diethylphthalate	NC	0.13	U	0.13	U	0.013	U	0.014	U	0.013	U	0.015	U	0.012	U	0.014	U	0.014	U
Dimethylphthalate	NC	0.11	U	0.11	U	0.011	U	0.012	U	0.011	U	0.013	U	0.011	U	0.012	U	0.012	U
Di-n-butylphthalate	NC	0.18	U	0.18	U	0.018	U	0.019	U	0.018	U	0.020	U	0.017	U	0.019	U	0.019	U
Di-n-octyl phthalate	NC	0.13	U	0.14	U	0.013	U	0.014	U	0.013	U	0.015	U	0.013	U	0.014	U	0.014	U
Fluoranthene	500	22		47	D	0.49		0.16	J	0.0091	U	0.010	U	0.0088	U	0.26	J	0.27	J
Fluorene	500	11		20		0.21	J	0.061	J	0.010	U	0.012	U	0.0098	U	0.12	J	0.070	J
Hexachlorobenzene	NC	0.11	U	0.12	U	0.012	U	0.012	U	0.011	U	0.013	U	0.011	U	0.012	U	0.012	U
Hexachlorobutadiene	NC	0.15	U	0.16	U	0.016	U	0.017	U	0.015	U	0.017	U	0.015	U	0.017	U	0.017	U
Hexachlorocyclopentadiene	NC	0.19	U	0.20	U	0.020	U	0.021	U	0.019	U	0.022	U	0.019	U	0.021	U	0.021	U

Table 4-6
Results for Semi-Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-08		SB-08		SB-08		SB-08		SB-09		SB-09		SB-10		SB-10		SB-10	
Sample ID	of Public Health	SB-08-9-13		SB-18-9-13		SB-08-22-24		SB-08-48-50		SB-09-9-11		SB-09-38-40		SB-10-9-10		SB-10-23-25		SB-10-38-40	
Lab Sample No.	Commercial	A1208-04		A1208-08		A1208-06		A1208-07		A1208-09		A1208-10		A1208-12		A1208-20		A1208-21	
Sampling Date	Soil Cleanup	1/20/2009		Duplicate of		1/20/2009		1/20/2009		1/20/2009		1/20/2009		1/21/2009		1/21/2009		1/21/2009	
Matrix	Objectives	SOIL		SB-08-9-13		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Hexachloroethane	NC	0.12	U	0.13	U	0.013	U	0.013	U	0.012	U	0.014	U	0.012	U	0.013	U	0.013	U
Indeno(1,2,3-cd)pyrene	5.6	2.7	J	5.0		0.094	J	0.010	U	0.0095	U	0.011	U	0.0092	U	0.010	U	0.010	U
Isophorone	NC	0.12	U	0.13	U	0.013	U	0.014	U	0.012	U	0.014	U	0.012	U	0.013	U	0.013	U
Naphthalene	500	0.092	U	0.49	J	0.0093	U	0.010	U	0.0090	U	0.010	U	0.0088	U	0.0098	U	0.0098	U
Nitrobenzene	NC	0.089	U	0.092	U	0.0090	U	0.0097	U	0.0088	U	0.010	U	0.0085	U	0.0096	U	0.0096	U
N-Nitroso-di-n-propylamine	NC	0.14	U	0.14	U	0.014	U	0.015	U	0.014	U	0.016	U	0.013	U	0.015	U	0.015	U
N-Nitrosodiphenylamine	NC	0.29	U	0.30	U	0.029	U	0.031	U	0.028	U	0.032	U	0.027	U	0.031	U	0.031	U
Pentachlorophenol	6.7	0.43	U	0.45	U	0.043	U	0.047	U	0.042	U	0.049	U	0.041	U	0.046	U	0.046	U
Phenanthrene	500	57	D	120	D	1.2		0.36	J	0.012	U	0.013	U	0.011	U	0.69		0.64	
Phenol	500	0.11	U	0.11	U	0.011	U	0.011	U	0.010	U	0.012	U	0.010	U	0.011	U	0.011	U
Pyrene	500	27	D	64	D	0.73		0.21	J	0.0082	U	0.0094	U	0.0079	U	0.34	J	0.37	J
Total SVOCs		190		430		4.2		1.2		ND		ND		0.058		2.1		2.2	
Total PAHs		190		430		4.2		1.2		ND		ND		ND		2.1		2.1	
Total Carcinogenic PAHs		41		100		1.0		0.26		ND		ND		ND		0.41		0.46	
Total Non-Carcinogenic PAHs		150		330		3.2		0.94		ND		ND		ND		1.7		1.7	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
D - Diluted based on data validation.
NC - No criteria
ND - Not detected.
Shading indicates concentration exceeds soil cleanup objective.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.
Data reported in number of significant figures reported by the laboratory.

Carcinogenic PAHs comprise: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene

Non-carcinogenic PAHs comprise: 2-Methylnaphthalene, acenaphthene, acenaphthylene, anthracene, benzo(g,h,i)perylene, fluoranthene, fluorine, naphthalene, phenanthrene, and pyrene

Table 4-6
Results for Semi-Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-11		SB-11		SB-12		SB-12		SB-13		SB13-10-11DL		SB13-16-17		SB13-16-17DL		SB13-25-26	
Sample ID	of Public Health	SB-11-9-11		SB-11-38-40		SB-12-10-12		SB-12-23-25		SB13-10-11		B2236-01DL		B2236-02		B2236-02DL		B2236-03	
Lab Sample No.	Commercial	A1208-23		A1208-24		A1234-02		A1234-03		B2236-01		5/6/2010		5/6/2010		5/6/2010		5/6/2010	
Sampling Date	Soil Cleanup	1/21/2009		1/21/2009		1/22/2009		1/22/2009		5/6/2010		SOIL		SOIL		SOIL		SOIL	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL		SOIL		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg									
1,1-Biphenyl	NC	0.011	U	0.012	U	0.011	U	0.012	U	0.71		0.72	JD	0.16	J	0.16	JD	0.4	U
2,2-oxybis(1-Chloropropane)	NC	0.015	U	0.017	U	0.016	U	0.016	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
2,4,5-Trichlorophenol	NC	0.011	U	0.012	U	0.012	U	0.012	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
2,4,6-Trichlorophenol	NC	0.0085	U	0.0096	U	0.0090	U	0.0093	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
2,4-Dichlorophenol	NC	0.0087	U	0.0098	U	0.0092	U	0.0094	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
2,4-Dimethylphenol	NC	0.011	U	0.012	U	0.012	U	0.012	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
2,4-Dinitrophenol	NC	0.020	U	0.022	U	0.021	U	0.021	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
2,4-Dinitrotoluene	NC	0.012	U	0.014	U	0.013	U	0.013	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
2,6-Dinitrotoluene	NC	0.013	U	0.015	U	0.014	U	0.014	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
2-Chloronaphthalene	NC	0.0089	U	0.010	U	0.0094	U	0.0096	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
2-Chlorophenol	NC	0.0099	U	0.011	U	0.011	U	0.011	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
2-Methylnaphthalene	NC	0.010	U	0.012	U	0.011	U	0.011	U	5.3	E	5.6	D	0.085	J	0.81	JD	0.4	U
2-Methylphenol	NC	0.0097	U	0.011	U	0.010	U	0.011	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
2-Nitroaniline	NC	0.017	U	0.019	U	0.018	U	0.019	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
2-Nitrophenol	NC	0.013	U	0.015	U	0.014	U	0.015	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
3,3-Dichlorobenzidine	NC	0.028	U	0.031	U	0.029	U	0.030	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
3+4-Methylphenols	NC	0.011	U	0.013	U	0.012	U	0.012	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
3-Nitroaniline	NC	0.024	U	0.027	U	0.026	U	0.026	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
4,6-Dinitro-2-methylphenol	NC	0.050	U	0.056	U	0.052	U	0.054	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
4-Bromophenyl-phenylether	NC	0.017	U	0.019	U	0.018	U	0.018	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
4-Chloro-3-methylphenol	NC	0.011	U	0.012	U	0.011	U	0.012	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
4-Chloroaniline	NC	0.024	U	0.027	U	0.026	U	0.026	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
4-Chlorophenyl-phenylether	NC	0.014	U	0.016	U	0.015	U	0.015	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
4-Nitroaniline	NC	0.029	U	0.033	U	0.031	U	0.031	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
4-Nitrophenol	NC	0.022	U	0.024	U	0.023	U	0.024	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
Acenaphthene	500	0.0079	U	0.0089	U	0.0084	U	0.0086	U	4.2	E	4.6	D	0.13	J	0.13	JD	0.4	U
Acenaphthylene	500	0.0054	U	0.0060	U	0.0057	U	0.0058	U	1.1		1.3	JD	0.38	J	0.42	JD	0.4	U
Acetophenone	NC	0.011	U	0.012	U	0.012	U	0.012	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
Anthracene	500	0.012	U	0.014	U	0.013	U	0.013	U	4.3	E	4.2	D	1.5		1.9	D	0.4	U
Atrazine	NC	0.026	U	0.029	U	0.027	U	0.028	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
Benzaldehyde	NC	0.012	U	0.014	U	0.013	UJ	0.013	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
Benzo(a)anthracene	5.6	0.0088	U	0.0099	U	0.0093	U	0.0096	U	3.1	E	3	D	0.63		0.62	JD	0.4	U
Benzo(a)pyrene	1	0.011	U	0.012	U	0.011	U	0.012	U	1.8		1.9	D	0.48		0.47	JD	0.4	U
Benzo(b)fluoranthene	5.6	0.026	U	0.030	U	0.028	U	0.029	U	1.6		1.5	JD	0.44		0.35	JD	0.4	U
Benzo(g,h,i)perylene	500	0.027	U	0.030	U	0.028	U	0.029	U	0.76		0.74	JD	0.23	J	0.23	JD	0.4	U
Benzo(k)fluoranthene	56	0.017	U	0.019	U	0.018	U	0.018	U	0.53		0.66	JD	0.11	J	0.16	JD	0.4	U
bis(2-Chloroethoxy)methane	NC	0.0084	U	0.0095	U	0.0089	U	0.0091	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
bis(2-Chloroethyl)ether	NC	0.0048	U	0.0054	U	0.0051	U	0.0052	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
bis(2-Ethylhexyl)phthalate	NC	0.37	U	0.41	U	0.14	J	0.063	J	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
Butylbenzylphthalate	NC	0.023	U	0.026	U	0.025	U	0.025	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
Caprolactam	NC	0.044	U	0.050	U	0.047	U	0.048	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
Carbazole	NC	0.028	U	0.032	U	0.030	U	0.030	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
Chrysene	56	0.0068	U	0.0077	U	0.0072	U	0.0074	U	3.4	E	3.5	D	0.81		0.81	JD	0.4	U
Dibenz(a,h)anthracene	0.56	0.027	U	0.030	U	0.029	U	0.029	U	0.16	J	1.8	JD	0.41	U	0.81	JD	0.4	U
Dibenzofuran	NC	0.011	U	0.013	U	0.012	U	0.012	U	0.92		0.82	JD	0.091	J	0.81	JD	0.4	U
Diethylphthalate	NC	0.012	U	0.014	U	0.013	U	0.014	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
Dimethylphthalate	NC	0.011	U	0.012	U	0.011	U	0.012	U	0.36	U	1.8	JD	0.38	JB	0.38	DB	0.33	JB
Di-n-butylphthalate	NC	0.017	U	0.019	U	0.018	U	0.019	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
Di-n-octyl phthalate	NC	0.013	U	0.014	U	0.014	U	0.014	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
Fluoranthene	500	0.0089	U	0.010	U	0.042	J	0.0096	U	6.6	E	6.3	D	1.4		1.4	D	0.4	U
Fluorene	500	0.0099	U	0.011	U	0.010	U	0.011	U	5.2	E	5.5	D	0.23	J	0.2	JD	0.4	U
Hexachlorobenzene	NC	0.011	U	0.012	U	0.012	U	0.012	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
Hexachlorobutadiene	NC	0.015	U	0.017	U	0.016	U	0.016	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
Hexachlorocyclopentadiene	NC	0.019	U	0.021	U	0.020	U	0.020	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U

Table 4-6
Results for Semi-Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-11		SB-11		SB-12		SB-12		SB-13		SB-13		SB-13		SB-13		SB-13	
Sample ID	of Public Health	SB-11-9-11		SB-11-38-40		SB-12-10-12		SB-12-23-25		SB13-10-11		SB13-10-11DL		SB13-16-17		SB13-16-17DL		SB13-25-26	
Lab Sample No.	Commercial	A1208-23		A1208-24		A1234-02		A1234-03		B2236-01		B2236-01DL		B2236-02		B2236-02DL		B2236-03	
Sampling Date	Soil Cleanup	1/21/2009		1/21/2009		1/22/2009		1/22/2009		5/6/2010		5/6/2010		5/6/2010		5/6/2010		5/6/2010	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Hexachloroethane	NC	0.012	U	0.014	U	0.013	U	0.013	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
Indeno(1,2,3-cd)pyrene	5.6	0.0093	U	0.010	U	0.0098	U	0.010	U	0.73		0.62	JD	0.17	J	0.19	JD	0.4	U
Isophorone	NC	0.012	U	0.014	U	0.013	U	0.013	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
Naphthalene	500	0.0088	U	0.010	U	0.0094	U	0.0096	U	0.83		0.74	JD	0.41	U	0.81	JD	0.4	U
Nitrobenzene	NC	0.0086	U	0.0097	U	0.0091	U	0.0093	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
N-Nitroso-di-n-propylamine	NC	0.013	U	0.015	U	0.014	U	0.014	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
N-Nitrosodiphenylamine	NC	0.028	U	0.031	U	0.029	U	0.030	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
Pentachlorophenol	6.7	0.042	U	0.047	U	0.044	U	0.045	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
Phenanthrene	500	0.011	U	0.013	U	0.012	U	0.012	U	7.6	E	8.3	D	3.3	E	3.6	D	0.099	J
Phenol	500	0.010	U	0.011	U	0.011	U	0.011	U	0.36	U	1.8	JD	0.41	U	0.81	JD	0.4	U
Pyrene	500	0.008	U	0.009	U	0.042	J	0.0087	U	7	E	7.7	D	1.7		1.7	D	0.4	U
Total SVOCs		0.11		0.14		0.22		0.063		56		58		12		13		0.43	
Total PAHs		ND		ND		0.084		ND		54		56		12		12		0.099	
Total Carcinogenic PAHs		ND		ND		ND		ND		11		11		2.6		2.6		ND	
Total Non-Carcinogenic PAHs		ND		ND		0.084		ND		43		45		9		9.6		0.099	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
D - Diluted based on data validation.
NC - No criteria.
ND - Not detected.
Shading indicates concentration exceeds soil cleanup objective.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.
Data reported in number of significant figures reported by the laboratory.

Carcinogenic PAHs comprise: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene

Non-carcinogenic PAHs comprise: 2-Methylnaphthalene, acenaphthene, acenaphthylene, anthracene, benzo(g,h,i)perylene, fluoranthene, fluorine, naphthalene, phenanthrene, and pyrene

Table 4-6
Results for Semi-Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-14		SB-14		SB-15		SB-15		SB-15		SB-16		SB-16		SB-17		SB-17	
Sample ID	of Public Health	SB14-10-11.5		SB14-49-50		SB15-15-16		SB15-15-16DL		SB15-49-50		SB16-12-13		SB16-49-50		SB17-11 25-12 25		SB17-49-50	
Lab Sample No.	Commercial	B2236-04		B2236-05		B2236-06		B2236-06DL		B2236-07		B2236-08		B2236-09		B2236-10		B2236-11	
Sampling Date	Soil Cleanup	5/6/2010		5/6/2010		5/6/2010		5/6/2010		5/6/2010		5/7/2010		5/7/2010		5/7/2010		5/7/2010	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
1,1-Biphenyl	NC	0.36	U	0.39	U	1.3	J	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
2,2-oxybis(1-Chloropropane)	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
2,4,5-Trichlorophenol	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
2,4,6-Trichlorophenol	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
2,4-Dichlorophenol	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
2,4-Dimethylphenol	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
2,4-Dinitrophenol	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
2,4-Dinitrotoluene	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
2,6-Dinitrotoluene	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
2-Chloronaphthalene	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
2-Chlorophenol	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
2-Methylnaphthalene	NC	0.36	U	0.39	U	2.4	J	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
2-Methylphenol	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
2-Nitroaniline	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
2-Nitrophenol	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
3,3-Dichlorobenzidine	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
3+4-Methylphenols	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
3-Nitroaniline	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
4,6-Dinitro-2-methylphenol	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
4-Bromophenyl-phenylether	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
4-Chloro-3-methylphenol	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
4-Chloroaniline	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
4-Chlorophenyl-phenylether	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
4-Nitroaniline	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
4-Nitrophenol	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Acenaphthene	500	0.36	U	0.39	U	1.5	J	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Acenaphthylene	500	0.36	U	0.39	U	10		1.1	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Acetophenone	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Anthracene	500	0.36	U	0.39	U	31	E	3.6	D	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Atrazine	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Benzaldehyde	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Benzo(a)anthracene	5.6	0.36	U	0.39	U	35	E	3.4	D	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Benzo(a)pyrene	1	0.36	U	0.39	U	26		2.6	D	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Benzo(b)fluoranthene	5.6	0.36	U	0.39	U	23		1.8	D	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Benzo(g,h,i)perylene	500	0.36	U	0.39	U	13		1.3	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Benzo(k)fluoranthene	56	0.36	U	0.39	U	6.5		1	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
bis(2-Chloroethoxy)methane	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
bis(2-Chloroethyl)ether	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
bis(2-Ethylhexyl)phthalate	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Butylbenzylphthalate	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Caprolactam	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Carbazole	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Chrysene	56	0.36	U	0.39	U	30	E	3.2	D	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Dibenz(a,h)anthracene	0.56	0.36	U	0.39	U	2.6	J	0.26	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Dibenzofuran	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Diethylphthalate	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Dimethylphthalate	NC	0.37	B	0.32	JB	3.6	U	1.8	JD	0.35	JB	0.32	JB	0.28	JB	0.31	JB	0.27	JB
Di-n-butylphthalate	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Di-n-octyl phthalate	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Fluoranthene	500	0.36	U	0.39	U	57	E	7	D	0.41	U	0.061	J	0.39	U	0.36	U	0.38	U
Fluorene	500	0.36	U	0.39	U	16		1.6	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Hexachlorobenzene	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Hexachlorobutadiene	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Hexachlorocyclopentadiene	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U

Table 4-6
Results for Semi-Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-14		SB-14		SB-15		SB-15		SB-15		SB-16		SB-16		SB-17		SB-17	
Sample ID	of Public Health	SB14-10-11.5		SB14-49-50		SB15-15-16		SB15-15-16DL		SB15-49-50		SB16-12-13		SB16-49-50		SB17-11.25-12.25		SB17-49-50	
Lab Sample No.	Commercial	B2236-04		B2236-05		B2236-06		B2236-06DL		B2236-07		B2236-08		B2236-09		B2236-10		B2236-11	
Sampling Date	Soil Cleanup	5/6/2010		5/6/2010		5/6/2010		5/6/2010		5/6/2010		5/7/2010		5/7/2010		5/7/2010		5/7/2010	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Hexachloroethane	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Indeno(1,2,3-cd)pyrene	5.6	0.36	U	0.39	U	11		1	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Isophorone	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Naphthalene	500	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Nitrobenzene	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
N-Nitroso-di-n-propylamine	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
N-Nitrosodiphenylamine	NC	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Pentachlorophenol	6.7	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Phenanthrene	500	0.36	U	0.39	U	77	E	10	D	0.41	U	0.12	J	0.39	U	0.36	U	0.38	U
Phenol	500	0.36	U	0.39	U	3.6	U	1.8	JD	0.41	U	0.36	U	0.39	U	0.36	U	0.38	U
Pyrene	500	0.36	U	0.39	U	71	E	8.2	D	0.41	U	0.079	J	0.39	U	0.36	U	0.38	U
Total SVOCs		0.37		0.32		410		46		0.35		0.58		0.28		0.31		0.27	
Total PAHs		ND		ND		410		46		ND		0.26		ND		ND		ND	
Total Carcinogenic PAHs		ND		ND		130		13		ND		ND		ND		ND		ND	
Total Non-Carcinogenic PAHs		ND		ND		280		33		ND		0.26		ND		ND		ND	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
D - Diluted based on data validation.
NC - No criteria.
ND - Not detected.
Shading indicates concentration exceeds soil cleanup objective.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.
Data reported in number of significant figures reported by the laboratory.

Carcinogenic PAHs comprise: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene

Non-carcinogenic PAHs comprise: 2-Methylnaphthalene, acenaphthene, acenaphthylene, anthracene, benzo(g,h,i)perylene, fluoranthene, fluorine, naphthalene, phenanthrene, and pyrene

Table 4-6
Results for Semi-Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-18		SB-18		SB-98	
Sample ID	of Public Health	SB18-10-12		SB18-49-50		SB98-10-12	
Lab Sample No.	Commercial	B2236-14		B2236-15		B2236-16	
Sampling Date	Soil Cleanup	5/7/2010		5/7/2010		5/7/2010	
Matrix	Objectives	SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg	
1,1-Biphenyl	NC	0.36	U	0.41	U	0.37	U
2,2-oxybis(1-Chloropropane)	NC	0.36	U	0.41	U	0.37	U
2,4,5-Trichlorophenol	NC	0.36	U	0.41	U	0.37	U
2,4,6-Trichlorophenol	NC	0.36	U	0.41	U	0.37	U
2,4-Dichlorophenol	NC	0.36	U	0.41	U	0.37	U
2,4-Dimethylphenol	NC	0.36	U	0.41	U	0.37	U
2,4-Dinitrophenol	NC	0.36	U	0.41	U	0.37	U
2,4-Dinitrotoluene	NC	0.36	U	0.41	U	0.37	U
2,6-Dinitrotoluene	NC	0.36	U	0.41	U	0.37	U
2-Chloronaphthalene	NC	0.36	U	0.41	U	0.37	U
2-Chlorophenol	NC	0.36	U	0.41	U	0.37	U
2-Methylnaphthalene	NC	0.36	U	0.41	U	0.37	U
2-Methylphenol	NC	0.36	U	0.41	U	0.37	U
2-Nitroaniline	NC	0.36	U	0.41	U	0.37	U
2-Nitrophenol	NC	0.36	U	0.41	U	0.37	U
3,3-Dichlorobenzidine	NC	0.36	U	0.41	U	0.37	U
3+4-Methylphenols	NC	0.36	U	0.41	U	0.37	U
3-Nitroaniline	NC	0.36	U	0.41	U	0.37	U
4,6-Dinitro-2-methylphenol	NC	0.36	U	0.41	U	0.37	U
4-Bromophenyl-phenylether	NC	0.36	U	0.41	U	0.37	U
4-Chloro-3-methylphenol	NC	0.36	U	0.41	U	0.37	U
4-Chloroaniline	NC	0.36	U	0.41	U	0.37	U
4-Chlorophenyl-phenylether	NC	0.36	U	0.41	U	0.37	U
4-Nitroaniline	NC	0.36	U	0.41	U	0.37	U
4-Nitrophenol	NC	0.36	U	0.41	U	0.37	U
Acenaphthene	500	0.36	U	0.41	U	0.37	U
Acenaphthylene	500	0.36	U	0.41	U	0.37	U
Acetophenone	NC	0.36	U	0.41	U	0.37	U
Anthracene	500	0.36	U	0.41	U	0.37	U
Atrazine	NC	0.36	U	0.41	U	0.37	U
Benzaldehyde	NC	0.36	U	0.41	U	0.37	U
Benzo(a)anthracene	5.6	0.36	U	0.41	U	0.37	U
Benzo(a)pyrene	1	0.36	U	0.41	U	0.37	U
Benzo(b)fluoranthene	5.6	0.36	U	0.41	U	0.37	U
Benzo(g,h,i)perylene	500	0.36	U	0.41	U	0.37	U
Benzo(k)fluoranthene	56	0.36	U	0.41	U	0.37	U
bis(2-Chloroethoxy)methane	NC	0.36	U	0.41	U	0.37	U
bis(2-Chloroethyl)ether	NC	0.36	U	0.41	U	0.37	U
bis(2-Ethylhexyl)phthalate	NC	0.36	U	0.052	J	0.37	U
Butylbenzylphthalate	NC	0.36	U	0.41	U	0.37	U
Caprolactam	NC	0.36	U	0.41	U	0.37	U
Carbazole	NC	0.36	U	0.41	U	0.37	U
Chrysene	56	0.36	U	0.41	U	0.37	U
Dibenz(a,h)anthracene	0.56	0.36	U	0.41	U	0.37	U
Dibenzofuran	NC	0.36	U	0.41	U	0.37	U
Diethylphthalate	NC	0.36	U	0.41	U	0.37	U
Dimethylphthalate	NC	0.32	JB	0.24	JB	0.28	JB
Di-n-butylphthalate	NC	0.36	U	0.41	U	0.37	U
Di-n-octyl phthalate	NC	0.36	U	0.41	U	0.37	U
Fluoranthene	500	0.36	U	0.41	U	0.37	U
Fluorene	500	0.36	U	0.41	U	0.37	U
Hexachlorobenzene	NC	0.36	U	0.41	U	0.37	U
Hexachlorobutadiene	NC	0.36	U	0.41	U	0.37	U
Hexachlorocyclopentadiene	NC	0.36	U	0.41	U	0.37	U

Table 4-6
Results for Semi-Volatile Organic Compounds in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC Protection	SB-18		SB-18		SB-98	
Sample ID	of Public Health	SB18-10-12		SB18-49-50		SB98-10-12	
Lab Sample No.	Commercial	B2236-14		B2236-15		B2236-16	
Sampling Date	Soil Cleanup	5/7/2010		5/7/2010		5/7/2010	
Matrix	Objectives	SOIL		SOIL		SOIL	
Units		mg/Kg		mg/Kg		mg/Kg	
Hexachloroethane	NC	0.36	U	0.41	U	0.37	U
Indeno(1,2,3-cd)pyrene	5.6	0.36	U	0.41	U	0.37	U
Isophorone	NC	0.36	U	0.41	U	0.37	U
Naphthalene	500	0.36	U	0.41	U	0.37	U
Nitrobenzene	NC	0.36	U	0.41	U	0.37	U
N-Nitroso-di-n-propylamine	NC	0.36	U	0.41	U	0.37	U
N-Nitrosodiphenylamine	NC	0.36	U	0.41	U	0.37	U
Pentachlorophenol	6.7	0.36	U	0.41	U	0.37	U
Phenanthrene	500	0.36	U	0.41	U	0.37	U
Phenol	500	0.36	U	0.41	U	0.37	U
Pyrene	500	0.36	U	0.41	U	0.37	U
Total SVOCs		0.32		0.29		0.28	
Total PAHs		ND		ND		ND	
Total Carcinogenic PAHs		ND		ND		ND	
Total Non-Carcinogenic PAHs		ND		ND		ND	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
D - Diluted based on data validation.
NC - No criteria
ND - Not detected.
Shading indicates concentration exceeds soil cleanup objective.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.
Data reported in number of significant figures reported by the laboratory

Carcinogenic PAHs comprise: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene

Non-carcinogenic PAHs comprise: 2-Methylnaphthalene, acenaphthene, acenaphthylene, anthracene, benzo(g,h,i)perylene, fluoranthene, fluorine, naphthalene, phenanthrene, and pyrene

Table 4-7
Results for Total Cyanide in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC	SB-01		SB-01		SB-02		SB-02	
Sample ID	Protection of	SB-01-9-11		SB-01-18-20		SB-02-8-10		SB-02-33-35	
Lab Sample No.	Public Health	A1168-01		A1136-02		A1136-04		A1136-05	
Sampling Date	Commercial Soil	1/14/2009		1/13/2009		1/14/2009		1/14/2009	
Matrix	Cleanup Objectives	SOIL		SOIL		SOIL		SOIL	
Units	mg/kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Total Cyanide	27	0.568	U	0.564	U	0.669		0.616	U

Notes:
U - Non-detect based on data validation.
NYSDEC Remedial Program Soil Cleanup Objectives,
Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-7
Results for Total Cyanide in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC	SB-03		SB-03		SB-03		SB-04		SB-04	
Sample ID	Protection of	SB-03-10-11		SB-03-11-13		SB-03-20-25		SB-04-9-12		SB-14-9-12	
Lab Sample No.	Public Health	A1136-07		A1136-08		A1136-09		A1168-13		A1168-17	
Sampling Date	Commercial Soil	1/14/2009		1/14/2009		1/14/2009		1/14/2009		Duplicate of	
Matrix	Cleanup Objectives	SOIL		SOIL		SOIL		SOIL		SB04-9-12	
Units	mg/kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Total Cyanide	27	0.575	U	0.562	U	0.561	U	0.571	U	0.581	U

Notes:
U - Non-detect based on data validation.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-7
Results for Total Cyanide in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC	SB-04		SB-04		SB-04		SB-05	SB-05	
Sample ID	Protection of	SB-04-16-18		SB-04-23-25		SB-04-33-35		SB-05-9-11	SB-05-28-30	
Lab Sample No.	Public Health	A1168-14		A1168-15		A1168-16		A1168-03	A1168-04	
Sampling Date	Commercial Soil	1/14/2009		1/14/2009		1/14/2009		1/15/2009	1/15/2009	
Matrix	Cleanup Objectives	SOIL		SOIL		SOIL		SOIL	SOIL	
Units	mg/kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg	mg/Kg	
Total Cyanide	27	0.562	U	0.576	U	0.573	U	0.613	U 0.585	U

Notes:
U - Non-detect based on data validation.
NYSDEC Remedial Program Soil Cleanup Objectives,
Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-7
Results for Total Cyanide in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC	SB-06		SB-06		SB-07		SB-07		SB-08	
Sample ID	Protection of	SB-06-9-11		SB-06-28-30		SB-07-6.5-8.5		SB-07-23-25		SB--08-9-13	
Lab Sample No.	Public Health	A1168-06		A1168-07		A1168-09		A1168-10		A1208-04	
Sampling Date	Commercial Soil	1/15/2009		1/15/2009		1/15/2009		1/15/2009		1/20/2009	
Matrix	Cleanup Objectives	SOIL		SOIL		SOIL		SOIL		SOIL	
Units	mg/kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Total Cyanide	27	0.545	U	0.567	U	0.678	U	0.569	U	0.195	U

Notes:
U - Non-detect based on data validation.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-7
Results for Total Cyanide in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC	SB-08		SB-08		SB-08		SB-09		SB-09	
Sample ID	Protection of	SB-18-9-13		SB-08-22-24		SB-08-48-50		SB-09-9-11		SB-09-38-40	
Lab Sample No.	Public Health	A1208-05		A1208-06		A1208-07		A1208-09		A1208-10	
Sampling Date	Commercial Soil	Duplicate of		1/20/2009		1/20/2009		1/20/2009		1/20/2009	
Matrix	Cleanup Objectives	SB08-9-13		SOIL		SOIL		SOIL		SOIL	
Units	mg/kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Total Cyanide	27	0.597	U	0.581	U	0.625	U	0.566	U	0.649	U

Notes:
U - Non-detect based on data validation.
NYSDEC Remedial Program Soil Cleanup Objectives,
Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-7
Results for Total Cyanide in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC	SB-10		SB-10		SB-10		SB-11		SB-11	
Sample ID	Protection of	SB-10-9-10		SB-10-23-25		SB-10-38-40		SB-11-9-11		SB-11-38-40	
Lab Sample No.	Public Health	A1208-12		A1208-20		A1208-21		A1208-23		A1208-24	
Sampling Date	Commercial Soil	1/21/2009		1/21/2009		1/21/2009		1/21/2009		1/21/2009	
Matrix	Cleanup Objectives	SOIL		SOIL		SOIL		SOIL		SOIL	
Units	mg/kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Total Cyanide	27	0.547	U	0.615	U	0.617	U	0.556	U	0.623	U

Notes:
U - Non-detect based on data validation.
NYSDEC Remedial Program Soil Cleanup Objectives,
Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-7
Results for Total Cyanide in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC	SB-12		SB-12		SB-13		SB-13		SB-13	
Sample ID	Protection of	SB-12-10-12		SB-12-23-25		SB13-10-11		SB13-16-17		SB13-25-26	
Lab Sample No.	Public Health	A1234-02		A1234-03		B2236-01		B2236-02		B2236-03	
Sampling Date	Commercial Soil	1/22/2009		1/22/2009		5/6/2010		5/6/2010		5/6/2010	
Matrix	Cleanup Objectives	SOIL		SOIL		SOIL		SOIL		SOIL	
Units	mg/kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Total Cyanide	27	0.588	U	0.600	U	0.548	U	0.617	U	0.599	U

Notes:
U - Non-detect based on data validation.
NYSDEC Remedial Program Soil Cleanup Objectives,
Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-7
Results for Total Cyanide in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC	SB-14		SB-14		SB-15		SB-15		SB-16	
Sample ID	Protection of	SB14-10-11.5		SB14-49-50		SB15-15-16		SB15-49-50		SB16-12-13	
Lab Sample No.	Public Health	B2236-04		B2236-05		B2236-06		B2236-07		B2236-08	
Sampling Date	Commercial Soil	5/6/2010		5/6/2010		5/6/2010		5/6/2010		5/7/2010	
Matrix	Cleanup Objectives	SOIL		SOIL		SOIL		SOIL		SOIL	
Units	mg/kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Total Cyanide	27	0.552	U	0.598	U	0.549	U	0.624	U	0.551	U

Notes:
U - Non-detect based on data validation.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-7
Results for Total Cyanide in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC	SB-16		SB-17		SB-17		SB-18		SB-18	
Sample ID	Protection of	SB16-49-50		SB17-11.25-12.25		SB17-49-50		SB18-10-12		SB18-49-50	
Lab Sample No.	Public Health	B2236-09		B2236-10		B2236-11		B2236-14		B2236-15	
Sampling Date	Commercial Soil	5/7/2010		5/7/2010		5/7/2010		5/7/2010		5/7/2010	
Matrix	Cleanup Objectives	SOIL		SOIL		SOIL		SOIL		SOIL	
Units	mg/kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Total Cyanide	27	0.592	U	0.546	U	0.582	U	0.547	U	0.618	U

Notes:
U - Non-detect based on data validation.
NYSDEC Remedial Program Soil Cleanup Objectives,
Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-7
Results for Total Cyanide in Subsurface Soil
Babylon Former MGP Site

Sample Location	NYSDEC	SB-98	
Sample ID	Protection of	SB98-10-12	
Lab Sample No.	Public Health	B2236-16	
Sampling Date	Commercial Soil	5/7/2010	
Matrix	Cleanup Objectives	SOIL	
Units	mg/kg	mg/Kg	
Total Cyanide	27	0.555	U

Notes:
U - Non-detect based on data validation.
NYSDEC Remedial Program Soil Cleanup Objectives,
Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.
Data reported in number of significant figures reported by the laboratory.

Table 4-8
Results for Total Organic Carbon in Subsurface Soil
Babylon Former MGP Site

Sample Location	SB-01		SB-01		SB-02		SB-02		SB-03	
Sample ID	SB-01-9-11		SB-01-18-20		SB-02-8-10		SB-02-33-35		SB-03-10-11	
Lab Sample No.	A1168-01		A1136-02		A1136-04		A1136-05		A1136-07	
Sampling Date	1/14/2009		1/13/2009		1/14/2009		1/14/2009		1/14/2009	
Matrix	SOIL		SOIL		SOIL		SOIL		SOIL	
Units	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Total Organic Carbon (TOC)	1,435		757	J	4,148	J	250	UJ	250	UJ

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.

Table 4-8
Results for Total Organic Carbon in Subsurface Soil
Babylon Former MGP Site

Sample Location	SB-03		SB-03		SB-04		SB-04		SB-04	
Sample ID	SB-03-11-13		SB-03-20-25		SB-04-9-12		SB-14-9-12		SB-04-16-18	
Lab Sample No.	A1136-08		A1136-09		A1168-13		A1168-17		A1168-14	
Sampling Date	1/14/2009		1/14/2009		1/14/2009		Duplicate of		1/14/2009	
Matrix	SOIL		SOIL		SOIL		SB04-9-12		SOIL	
Units	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Total Organic Carbon (TOC)	972	J	250	UJ	1,075		1,096		1,464	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.

Table 4-8
Results for Total Organic Carbon in Subsurface Soil
Babylon Former MGP Site

Sample Location	SB-04		SB-04		SB-05		SB-05		SB-06	
Sample ID	SB-04-23-25		SB-04-33-35		SB-05-9-11		SB-05-28-30		SB-06-9-11	
Lab Sample No.	A1168-15		A1168-16		A1168-03		A1168-04		A1168-06	
Sampling Date	1/14/2009		1/14/2009		1/15/2009		1/15/2009		1/15/2009	
Matrix	SOIL		SOIL		SOIL		SOIL		SOIL	
Units	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Total Organic Carbon (TOC)	250	U	250	U	431		250	U	250	U

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.

Table 4-8
Results for Total Organic Carbon in Subsurface Soil
Babylon Former MGP Site

Sample Location	SB-06		SB-07		SB-07		SB-08		SB-08	
Sample ID	SB-06-28-30		SB-07-6.5-8.5		SB-07-23-25		SB-08-9-13		SB-18-9-13	
Lab Sample No.	A1168-07		A1168-09		A1168-10		A1208-04		Duplicate of	
Sampling Date	1/15/2009		1/15/2009		1/15/2009		1/20/2009		SB08-9-13	
Matrix	SOIL		SOIL		SOIL		SOIL		SOIL	
Units	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Total Organic Carbon (TOC)	250	U	6,675		250	U	559	J	1,437	J

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.

Table 4-8
Results for Total Organic Carbon in Subsurface Soil
Babylon Former MGP Site

Sample Location	SB-08		SB-08		SB-09		SB-09		SB-10	
Sample ID	SB-08-22-24		SB-08-48-50		SB-09-9-11		SB-09-38-40		SB-10-9-10	
Lab Sample No.	A1208-06		A1208-07		A1208-09		A1208-10		A1208-12	
Sampling Date	1/20/2009		1/20/2009		1/20/2009		1/20/2009		1/21/2009	
Matrix	SOIL		SOIL		SOIL		SOIL		SOIL	
Units	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Total Organic Carbon (TOC)	250	U	245		276		250	U	426	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.

Table 4-8
Results for Total Organic Carbon in Subsurface Soil
Babylon Former MGP Site

Sample Location	SB-10		SB-10		SB-11		SB-11		SB-12	
Sample ID	SB-10-23-25		SB-10-38-40		SB-11-9-11		SB-11-38-40		SB-12-10-12	
Lab Sample No.	A1208-20		A1208-21		A1208-23		A1208-24		A1234-02	
Sampling Date	1/21/2009		1/21/2009		1/21/2009		1/21/2009		1/22/2009	
Matrix	SOIL		SOIL		SOIL		SOIL		SOIL	
Units	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Total Organic Carbon (TOC)	250	U	350		655		250	U	654	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.

Table 4-8
Results for Total Organic Carbon in Subsurface Soil
Babylon Former MGP Site

Sample Location	SB-12	
Sample ID	SB-12-23-25	
Lab Sample No.	A1234-03	
Sampling Date	1/22/2009	
Matrix	SOIL	
Units	mg/Kg	
Total Organic Carbon (TOC)	280	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
SB-01-9-11: SB = Soil Boring, 01 = Boring ID, 9-11 = 9 to 11 feet bgs.

TABLE 6-1

CONCEPTUAL SITE EXPOSURE PATHWAY MODEL FOR POTENTIAL HUMAN HEALTH COMPLETE EXPOSURE PATHWAYS

Babylon Former Manufacturing Gas Plant Site, West Babylon, New York

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Potentially Complete Exposure Route [1]	Rationale for Potentially Complete Exposure Pathway
Current / Potential Future	Soil	Surface Soil (0 - 0.5 ft bgs)	Onsite - Babylon Former Manufacturing Gas Plant Site	Commercial Worker	Adult (18+ yrs)	Incidental Ingestion Dermal Absorption Inhalation of Particulates (Ambient Air)	A commercial worker onsite has the potential to be exposed to surface soil during outdoor duties. Both incidental ingestion and dermal absorption of the surface soil and indirect exposure are potentially complete pathways. The current asphalt paving on portions of the site would provide a potential barrier to exposure to the underlying soil in these areas, and would prevent that surface soil from being resuspended by wind or vehicle traffic. Volatiles released from groundwater may migrate upward and intrude into the indoor air of the office building where it may be inhaled.
	Groundwater	Indoor Air	Inside Office Building	Commercial Worker	Adult (18+ yrs)	Inhalation of Volatiles (Indoors)	
Potential Future	Soil	Surface Soil (0 - 0.5 ft bgs)	Onsite - Babylon Former Manufacturing Gas Plant Site		Adolescent (12-18 yrs)	Incidental Ingestion Dermal Absorption Inhalation of Particulates (Ambient Air)	The site has a locked gate and 6 - 8 ft high perimeter fence restricting access. There is the potential for trespassers to access the site if these barriers are not maintained or the land use changes in the future. The trespasser is assumed to be an adolescent who is infrequently onsite for short periods of time while walking through the site. Potentially complete pathways are associated with both indirect and direct contact to the surface soil. The current asphalt paving on portions of the site would provide a potential barrier to exposure to the underlying soil in these areas and would prevent that surface soil from being resuspended by wind or vehicle traffic.
		All Soil (0 - 10 ft bgs)	Onsite - Babylon Former Manufacturing Gas Plant Site	Construction Worker	Adult (18+ yrs)	Incidental Ingestion Dermal Absorption Inhalation of Particulates (Ambient Air)	A construction worker would have intermittent outdoor exposure to soil at multiple depths during digging and excavation. Direct exposure may be prevented to some degree by personal protective clothing. Potentially complete exposure pathways are associated with direct and indirect contact to the soil. The current asphalt paving on portions of the site would provide a potential barrier to exposure to the underlying soil in these areas and would prevent that surface soil from being resuspended by wind or vehicle traffic, but exposure to excavation-generated soil dust is likely.
				Utility Worker	Adult (18+ yrs)	Incidental Ingestion Dermal Absorption Inhalation of Particulates (Ambient Air)	A utility worker could have intermittent outdoor exposure to soil at multiple depths during digging and excavation. Direct exposure may be prevented to some degree by personal protective clothing. Potentially complete exposure pathways are associated with direct and indirect contact to the soil. The current asphalt paving on portions of the site would provide a potential barrier to exposure to the underlying soil in these areas and would prevent that surface soil from being resuspended by wind or vehicle traffic, but exposure to excavation-generated soil dust is likely.
	Groundwater	Groundwater	Onsite - Babylon Former Manufacturing Gas Plant Site	Construction Worker	Adult (18+ yrs)	Inhalation of Volatiles (Ambient Air)	Given the depth to groundwater at the site (8 – 18 ft bgs), construction activities are not likely to intrude down into the saturated zone. Excavation activities may facilitate the release of volatiles from groundwater into the ambient air.
				Utility Worker	Adult (18+ yrs)	Inhalation of Volatiles (Ambient Air)	Given the depth to groundwater at the site (8 – 18 ft bgs), construction activities are not likely to intrude down into the saturated zone. Excavation activities may facilitate the release of volatiles from groundwater into the ambient air.

NOTES:

[1] Only complete exposure pathways for the identified current and potential future receptors are presented. Incomplete exposure pathways are discussed in Section 6.5.1.

Table 2
FWIA Surface Soil Screening - Detected Volatile Organic Compounds
Babylon Former MGP Site

Sample Location	NYSDEC	WBSS-01		WBSS-02		WBSS-03		WBSS-04		WBSS-05		WBSS-06		WBSS-07	
Sample ID	Protection	-		-		-		-		-		-		-	
Lab Sample No.	of Ecological	-		-		-		-		-		-		-	
Sampling Date	Resources	8/26/2002		8/27/2002		8/26/2002		8/26/2002		8/26/2002		8/26/2002		8/26/2002	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Units	mg/Kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
1,2-Dibromoethane	NC	NS		NS		NS		NS		NS		NS		NS	
Acetone	2.2	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.001	J	0.005	U
Benzene	70	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Methylene Chloride	12	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.002	J	0.005	U
Toluene	36	0.015	U	0.015	U	0.015	U	0.015	U	0.015	U	0.015	U	0.015	U
Total VOCs		ND		ND		ND		ND		ND		0.003		ND	
Total BTEX		ND		ND		ND		ND		ND		0.003		ND	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
R - Rejected based on data validation.
NC - No criteria.
ND - Not detected.
NS - Not sampled.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.

Table 2

FWIA Surface Soil Screening - Detected Volatile Organic Compounds
Babylon Former MGP Site

Sample Location	NYSDEC	WBSS-08		WBSS-09		WBSS-10		WBSS-11		WBSS-12		WBSS-13	
Sample ID	Protection	-		-		-		-		-		-	
Lab Sample No.	of Ecological	-		-		-		-		-		-	
Sampling Date	Resources	8/27/2002		8/27/2002		8/27/2002		8/27/2002		8/27/2002		8/27/2002	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Units	mg/Kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
1,2-Dibromoethane	NC	NS		NS		NS		NS		NS		NS	
Acetone	2.2	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Benzene	70	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Methylene Chloride	12	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Toluene	36	0.015	U	0.015	U	0.015	U	0.015	U	0.015	U	0.015	U
Total VOCs		ND		ND		ND		ND		ND		ND	
Total BTEX		ND		ND		ND		ND		ND		ND	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
R - Rejected based on data validation.
NC - No criteria.
ND - Not detected.
NS - Not sampled.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.

Table 2

FWIA Surface Soil Screening - Detected Volatile Organic Compounds
Babylon Former MGP Site

Sample Location	NYSDEC	SB-01		SB-02		SB-03		SB-04		SB-05	
Sample ID	Protection	SB-01-0-2		SB-02-0-2		SB-03-0-2		SB-04-0-2		SB-05-0-2	
Lab Sample No.	of Ecological	A1136-01		A1136-03RE		A1136-06		A1168-12		A1168-02	
Sampling Date	Resources	1/13/2009		1/14/2009		1/14/2009		1/14/2009		1/15/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL		SOIL	
Units	mg/Kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
1,2-Dibromoethane	NC	0.0043	J	0.0045	UJ	0.0043	U	0.0045	U	0.0045	U
Acetone	2.2	0.089	U	0.12	J	0.089	U	0.094	U	0.092	U
Benzene	70	0.011	J	0.015	J	0.0038	U	0.004	U	0.0039	U
Methylene Chloride	12	0.013	U	0.013	UJ	0.013	U	0.022	J	0.038	
Toluene	36	0.0046	U	0.0048	UJ	0.0046	U	0.0049	U	0.0048	U
Total VOCs		0.011		0.1267		ND		0.022		0.038	
Total BTEX		0.011		0.0067		ND		ND		ND	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
R - Rejected based on data validation.
NC - No criteria.
ND - Not detected.
NS - Not sampled.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.

Table 2

FWIA Surface Soil Screening - Detected Volatile Organic Compounds
Babylon Former MGP Site

Sample Location	NYSDEC	SB-06		SB-07		SB-08		SB-09		SB-10	
Sample ID	Protection	SB-06-0-2		SB-07-0-2		SB-08-0-2		SB-09-0-2		SB-10-0-2	
Lab Sample No.	of Ecological	A1168-05		A1168-08		A1208-01		A1208-08		A1208-11	
Sampling Date	Resources	1/15/2009		1/15/2009		1/20/2009		1/20/2009		1/21/2009	
Matrix	Objectives	SOIL		SOIL		SOIL		SOIL		SOIL	
Units	mg/Kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
1,2-Dibromoethane	NC	0.0043	U	0.0043	U	0.0048	U	0.0048	U	0.0047	U
Acetone	2.2	0.089	U	0.09	U	0.099	U	--	R	0.098	U
Benzene	70	0.0038	U	0.0038	U	0.0042	U	0.0042	U	0.0041	U
Methylene Chloride	12	0.017	J	0.013	U	0.014	U	0.014	U	0.014	U
Toluene	36	0.0046	U	0.0046	U	0.0051	U	0.0051	U	0.0051	U
Total VOCs		0.017		ND		ND		ND		ND	
Total BTEX		ND		ND		ND		ND		ND	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
R - Rejected based on data validation.
NC - No criteria.
ND - Not detected.
NS - Not sampled.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.

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FWIA Surface Soil Screening - Detected Volatile Organic Compounds
Babylon Former MGP Site

Sample Location	NYSDEC	SB-11		SB-12	
Sample ID	Protection	SB-11-0-2		SB-12-0-2	
Lab Sample No.	of Ecological	A1208-22		A1234-01	
Sampling Date	Resources	1/21/2009		1/22/2009	
Matrix	Objectives	SOIL		SOIL	
Units	mg/Kg	mg/Kg		mg/Kg	
1,2-Dibromoethane	NC	0.0045	U	0.0045	U
Acetone	2.2	0.094	U	0.093	U
Benzene	70	0.004	U	0.004	U
Methylene Chloride	12	0.013	U	0.013	U
Toluene	36	0.0048	U	0.012	J
Total VOCs		ND		0.012	
Total BTEX		ND		0.012	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
R - Rejected based on data validation.
NC - No criteria.
ND - Not detected.
NS - Not sampled.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.

Table 6-3
FWIA Surface Soil Screening - Detected Semi-Volatile Organic Compounds
Babylon Former MGP Site

Sample Location	NYSDEC	USEPA	WBSS-01		WBSS-02		WBSS-03		WBSS-04		WBSS-05	
Sample ID	Protection	Eco-SSL	-		-		-		-		-	
Lab Sample No.	of Ecological	for	-		-		-		-		-	
Sampling Date	Resources	PAHs	8/26/2002		8/27/2002		8/26/2002		8/26/2002		8/26/2002	
Matrix	Soil Cleanup	Soil	SOIL		SOIL		SOIL		SOIL		SOIL	
Units	Objectives	mg/Kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
SVOCs												
Acenaphthylene	NC	29.0	0.3	J	3.5	UD	3.4	UD	7.1	UD	7.4	UD
Anthracene	NC	29.0	3.5	UD	3.5	UD	3.4	UD	7.1	UD	7.4	UD
Benzo(a)anthracene	NC	1.1	**1.2**	**J**	3.5	UD	3.4	UD	7.1	UD	7.4	UD
Benzo(a)pyrene	2.6	1.1	**1.2**	**J**	3.5	UD	3.4	UD	7.1	UD	7.4	UD
Benzo(b)fluoranthene	NC	1.1	**1.2**	**J**	3.5	UD	0.23	J	0.43	J	7.4	UD
Benzo(g,h,i)perylene	NC	1.1	1.1	J	3.5	UD	0.25	J	7.1	UD	7.4	UD
Benzo(k)fluoranthene	NC	1.1	0.9	J	3.5	UD	3.4	UD	7.1	UD	7.4	UD
Chrysene	NC	1.1	**1.3**	**J**	3.5	UD	3.4	UD	7.1	UD	7.4	UD
Dibenz(a,h)anthracene	NC	1.1	0.3	J	3.5	UD	3.4	UD	7.1	UD	7.4	UD
Fluoranthene	NC	29.0	2.0	J	3.5	UD	0.2	J	7.1	UD	7.4	UD
Fluorene	30.0	29.0	3.5	J	3.5	UD	3.4	UD	7.1	UD	7.4	UD
Indeno(1,2,3-cd)pyrene	NC	1.1	0.9	J	3.5	UD	3.4	UD	7.1	UD	7.4	UD
Naphthalene	NC	29.0	3.5	UD	3.5	UD	3.4	UD	7.1	UD	7.4	UD
Phenanthrene	NC	29.0	0.6	J	3.5	UD	3.4	UD	7.1	UD	7.4	UD
Pyrene	NC	1.1	**2.0**	**J**	3.5	UD	0.35	J	7.1	UD	7.4	UD
Dimethylphthalate	NC	NC	NS		NS		NS		NS		NS	
bis(2-Ethylhexyl)phthalate	NC	NC	NS		NS		NS		NS		NS	
Total SVOCs	NC	NC	13.01		ND		1.03		0.43		ND	
Total PAHs	NC	NC	13.01		ND		1.03		0.43		ND	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
D - Diluted based on data validation.
NC - No criteria.
ND - Not detected.
NS - Not sampled.
Shading indicates concentration exceeds soil cleanup objective.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.

Table 6-3
FWIA Surface Soil Screening - Detected Semi-Volatile Organic Compounds
Babylon Former MGP Site

Sample Location	NYSDEC	USEPA	WBSS-06		WBSS-07		WBSS-08		WBSS-09		WBSS-10		WBSS-11	
Sample ID	Protection	Eco-SSL	-		-		-		-		-		-	
Lab Sample No.	of Ecological	for	-		-		-		-		-		-	
Sampling Date	Resources	PAHs	8/26/2002		8/26/2002		8/27/2002		8/27/2002		8/27/2002		8/27/2002	
Matrix	Soil Cleanup	Soil	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Units	Objectives	mg/Kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
SVOCs														
Acenaphthylene	NC	29.0	6.8	UD	6.9	UD	7.2	UD	7.2	UD	3.5	UD	7.1	UD
Anthracene	NC	29.0	6.8	UD	6.9	UD	7.2	UD	7.2	UD	3.5	UD	7.1	UD
Benzo(a)anthracene	NC	1.1	6.8	UD	6.9	UD	7.2	UD	7.2	UD	3.5	UD	0.57	J
Benzo(a)pyrene	2.6	1.1	6.8	UD	6.9	UD	7.2	UD	7.2	UD	3.5	UD	0.49	J
Benzo(b)fluoranthene	NC	1.1	6.8	UD	6.9	UD	7.2	UD	7.2	UD	3.5	UD	0.94	J
Benzo(g,h,i)perylene	NC	1.1	6.8	UD	6.9	UD	7.2	UD	7.2	UD	3.5	UD	7.1	UD
Benzo(k)fluoranthene	NC	1.1	6.8	UD	6.9	UD	7.2	UD	7.2	UD	3.5	UD	7.1	UD
Chrysene	NC	1.1	6.8	UD	6.9	UD	7.2	UD	7.2	UD	3.5	UD	0.54	J
Dibenz(a,h)anthracene	NC	1.1	6.8	UD	6.9	UD	7.2	UD	7.2	UD	3.5	UD	7.1	UD
Fluoranthene	NC	29.0	6.8	UD	6.9	UD	7.2	UD	7.2	UD	3.5	UD	0.86	J
Fluorene	30.0	29.0	6.8	UD	6.9	UD	7.2	UD	7.2	UD	3.5	UD	7.1	UD
Indeno(1,2,3-cd)pyrene	NC	1.1	6.8	UD	6.9	UD	7.2	UD	7.2	UD	3.5	UD	7.1	UD
Naphthalene	NC	29.0	6.8	UD	6.9	UD	7.2	UD	7.2	UD	3.5	UD	7.1	UD
Phenanthrene	NC	29.0	6.8	UD	6.9	UD	7.2	UD	7.2	UD	3.5	UD	0.42	J
Pyrene	NC	1.1	6.8	UD	6.9	UD	7.2	UD	7.2	UD	3.5	UD	0.67	J
Dimethylphthalate	NC	NC	NS		NS		NS		NS		NS		NS	
bis(2-Ethylhexyl)phthalate	NC	NC	NS		NS		NS		NS		NS		NS	
Total SVOCs	NC	NC	ND		ND		ND		ND		ND		4.49	
Total PAHs	NC	NC	ND		ND		ND		ND		ND		4.49	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
D - Diluted based on data validation.
NC - No criteria.
ND - Not detected.
NS - Not sampled.
Shading indicates concentration exceeds soil cleanup objective.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.

Table 6-3
FWIA Surface Soil Screening - Detected Semi-Volatile Organic Compounds
Babylon Former MGP Site

Sample Location	NYSDEC	USEPA	WBSS-12		WBSS-13		SB-01		SB-02		SB-03	
Sample ID	Protection	Eco-SSL	-		-		SB-01-0-2		SB-02-0-2		SB-03-0-2	
Lab Sample No.	of Ecological	for	-		-		A1136-01		A1136-03		A1136-06	
Sampling Date	Resources	PAHs	8/27/2002		8/27/2002		1/13/2009		1/14/2009		1/14/2009	
Matrix	Soil Cleanup	Soil	SOIL		SOIL		SOIL		SOIL		SOIL	
Units	Objectives	mg/Kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
SVOCs												
Acenaphthylene	NC	29.0	0.39	U	0.34	U	0.5	U	0.048	J	0.5	U
Anthracene	NC	29.0	0.39	U	0.34	U	1.2	U	0.067	J	1.2	U
Benzo(a)anthracene	NC	1.1	0.043	J	0.026	J	0.83	U	0.16	J	0.83	U
Benzo(a)pyrene	2.6	1.1	0.044	J	0.028	J	1	U	0.15	J	1	U
Benzo(b)fluoranthene	NC	1.1	0.052	J	0.054	J	2.5	U	0.15	J	2.5	U
Benzo(g,h,i)perylene	NC	1.1	0.035	J	0.021	J	2.5	U	0.077	J	2.5	U
Benzo(k)fluoranthene	NC	1.1	0.034	J	0.420	U	1.6	U	0.055	J	1.6	U
Chrysene	NC	1.1	0.057	J	0.033	J	0.64	U	0.16	J	0.64	U
Dibenz(a,h)anthracene	NC	1.1	0.39	U	0.34	U	2.5	U	0.027	U	2.5	U
Fluoranthene	NC	29.0	0.092	J	0.048	J	0.83	U	0.19	J	0.83	U
Fluorene	30.0	29.0	0.39	U	0.34	U	0.92	U	0.01	U	0.93	U
Indeno(1,2,3-cd)pyrene	NC	1.1	0.031	J	0.34	U	0.87	U	0.052	J	0.87	U
Naphthalene	NC	29.0	0.39	U	0.34	U	0.83	U	0.042	J	0.83	U
Phenanthrene	NC	29.0	0.050	J	0.34	U	1.1	U	0.059	J	1.1	U
Pyrene	NC	1.1	0.072	J	0.037	J	0.75	U	0.26	J	0.75	U
Dimethylphthalate	NC	NC	NS		NS		1	U	0.011	U	1	U
bis(2-Ethylhexyl)phthalate	NC	NC	NS		NS		1.3	U	0.014	U	1.3	U
Total SVOCs	NC	NC	0.51		0.247		0.011		1.47		ND	
Total PAHs	NC	NC	0.51		0.247		ND		1.47		ND	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
D - Diluted based on data validation.
NC - No criteria.
ND - Not detected.
NS - Not sampled.
Shading indicates concentration exceeds soil cleanup objective.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.

Table 6-3
FWIA Surface Soil Screening - Detected Semi-Volatile Organic Compounds
Babylon Former MGP Site

Sample Location	NYSDEC	USEPA	SB-04		SB-05		SB-06		SB-07		SB-08	
Sample ID	Protection	Eco-SSL	SB-04-0-2		SB-05-0-2		AB-06-0-2		SB-07-0-2		SB-08-0-2	
Lab Sample No.	of Ecological	for	A1168-12		A1168-02		A1168-05		A1168-08		A1208-01	
Sampling Date	Resources	PAHs	1/14/2009		1/15/2009		1/15/2009		1/15/2009		1/20/2009	
Matrix	Soil Cleanup	Soil	SOIL		SOIL		SOIL		SOIL		SOIL	
Units	Objectives	mg/Kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
SVOCs												
Acenaphthylene	NC	29.0	0.11	U	0.11	U	0.1	U	0.0051	U	0.0056	U
Anthracene	NC	29.0	0.25	U	0.24	U	0.24	U	0.012	U	0.013	U
Benzo(a)anthracene	NC	1.1	**1.6**	**J**	0.99	J	0.17	U	0.1	J	0.0092	U
Benzo(a)pyrene	2.6	1.1	1.6	J	1	J	0.21	U	0.076	J	0.011	U
Benzo(b)fluoranthene	NC	1.1	**2.5**	**J**	**1.4**	**J**	0.51	U	0.16	J	0.028	U
Benzo(g,h,i)perylene	NC	1.1	**1.3**	**J**	0.95	J	0.51	U	0.12	J	0.028	U
Benzo(k)fluoranthene	NC	1.1	1.1	J	0.33	U	0.32	U	0.057	J	0.018	U
Chrysene	NC	1.1	**2**	**J**	0.95	J	0.13	U	0.13	J	0.0071	U
Dibenz(a,h)anthracene	NC	1.1	0.55	U	0.53	U	0.52	U	0.026	U	0.028	U
Fluoranthene	NC	29.0	4.8	J	1.9	J	0.17	U	0.15	J	0.0093	U
Fluorene	30.0	29.0	0.2	U	0.19	U	0.19	U	0.0093	U	0.01	U
Indeno(1,2,3-cd)pyrene	NC	1.1	0.8	J	0.18	U	0.18	U	0.064	J	0.0097	U
Naphthalene	NC	29.0	0.18	U	0.17	U	0.17	U	0.0084	U	0.0092	U
Phenanthrene	NC	29.0	2.9	J	1.1	J	0.22	U	0.1	J	0.012	U
Pyrene	NC	1.1	**4**	**J**	**1.7**	**J**	0.15	U	0.2	J	0.0084	U
Dimethylphthalate	NC	NC	2.8	J	0.21	U	0.21	U	0.01	U	0.011	U
bis(2-Ethylhexyl)phthalate	NC	NC	0.29	U	0.27	U	0.27	U	0.013	U	0.52	
Total SVOCs	NC	NC	25.4		9.99		ND		1.157		0.52	
Total PAHs	NC	NC	22.6		9.99		ND		1.157		ND	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
D - Diluted based on data validation.
NC - No criteria.
ND - Not detected.
NS - Not sampled.
Shading indicates concentration exceeds soil cleanup objective.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.

Table 6-3
FWIA Surface Soil Screening - Detected Semi-Volatile Organic Compounds
Babylon Former MGP Site

Sample Location	NYSDEC	USEPA	SB-09		SB-10		SB-11		SB-12	
Sample ID	Protection	Eco-SSL	SB-09-0-2		SB-10-0-2		SB-11-0-2		SB-12-0-2	
Lab Sample No.	of Ecological	for	A1208-08		A1208-11		A1208-22		A1234-01	
Sampling Date	Resources	PAHs	1/20/2009		1/21/2009		1/21/2009		1/22/2009	
Matrix	Soil Cleanup	Soil	SOIL		SOIL		SOIL		SOIL	
Units	Objectives	mg/Kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg	
SVOCs										
Acenaphthylene	NC	29.0	0.11	U	0.0055	U	0.054	U	0.11	U
Anthracene	NC	29.0	0.26	U	0.013	U	0.12	U	0.24	U
Benzo(a)anthracene	NC	1.1	0.18	U	0.0091	U	0.089	U	0.17	U
Benzo(a)pyrene	2.6	1.1	0.23	U	0.011	U	0.11	U	0.21	U
Benzo(b)fluoranthene	NC	1.1	0.55	U	0.027	U	0.27	U	0.78	J
Benzo(g,h,i)perylene	NC	1.1	0.56	U	0.027	U	0.27	U	0.53	U
Benzo(k)fluoranthene	NC	1.1	0.35	U	0.017	U	0.17	U	0.33	U
Chrysene	NC	1.1	0.14	U	0.007	U	0.069	U	0.13	U
Dibenz(a,h)anthracene	NC	1.1	0.56	U	0.028	U	0.27	U	0.53	U
Fluoranthene	NC	29.0	0.19	U	0.0092	U	0.09	U	1.3	J
Fluorene	30.0	29.0	0.21	U	0.01	U	0.1	U	0.2	U
Indeno(1,2,3-cd)pyrene	NC	1.1	0.19	U	0.0096	U	0.094	U	0.18	U
Naphthalene	NC	29.0	0.19	U	0.0091	U	0.09	U	0.18	U
Phenanthrene	NC	29.0	0.24	U	0.012	U	0.12	U	0.23	U
Pyrene	NC	1.1	0.17	U	0.0083	U	0.081	U	1.1	J
Dimethylphthalate	NC	NC	0.22	U	0.011	U	0.11	U	0.21	U
bis(2-Ethylhexyl)phthalate	NC	NC	0.29	U	0.44		0.14	U	0.28	U
Total SVOCs	NC	NC	ND		0.44		ND		3.18	
Total PAHs	NC	NC	ND		ND		ND		2.4	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
D - Diluted based on data validation.
NC - No criteria.
ND - Not detected.
NS - Not sampled.
Shading indicates concentration exceeds soil cleanup objective.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.

Table 6-4
FWIA Surface Soil Screening - Detected Metals
Babylon Former MGP Site

Sample Location	NYSDEC	USEPA	WBSS-01		WBSS-02		WBSS-03		WBSS-04		WBSS-05		WBSS-06	
Sample ID	Protection	Eco-SSL	-		-		-		-		-		-	
Lab Sample No.	of Ecological	for	-		-		-		-		-		-	
Sampling Date	Resources	Metals	8/26/2002		8/27/2002		8/26/2002		8/26/2002		8/26/2002		8/26/2002	
Matrix	Soil Cleanup	Soil	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Units	Objectives	mg/Kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Metals														
Arsenic	13	18	3.5		1.8		2.7		1.7		3.1		3.0	
Barium	433	330	35.7		18.3		17.5		29.5		32.5		23.5	
Cadmium	4	0.38	0.9		0.54	U	0.8		2.0		0.82		0.52	U
Chromium	41	26	9.6		4.1		7.2		4.5		8.5		9.5	
Lead	63	16	60.3		15.4		15.3		13.70		**98.6**		60.0	
Mercury	0.18	-	**0.5**		0.077		0.085		0.128		0.134		0.090	
Selenium	3.9	-	3.2	U	3.2	U	3.2	U	3.3	U	3.4	U	3.1	U
Silver	2	4.2	1.1		0.5	U	0.5	U	1.1	U	1.1	U	1.0	U

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
D - Diluted based on data validation.
N - < Instrument detection limit based on data validation.
NC - No criteria.
ND - Not detected.
NS - Not sampled.
Shading indicates concentration exceeds soil cleanup objective.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.

Table 6-4
FWIA Surface Soil Screening - Detected Metals
Babylon Former MGP Site

Sample Location	NYSDEC	USEPA	WBSS-07		WBSS-08		WBSS-09		WBSS-10		WBSS-11		WBSS-12		WBSS-13	
Sample ID	Protection	Eco-SSL	-		-		-		-		-		-		-	
Lab Sample No.	of Ecological	for	-		-		-		-		-		-		-	
Sampling Date	Resources	Metals	8/26/2002		8/27/2002		8/27/2002		8/27/2002		8/27/2002		8/27/2002		8/27/2002	
Matrix	Soil Cleanup	Soil	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Units	Objectives	mg/Kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Metals																
Arsenic	13	18	1.3		4.9		7.0		2.5		3.1		6.80		4.30	
Barium	433	330	17.2		40.6		37.3		27.8		54.8		19.50		24.40	
Cadmium	4	0.38	0.54	U	0.6		0.6	U	1.0		0.54	U	0.6	U	0.630	U
Chromium	41	26	4.6		10.1		9.0		10.6		14.2	N	8.4		8.2	
Lead	63	16	20.0		38.2		21.7		33.4		50.4	N	23.0		43.5	
Mercury	0.18	-	0.025		0.109		0.065		0.092		0.141		0.042		0.047	
Selenium	3.9	-	3.2	U	3.2	U	3.4	U	3.3	U	3.3	U	3.6	U	3.8	U
Silver	2	4.2	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.2	U	1.3	U

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
D - Diluted based on data validation.
N - < Instrument detection limit based on data validation.
NC - No criteria.
ND - Not detected.
NS - Not sampled.
Shading indicates concentration exceeds soil cleanup objective.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.

Table 6-5
FWIA Surface Soil Screening - Detected Total Cyanide
Babylon Former MGP Site

Sample Location	NYSDEC	WBSS-01		WBSS-02		WBSS-03		WBSS-04		WBSS-05		WBSS-06	
Sample ID	Protection	-		-		-		-		-		-	
Lab Sample No.	of Ecological	-		-		-		-		-		-	
Sampling Date	Resources	8/26/2002		8/27/2002		8/26/2002		8/26/2002		8/26/2002		8/26/2002	
Matrix	SOIL	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Units	mg/Kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Total Cyanide	NC	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Notes:
U - Non-detect based on data validation.
NC - No criteria.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.

Table 6-5
FWIA Surface Soil Screening - Detected Total Cyanide
Babylon Former MGP Site

Sample Location	NYSDEC	WBSS-07		WBSS-08		WBSS-09		WBSS-10		WBSS-11		WBSS-12	
Sample ID	Protection	-		-		-		-		-		-	
Lab Sample No.	of Ecological	-		-		-		-		-		-	
Sampling Date	Resources	8/26/2002		8/27/2002		8/27/2002		8/27/2002		8/27/2002		8/27/2002	
Matrix	SOIL	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Units	mg/Kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Total Cyanide	NC	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Notes:
U - Non-detect based on data validation.
NC - No criteria.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.

Table 6-5
FWIA Surface Soil Screening - Detected Total Cyanide
Babylon Former MGP Site

Sample Location	NYSDEC	WBSS-13		SB-01		SB-02		SB-03		SB-04	
Sample ID	Protection	-		SB-01-0-2		SB-02-0-2		SB-03-0-2		SB04-0-2	
Lab Sample No.	of Ecological	-		A1136-01		A1136-03		A1136-06		A1168-12	
Sampling Date	Resources	8/27/2002		1/13/2009		1/14/2009		1/14/2009		1/14/2009	
Matrix	SOIL	SOIL		SOIL		SOIL		SOIL		SOIL	
Units	mg/Kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Total Cyanide	NC	0.5	U	0.523	U	0.563	U	0.52	U	0.566	U

Notes:
U - Non-detect based on data validation.
NC - No criteria.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.

Table 6-5
FWIA Surface Soil Screening - Detected Total Cyanide
Babylon Former MGP Site

Sample Location	NYSDEC	SB-05		SB-06		SB-07		SB-08	
Sample ID	Protection	SB05-0-2		SB06-0-2		SB07-0-2		SB08-0-2	
Lab Sample No.	of Ecological	A1168-02		A1168-05		A1168-08		A1208-01	
Sampling Date	Resources	1/15/2009		1/15/2009		1/15/2009		1/20/2009	
Matrix	SOIL	SOIL		SOIL		SOIL		SOIL	
Units	mg/Kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Total Cyanide	NC	0.542	U	0.535	U	0.527	U	0.581	U

Notes:
U - Non-detect based on data validation.
NC - No criteria.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.

Table 6-5
FWIA Surface Soil Screening - Detected Total Cyanide
Babylon Former MGP Site

Sample Location	NYSDEC	SB-09		SB-10		SB-11		SB-12	
Sample ID	Protection	SB09-0-2		SB10-0-2		SB11-0-2		SB12-0-2	
Lab Sample No.	of Ecological	A1208-08		A1208-11		A1208-22		A1234-01	
Sampling Date	Resources	1/20/2009		1/21/2009		1/21/2009		1/22/2009	
Matrix	SOIL	SOIL		SOIL		SOIL		SOIL	
Units	mg/Kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Total Cyanide	NC	0.584	U	0.577	U	0.562	U	0.549	U

Notes:
U - Non-detect based on data validation.
NC - No criteria.
NYSDEC Remedial Program Soil Cleanup Objectives, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.

Table 3-1 - Surface Soil Sample Results - BTEX

2/16/2003

Site Name: **Babylon** Matrix: Soil	Sample Point -> Sample Date -> Lab # -> Dilution ->	WBSS-01 8/26/2002 STLBuffalo 1	WBSS-02 8/27/2002 STLBuffalo 1	WBSS-03 8/26/2002 STLBuffalo 1	WBSS-04 8/26/2002 STLBuffalo 1	WBSS-05 8/26/2002 STLBuffalo 1	WBSS-06 8/26/2002 STLBuffalo 1
Parameters	**SCG** **Units**						
Benzene	**0.06** mg/kg	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Ethylbenzene	**5.5** mg/kg	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 J
Toluene	**1.5** mg/kg	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Xylenes (Total)	**1.2** mg/kg	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.002 J
Total BTEX	mg/kg	ND	ND	ND	ND	ND	0.003

Table 3-1 - Surface Soil Sample Results - BTEX

2/16/2003

Site Name: **Babylon** Matrix: Soil	Sample Point -> Sample Date -> Lab # -> Dilution ->	WBSS-07 8/26/2002 STLBuffalo 1	WBSS-08 8/27/2002 STLBuffalo 1	WBSS-09 8/27/2002 STLBuffalo 1	WBSS-10 8/27/2002 STLBuffalo 1	WBSS-11 8/27/2002 STLBuffalo 1	WBSS-12 8/27/2002 STLBuffalo 1
Parameters	**SCG** **Units**						
Benzene	**0.06** mg/kg	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Ethylbenzene	**5.5** mg/kg	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Toluene	**1.5** mg/kg	0.005 U	0.005 U	0.005 U	0 005 U	0.005 U	0 005 U
Xylenes (Total)	**1.2** mg/kg	0.015 U	0.015 U	0.015 U	0.015 U	0 015 U	0.015 U
Total BTEX	mg/kg	ND	ND	ND	ND	ND	ND

Table 3-1 - Surface Soil Sample Results - BTEX

2/16/2003

Site Name: **Babylon**								
		Sample Point ->	WBSS-13					
		Sample Date ->	8/27/2002					
		Lab # ->	STLBuffalo					
Matrix: Soil		Dilution ->	1					
Parameters	**SCG**	**Units**						
Benzene	**0.06**	mg/kg	0.005 U					
Ethylbenzene	**5.5**	mg/kg	0.005 U					
Toluene	**1.5**	mg/kg	0.005 U					
Xylenes (Total)	**1.2**	mg/kg	0.015 U					
Total BTEX		mg/kg	ND					

Notes:

ND - Not Detected

Flags:

J - Estimated Value; Conc. < MDL

U - Parameter Not Detected at MDL

Regulatory Standards, Criteria, and Guidance (SCG) Type:

NYSDEC Soil SCG

Table 3-2 - Surface Soil Sample Results - PAHs

2/16/2003

Site Name: Babylon Matrix: Soil	Sample Point -> Sample Date -> Lab # -> Dilution ->	WBSS-01 8/26/2002 STLBuffalo 10	WBSS-02 8/27/2002 STLBuffalo 10	WBSS-03 8/26/2002 STLBuffalo 10	WBSS-04 8/26/2002 STLBuffalo 20	WBSS-05 8/26/2002 STLBuffalo 20	WBSS-06 8/26/2002 STLBuffalo 20
Parameters	**SCG Units**						
2-Methylnaphthalene	**36.4** mg/kg	3.500 U	3.500 U	3.400 U	7.100 U	7.400 U	6.800 U
Acenaphthene	**50** mg/kg	3.500 U	3.500 U	3.400 U	7.100 U	7.400 U	6.800 U
Acenaphthylene	**41** mg/kg	0.300 J	3.500 U	3.400 U	7.100 U	7.400 U	6.800 U
Anthracene	**50** mg/kg	3.500 U	3.500 U	3.400 U	7.100 U	7.400 U	6.800 U
Benz(a)anthracene	**0.224** mg/kg	**[1.200 J]**	3.500 U	3.400 U	7.100 U	7.400 U	6.800 U
Benzo(a)pyrene	**0.061** mg/kg	**[1.200 J]**	3.500 U	3.400 U	7.100 U	7.400 U	6.800 U
Benzo(b)fluoranthene	**1.1** mg/kg	**[1.200 J]**	3.500 U	0.230 J	0.430 J	7.400 U	6.800 U
Benzo(g,h,i)perylene	**50** mg/kg	1.100 J	3.500 U	0.250 J	7.100 U	7.400 U	6.800 U
Benzo(k)fluoranthene	**1.1** mg/kg	0.900 J	3.500 U	3.400 U	7.100 U	7.400 U	6.800 U
Chrysene	**0.4** mg/kg	**[1.300 J]**	3.500 U	3.400 U	7.100 U	7.400 U	6.800 U
Dibenz(a,h)anthracene	**0.014** mg/kg	**[0.320 J]**	3.500 U	3.400 U	7.100 U	7.400 U	6.800 U
Fluoranthene	**50** mg/kg	2.000 J	3.500 U	0.200 J	7.100 U	7.400 U	6.800 U
Fluorene	**50** mg/kg	3.500 U	3.500 U	3.400 U	7.100 U	7.400 U	6.800 U
Indeno(1,2,3-cd)pyrene	**3.2** mg/kg	0.900 J	3.500 U	3.400 U	7.100 U	7.400 U	6.800 U
Naphthalene	**13** mg/kg	3.500 U	3.500 U	3.400 U	7.100 U	7.400 U	6.800 U
Phenanthrene	**50** mg/kg	0.590 J	3.500 U	3.400 U	7.100 U	7.400 U	6.800 U
Pyrene	**50** mg/kg	2.000 J	3.500 U	0.350 J	7.100 U	7.400 U	6.800 U
Total CPAH	**10** mg/kg	7.020	ND	0.230	0.430	ND	ND
Total PAH	**500** mg/kg	13.010	ND	1.030	0.430	ND	ND

Table 3-2 - Surface Soil Sample Results - PAHs

2/16/2003

Site Name: Babylon Matrix: Soil	Sample Point -> Sample Date -> Lab # -> Dilution ->	WBSS-07 8/26/2002 STLBuffalo 20	WBSS-08 8/27/2002 STLBuffalo 20	WBSS-09 8/27/2002 STLBuffalo 20	WBSS-10 8/27/2002 STLBuffalo 10	WBSS-11 8/27/2002 STLBuffalo 20	WBSS-12 8/27/2002 STLBuffalo 1
Parameters	**SCG Units**						
2-Methylnaphthalene	**36.4** mg/kg	6.900 U	7.200 U	7.200 U	3.500 U	7.100 U	0.390 U
Acenaphthene	**50** mg/kg	6.900 U	7.200 U	7.200 U	3.500 U	7.100 U	0.390 U
Acenaphthylene	**41** mg/kg	6.900 U	7.200 U	7.200 U	3.500 U	7.100 U	0.390 U
Anthracene	**50** mg/kg	6.900 U	7.200 U	7.200 U	3.500 U	7.100 U	0.390 U
Benz(a)anthracene	**0.224** mg/kg	6.900 U	7.200 U	7.200 U	3.500 U	**[0.570 J]**	0.043 J
Benzo(a)pyrene	**0.061** mg/kg	6.900 U	7.200 U	7.200 U	3.500 U	**[0.490 J]**	0.044 J
Benzo(b)fluoranthene	**1.1** mg/kg	6.900 U	7.200 U	7.200 U	3.500 U	0.940 J	0.052 J
Benzo(g,h,i)perylene	**50** mg/kg	6.900 U	7.200 U	7.200 U	3.500 U	7.100 U	0.035 J
Benzo(k)fluoranthene	**1.1** mg/kg	6.900 U	7.200 U	7.200 U	3.500 U	7.100 U	0.034 J
Chrysene	**0.4** mg/kg	6.900 U	7.200 U	7.200 U	3.500 U	**[0.540 J]**	0.057 J
Dibenz(a,h)anthracene	**0.014** mg/kg	6.900 U	7.200 U	7.200 U	3.500 U	7.100 U	0.390 U
Fluoranthene	**50** mg/kg	6.900 U	7.200 U	7.200 U	3.500 U	0.860 J	0.092 J
Fluorene	**50** mg/kg	6.900 U	7.200 U	7.200 U	3.500 U	7.100 U	0 390 U
Indeno(1,2,3-cd)pyrene	**3.2** mg/kg	6.900 U	7.200 U	7.200 U	3.500 U	7.100 U	0 031 J
Naphthalene	**13** mg/kg	6.900 U	7.200 U	7.200 U	3.500 U	7.100 U	0.390 U
Phenanthrene	**50** mg/kg	6.900 U	7.200 U	7.200 U	3.500 U	0.420 J	0.050 J
Pyrene	**50** mg/kg	6.900 U	7.200 U	7.200 U	3.500 U	0.670 J	0.072 J
Total CPAH	**10** mg/kg	ND	ND	ND	ND	2.540	0.261
Total PAH	**500** mg/kg	ND	ND	ND	ND	4.490	0.510

Table 3-2 - Surface Soil Sample Results - PAHs

2/16/2003

Site Name: Babylon								
	Sample Point ->	WBSS-13						
	Sample Date ->	8/27/2002						
	Lab # ->	STLBuffalo						
Matrix: Soil	Dilution ->	1						
Parameters	**SCG** **Units**							
2-Methylnaphthalene	**36.4** mg/kg	0.420 U						
Acenaphthene	**50** mg/kg	0.420 U						
Acenaphthylene	**41** mg/kg	0.420 U						
Anthracene	**50** mg/kg	0.420 U						
Benz(a)anthracene	**0.224** mg/kg	0.026 J						
Benzo(a)pyrene	**0.061** mg/kg	0.028 J						
Benzo(b)fluoranthene	**1.1** mg/kg	0.054 J						
Benzo(g,h,i)perylene	**50** mg/kg	0.021 J						
Benzo(k)fluoranthene	**1.1** mg/kg	0.420 U						
Chrysene	**0.4** mg/kg	0.033 J						
Dibenz(a,h)anthracene	**0.014** mg/kg	0.420 U						
Fluoranthene	**50** mg/kg	0.048 J						
Fluorene	**50** mg/kg	0.420 U						
Indeno(1,2,3-cd)pyrene	**3.2** mg/kg	0.420 U						
Naphthalene	**13** mg/kg	0.420 U						
Phenanthrene	**50** mg/kg	0.420 U						
Pyrene	**50** mg/kg	0.037 J						
Total CPAH	**10** mg/kg	0.141						
Total PAH	**500** mg/kg	0.247						

Notes:

Carcinogenic PAH (CPAH) subset includes: Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, and Indeno(1,2,3-cd)pyrene.

Results ≥SCG are reported in bold and bracketed.

ND - Not Detected

Flags:

J - Estimated Value; Conc. < MDL

U - Parameter Not Detected at MDL

Regulatory Standards, Criteria, and Guidance (SCG) Type:

NYSDEC Soil SCG

Table 3-3 - Surface Soil Sample Results - Pesticides

2/16/2003

Site Name: **Babylon**		Sample Point ->	WBSS-12	WBSS-13				
		Sample Date ->	8/27/2002	8/27/2002				
		Lab # ->	STLBuffalo	STLBuffalo				
Matrix: Soil		Dilution ->	4	4				
Parameters	**SCG**	**Units**						
4,4'-DDD	**2.9**	mg/kg	0.0081 U	0.0085 U				
4,4'-DDE	**2.1**	mg/kg	0.0081 U	0.0085 U				
4,4'-DDT	**2.1**	mg/kg	0.0081 U	0.0085 U				
Aldrin	**0.041**	mg/kg	0.0081 U	0.0085 U				
Alpha-BHC	**0.11**	mg/kg	0.0081 U	0.0085 U				
Beta-BHC	**0.2**	mg/kg	0.0081 U	0.0085 U				
Delta-BHC	**0.3**	mg/kg	0.0081 U	0.0085 U				
Dieldrin	**0.044**	mg/kg	0.0081 U	0.0085 U				
Endosulfan I	**0.9**	mg/kg	0.0081 U	0.0085 U				
Endosulfan II	**0.9**	mg/kg	0.0081 U	0.0085 U				
Endosulfan Sulfate	**1**	mg/kg	0.0081 U	0.0085 U				
Endrin	**0.1**	mg/kg	0.0081 U	0.0085 U				
Endrin Aldehyde		mg/kg	0.0081 U	0.0085 U				
Gamma-BHC	**0.06**	mg/kg	0.0081 U	0.0085 U				
Heptachlor	**0.1**	mg/kg	0.0081 U	0.0085 U				
Heptachlor Epoxide	**0.02**	mg/kg	0.0081 U	0.0085 U				
Methoxychlor	**10**	mg/kg	0.0081 U	0.0085 U				
Tech-Chlordane	**0.54**	mg/kg	0.0800 U	0.0850 U				
Toxaphene		mg/kg	0.1600 U	0.1700 U				

Notes:

Flags:

U - Parameter Not Detected at MDL

Regulatory Standards, Criteria, and Guidance (SCG) Type:

NYSDEC Soil SCG

Table 3-4 - Surface Soil Sample Results - Herbicides

2/16/2003

Site Name: **Babylon** Matrix: Soil	Sample Point -> Sample Date -> Lab # -> Dilution ->	WBSS-12 8/27/2002 STLBuffalo 1	WBSS-13 8/27/2002 STLBuffalo 1				
Parameters	**SCG** **Units**						
2,4,5-T	**1.9** mg/kg	0.020 U	0.022 U				
2,4,5-TP	mg/kg	0.020 U	0.022 U				
2,4-D	**0.5** mg/kg	0.020 U	0.022 U				
Dalapon	mg/kg	0.020 U	0.022 U				
Dicamba	mg/kg	0.020 U	0.022 U				
Dichloroprop	mg/kg	0.020 U	0.022 U				
Dinoseb	mg/kg	0.020 U	0.022 U				
Picloram	mg/kg	0.020 U	0.022 U				

Notes:

Flags:

U - Parameter Not Detected at MDL

Regulatory Standards, Criteria, and Guidance (SCG) Type:

NYSDEC Soil SCG

Table 3-5 - Surface Soil Sample Results - Inorganics

2/16/2003

Site Name: **Babylon** Matrix: Soil	Sample Point -> Sample Date -> Lab # -> Dilution ->	WBSS-01 8/26/2002 STLBuffalo 1	WBSS-02 8/27/2002 STLBuffalo 1	WBSS-03 8/26/2002 STLBuffalo 1	WBSS-04 8/26/2002 STLBuffalo 1	WBSS-05 8/26/2002 STLBuffalo 1	WBSS-06 8/26/2002 STLBuffalo 1
Parameters	**SCG** **Units**						
Arsenic	**7.5** mg/kg	3.5	1.8	2.7	1.7	3.1	3
Barium	**300** mg/kg	35.7	18.3	17.5	29.5	32.5	23.5
Cadmium	**10** mg/kg	0.91	0.54 U	0.84	2	0.82	0.52 U
Chromium	**50** mg/kg	9.6	4.1	7.2	4.5	8.5	9.5
Lead	**500** mg/kg	60.3	15.4	15.3	13.7	98.6	60
Mercury	**0.1** mg/kg	**[0.524]**	0.077	0.085	**[0.128]**	**[0.134]**	0.09
Selenium	**2** mg/kg	3.2 U	3.2 U	3.2 U	3.3 U	3.4 U	3.1 U
Silver	mg/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U
Total Cyanide	mg/kg	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Table 3-5 - Surface Soil Sample Results - Inorganics

2/16/2003

Site Name: Babylon Matrix: Soil			Sample Point -> Sample Date -> Lab # -> Dilution ->	WBSS-07 8/26/2002 STLBuffalo 1	WBSS-08 8/27/2002 STLBuffalo 1	WBSS-09 8/27/2002 STLBuffalo 1	WBSS-10 8/27/2002 STLBuffalo 1	WBSS-11 8/27/2002 STLBuffalo 1	WBSS-12 8/27/2002 STLBuffalo 1
Parameters	**SCG**	**Units**							
Arsenic	**7.5**	mg/kg		1.3	4.9	7	2.5	3.1	6.8
Barium	**300**	mg/kg		17.2	40.6	37.3	27.8	54.8 EN	19.5
Cadmium	**10**	mg/kg		0.54 U	0.55	0.57 U	1	0.54 U	0.6 U
Chromium	**50**	mg/kg		4.6	10.1	9	10.6	14.2 N	8.4
Lead	**500**	mg/kg		20	38.2	21.7	33.4	50.4 N	23
Mercury	**0.1**	mg/kg		0.025	**[0.109]**	0.065	0.092	**[0.141]**	0.042
Selenium	**2**	mg/kg		3.2 U	3.2 U	3.4 U	3.3 U	3.3 U	3.6 U
Silver		mg/kg		1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.2 U
Total Cyanide		mg/kg		0.5 U	0.5 U	0.5 U	0.98	0.5 U	0.5 U

Table 3-5 - Surface Soil Sample Results - Inorganics

2/16/2003

Site Name: **Babylon** Matrix: Soil		Sample Point -> Sample Date -> Lab # -> Dilution ->	WBSS-13 8/27/2002 STLBuffalo 1					
Parameters	**SCG**	**Units**						
Arsenic	**7.5**	mg/kg	4.3					
Barium	**300**	mg/kg	24.4					
Cadmium	**10**	mg/kg	0.63 U					
Chromium	**50**	mg/kg	8.2					
Lead	**500**	mg/kg	43.5					
Mercury	**0.1**	mg/kg	0.047					
Selenium	**2**	mg/kg	3.8 U					
Silver		mg/kg	1.3 U					
Total Cyanide		mg/kg	0.5 U					

Notes:

Results ≥SCG are reported in bold and bracketed.

Flags:

E - Result > Calibration Range

N - MS Sample Recovery > QC Limits

U - Parameter Not Detected at MDL

Regulatory Standards, Criteria, and Guidance (SCG) Type:

NYSDEC Soil SCG

Table 3-6 - Subsurface Soil Sample Results - BTEX

2/16/2003

Site Name: **Babylon**	Sample Point ->	WBSB-01	WBSB-01	WBSB-02	WBSB-02	WBSB-03	WBSB-03
	Sample Depth ->	8 - 12	12 - 16	8 - 12	12 - 16	8 - 12	12 - 16
	Sample Date ->	8/27/2002	8/27/2002	8/27/2002	8/27/2002	8/27/2002	8/27/2002
	Lab # ->	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo
Matrix: Soil	Dilution ->	1	1	1	1	1	1
Parameters	**SCG** **Units**						
Benzene	**0.06** mg/kg	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Ethylbenzene	**5.5** mg/kg	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Toluene	**1.5** mg/kg	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Xylenes (Total)	**1.2** mg/kg	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U
Total BTEX	mg/kg	ND	ND	ND	ND	ND	ND

Table 3-6 - Subsurface Soil Sample Results - BTEX

2/16/2003

Site Name: **Babylon**	Sample Point ->	WBSB-06	WBSB-06	WBSB-07	WBSB-07	WBSB-08	WBSB-08
	Sample Depth ->	8 - 12	12 - 16	8 - 12	12 - 16	8 - 12	12 - 16
	Sample Date ->	8/27/2002	8/27/2002	8/27/2002	8/27/2002	8/27/2002	8/27/2002
	Lab # ->	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo
Matrix: Soil	Dilution ->	1	1	1	1	1	1
Parameters	**SCG** **Units**						
Benzene	**0.06** mg/kg	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Ethylbenzene	**5.5** mg/kg	0.005 U	0.005 U	0.002 J	0.005 U	0.005 U	0.005 U
Toluene	**1.5** mg/kg	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Xylenes (Total)	**1.2** mg/kg	0.002 J	0.015 U	0.002 J	0.015 U	0.015 U	0.015 U
Total BTEX	mg/kg	0.002	ND	0.004	ND	ND	ND

Table 3-6 - Subsurface Soil Sample Results - BTEX

2/16/2003

Site Name: **Babylon**	Sample Point ->	WBSB-09	WBSB-09	WBSB-10	WBSB-10	-	-
	Sample Depth ->	8.5 - 10	16 - 20	4 - 8	10 - 12		
	Sample Date ->	8/27/2002	8/27/2002	8/27/2002	8/27/2002		
	Lab # ->	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo		
Matrix: Soil	Dilution ->	1	1	1	1		
Parameters	**SCG** **Units**						
Benzene	**0.06** mg/kg	0.005 U	0.005 U	0.005 U	0.005 U		
Ethylbenzene	**5.5** mg/kg	0.005 U	0.005 U	0.005 U	0.005 U		
Toluene	**1.5** mg/kg	0.005 U	0.005 U	0.005 U	0.005 U		
Xylenes (Total)	**1.2** mg/kg	0.015 U	0.015 U	0.015 U	0.015 U		
Total BTEX	mg/kg	ND	ND	ND	ND		

Notes:

ND - Not Detected

Flags:

J - Estimated Value; Conc. < MDL

U - Parameter Not Detected at MDL

Regulatory Standards, Criteria, and Guidance (SCG) Type:

NYSDEC Soil SCG

Table 3-7 - Subsurface Soil Sample Results - VOCs

2/16/2003

Site Name: Babylon Matrix: Soil	Sample Point -> Sample Depth -> Sample Date -> Lab # -> Dilution ->	WBSB-04 8 - 12 8/27/2002 STLBuffalo 1	WBSB-04 12 - 16 8/27/2002 STLBuffalo 1	WBSB-05 8 - 12 8/27/2002 STLBuffalo 1	WBSB-05 12 - 16 8/27/2002 STLBuffalo 1	-	-
Parameters	**SCG Units**						
1,1,1-Trichloroethane	**0.8** mg/kg	0.005 U	0.005 U		0.005 U		
1,1,2,2-Tetrachloroethane	**0.6** mg/kg	0.005 U	0.005 U		0.005 U		
1,1,2-Trichloroethane	mg/kg	0.005 U	0.005 U		0.005 U		
1,1-Dichloroethane	**0.2** mg/kg	0.005 U	0.005 U		0.005 U		
1,1-Dichloroethene	**0.4** mg/kg	0.005 U	0.005 U		0.005 U		
1,2-Dichloroethane	**0.1** mg/kg	0.005 U	0.005 U		0.005 U		
1,2-Dichloroethene	**0.3** mg/kg	0.010 U	0.010 U		0.010 U		
1,2-Dichloropropane	**0.3** mg/kg	0.005 U	0.005 U		0.005 U		
2-Hexanone	mg/kg	0.010 U	0.010 U		0.010 U		
4-Methyl-2-pentanone	**1** mg/kg	0.025 U	0.025 U		0.025 U		
Acetone	**0.2** mg/kg	0.030 B	0.013 BJ		0.017 BJ		
Benzene	**0.06** mg/kg	0.010	0.005 U	0.005 U	0.005 U		
Bromodichloromethane	mg/kg	0.005 U	0.005 U		0.005 U		
Bromoform	mg/kg	0.005 U	0.005 U		0.005 U		
Bromomethane	mg/kg	0.010 U	0.010 U		0.010 U		
Carbon disulfide	**2.7** mg/kg	0.005 U	0.005 U		0.005 U		
Carbon tetrachloride	**0.6** mg/kg	0.005 U	0.005 U		0.005 U		
Chlorobenzene	**1.7** mg/kg	0.005 U	0.005 U		0.005 U		
Chloroethane	**1.9** mg/kg	0.010 U	0.010 U		0.010 U		
Chloroform	**0.3** mg/kg	0.005 U	0.005 U		0.005 U		
Chloromethane	mg/kg	0.010 U	0.010 U		0.010 U		
cis-1,3-Dichloropropene	mg/kg	0.005 U	0.005 U		0.005 U		
Dibromochloromethane	mg/kg	0.005 U	0.005 U		0.005 U		
Ethylbenzene	**5.5** mg/kg	0.850 E	0.003 J	0.005 U	0.005 U		
Methyl ethyl ketone	**0.3** mg/kg	0.025 U	0.025 U		0.025 U		
Methylene chloride	**0.1** mg/kg	0.020 B	0.012 B		0.015 B		
Styrene	mg/kg	0.005 U	0.005 U		0.005 U		
Tetrachloroethene	**1.4** mg/kg	0.005 U	0.005 U		0.005 U		
Toluene	**1.5** mg/kg	0.012 B	0.005 U	0.005 U	0.005 U		
trans-1,3-Dichloropropene	mg/kg	0.005 U	0.005 U		0.005 U		
Trichloroethene	**0.7** mg/kg	0.005 U	0.005 U		0.005 U		

Table 3-7 - Subsurface Soil Sample Results - VOCs

2/16/2003

Site Name: **Babylon**	Sample Point ->	WBSB-04	WBSB-04	WBSB-05	WBSB-05	-	-
	Sample Depth ->	8 - 12	12 - 16	8 - 12	12 - 16		
	Sample Date ->	8/27/2002	8/27/2002	8/27/2002	8/27/2002		
	Lab # ->	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo		
Matrix: Soil	Dilution ->	1	1	1	1		
Parameters	**SCG** **Units**						
Vinylacetate	mg/kg	0.010 U	0.010 U		0.010 U		
Vinylchloride	**0.2** mg/kg	0.010 U	0.010 U		0.010 U		
Xylenes (Total)	**1.2** mg/kg	**[1.500 E]**	0.006 J	0.015 U	0.015 U		
Total BTEX	mg/kg	2.372	0.009	ND	ND		
Total VOC	**10** mg/kg	2.422	0.034	ND	0.032		

Notes:

Results ≥SCG are reported in bold and bracketed.

ND - Not Detected

Flags:

B - Analyte detected in blank and sample

E - Result > Calibration Range

J - Estimated Value; Conc. < MDL

U - Parameter Not Detected at MDL

Regulatory Standards, Criteria, and Guidance (SCG) Type:

NYSDEC Soil SCG

Table 3-8 - Subsurface Soil Sample Results - PAHs

2/16/2003

Site Name: Babylon Matrix: Soil	Sample Point -> Sample Depth -> Sample Date -> Lab # -> Dilution ->	WBSB-01 8 - 12 8/27/2002 STLBuffalo 1	WBSB-01 12 - 16 8/27/2002 STLBuffalo 1	WBSB-02 8 - 12 8/27/2002 STLBuffalo 2	WBSB-02 12 - 16 8/27/2002 STLBuffalo 1	WBSB-03 8 - 12 8/27/2002 STLBuffalo 1	WBSB-03 12 - 16 8/27/2002 STLBuffalo 1
Parameters	**SCG Units**						
2-Methylnaphthalene	**36.4** mg/kg	0.400 U	0.360 U	0.700 U	0.370 U	0.340 U	0.400 U
Acenaphthene	**50** mg/kg	0.400 U	0.360 U	0.700 U	0.370 U	0.340 U	0.400 U
Acenaphthylene	**41** mg/kg	0.400 U	0.360 U	0.700 U	0 370 U	0.340 U	0.400 U
Anthracene	**50** mg/kg	0.400 U	0.360 U	0.700 U	0.370 U	0.025 J	0.400 U
Benz(a)anthracene	**0.224** mg/kg	0.400 U	0.360 U	0.700 U	0.052 J	0.100 J	0.400 U
Benzo(a)pyrene	**0.061** mg/kg	0.400 U	0.360 U	0.700 U	0.039 J	**[0.085 J]**	0.400 U
Benzo(b)fluoranthene	**1.1** mg/kg	0.030 J	0.360 U	0.700 U	0.048 J	0.079 J	0.400 U
Benzo(g,h,i)perylene	**50** mg/kg	0.400 U	0.360 U	0.700 U	0.031 J	0.076 J	0.400 U
Benzo(k)fluoranthene	**1.1** mg/kg	0.400 U	0.360 U	0.700 U	0.038 J	0.059 J	0.400 U
Chrysene	**0.4** mg/kg	0.400 U	0.360 U	0.700 U	0.061 J	0.100 J	0.400 U
Dibenz(a,h)anthracene	**0.014** mg/kg	0.400 U	0.360 U	0.700 U	0.370 U	**[0.018 J]**	0.400 U
Fluoranthene	**50** mg/kg	0.400 U	0.360 U	0.700 U	0.130 J	0.250 J	0.400 U
Fluorene	**50** mg/kg	0.400 U	0.360 U	0.700 U	0.370 U	0.340 U	0.400 U
Indeno(1,2,3-cd)pyrene	**3.2** mg/kg	0.400 U	0.360 U	0.700 U	0.026 J	0.056 J	0.400 U
Naphthalene	**13** mg/kg	0.400 U	0.360 U	0.700 U	0.370 U	0.340 U	0.400 U
Phenanthrene	**50** mg/kg	0.400 U	0.360 U	0.700 U	0.100 J	0 180 J	0.400 U
Pyrene	**50** mg/kg	0.400 U	0.360 U	0 700 U	0.094 J	0.290 J	0.400 U
Total CPAH	**10** mg/kg	0.030	ND	ND	0.264	0.497	ND
Total PAH	**500** mg/kg	0.030	ND	ND	0.619	1.318	ND

Table 3-8 - Subsurface Soil Sample Results - PAHs

2/16/2003

Site Name: Babylon Matrix: Soil	Sample Point -> Sample Depth -> Sample Date -> Lab # -> Dilution ->	WBSB-06 8 - 12 8/27/2002 STLBuffalo 5	WBSB-06 12 - 16 8/27/2002 STLBuffalo 1	WBSB-07 8 - 12 8/27/2002 STLBuffalo 1	WBSB-07 12 - 16 8/27/2002 STLBuffalo 2	WBSB-08 8 - 12 8/27/2002 STLBuffalo 1	WBSB-08 12 - 16 8/27/2002 STLBuffalo 5
Parameters	**SCG Units**						
2-Methylnaphthalene	**36.4** mg/kg	2.000 U	0.360 U	0.340 U	0.740 U	0.390 U	1.800 U
Acenaphthene	**50** mg/kg	2.000 U	0.360 U	0.340 U	0.740 U	0.390 U	1.800 U
Acenaphthylene	**41** mg/kg	2.000 U	0.360 U	0.340 U	0.740 U	0.390 U	1.800 U
Anthracene	**50** mg/kg	2.000 U	0.360 U	0.340 U	0.740 U	0.390 U	1.800 U
Benz(a)anthracene	**0.224** mg/kg	2.000 U	0.360 U	0.340 U	0.740 U	0.390 U	1.800 U
Benzo(a)pyrene	**0.061** mg/kg	2.000 U	0.360 U	0.340 U	0.740 U	0.390 U	1.800 U
Benzo(b)fluoranthene	**1.1** mg/kg	2.000 U	0.360 U	0.340 U	0.740 U	0.390 U	1.800 U
Benzo(g,h,i)perylene	**50** mg/kg	2.000 U	0.360 U	0.340 U	0.740 U	0.390 U	1.800 U
Benzo(k)fluoranthene	**1.1** mg/kg	2.000 U	0.360 U	0.340 U	0.740 U	0.390 U	1.800 U
Chrysene	**0.4** mg/kg	2.000 U	0.360 U	0.340 U	0.740 U	0.390 U	1.800 U
Dibenz(a,h)anthracene	**0.014** mg/kg	2.000 U	0.360 U	0.340 U	0.740 U	0.390 U	1.800 U
Fluoranthene	**50** mg/kg	2.000 U	0.360 U	0.340 U	0.740 U	0.390 U	1.800 U
Fluorene	**50** mg/kg	2.000 U	0.360 U	0.340 U	0.740 U	0.390 U	1.800 U
Indeno(1,2,3-cd)pyrene	**3.2** mg/kg	2.000 U	0.360 U	0.340 U	0.740 U	0.390 U	1.800 U
Naphthalene	**13** mg/kg	2.000 U	0.360 U	0.340 U	0.740 U	0.390 U	1.800 U
Phenanthrene	**50** mg/kg	2.000 U	0.360 U	0.340 U	0.740 U	0.390 U	1.800 U
Pyrene	**50** mg/kg	2.000 U	0.360 U	0.340 U	0.740 U	0.390 U	1.800 U
Total CPAH	**10** mg/kg	ND	ND	ND	ND	ND	ND
Total PAH	**500** mg/kg	ND	ND	ND	ND	ND	ND

Table 3-8 - Subsurface Soil Sample Results - PAHs

2/16/2003

Site Name: Babylon Matrix: Soil		Sample Point -> Sample Depth -> Sample Date -> Lab # -> Dilution ->	WBSB-09 8.5 - 10 8/27/2002 STLBuffalo 10	WBSB-09 16 - 20 8/27/2002 STLBuffalo 5	WBSB-10 4 - 8 8/27/2002 STLBuffalo 1	WBSB-10 10 - 12 8/27/2002 STLBuffalo 1	-	-
Parameters	**SCG**	**Units**						
2-Methylnaphthalene	**36.4**	mg/kg	0.380 J	1.800 U	0.340 U	0.330 U		
Acenaphthene	**50**	mg/kg	0.380 J	1.800 U	0.340 U	0.330 U		
Acenaphthylene	**41**	mg/kg	1.200 J	0.120 J	0.340 U	0.330 U		
Anthracene	**50**	mg/kg	1.500 J	1.500 J	0.340 U	0.330 U		
Benz(a)anthracene	**0.224**	mg/kg	**[6.300]**	**[1.400 J]**	0.340 U	0.330 U		
Benzo(a)pyrene	**0.061**	mg/kg	**[6.700]**	**[1.000 J]**	0.340 U	0.330 U		
Benzo(b)fluoranthene	**1.1**	mg/kg	**[5.200]**	0.650 J	0.340 U	0.330 U		
Benzo(g,h,i)perylene	**50**	mg/kg	3.400	0.600 J	0.340 U	0.330 U		
Benzo(k)fluoranthene	**1.1**	mg/kg	3.400 U	0.490 J	0.340 U	0.330 U		
Chrysene	**0.4**	mg/kg	**[5.800]**	**[1.600 J]**	0.340 U	0.330 U		
Dibenz(a,h)anthracene	**0.014**	mg/kg	**[1.200 J]**	**[0.140 J]**	0.340 U	0.330 U		
Fluoranthene	**50**	mg/kg	8.400	2.500	0.340 U	0.330 U		
Fluorene	**50**	mg/kg	1.100 J	1.800 U	0.340 U	0.330 U		
Indeno(1,2,3-cd)pyrene	**3.2**	mg/kg	2.600 J	0.430 J	0.340 U	0.330 U		
Naphthalene	**13**	mg/kg	0.580 J	1.800 U	0.340 U	0.330 U		
Phenanthrene	**50**	mg/kg	0.410 J	1.800	0.340 U	0.330 U		
Pyrene	**50**	mg/kg	18.000	3.400	0.340 U	0.330 U		
Total CPAH	**10**	mg/kg	27.800	5.710	ND	ND		
Total PAH	**500**	mg/kg	63.150	15.630	ND	ND		

Notes:

Carcinogenic PAH (CPAH) subset includes: Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, and Indeno(1,2,3-cd)pyrene.

Results ≥SCG are reported in bold and bracketed.

ND - Not Detected

Flags:

J - Estimated Value; Conc. < MDL

U - Parameter Not Detected at MDL

Regulatory Standards, Criteria, and Guidance (SCG) Type:

NYSDEC Soil SCG

Table 3-9 - Subsurface Soil Sample Results - SVOCs

2/16/2003

Site Name: **Babylon** / Matrix: Soil			Sample Point ->	WBSB-04	WBSB-04	WBSB-05	WBSB-05	-	-
			Sample Depth ->	8 - 12	12 - 16	8 - 12	12 - 16		
			Sample Date ->	8/27/2002	8/27/2002	8/27/2002	8/27/2002		
			Lab # ->	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo		
			Dilution ->	50	25	1	4		
Parameters	**SCG**	**Units**							
1,2,4-Trichlorobenzene	**3.4**	mg/kg		1.600 U	0.740 U		0.330 U		
1,2-Dichlorobenzene	**7.9**	mg/kg		1.600 U	0.740 U		0.330 U		
1,3-Dichlorobenzene	**1.6**	mg/kg		1.600 U	0.740 U		0.330 U		
1,4-Dichlorobenzene	**8.5**	mg/kg		1.600 U	0.740 U		0.330 U		
2,4,5-Trichlorophenol	**0.1**	mg/kg		1.600 U	0.800 U		0.800 U		
2,4,6-Trichlorophenol		mg/kg		1.600 U	0.740 U		0.330 U		
2,4-Dichlorophenol	**0.4**	mg/kg		1.600 U	0.740 U		0.330 U		
2,4-Dimethylphenol		mg/kg		1.600 U	0.740 U		0.330 U		
2,4-Dinitrophenol	**0.2**	mg/kg		1.600 U	1.600 U		1.600 U		
2,4-Dinitrotoluene		mg/kg		1.600 U	0.740 U		0.330 U		
2,6-Dinitrotoluene	**1**	mg/kg		1.600 U	0.740 U		0.330 U		
2-Chloronaphthalene		mg/kg		1.600 U	0.740 U		0.330 U		
2-Chlorophenol	**0.8**	mg/kg		1.600 U	0.740 U		0.330 U		
2-Methylnaphthalene	**36.4**	mg/kg		**[78.000]**	2.600	0.380 U	0.330 U		
2-Methylphenol	**0.1**	mg/kg		1.600 U	0.740 U		0.330 U		
2-Nitroaniline	**0.43**	mg/kg		1.600 U	1.600 U		1.600 U		
2-Nitrophenol	**0.33**	mg/kg		1.600 U	0.740 U		0.330 U		
3,3'-Dichlorobenzidine		mg/kg		1.600 U	0.740 U		0.660 U		
3-Nitroaniline	**0.5**	mg/kg		1.600 U	1.600 U		1.600 U		
4,6-Dinitro-2-methylphenol		mg/kg		1.600 U	1.600 U		1.600 U		
4-Bromophenyl-phenylether		mg/kg		1.600 U	0.740 U		0.330 U		
4-Chloroaniline	**0.22**	mg/kg		1.600 U	0.740 U		0.330 U		
4-Chlorophenyl-phenylether		mg/kg		1.600 U	0.740 U		0.330 U		
4-Methylphenol	**0.9**	mg/kg		1.600 U	0.740 U		0.330 U		
4-Nitroaniline		mg/kg		1.600 U	1.600 U		1.600 U		
4-Nitrophenol	**0.1**	mg/kg		1.600 U	1.600 U		1.600 U		
Acenaphthene	**50**	mg/kg		46.000	0.740 U	0.380 U	0.330 U		
Acenaphthylene	**41**	mg/kg		7.900	4.900	0.380 U	0.400		
Anthracene	**50**	mg/kg		27.000	37.000	0.380 U	2.500		
Benz(a)anthracene	**0.224**	mg/kg		**[20.000]**	**[10.000]**	0.380 U	**[3.000]**		
Benzo(a)pyrene	**0.061**	mg/kg		**[14.000]**	**[8.500]**	0.380 U	**[2.000]**		

Table 3-9 - Subsurface Soil Sample Results - SVOCs

2/16/2003

Site Name: Babylon Matrix: Soil	Sample Point -> Sample Depth -> Sample Date -> Lab # -> Dilution ->	WBSB-04 8 - 12 8/27/2002 STLBuffalo 50	WBSB-04 12 - 16 8/27/2002 STLBuffalo 25	WBSB-05 8 - 12 8/27/2002 STLBuffalo 1	WBSB-05 12 - 16 8/27/2002 STLBuffalo 4	-	-
Parameters	**SCG Units**						
Benzo(b)fluoranthene	**1.1** mg/kg	**[14.000]**	**[7.700]**	0.380 U	0.980		
Benzo(g,h,i)perylene	**50** mg/kg	7.200	3.800	0.380 U	0.800		
Benzo(k)fluoranthene	**1.1** mg/kg	1.600 U	0.740 U	0.380 U	0.910		
Benzoic acid	**2.7** mg/kg	1.600 U	1.600 U		1.600 U		
Benzyl alcohol	mg/kg	1.600 U	0.740 U		0.330 U		
bis(2-Chloroethoxy)methane	mg/kg	1.600 U	0.740 U		0.330 U		
bis(2-Chloroethyl)ether	mg/kg	1.600 U	0.740 U		0.330 U		
bis(2-Chloroisopropyl)ether	mg/kg	1.600 U	0.740 U		0.330 U		
bis(2-Ethylhexyl)phthalate	**50** mg/kg	1.600 U	0.740 U		0.089 J		
Butyl benzyl phthalate	**50** mg/kg	1.600 U	0.740 U		0.330 U		
Chrysene	**0.4** mg/kg	**[18.000]**	**[10.000]**	0.380 U	**[2.900]**		
Dibenz(a,h)anthracene	**0.014** mg/kg	**[1.700]**	**[0.790]**	0.380 U	**[0.320 J]**		
Dibenzofuran	**6.2** mg/kg	5.300	0.470 J		0.120 J		
Diethylphthalate	**7.1** mg/kg	1.600 U	0.740 U		0.330 U		
Dimethyl phthalate	**2** mg/kg	1.600 U	0.740 U		0.330 U		
Di-N-Butyl phthalate	**8.1** mg/kg	1.600 U	0.740 U		0.330 U		
Di-N-Octyl phthalate	**50** mg/kg	1.600 U	0.740 U		0.330 U		
Fluoranthene	**50** mg/kg	45.000	28.000	0.380 U	5.000		
Fluorene	**50** mg/kg	35.000	7.900	0.380 U	0.160 J		
Hexachlorobenzene	**0.41** mg/kg	1.600 U	0.740 U		0.330 U		
Hexachlorobutadiene	mg/kg	1.600 U	0.740 U		0.330 U		
Hexachlorocyclopentadiene	mg/kg	1.600 U	0.740 U		0.330 U		
Hexachloroethane	mg/kg	1.600 U	0.740 U		0.330 U		
Indeno(1,2,3-cd)pyrene	**3.2** mg/kg	**[5.100]**	2.800	0.380 U	0.570		
Isophorone	**4.4** mg/kg	1.600 U	0.740 U		0.330 U		
Naphthalene	**13** mg/kg	**[38.000]**	0.740 U	0.380 U	0.330 U		
Nitrobenzene	**0.2** mg/kg	1.600 U	0.740 U		0.330 U		
N-Nitroso-di-N-propylamine	mg/kg	1.600 U	0.740 U		0.330 U		
N-Nitrosodiphenylamine	mg/kg	1.600 U	0.740 U		0.330 U		
p-Chloro-m-cresol	mg/kg	1.600 U	0.740 U		0.330 U		
Pentachlorophenol	**1** mg/kg	1.600 U	1.600 U		1.600 U		

Table 3-9 - Subsurface Soil Sample Results - SVOCs

2/16/2003

Site Name: **Babylon**	Sample Point ->	WBSB-04	WBSB-04	WBSB-05	WBSB-05	-	-
	Sample Depth ->	8 - 12	12 - 16	8 - 12	12 - 16		
	Sample Date ->	8/27/2002	8/27/2002	8/27/2002	8/27/2002		
	Lab # ->	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo		
Matrix: Soil	Dilution ->	50	25	1	4		
Parameters	**SCG** **Units**						
Phenanthrene	**50** mg/kg	**[110.000]**	**[53.000]**	0.380 U	3.500		
Phenol	**0.03** mg/kg	1.600 U	0.740 U		0.330 U		
Pyrene	**50** mg/kg	**[63.000]**	34.000	0.380 U	6.800		
Total CPAH	**10** mg/kg	**[72.800]**	**[39.790]**	ND	**[10.680]**		
Total PAH	**500** mg/kg	**[529.900]**	210.990	ND	29.840		
Total SVOC	**500** mg/kg	**[535.200]**	211.460	ND	30.049		

Notes:

Carcinogenic PAH (CPAH) subset includes: Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, and Indeno(1,2,3-cd)pyrene.

Results ≥SCG are reported in bold and bracketed.

ND - Not Detected

Flags:

J - Estimated Value; Conc. < MDL

U - Parameter Not Detected at MDL

Regulatory Standards, Criteria, and Guidance (SCG) Type:

NYSDEC Soil SCG

Table 3-10 - Subsurface Soil Sample Results - Inorganics

2/16/2003

Site Name: **Babylon**	Sample Point ->	WBSB-01	WBSB-01	WBSB-02	WBSB-02	WBSB-03	WBSB-03
	Sample Depth ->	8 - 12	12 - 16	8 - 12	12 - 16	8 - 12	12 - 16
	Sample Date ->	8/27/2002	8/27/2002	8/27/2002	8/27/2002	8/27/2002	8/27/2002
	Lab # ->	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo
Matrix: Soil	Dilution ->	1	1	1	1	1	1
Parameters	**SCG** **Units**						
Arsenic	**7.5** mg/kg	1.2 U	1.1 U	1.1	1.6	0.95	0.38
Barium	**300** mg/kg	2.1 EN	2.5 EN	4.2	6.8	3.3	2
Cadmium	**10** mg/kg	0.62 U	0.56 U	0.52 U	0.56 U	0.05 U	0.06 U
Chromium	**50** mg/kg	2.9 N	2.5 N	2.5	8.7	3.6	5
Lead	**500** mg/kg	6.2 NU	5.6 NU	5.2 U	5.6 U	1.4	1.2
Mercury	**0.1** mg/kg	0.023 U	0.024 U	0.021 U	0.022 U	0.022	0.026 U
Selenium	**2** mg/kg	3.7 U	3.4 U	3.1 U	3.4 U	0.32 U	0.56
Silver	mg/kg	1.2 U	1.1 U	1 U	1.1 U	0.11 U	0.12 U
Total Cyanide	mg/kg	0.5 U	0.5 U	0.5 U	3.1	0.5 U	0.5 U

Table 3-10 - Subsurface Soil Sample Results - Inorganics

2/16/2003

Site Name: Babylon Matrix: Soil	Sample Point -> Sample Depth -> Sample Date -> Lab # -> Dilution ->	WBSB-04 8 - 12 8/27/2002 STLBuffalo 1	WBSB-04 12 - 16 8/27/2002 STLBuffalo 1	WBSB-05 8 - 12 8/27/2002 STLBuffalo 1	WBSB-05 12 - 16 8/27/2002 STLBuffalo 1	WBSB-06 8 - 12 8/27/2002 STLBuffalo 1	WBSB-06 12 - 16 8/27/2002 STLBuffalo 1
Parameters	**SCG Units**						
Arsenic	**7.5** mg/kg	1.5	1.1 U	1.6	1.8	1.8	1.3
Barium	**300** mg/kg	4.1	2.6	3.4	2.7	5	2.8
Cadmium	**10** mg/kg	0.59 U	0.56 U	0.6 U	0.57 U	0.06 U	0.55 U
Chromium	**50** mg/kg	4.7	2.2 U	2.8	7.7	5.6	4.2
Lead	**500** mg/kg	5.9 U	5.6 U	6 U	5.7 U	2.2	5.5 U
Mercury	**0.1** mg/kg	0.092	0.024 U	0.024 U	0.02 U	0.037	0.022 U
Selenium	**2** mg/kg	3.5 U	3.3 U	3.6 U	3.4 U	0.37 U	3.3 U
Silver	mg/kg	1.2 U	1.1 U	1.2 U	1.1 U	0.12 U	1.1 U
Total Cyanide	mg/kg	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Table 3-10 - Subsurface Soil Sample Results - Inorganics

2/16/2003

Site Name: **Babylon**	Sample Point ->	WBSB-07	WBSB-07	WBSB-08	WBSB-08	WBSB-09	WBSB-09
	Sample Depth ->	8 - 12	12 - 16	8 - 12	12 - 16	8.5 - 10	16 - 20
	Sample Date ->	8/27/2002	8/27/2002	8/27/2002	8/27/2002	8/27/2002	8/27/2002
	Lab # ->	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo
Matrix: Soil	Dilution ->	1	1	1	1	1	1
Parameters	**SCG** **Units**						
Arsenic	**7.5** mg/kg	1.2	1.2 U	1.3	2.5	0.82	1.3
Barium	**300** mg/kg	3.6	2.9	4.4	6	2.5	4
Cadmium	**10** mg/kg	0.5 U	0.59 U	0.61 U	0.58 U	0.05 U	0.06 U
Chromium	**50** mg/kg	2.8	5.6	4.5	4	2.7	6
Lead	**500** mg/kg	5 U	5.9 U	6.1 U	8.8	0.97	0.86
Mercury	**0.1** mg/kg	0.022 U	0.021 U	0.022 U	0.023 U	0.021 U	0.021 U
Selenium	**2** mg/kg	3 U	3.5 U	3.7 U	3.5 U	0.31 U	0.35 U
Silver	mg/kg	1 U	1.2 U	1.2 U	1.2 U	0.1 U	0.12 U
Total Cyanide	mg/kg	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Table 3-10 - Subsurface Soil Sample Results - Inorganics

2/16/2003

Site Name: **Babylon** / Matrix: Soil		Sample Point ->	WBSB-10	WBSB-10	-	-	-	-
		Sample Depth ->	4 - 8	10 - 12				
		Sample Date ->	8/27/2002	8/27/2002				
		Lab # ->	STLBuffalo	STLBuffalo				
		Dilution ->	1	1				
Parameters	**SCG**	**Units**						
Arsenic	**7.5**	mg/kg	2.1	2.2				
Barium	**300**	mg/kg	3 EN	2.5 EN				
Cadmium	**10**	mg/kg	0.51 U	0.52 U				
Chromium	**50**	mg/kg	7.4 N	2.1 NU				
Lead	**500**	mg/kg	5.1 NU	5.2 NU				
Mercury	**0.1**	mg/kg	0.021 U	0.019 U				
Selenium	**2**	mg/kg	3.1 U	3.1 U				
Silver		mg/kg	1 U	1 U				
Total Cyanide		mg/kg	0.5 U	0.5 U				

Notes:

Flags:

E - Result > Calibration Range

N - MS Sample Recovery > QC Limits

U - Parameter Not Detected at MDL

Regulatory Standards, Criteria, and Guidance (SCG) Type:

NYSDEC Soil SCG

Table 3-14 - Test Trench Sample Results - BTEX

2/16/2003

Site Name: **Babylon**	Sample Point ->	WBTT-A-A	WBTT-A-A	WBTT-A-A	-	-	-
	Sample Depth ->	0 - 20	60 - 80	115 - 135			
	Sample Date ->	8/26/2002	8/26/2002	8/26/2002			
	Lab # ->	STLBuffalo	STLBuffalo	STLBuffalo			
Matrix: Soil	Dilution ->	1	1	1			
Parameters	**SCG** **Units**						
Benzene	**0.06** mg/kg	0.005 U	0.005 U	0.005 U			
Ethylbenzene	**5.5** mg/kg	0.005 U	0.005 U	0.005 U			
Toluene	**1.5** mg/kg	0.005 U	0.005 U	0.005 U			
Xylenes (Total)	**1.2** mg/kg	0.015 U	0.015 U	0.015 U			
Total BTEX	mg/kg	ND	ND	ND			

Notes:

ND - Not Detected

Flags:

U - Parameter Not Detected at MDL

Regulatory Standards, Criteria, and Guidance (SCG) Type:

NYSDEC Soil SCG

Table 3-15 - Test Trench Sample Results - PAHs

2/16/2003

Site Name: Babylon Matrix: Soil	Sample Point -> Sample Depth -> Sample Date -> Lab # -> Dilution ->	WBTT-A-A 0 - 20 8/26/2002 STLBuffalo 5	WBTT-A-A 60 - 80 8/26/2002 STLBuffalo 5	WBTT-A-A 115 - 135 8/26/2002 STLBuffalo 1	-	-	-
Parameters	**SCG Units**						
2-Methylnaphthalene	**36.4** mg/kg	1.700 U	1.800 U	0.350 U			
Acenaphthene	**50** mg/kg	1.700 U	1.800 U	0.350 U			
Acenaphthylene	**41** mg/kg	1.700 U	1.800 U	0.350 U			
Anthracene	**50** mg/kg	1.700 U	1.800 U	0.350 U			
Benz(a)anthracene	**0.224** mg/kg	1.700 U	**[0.240 J]**	0.350 U			
Benzo(a)pyrene	**0.061** mg/kg	1.700 U	**[0.220 J]**	0.350 U			
Benzo(b)fluoranthene	**1.1** mg/kg	1.700 U	0.450 J	0.350 U			
Benzo(g,h,i)perylene	**50** mg/kg	1.700 U	1.800 U	0.350 U			
Benzo(k)fluoranthene	**1.1** mg/kg	1.700 U	1.800 U	0.350 U			
Chrysene	**0.4** mg/kg	1.700 U	0.280 J	0.350 U			
Dibenz(a,h)anthracene	**0.014** mg/kg	1.700 U	1.800 U	0.350 U			
Fluoranthene	**50** mg/kg	1.700 U	0.400 J	0.350 U			
Fluorene	**50** mg/kg	1.700 U	1.800 U	0.350 U			
Indeno(1,2,3-cd)pyrene	**3.2** mg/kg	1.700 U	1.800 U	0.350 U			
Naphthalene	**13** mg/kg	1.700 U	1.800 U	0.350 U			
Phenanthrene	**50** mg/kg	1.700 U	0.140 J	0.350 U			
Pyrene	**50** mg/kg	1.700 U	0.390 J	0.350 U			
Total CPAH	**10** mg/kg	ND	1.190	ND			
Total PAH	**500** mg/kg	ND	2.120	ND			

Notes:

Carcinogenic PAH (CPAH) subset includes: Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, and Indeno(1,2,3-cd)pyrene.

Results ≥SCG are reported in bold and bracketed.

ND - Not Detected

Flags:

J - Estimated Value; Conc. < MDL

U - Parameter Not Detected at MDL

Regulatory Standards, Criteria, and Guidance (SCG) Type:

NYSDEC Soil SCG

Table 3-16 - Test Trench Sample Results - Inorganics

2/16/2003

Site Name: **Babylon** Matrix: Soil	Sample Point -> Sample Depth -> Sample Date -> Lab # -> Dilution ->	WBTT-A-A 0 - 20 8/26/2002 STLBuffalo 1	WBTT-A-A 60 - 80 8/26/2002 STLBuffalo 1	WBTT-A-A 115 - 135 8/26/2002 STLBuffalo 1	-	-	-
Parameters	**SCG** **Units**						
Arsenic	**7.5** mg/kg	1.2	1.8	1.7			
Barium	**300** mg/kg	8.9 EN	17.9 EN	16.5 EN			
Cadmium	**10** mg/kg	0.52 U	0.56 U	0.52 U			
Chromium	**50** mg/kg	4.4 N	9.1 N	5.7 N			
Lead	**500** mg/kg	5.2 NU	13 N	5.2 NU			
Mercury	**0.1** mg/kg	**[0.105]**	**[0.121]**	0.019 U			
Selenium	**2** mg/kg	3.1 U	3.3 U	3.1 U			
Silver	mg/kg	1 U	1.1 U	1 U			
Total Cyanide	mg/kg	0.5 U	0.5 U	0.5 U			

Notes:

Results ≥SCG are reported in bold and bracketed.

Flags:

E - Result > Calibration Range

N - MS Sample Recovery > QC Limits

U - Parameter Not Detected at MDL

Regulatory Standards, Criteria, and Guidance (SCG) Type:

NYSDEC Soil SCG

Appendix B

Summary of Groundwater Results

Table 3-1
Depth to Water and Groundwater Elevations
February 2, 2009
Babylon Former MGP Site

WELL ID	TOTAL DEPTH OF WELL (ft. TIC)	TOP OF INNER CASING (ft. amsl)	DEPTH TO WATER (ft. TIC)	WATER LEVEL ELEVATION (ft. amsl)
MW-01	18.42	17.83	6.78	11.05
MW-02	18.16	18.38	7.41	10.97
MW-03	18.17	18.97	8.18	10.79

ft. TIC - Feet from Top of Inner Casing
ft. amsl - Feet Above Mean Sea Level

Table 4-9
Results for Volatile Organic Compounds in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	MW-01		GW-DUP		MW-02		MW-03		SB08GW		SB18GW		SB09GW	
Sample ID	Water Quality	MW-01		GW-DUP		MW-02		MW-03		SB08GW		SB18GW		SB09GW	
Lab Sample No.	Standards and	A1328- 01		A1238-04		A1238-02		A1238-03		A1208-13		A1208-16		A1208-14	
Sampling Date	Guidance Values	2/2/2009		Duplicate of		2/2/2009		2/2/2009		1/20/2009		Duplicate of		1/20/2009	
Screened interval/Sample Depth	Feet bgs	8 to 18		MW-01		8 to 18		8 to 18		11.5		12		11	
Matrix	Class GA	WATER				WATER		WATER		WATER		SB08GW		WATER	
Units	µg/L	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
1,1,1-Trichloroethane	5	0.39	U	0.39	U	0.39	U	0.39	U	0.39	U	0.39	U	0.39	U
1,1,2,2-Tetrachloroethane	5	0.49	U	0.49	U	0.49	U	0.49	U	0.49	U	0.49	U	0.49	U
1,1,2-Trichloroethane	1	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U
1,1,2-Trichlorotrifluoroethane	NC	0.69	U	0.69	U	0.69	U	0.69	U	0.69	U	0.69	U	0.69	U
1,1-Dichloroethane	5	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U
1,1-Dichloroethene	5	0.83	U	0.83	U	0.83	U	0.83	U	0.83	U	0.83	U	0.83	U
1,2,4-Trichlorobenzene	5	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
1,2-Dibromo-3-Chloropropane	0.04	0.84	U	0.84	U	0.84	U	0.84	U	0.84	U	0.84	U	0.84	U
1,2-Dibromoethane	5	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U
1,2-Dichlorobenzene	5	0.27	U	0.27	U	0.27	U	0.27	U	0.27	U	0.27	U	0.27	U
1,2-Dichloroethane	0.6	0.52	U	0.52	U	0.52	U	0.52	U	0.52	U	0.52	U	0.52	U
1,2-Dichloropropane	1	0.51	U	0.51	U	0.51	U	0.51	U	0.51	U	0.51	U	0.51	U
1,3-Dichlorobenzene	5	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U
1,4-Dichlorobenzene	5	0.24	U	0.24	U	0.24	U	0.24	U	0.24	U	0.24	U	0.24	U
2-Butanone	50	1.6	UJ	1.6	UJ	1.6	UJ	1.6	UJ	1.6	U	1.6	U	1.6	U
2-Hexanone	50	0.98	U	0.98	U	0.98	U	0.98	U	0.98	U	0.98	U	0.98	U
4-Methyl-2-Pentanone	NC	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
Acetone	50	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U
Benzene	1	0.29	U	0.29	U	0.29	U	0.29	U	0.29	U	0.29	U	0.29	U
Bromodichloromethane	50	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U
Bromoform	50	0.49	U	0.49	U	0.49	U	0.49	U	0.49	U	0.49	U	0.49	U
Bromomethane	5	0.66	U	0.66	U	0.66	U	0.66	U	0.66	U	0.66	U	0.66	U
Carbon Disulfide	NC	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U
Carbon Tetrachloride	5	0.27	U	0.27	U	0.27	U	0.27	U	0.27	U	0.27	U	0.27	U
Chlorobenzene	5	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U
Chloroethane	5	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U
Chloroform	7	0.38	U	0.38	U	0.38	U	0.38	U	0.38	U	0.38	U	0.38	U
Chloromethane	5	0.44	UJ	0.44	UJ	0.44	UJ	0.44	UJ	0.44	U	0.44	U	0.44	U
cis-1,2-Dichloroethene	0.5	0.48	U	0.48	U	0.48	U	0.48	U	0.48	U	0.48	U	0.48	U
cis-1,3-Dichloropropene	0.4*	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U
Cyclohexane	NC	0.41	U	0.41	U	0.41	U	0.41	U	0.41	U	0.41	U	0.41	U

Table 4-9
Results for Volatile Organic Compounds in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	MW-01		GW-DUP		MW-02		MW-03		SB08GW		SB18GW		SB09GW	
Sample ID	Water Quality	MW-01		GW-DUP		MW-02		MW-03		SB08GW		SB18GW		SB09GW	
Lab Sample No.	Standards and	A1328- 01		A1238-04		A1238-02		A1238-03		A1208-13		A1208-16		A1208-14	
Sampling Date	Guidance Values	2/2/2009		Duplicate of		2/2/2009		2/2/2009		1/20/2009		Duplicate of		1/20/2009	
Screened interval/Sample Depth	Feet bgs	8 to 18		MW-01		8 to 18		8 to 18		11.5		12		11	
Matrix	Class GA	WATER				WATER		WATER		WATER		SB08GW		WATER	
Units	µg/L	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
Dibromochloromethane	50	0.29	U	0.29	U	0.29	U	0.29	U	0.29	U	0.29	U	0.29	U
Dichlorodifluoromethane	5	0.34	U	0.34	U	0.34	U	0.34	U	0.34	UJ	0.34	UJ	0.34	UJ
Ethyl Benzene	5	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U
Isopropylbenzene	5	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U
m/p-Xylenes	5	0.66	U	0.66	U	0.66	U	0.66	U	0.66	U	0.66	U	0.66	U
Methyl Acetate	NC	0.51	U	0.51	U	0.51	U	0.51	U	0.51	U	0.51	U	0.51	U
Methyl Cyclohexane	NC	0.53	U	0.53	U	0.53	U	0.53	U	0.53	U	0.53	U	0.53	U
Methyl tert-butyl Ether	NC	0.22	U	0.22	U	0.22	U	0.22	U	0.22	U	0.22	U	0.22	U
Methylene Chloride	5	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
o-Xylene	5	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U
Styrene	5	0.22	U	0.22	U	0.22	U	0.22	U	0.22	U	0.22	U	0.22	U
t-1,3-Dichloropropene	0.4*	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U
Tetrachloroethene	5	0.53	U	0.53	U	0.53	U	0.53	U	0.53	U	0.53	U	0.53	U
Toluene	5	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U
trans-1,2-Dichloroethene	5	0.66	U	0.66	U	0.66	U	0.66	U	0.66	U	0.66	U	0.66	U
Trichloroethene	5	0.42	U	0.42	U	0.42	U	0.42	U	0.42	U	0.42	U	0.42	U
Trichlorofluoromethane	5	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Vinyl Chloride	2	0.62	U	0.62	U	0.62	U	0.62	U	0.62	U	0.62	U	0.62	U
Total VOCs	NC	ND		ND		ND		ND		ND		ND		ND	
Total BTEX	NC	ND		ND		ND		ND		ND		ND		ND	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
NC - No criteria.
ND - Not detected.
* - Criteria for sum of cis- and trans-1,3 dichloropropene.
Shading indicates concentration exceeds criteria.
NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Table 1: Ambient Water Quality Standards and Guidance Values.
Data reported in number of significant figures reported by the laboratory.

Table 4-9
Results for Volatile Organic Compounds in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	SB10GW		SB11GW		SB20GW		SB20GW		SB20GW		SB80GW	
Sample ID	Water Quality	SB10GW		SB11GW		SB20GW-39-35		SB20GW-29-25		SB20GW-19-15		SB80GW-39-35	
Lab Sample No.	Standards and	A1208-17		A1208-19		C1648-01		C1648-02		C1648-05		C1648-06	
Sampling Date	Guidance Values	1/21/2009		1/21/2009		3/24/2011		3/24/2011		3/24/2011		3/24/2011	
Screened interval/Sample Depth	Feet bgs	11		11		39-35		29-25		19-15		39-35	
Matrix	Class GA	WATER		WATER		Water		Water		Water		Water	
Units	µg/L	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
1,1,1-Trichloroethane	5	0.39	U	0.39	UJ	0.4	U	0.4	U	0.4	U	0.4	U
1,1,2,2-Tetrachloroethane	5	0.49	U	0.49	UJ	0.31	U	0.31	U	0.31	U	0.31	U
1,1,2-Trichloroethane	1	0.36	U	0.36	UJ	0.38	U	0.38	U	0.38	U	0.38	U
1,1,2-Trichlorotrifluoroethane	NC	0.69	U	0.69	UJ	0.45	U	0.45	U	0.45	U	0.45	U
1,1-Dichloroethane	5	0.26	U	0.26	UJ	0.36	U	0.36	U	0.36	U	0.36	U
1,1-Dichloroethene	5	0.83	U	0.83	UJ	0.47	U	0.47	U	0.47	U	0.47	U
1,2,4-Trichlorobenzene	5	0.45	U	0.45	UJ	0.62	U	0.62	U	0.62	U	0.62	U
1,2-Dibromo-3-Chloropropane	0.04	0.84	U	0.84	UJ	0.46	U	0.46	U	0.46	U	0.46	U
1,2-Dibromoethane	5	0.33	U	0.33	UJ	0.41	U	0.41	U	0.41	U	0.41	U
1,2-Dichlorobenzene	5	0.27	U	0.27	UJ	0.45	U	0.45	U	0.45	U	0.45	U
1,2-Dichloroethane	0.6	0.52	U	0.52	UJ	0.48	U	0.48	U	0.48	U	0.48	U
1,2-Dichloropropane	1	0.51	U	0.51	UJ	0.46	U	0.46	U	0.46	U	0.46	U
1,3-Dichlorobenzene	5	0.33	U	0.33	UJ	0.43	U	0.43	U	0.43	U	0.43	U
1,4-Dichlorobenzene	5	0.24	U	0.24	UJ	0.32	U	0.32	U	0.32	U	0.32	U
2-Butanone	50	1.6	U	1.6	UJ	1.3	U	1.3	U	1.3	U	1.3	U
2-Hexanone	50	0.98	U	0.98	UJ	1.9	U	1.9	U	1.9	U	1.9	U
4-Methyl-2-Pentanone	NC	1.4	U	1.4	UJ	2.1	U	2.1	U	2.1	U	2.1	U
Acetone	50	2.8	U	2.8	UJ	2.8	U	2.8	U	2.8	U	2.8	U
Benzene	1	2.6	J	0.29	UJ	0.32	U	0.32	U	7.5		0.32	U
Bromodichloromethane	50	0.21	U	0.21	UJ	0.36	U	0.36	U	0.36	U	0.36	U
Bromoform	50	0.49	U	0.49	UJ	0.47	U	0.47	U	0.47	U	0.47	U
Bromomethane	5	0.66	U	0.66	UJ	0.62	U	0.62	U	0.62	U	0.62	U
Carbon Disulfide	NC	0.33	U	0.33	UJ	0.54	U	0.54	U	0.54	U	0.54	U
Carbon Tetrachloride	5	0.27	U	0.27	UJ	0.62	U	0.62	U	0.62	U	0.62	U
Chlorobenzene	5	0.32	U	0.32	UJ	0.49	U	0.49	U	0.49	U	0.49	U
Chloroethane	5	0.54	U	0.54	UJ	0.66	U	0.66	U	0.66	U	0.66	U
Chloroform	7	0.38	U	0.38	UJ	0.34	U	0.34	U	0.34	U	0.34	U
Chloromethane	5	0.44	U	0.44	UJ	0.54	U	0.54	U	0.54	U	0.54	U
cis-1,2-Dichloroethene	0.5	0.48	U	0.48	UJ	0.35	U	0.35	U	0.35	U	0.35	U
cis-1,3-Dichloropropene	0.4*	0.26	U	0.26	UJ	0.31	U	0.31	U	0.31	U	0.31	U
Cyclohexane	NC	0.41	U	0.41	UJ	0.55	U	0.55	U	0.55	U	0.55	U

Table 4-9
Results for Volatile Organic Compounds in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	SB10GW		SB11GW		SB20GW		SB20GW		SB20GW		SB80GW	
Sample ID	Water Quality	SB10GW		SB11GW		SB20GW-39-35		SB20GW-29-25		SB20GW-19-15		SB80GW-39-35	
Lab Sample No.	Standards and	A1208-17		A1208-19		C1648-01		C1648-02		C1648-05		C1648-06	
Sampling Date	Guidance Values	1/21/2009		1/21/2009		3/24/2011		3/24/2011		3/24/2011		3/24/2011	
Screened interval/Sample Depth	Feet bgs	11		11		39-35		29-25		19-15		39-35	
Matrix	Class GA	WATER		WATER		Water		Water		Water		Water	
Units	µg/L	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
Dibromochloromethane	50	0.29	U	0.29	UJ	0.52	U	0.52	U	0.52	U	0.52	U
Dichlorodifluoromethane	5	0.34	UJ	0.34	UJ	0.55	U	0.55	U	0.55	U	0.55	U
Ethyl Benzene	5	11		0.34	UJ	0.53	U	0.53	U	3.6	J	0.53	U
Isopropylbenzene	5	5.6		0.19	UJ	0.45	U	0.45	U	1.4	J	0.45	U
m/p-Xylenes	5	3.9	J	0.66	UJ	0.95	U	0.95	U	2.4	J	0.95	U
Methyl Acetate	NC	0.51	U	0.51	UJ	0.83	U	0.83	U	0.83	U	0.83	U
Methyl Cyclohexane	NC	0.53	U	0.53	UJ	0.68	U	0.68	U	0.68	U	0.68	U
Methyl tert-butyl Ether	NC	0.22	U	0.22	UJ	0.35	U	0.35	U	0.35	U	0.35	U
Methylene Chloride	5	0.50	U	0.50	UJ	0.41	U	0.41	U	0.41	U	0.41	U
o-Xylene	5	1.8	J	0.32	UJ	0.43	U	0.43	U	3.5	J	0.43	U
Styrene	5	0.22	U	0.22	UJ	0.36	U	0.36	U	0.36	U	0.36	U
t-1,3-Dichloropropene	0.4*	0.12	U	0.12	UJ	0.29	U	0.29	U	0.29	U	0.29	U
Tetrachloroethene	5	0.53	U	0.53	UJ	0.27	U	0.27	U	0.27	U	0.27	U
Toluene	5	0.34	U	0.34	UJ	0.37	U	0.37	U	0.61	J	0.37	U
trans-1,2-Dichloroethene	5	0.66	U	0.66	UJ	0.41	U	0.41	U	0.41	U	0.41	U
Trichloroethene	5	0.42	U	0.42	UJ	0.28	U	0.28	U	0.28	U	0.28	U
Trichlorofluoromethane	5	0.40	U	0.40	UJ	0.35	U	0.35	U	0.35	U	0.35	U
Vinyl Chloride	2	0.62	U	0.62	UJ	0.34	U	0.34	U	0.34	U	0.34	U
Total VOCs	NC	25		ND		ND		ND		19		ND	
Total BTEX	NC	19		ND		ND		ND		18		ND	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
NC - No criteria.
ND - Not detected.
* - Criteria for sum of cis- and trans-1,3 dichloropropene.
Shading indicates concentration exceeds criteria.
NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Table 1: Ambient Water Quality Standards and Guidance Values.
Data reported in number of significant figures reported by the laboratory.

Table 4-9
Results for Volatile Organic Compounds in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	SB21GW		SB21GW		SB21GW		SB22GW		SB22GW		SB22GW	
Sample ID	Water Quality	SB21GW-39-35		SB21GW-29-25		SB21GW-19-15		SB22GW-39-35		SB22GW-29-25		SB22GW-19-15	
Lab Sample No.	Standards and	C1648-07		C1648-08		C1648-09		C1648-10		C1648-11		C1648-12	
Sampling Date	Guidance Values	3/24/2011		3/24/2011		3/24/2011		3/24/2011		3/24/2011		3/24/2011	
Screened interval/Sample Depth	Feet bgs	39-35		29-25		19-15		39-35		29-25		19-15	
Matrix	Class GA	Water		Water		Water		Water		Water		Water	
Units	µg/L	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
1,1,1-Trichloroethane	5	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
1,1,2,2-Tetrachloroethane	5	0.31	U	0.31	U	0.31	U	0.31	U	0.31	U	0.31	U
1,1,2-Trichloroethane	1	0.38	U	0.38	U	0.38	U	0.38	U	0.38	U	0.38	U
1,1,2-Trichlorotrifluoroethane	NC	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
1,1-Dichloroethane	5	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U
1,1-Dichloroethene	5	0.47	U	0.47	U	0.47	U	0.47	U	0.47	U	0.47	U
1,2,4-Trichlorobenzene	5	0.62	U	0.62	U	0.62	U	0.62	U	0.62	U	0.62	U
1,2-Dibromo-3-Chloropropane	0.04	0.46	U	0.46	U	0.46	U	0.46	U	0.46	U	0.46	U
1,2-Dibromoethane	5	0.41	U	0.41	U	0.41	U	0.41	U	0.41	U	0.41	U
1,2-Dichlorobenzene	5	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
1,2-Dichloroethane	0.6	0.48	U	0.48	U	0.48	U	0.48	U	0.48	U	0.48	U
1,2-Dichloropropane	1	0.46	U	0.46	U	0.46	U	0.46	U	0.46	U	0.46	U
1,3-Dichlorobenzene	5	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U
1,4-Dichlorobenzene	5	0.32	U	0.32	U	0.32	U	0.32	U	0.86	J	0.32	U
2-Butanone	50	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
2-Hexanone	50	1.9	U	1.9	U	1.9	U	1.9	U	1.9	U	1.9	U
4-Methyl-2-Pentanone	NC	2.1	U	2.1	U	2.1	U	2.1	U	2.1	U	2.1	U
Acetone	50	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U
Benzene	1	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U
Bromodichloromethane	50	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U
Bromoform	50	0.47	U	0.47	U	0.47	U	0.47	U	0.47	U	0.47	U
Bromomethane	5	0.62	U	0.62	U	0.62	U	0.62	U	0.62	U	0.62	U
Carbon Disulfide	NC	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U
Carbon Tetrachloride	5	0.62	U	0.62	U	0.62	U	0.62	U	0.62	U	0.62	U
Chlorobenzene	5	0.49	U	0.49	U	0.49	U	0.49	U	0.49	U	0.49	U
Chloroethane	5	0.66	U	0.66	U	0.66	U	0.66	U	0.66	U	0.66	U
Chloroform	7	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U
Chloromethane	5	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U
cis-1,2-Dichloroethene	0.5	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
cis-1,3-Dichloropropene	0.4*	0.31	U	0.31	U	0.31	U	0.31	U	0.31	U	0.31	U
Cyclohexane	NC	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U

Table 4-9
Results for Volatile Organic Compounds in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	SB21GW		SB21GW		SB21GW		SB22GW		SB22GW		SB22GW	
Sample ID	Water Quality	SB21GW-39-35		SB21GW-29-25		SB21GW-19-15		SB22GW-39-35		SB22GW-29-25		SB22GW-19-15	
Lab Sample No.	Standards and	C1648-07		C1648-08		C1648-09		C1648-10		C1648-11		C1648-12	
Sampling Date	Guidance Values	3/24/2011		3/24/2011		3/24/2011		3/24/2011		3/24/2011		3/24/2011	
Screened interval/Sample Depth	Feet bgs	39-35		29-25		19-15		39-35		29-25		19-15	
Matrix	Class GA	Water		Water		Water		Water		Water		Water	
Units	µg/L	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
Dibromochloromethane	50	0.52	U	0.52	U	0.52	U	0.52	U	0.52	U	0.52	U
Dichlorodifluoromethane	5	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U
Ethyl Benzene	5	0.53	U	0.53	U	0.53	U	0.53	U	0.53	U	0.53	U
Isopropylbenzene	5	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
m/p-Xylenes	5	0.95	U	0.95	U	0.95	U	0.95	U	0.95	U	0.95	U
Methyl Acetate	NC	0.83	U	0.83	U	0.83	U	0.83	U	0.83	U	0.83	U
Methyl Cyclohexane	NC	0.68	U	0.68	U	0.68	U	0.68	U	0.68	U	0.68	U
Methyl tert-butyl Ether	NC	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Methylene Chloride	5	0.41	U	0.41	U	0.41	U	0.41	U	0.41	U	0.41	U
o-Xylene	5	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U
Styrene	5	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U
t-1,3-Dichloropropene	0.4*	0.29	U	0.29	U	0.29	U	0.29	U	0.29	U	0.29	U
Tetrachloroethene	5	0.27	U	0.27	U	0.27	U	0.27	U	0.27	U	0.27	U
Toluene	5	0.37	U	0.37	U	0.37	U	0.37	U	0.37	U	0.37	U
trans-1,2-Dichloroethene	5	0.41	U	0.41	U	0.41	U	0.41	U	0.41	U	0.41	U
Trichloroethene	5	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U
Trichlorofluoromethane	5	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Vinyl Chloride	2	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U
Total VOCs	NC	ND		ND		ND		ND		1		ND	
Total BTEX	NC	ND		ND		ND		ND		ND		ND	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
NC - No criteria.
ND - Not detected.
* - Criteria for sum of cis- and trans-1,3 dichloropropene.
Shading indicates concentration exceeds criteria.
NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Table 1: Ambient Water Quality Standards and Guidance Values.
Data reported in number of significant figures reported by the laboratory.

Table 4-9
Results for Volatile Organic Compounds in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	FB-032411		TB-032411	
Sample ID	Water Quality	FB-032411		TB-032411	
Lab Sample No.	Standards and	C1648-13		C1648-14	
Sampling Date	Guidance Values	3/24/2011		3/24/2011	
Screened interval/Sample Depth	Feet bgs				
Matrix	Class GA	Water		Water	
Units	µg/L	µg/L		µg/L	
1,1,1-Trichloroethane	5	0.4	U	0.4	U
1,1,2,2-Tetrachloroethane	5	0.31	U	0.31	U
1,1,2-Trichloroethane	1	0.38	U	0.38	U
1,1,2-Trichlorotrifluoroethane	NC	0.45	U	0.45	U
1,1-Dichloroethane	5	0.36	U	0.36	U
1,1-Dichloroethene	5	0.47	U	0.47	U
1,2,4-Trichlorobenzene	5	0.62	U	0.62	U
1,2-Dibromo-3-Chloropropane	0.04	0.46	U	0.46	U
1,2-Dibromoethane	5	0.41	U	0.41	U
1,2-Dichlorobenzene	5	0.45	U	0.45	U
1,2-Dichloroethane	0.6	0.48	U	0.48	U
1,2-Dichloropropane	1	0.46	U	0.46	U
1,3-Dichlorobenzene	5	0.43	U	0.43	U
1,4-Dichlorobenzene	5	0.32	U	0.32	U
2-Butanone	50	1.3	U	1.3	U
2-Hexanone	50	1.9	U	1.9	U
4-Methyl-2-Pentanone	NC	2.1	U	2.1	U
Acetone	50	2.8	U	2.8	U
Benzene	1	0.32	U	0.32	U
Bromodichloromethane	50	0.36	U	0.36	U
Bromoform	50	0.47	U	0.47	U
Bromomethane	5	0.62	U	0.62	U
Carbon Disulfide	NC	0.54	U	0.54	U
Carbon Tetrachloride	5	0.62	U	0.62	U
Chlorobenzene	5	0.49	U	0.49	U
Chloroethane	5	0.66	U	0.66	U
Chloroform	7	0.34	U	0.34	U
Chloromethane	5	0.54	U	0.54	U
cis-1,2-Dichloroethene	0.5	0.35	U	0.35	U
cis-1,3-Dichloropropene	0.4*	0.31	U	0.31	U
Cyclohexane	NC	0.55	U	0.55	U

Table 4-9
Results for Volatile Organic Compounds in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	FB-032411		TB-032411	
Sample ID	Water Quality	FB-032411		TB-032411	
Lab Sample No.	Standards and	C1648-13		C1648-14	
Sampling Date	Guidance Values	3/24/2011		3/24/2011	
Screened Interval/Sample Depth	Feet bgs				
Matrix	Class GA	Water		Water	
Units	µg/L	µg/L		µg/L	
Dibromochloromethane	50	0.52	U	0.52	U
Dichlorodifluoromethane	5	0.55	U	0.55	U
Ethyl Benzene	5	0.53	U	0.53	U
Isopropylbenzene	5	0.45	U	0.45	U
m/p-Xylenes	5	0.95	U	0.95	U
Methyl Acetate	NC	0.83	U	0.83	U
Methyl Cyclohexane	NC	0.68	U	0.68	U
Methyl tert-butyl Ether	NC	0.35	U	0.35	U
Methylene Chloride	5	0.41	U	0.41	U
o-Xylene	5	0.43	U	0.43	U
Styrene	5	0.36	U	0.36	U
t-1,3-Dichloropropene	0.4*	0.29	U	0.29	U
Tetrachloroethene	5	0.27	U	0.27	U
Toluene	5	0.37	U	0.37	U
trans-1,2-Dichloroethene	5	0.41	U	0.41	U
Trichloroethene	5	0.28	U	0.28	U
Trichlorofluoromethane	5	0.35	U	0.35	U
Vinyl Chloride	2	0.34	U	0.34	U
Total VOCs	NC	ND		ND	
Total BTEX	NC	ND		ND	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
NC - No criteria.
ND - Not detected.
* - Criteria for sum of cis- and trans-1,3 dichloropropene.
Shading indicates concentration exceeds criteria.
NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Table 1: Ambient Water Quality Standards and Guidance Values.
Data reported in number of significant figures reported by the laboratory.

Table 4-10
Results for Semi-Volatile Organic Compounds in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	MW-01		GW-DUP		MW-02		MW-03		SB08GW	
Sample ID	Water Quality	MW-01		GW-DUP		MW-02		MW-03		SB08GW	
Lab Sample No.	Standards and	A1328- 01		A1238-04		A1238-02		A1238-03		A1208-13	
Sampling Date	Guidance Values	2/2/2009		Duplicate of		2/2/2009		2/2/2009		1/20/2009	
Groundwater Sample Depth	Feet	10.5		MW-01		12		12		11.5	
Matrix	Class GA	WATER				WATER		WATER		WATER	
Units	µg/L	µg/L		µg/L		µg/L		µg/L		µg/L	
1,1-Biphenyl	5	0.51	UJ	0.47	UJ	0.47	UJ	0.47	UJ	20	
2,2-oxybis(1-Chloropropane)	NC	0.46	UJ	0.42	UJ	0.42	UJ	0.42	UJ	2.1	U
2,4,5-Trichlorophenol	1*	0.72	UJ	0.66	UJ	0.66	UJ	0.67	UJ	3.2	U
2,4,6-Trichlorophenol	1*	0.39	UJ	0.36	UJ	0.36	UJ	0.36	UJ	1.8	U
2,4-Dichlorophenol	5	0.49	UJ	0.45	UJ	0.45	UJ	0.45	UJ	2.2	U
2,4-Dimethylphenol	50	0.57	UJ	0.52	UJ	0.52	UJ	0.53	UJ	2.6	U
2,4-Dinitrophenol	10	0.84	UJ	0.78	UJ	0.78	UJ	0.78	UJ	3.8	U
2,4-Dinitrotoluene	5	0.49	UJ	0.45	UJ	0.45	UJ	0.45	UJ	2.2	U
2,6-Dinitrotoluene	5	0.46	UJ	0.42	UJ	0.42	UJ	0.42	UJ	2.0	U
2-Chloronaphthalene	10	0.48	UJ	0.44	UJ	0.44	UJ	0.44	UJ	2.2	U
2-Chlorophenol	1*	0.53	UJ	0.49	UJ	0.49	UJ	0.49	UJ	2.4	U
2-Methylnaphthalene	NC	0.47	UJ	0.43	UJ	0.43	UJ	0.43	UJ	48	
2-Methylphenol	1*	0.47	UJ	0.43	UJ	0.43	UJ	0.43	UJ	2.1	U
2-Nitroaniline	5	0.39	UJ	0.36	UJ	0.36	UJ	0.36	UJ	1.8	U
2-Nitrophenol	1*	0.58	UJ	0.53	UJ	0.53	UJ	0.54	UJ	2.6	U
3,3-Dichlorobenzidine	5	–	R	–	R	–	R	–	R	4.6	U
3+4-Methylphenols	1*	0.43	UJ	0.4	UJ	0.40	UJ	0.40	UJ	2.0	U
3-Nitroaniline	5	0.73	UJ	0.67	UJ	0.67	UJ	0.68	UJ	3.3	U
4,6-Dinitro-2-methylphenol	1*	0.77	UJ	0.7	UJ	0.70	UJ	0.71	UJ	3.4	U
4-Bromophenyl-phenylether	NC	0.57	UJ	0.52	UJ	0.52	UJ	0.53	UJ	2.6	U
4-Chloro-3-methylphenol	1*	0.56	UJ	0.51	UJ	0.51	UJ	0.52	UJ	2.5	U
4-Chloroaniline	5	0.56	UJ	0.51	UJ	0.51	UJ	0.52	UJ	2.5	U
4-Chlorophenyl-phenylether	NC	0.58	UJ	0.53	UJ	0.53	UJ	0.54	UJ	2.6	U
4-Nitroaniline	5	0.63	UJ	0.58	UJ	0.58	UJ	0.59	UJ	2.8	U
4-Nitrophenol	1*	0.39	UJ	0.36	UJ	0.36	UJ	0.36	UJ	1.8	U
Acenaphthene	20	0.53	UJ	0.49	UJ	0.49	UJ	0.49	UJ	12	J
Acenaphthylene	NC	0.54	UJ	0.50	UJ	0.50	UJ	0.69	J	62	U
Acetophenone	NC	0.56	UJ	0.51	UJ	0.51	UJ	0.52	UJ	2.5	U
Anthracene	50	0.51	UJ	0.47	UJ	0.47	UJ	0.47	UJ	23	
Atrazine	7.5	0.54	UJ	0.50	UJ	0.50	UJ	0.51	UJ	2.4	U
Benzaldehyde	NC	0.28	UJ	0.26	UJ	0.26	UJ	0.26	UJ	1.3	U
Benzo(a)anthracene	0.002	0.58	UJ	0.53	UJ	0.53	UJ	0.54	UJ	5.3	J
Benzo(a)pyrene	ND	0.52	UJ	0.48	UJ	0.48	UJ	0.48	UJ	3.3	J
Benzo(b)fluoranthene	0.002	0.67	UJ	0.61	UJ	0.61	UJ	0.62	UJ	3.0	U
Benzo(g,h,i)perylene	NC	0.69	UJ	0.63	UJ	0.63	UJ	0.64	UJ	3.1	U
Benzo(k)fluoranthene	0.002	0.60	UJ	0.55	UJ	0.55	UJ	0.56	UJ	2.7	U
bis(2-Chloroethoxy)methane	5	0.57	UJ	0.52	UJ	0.52	UJ	0.53	UJ	2.6	U
bis(2-Chloroethyl)ether	1	0.60	UJ	0.55	UJ	0.55	UJ	0.56	UJ	2.7	U
bis(2-Ethylhexyl)phthalate	5	0.82	J	0.61	J	0.56	UJ	0.57	UJ	2.8	U
Butylbenzylphthalate	50	0.68	UJ	0.62	UJ	0.62	UJ	0.63	UJ	3.0	U
Caprolactam	NC	0.23	UJ	0.21	UJ	0.21	UJ	0.22	UJ	1.0	UJ
Carbazole	NC	0.94	UJ	0.87	UJ	0.87	UJ	0.88	UJ	4.2	U

Table 4-10
Results for Semi-Volatile Organic Compounds in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	MW-01		GW-DUP		MW-02		MW-03		SB08GW	
Sample ID	Water Quality	MW-01		GW-DUP		MW-02		MW-03		SB08GW	
Lab Sample No.	Standards and	A1328- 01		A1238-04		A1238-02		A1238-03		A1208-13	
Sampling Date	Guidance Values	2/2/2009		Duplicate of		2/2/2009		2/2/2009		1/20/2009	
Groundwater Sample Depth	Feet	10.5		MW-01		12		12		11.5	
Matrix	Class GA	WATER				WATER		WATER		WATER	
Units	µg/L	µg/L		µg/L		µg/L		µg/L		µg/L	
Chrysene	0.002	0.68	UJ	0.62	UJ	0.62	UJ	0.63	UJ	4.6	J
Dibenz(a,h)anthracene	NC	0.92	UJ	0.85	UJ	0.85	UJ	0.86	UJ	4.2	U
Dibenzofuran	NC	0.52	UJ	0.48	UJ	0.48	UJ	0.48	UJ	7.1	J
Diethylphthalate	50	0.50	UJ	0.46	UJ	0.46	UJ	0.46	UJ	2.2	U
Dimethylphthalate	50	0.44	UJ	0.41	UJ	0.41	UJ	0.41	UJ	2.0	U
Di-n-butylphthalate	NC	0.57	UJ	0.52	UJ	0.52	UJ	0.53	UJ	2.6	U
Di-n-octyl phthalate	50	0.30	UJ	0.28	UJ	0.28	UJ	0.28	UJ	1.4	U
Fluoranthene	50	0.47	UJ	0.43	UJ	0.43	UJ	0.43	UJ	18	
Fluorene	50	0.44	UJ	0.41	UJ	0.41	UJ	1.0	J	65	
Hexachlorobenzene	0.04	0.54	UJ	0.50	UJ	0.50	UJ	0.51	UJ	2.4	U
Hexachlorobutadiene	0.5	0.34	UJ	0.32	UJ	0.32	UJ	0.32	UJ	1.6	U
Hexachlorocyclopentadiene	5	0.31	UJ	0.29	UJ	0.29	UJ	0.29	UJ	1.4	U
Hexachloroethane	5	0.42	UJ	0.39	UJ	0.39	UJ	0.39	UJ	1.9	U
Indeno(1,2,3-cd)pyrene	0.002	0.54	UJ	0.50	UJ	0.50	UJ	0.51	UJ	2.4	U
Isophorone	50	0.59	UJ	0.54	UJ	0.54	UJ	0.55	UJ	2.6	U
Naphthalene	10	0.46	UJ	0.42	UJ	0.42	UJ	0.42	UJ	16	
Nitrobenzene	0.4	0.6	UJ	0.55	UJ	0.55	UJ	0.56	UJ	2.7	U
N-Nitroso-di-n-propylamine	NC	0.57	UJ	0.52	UJ	0.52	UJ	0.53	UJ	2.6	UJ
N-Nitrosodiphenylamine	50	1.1	UJ	0.98	UJ	0.98	UJ	0.99	UJ	4.8	UJ
Pentachlorophenol	1*	0.77	UJ	0.70	UJ	0.70	UJ	0.71	UJ	3.4	U
Phenanthrene	50	0.52	UJ	0.48	UJ	0.48	UJ	0.93	J	120	
Phenol	1*	0.14	UJ	0.13	UJ	0 13	UJ	0.13	UJ	0.65	U
Pyrene	50	0.66	UJ	0.60	UJ	0.60	UJ	0.61	UJ	21	
Total SVOCs	NC	0.82		0.61		ND		2.62		363	
Total PAHs	NC	ND		ND		ND		2.62		336	
Total Carcinogenic PAHs	NC	ND		ND		ND		ND		13	
Total Non-Carcinogenic PAHs	NC	ND		ND		ND		2.62		323	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
R - Rejected based on data validation.
NC - No criteria.
ND - Not detected.
* - Criteria for phenolic compounds.
-- = Data rejected based on data validation.
Shading indicates concentration exceeds criteria.
NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Table 1: Ambient Water Quality Standards and Guidance Values.
Data reported in number of significant figures reported by the laboratory

Table 4-10
Results for Semi-Volatile Organic Compounds in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	SB18GW		SB09GW		SB10GW		SB11GW		SB20GW		SB20GW		SB20GW		SB80GW	
Sample ID	Water Quality	SB18GW		SB09GW		SB10GW		SB11GW		SB20GW-39-35		SB20GW-29-25		SB20GW-19-15		SB80GW-39-35	
Lab Sample No.	Standards and	A1208-16		A1208-14		A1208-17		A1208-19		C1648-01		C1648-02		C1648-05		C1648-06	
Sampling Date	Guidance Values	Duplicate of		1/20/2009		1/21/2009		1/21/2009		3/24/2011		3/24/2011		3/24/2011		3/24/2011	
Groundwater Sample Depth	Feet	12		11		11		11		39-35		29-25		19-15		39-35	
Matrix	Class GA	SB08GW		WATER		WATER		WATER		WATER		WATER		WATER		WATER	
Units	µg/L	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
1,1-Biphenyl	5	19		0.46	U	2.6	J	0.47	U	2.5	J	4.1	J	46		2	J
2,2-oxybis(1-Chloropropane)	NC	2.1	U	0.41	U	2.16	U	0.42	U	0.18	U	0.17	U	0.17	U	0.17	U
2,4,5-Trichlorophenol	1*	3.2	U	0.65	U	3.4	U	0.66	U	0.42	U	0.4	U	0.4	U	0.4	U
2,4,6-Trichlorophenol	1*	1.8	U	0.35	U	1.8	U	0.36	U	0.58	U	0.56	U	0.56	U	0.56	U
2,4-Dichlorophenol	5	2.2	U	0.44	U	2.3	U	0.45	U	0.69	U	0.66	U	0.66	U	0.66	U
2,4-Dimethylphenol	50	2.6	U	0.51	U	2.7	U	0.52	U	0.74	U	0.71	U	0.71	U	0.71	U
2,4-Dinitrophenol	10	3.8	U	0.76	U	4.0	U	0.78	U	2.2	U	2.1	U	2.1	U	2.1	U
2,4-Dinitrotoluene	5	2.2	U	0.44	U	2.3	U	0.45	U	1.1	U	1	U	1	U	1	U
2,6-Dinitrotoluene	5	2.0	U	0.41	U	2.2	U	0.42	U	0.33	U	0.32	U	0.32	U	0.32	U
2-Chloronaphthalene	10	2.2	U	0.43	U	2.3	U	0.44	U	0.17	U	0.16	U	0.16	U	0.16	U
2-Chlorophenol	1*	2.4	U	0.48	U	2.5	U	0.49	U	0.56	U	0.54	U	0.54	U	0.54	U
2-Methylnaphthalene	NC	51		0.42	U	9.7	J	0.43	U	17		2.8	J	35		13	
2-Methylphenol	1*	2.1	U	0.42	U	2.2	U	0.43	U	0.25	U	0.24	U	0.24	U	0.24	U
2-Nitroaniline	5	1.8	U	0.35	U	1.8	U	0.36	U	0.51	U	0.49	U	0.49	U	0.49	U
2-Nitrophenol	1*	2.6	U	0.52	U	2.7	U	0.53	U	0.54	U	0.52	U	0.52	U	0.52	U
3,3-Dichlorobenzidine	5	4.6	U	0.91	U	4.8	U	0.93	U	2.1	U	2	U	2	U	2	U
3+4-Methylphenols	1*	2.0	U	0.39	U	2.1	U	0.40	U	0.4	U	0.38	U	0.38	U	0.38	U
3-Nitroaniline	5	3.3	U	0.66	U	3.5	U	0.67	U	1.1	U	1.1	U	1.1	U	1.1	U
4,6-Dinitro-2-methylphenol	1*	3.4	U	0.69	U	3.6	U	0.70	U	0.77	U	0.74	U	0.74	U	0.74	U
4-Bromophenyl-phenylether	NC	2.6	U	0.51	U	2.7	U	0.52	U	0.24	U	0.23	U	0.23	U	0.23	U
4-Chloro-3-methylphenol	1*	2.5	U	0.50	U	2.6	U	0.51	U	0.42	U	0.4	U	0.4	U	0.4	U
4-Chloroaniline	5	2.5	U	0.50	U	2.6	U	0.51	U	3	U	2.9	U	2.9	U	2.9	U
4-Chlorophenyl-phenylether	NC	2.6	U	0.52	U	2.7	U	0.53	U	0.22	U	0.21	U	0.21	U	0.21	U
4-Nitroaniline	5	2.8	U	0.57	U	3.0	U	0.58	U	1.4	U	1.4	U	1.4	U	1.4	U
4-Nitrophenol	1*	1.8	U	0.35	U	1.8	U	0.36	U	2.1	U	2	U	2	U	2	U
Acenaphthene	20	12	UJ	0.48	UJ	13	UJ	0.49	UJ	0.22	U	2.2	J	42		0.21	U
Acenaphthylene	NC	63		0.49	U	2.6	U	0.50	U	17		17		78		6.2	J
Acetophenone	NC	2.5	U	0.50	U	2.6	U	0.51	U	0.15	U	0.14	U	0.14	U	0.14	U
Anthracene	50	21		0.46	U	2.4	U	0.47	U	0.17	U	1.8	J	13		0.16	U
Atrazine	7.5	2.4	U	0.49	U	2.6	U	0.50	U	0.42	U	0.4	U	0.4	U	0.4	U
Benzaldehyde	NC	1.3	U	0.25	U	1.3	U	0.26	U	0.8	U	0.77	U	0.77	U	0.77	U
Benzo(a)anthracene	0.002	3.1	J	0.52	U	2.7	U	0.53	U	0.17	U	0.16	U	0.16	U	0.16	U
Benzo(a)pyrene	ND	2.4	U	0.47	U	2.5	U	0.48	U	0.15	U	0.14	U	0.14	U	0.14	U
Benzo(b)fluoranthene	0.002	3.0	U	0.60	U	3.2	U	0.61	U	0.3	U	0.29	U	0.29	U	0.29	U
Benzo(g,h,i)perylene	NC	3.1	U	0.62	U	3.3	U	0.63	U	0.3	U	0.29	U	0.29	U	0.29	U
Benzo(k)fluoranthene	0.002	2.7	U	0.54	U	2.8	U	0.55	U	0.19	U	0.18	U	0.18	U	0.18	U
bis(2-Chloroethoxy)methane	5	2.6	U	0.51	U	2.7	U	0.52	U	0.57	U	0.55	U	0.55	U	0.55	U
bis(2-Chloroethyl)ether	1	2.7	U	0.54	U	2.8	U	0.55	U	0.57	U	0.55	U	0.55	U	0.55	U
bis(2-Ethylhexyl)phthalate	5	2.8	U	0.55	U	2.9	U	0.56	U	0.17	U	0.16	U	0.16	U	0.16	U
Butylbenzylphthalate	50	3.0	U	0.61	U	3.2	U	0.62	U	0.2	U	0.19	U	0.19	U	0.19	U
Caprolactam	NC	1.0	UJ	0.21	UJ	1.1	UJ	0.21	UJ	2.1	U	2	U	2	U	2	U
Carbazole	NC	4.2	U	0.85	U	4.5	U	0.87	U	0.23	U	0.22	U	0.22	U	0.22	U

Table 4-10
Results for Semi-Volatile Organic Compounds in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	SB18GW		SB09GW		SB10GW		SB11GW		SB20GW		SB20GW		SB20GW		SB80GW	
Sample ID	Water Quality	SB18GW		SB09GW		SB10GW		SB11GW		SB20GW-39-35		SB20GW-29-25		SB20GW-19-15		SB80GW-39-35	
Lab Sample No.	Standards and	A1208-16		A1208-14		A1208-17		A1208-19		C1648-01		C1648-02		C1648-05		C1648-06	
Sampling Date	Guidance Values	Duplicate of		1/20/2009		1/21/2009		1/21/2009		3/24/2011		3/24/2011		3/24/2011		3/24/2011	
Groundwater Sample Depth	Feet	12		11		11		11		39-35		29-25		19-15		39-35	
Matrix	Class GA	SB08GW		WATER		WATER		WATER		WATER		WATER		WATER		WATER	
Units	µg/L	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
Chrysene	0.002	3.0	U	0.61	U	3.2	U	0.62	U	0.19	U	0.18	U	0.18	U	0.18	U
Dibenz(a,h)anthracene	NC	4.2	U	0.83	U	4.4	U	0.85	U	0.44	U	0.42	U	0.42	U	0.42	U
Dibenzofuran	NC	2.4	U	0.47	U	3.9	J	0.48	U	0.25	U	0.24	U	13		0.24	U
Diethylphthalate	50	2.2	U	0.45	U	2.4	U	0.46	U	0.4	U	0.38	U	0.38	U	0.38	U
Dimethylphthalate	50	2.0	U	0.40	U	2.1	U	0.41	U	0.23	U	0.22	U	0.22	U	0.22	U
Di-n-butylphthalate	NC	2.6	U	0.51	U	2.7	U	0.52	U	2.1	U	2	U	2	U	2	U
Di-n-octyl phthalate	50	1.4	U	0.27	U	1.4	U	0.28	U	0.53	U	0.51	U	0.51	U	0.51	U
Fluoranthene	50	14		0.42	U	2.2	U	0.43	U	0.42	U	1.7	J	6.4	J	0.4	U
Fluorene	50	65		0.40	U	9.9	J	0.41	U	2.9	J	0.31	U	15		2.7	J
Hexachlorobenzene	0.04	2.4	U	0.49	U	2.6	U	0.50	U	0.19	U	0.18	U	0.18	U	0.18	U
Hexachlorobutadiene	0.5	1.6	U	0.31	U	1.6	U	0.32	U	0.26	U	0.25	U	0.25	U	0.25	U
Hexachlorocyclopentadiene	5	1.4	U	0.28	U	1.5	U	0.29	U	0.25	U	0.24	U	0.24	U	0.24	U
Hexachloroethane	5	1.9	U	0.38	U	2.0	U	0.39	U	0.3	U	0.3	U	0.3	U	0.3	U
Indeno(1,2,3-cd)pyrene	0.002	2.4	U	0.49	U	2.6	U	0.50	U	0.16	U	0.15	U	0.15	U	0.15	U
Isophorone	50	2.6	U	0.53	U	2.8	U	0.54	U	0.31	U	0.3	U	0.3	U	0.3	U
Naphthalene	10	17		0.41	U	46		0.42	U	62		11		28		42	
Nitrobenzene	0.4	2.7	U	0.54	U	2.8	U	0.55	U	0.71	U	0.68	U	0.68	U	0.68	U
N-Nitroso-di-n-propylamine	NC	2.6	UJ	0.51	UJ	2.7	UJ	0.52	UJ	0.21	U	0.2	U	0.2	U	0.2	U
N-Nitrosodiphenylamine	50	4.8	UJ	0.96	UJ	5.1	UJ	0.98	UJ	0.62	U	0.6	U	0.6	U	0.6	U
Pentachlorophenol	1*	3.4	U	0.69	U	3.6	U	0.70	U	1.8	U	1.7	U	1.7	U	1.7	U
Phenanthrene	50	120		1.1	J	13		0.48	U	3.8	J	13		110	D	3.1	J
Phenol	1*	0.65	U	0.13	U	0.68	U	0.13	U	0.22	U	0.21	U	0.21	U	0.21	U
Pyrene	50	16		0.59	U	3.1	U	0.60	U	1.7	J	2	J	7	J	0.2	U
Total SVOCs	NC	389		1.1		85.1		ND		106.9		55.6		393.4		69	
Total PAHs	NC	370		1.1		78.6		ND		104.4		51.5		334.4		67	
Total Carcinogenic PAHs	NC	3.1		ND		ND		ND		ND		ND		ND		ND	
Total Non-Carcinogenic PAHs	NC	367		1.1		78.6		ND		104.4		51.5		334.4		67	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
R - Rejected based on data validation.
NC - No criteria.
ND - Not detected.
* - Criteria for phenolic compounds.
-- = Data rejected based on data validation.
Shading indicates concentration exceeds criteria.
NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Table 1: Ambient Water Quality Standards and Guidance Values.
Data reported in number of significant figures reported by the laboratory.

Table 4-10
Results for Semi-Volatile Organic Compounds in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	SB80GW		SB21GW		SB21GW		SB21GW		SB22GW		SB22GW		SB22GW	
Sample ID	Water Quality	SB80GW-39-35E		SB21GW-39-35		SB21GW-29-25		SB21GW-19-15		SB22GW-39-35		SB22GW-29-25		SB22GW-19-15	
Lab Sample No.	Standards and	C1648-06RE		C1648-07		C1648-08		C1648-09		C1648-10		C1648-11		C1648-12	
Sampling Date	Guidance Values	3/24/2011		3/24/2011		3/24/2011		3/24/2011		3/24/2011		3/24/2011		3/24/2011	
Groundwater Sample Depth	Feet	39-35		39-35		29-25		19-15		39-35		29-25		19-15	
Matrix	Class GA	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
Units	µg/L	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
1,1-Biphenyl	5	2.8	J	0.15	U	0.15	U	0.15	U	0.15	U	58		12	
2,2-oxybis(1-Chloropropane)	NC	0.17	U	0.17	U	0.17	U	0.17	U	0.18	U	0.17	U	0.17	U
2,4,5-Trichlorophenol	1*	0.4	U	0.4	U	0.4	U	0.4	U	0.41	U	0.41	U	0.4	U
2,4,6-Trichlorophenol	1*	0.56	U	0.57	U	0.56	U	0.57	U	0.58	U	0.57	U	0.57	U
2,4-Dichlorophenol	5	0.66	U	0.67	U	0.66	U	0.67	U	0.68	U	0.67	U	0.67	U
2,4-Dimethylphenol	50	0.71	U	0.72	U	0.71	U	0.72	U	0.73	U	0.72	U	0.72	U
2,4-Dinitrophenol	10	2.1	U	2.1	U	2.1	U	2.1	U	2.2	U	2.1	U	2.1	U
2,4-Dinitrotoluene	5	1	U	1	U	1	U	1	U	1.1	U	1.1	U	1	U
2,6-Dinitrotoluene	5	0.32	U	0.32	U	0.32	U	0.32	U	0.33	U	0.33	U	0.32	U
2-Chloronaphthalene	10	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U
2-Chlorophenol	1*	0.54	U	0.55	U	0.54	U	0.55	U	0.56	U	0.55	U	0.55	U
2-Methylnaphthalene	NC	13		0.32	U	0.32	U	0.32	U	0.33	U	180	D	6.4	J
2-Methylphenol	1*	0.24	U	0.24	U	0.24	U	0.24	U	0.25	U	0.24	U	0.24	U
2-Nitroaniline	5	0.49	U	0.49	U	0.49	U	0.49	U	0.51	U	0.5	U	0.49	U
2-Nitrophenol	1*	0.52	U	0.53	U	0.52	U	0.53	U	0.54	U	0.53	U	0.53	U
3,3-Dichlorobenzidine	5	2	U	2	U	2	U	2	U	2.1	U	2	U	2	U
3+4-Methylphenols	1*	0.38	U	0.38	U	0.38	U	0.38	U	0.39	U	0.39	U	0.38	U
3-Nitroaniline	5	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
4,6-Dinitro-2-methylphenol	1*	0.74	U	0.75	U	0.74	U	0.75	U	0.76	U	0.76	U	0.75	U
4-Bromophenyl-phenylether	NC	0.23	U	0.23	U	0.23	U	0.23	U	0.24	U	0.23	U	0.23	U
4-Chloro-3-methylphenol	1*	0.4	U	0.4	U	0.4	U	0.4	U	0.41	U	0.41	U	0.4	U
4-Chloroaniline	5	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U
4-Chlorophenyl-phenylether	NC	0.21	U	0.21	U	0.21	U	0.21	U	0.22	U	0.21	U	0.21	U
4-Nitroaniline	5	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
4-Nitrophenol	1*	2	U	2	U	2	U	2	U	2.1	U	2	U	2	U
Acenaphthene	20	0.21	U	0.21	U	0.21	U	0.21	U	0.22	U	19		7.8	J
Acenaphthylene	NC	7	J	0.71	U	0.7	U	2.9	J	0.72	U	270	D	26	
Acetophenone	NC	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U
Anthracene	50	0.16	U	0.16	U	0.16	U	1.4	J	0.16	U	12		16	
Atrazine	7.5	0.4	U	0.4	U	0.4	U	0.4	U	0.41	U	0.41	U	0.4	U
Benzaldehyde	NC	2.6	J	0.78	U	0.77	U	0.78	U	0.79	U	0.79	U	0.78	U
Benzo(a)anthracene	0.002	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U
Benzo(a)pyrene	ND	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U
Benzo(b)fluoranthene	0.002	0.29	U	0.29	U	0.29	U	0.29	U	0.3	U	0.3	U	0.29	U
Benzo(g,h,i)perylene	NC	0.29	U	0.29	U	0.29	U	0.29	U	0.3	U	0.3	U	0.29	U
Benzo(k)fluoranthene	0.002	0.18	U	0.18	U	0.18	U	0.18	U	0.19	U	0.18	U	0.18	U
bis(2-Chloroethoxy)methane	5	0.55	U	0.56	U	0.55	U	0.56	U	0.57	U	0.56	U	0.56	U
bis(2-Chloroethyl)ether	1	0.55	U	0.56	U	0.55	U	0.56	U	0.57	U	0.56	U	0.56	U
bis(2-Ethylhexyl)phthalate	5	0.16	U	0.16	U	1.4	JB	1.4	JB	0.16	U	0.16	U	0.16	U
Butylbenzylphthalate	50	0.19	U	0.19	U	0.19	U	0.19	U	0.2	U	0.19	U	0.19	U
Caprolactam	NC	2	U	2	U	2	U	2	U	2.1	U	2	U	2	U
Carbazole	NC	0.22	U	0.22	U	0.22	U	0.22	U	0.23	U	0.22	U	0.22	U

Table 4-10
Results for Semi-Volatile Organic Compounds in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	SB80GW		SB21GW		SB21GW		SB21GW		SB22GW		SB22GW		SB22GW	
Sample ID	Water Quality	SB80GW-39-35E		SB21GW-39-35		SB21GW-29-25		SB21GW-19-15		SB22GW-39-35		SB22GW-29-25		SB22GW-19-15	
Lab Sample No.	Standards and	C1648-06RE		C1648-07		C1648-08		C1648-09		C1648-10		C1648-11		C1648-12	
Sampling Date	Guidance Values	3/24/2011		3/24/2011		3/24/2011		3/24/2011		3/24/2011		3/24/2011		3/24/2011	
Groundwater Sample Depth	Feet	39-35		39-35		29-25		19-15		39-35		29-25		19-15	
Matrix	Class GA	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
Units	µg/L	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
Chrysene	0.002	0.18	U	0.18	U	0.18	U	0.18	U	0.19	U	0.18	U	0.18	U
Dibenz(a,h)anthracene	NC	0.42	U	0.42	U	0.42	U	0.42	U	0.43	U	0.43	U	0.42	U
Dibenzofuran	NC	0.24	U	0.24	U	0.24	U	0.24	U	0.25	U	13		5.2	J
Diethylphthalate	50	0.38	U	0.38	U	0.38	U	0.38	U	0.39	U	0.39	U	0.38	U
Dimethylphthalate	50	0.22	U	0.22	U	0.22	U	0.22	U	0.23	U	0.22	U	0.22	U
Di-n-butylphthalate	NC	2	U	2	U	2	U	2	U	2.1	U	2	U	2	U
Di-n-octyl phthalate	50	0.51	U	0.52	U	0.51	U	0.52	U	0.53	U	0.52	U	0.52	U
Fluoranthene	50	0.4	U	0.4	U	0.4	U	0.4	U	0.41	U	6.8	J	9.2	J
Fluorene	50	2.9	J	0.31	U	0.31	U	0.31	U	0.32	U	70		22	
Hexachlorobenzene	0.04	0.18	U	0.18	U	0.18	U	0.18	U	0.19	U	0.18	U	0.18	U
Hexachlorobutadiene	0.5	0.25	U	0.25	U	0.25	U	0.25	U	0.26	U	0.26	U	0.25	U
Hexachlorocyclopentadiene	5	0.24	U	0.24	U	0.24	U	0.24	U	0.25	U	0.24	U	0.24	U
Hexachloroethane	5	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
Indeno(1,2,3-cd)pyrene	0.002	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U
Isophorone	50	0.3	U	0.3	U	0.3	U	0.3	U	0.31	U	0.31	U	0.3	U
Naphthalene	10	43		0.12	U	0.12	U	2.5	J	0.12	U	220	D	5.4	J
Nitrobenzene	0.4	0.68	U	0.69	U	0.68	U	0.69	U	0.7	U	0.69	U	0.69	U
N-Nitroso-di-n-propylamine	NC	0.2	U	0.2	U	0.2	U	0.2	U	0.21	U	0.2	U	0.2	U
N-Nitrosodiphenylamine	50	0.6	U	0.61	U	0.6	U	0.61	U	0.62	U	0.61	U	0.61	U
Pentachlorophenol	1*	1.7	U	1.7	U	1.7	U	1.7	U	1.8	U	1.8	U	1.7	U
Phenanthrene	50	3.4	J	0.26	U	0.26	U	6.2	J	0.27	U	93	D	90	D
Phenol	1*	0.21	U	0.21	U	0.21	U	0.21	U	0.22	U	0.21	U	0.21	U
Pyrene	50	0.2	U	0.2	U	0.2	U	0.2	U	0.21	U	5.3	J	8.3	J
Total SVOCs	NC	74.7		ND		1.4		14.4		ND		947.1		208.3	
Total PAHs	NC	69.3		ND		ND		13		ND		876.1		191.1	
Total Carcinogenic PAHs	NC	ND		ND		ND		ND		ND		ND		ND	
Total Non-Carcinogenic PAHs	NC	69.3		ND		ND		13		ND		876.1		191.1	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
R - Rejected based on data validation.
NC - No criteria.
ND - Not detected.
* - Criteria for phenolic compounds.
– = Data rejected based on data validation.
Shading indicates concentration exceeds criteria.
NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Table 1: Ambient Water Quality Standards and Guidance Values.
Data reported in number of significant figures reported by the laboratory.

Table 4-10
Results for Semi-Volatile Organic Compounds in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	FB-032411	
Sample ID	Water Quality	FB-032411	
Lab Sample No.	Standards and	C1648-13	
Sampling Date	Guidance Values	3/24/2011	
Groundwater Sample Depth	Feet		
Matrix	Class GA	WATER	
Units	µg/L	µg/L	
1,1-Biphenyl	5	0.15	U
2,2-oxybis(1-Chloropropane)	NC	0.17	U
2,4,5-Trichlorophenol	1*	0.4	U
2,4,6-Trichlorophenol	1*	0.56	U
2,4-Dichlorophenol	5	0.66	U
2,4-Dimethylphenol	50	0.71	U
2,4-Dinitrophenol	10	2.1	U
2,4-Dinitrotoluene	5	1	U
2,6-Dinitrotoluene	5	0.32	U
2-Chloronaphthalene	10	0.16	U
2-Chlorophenol	1*	0.54	U
2-Methylnaphthalene	NC	0.32	U
2-Methylphenol	1*	0.24	U
2-Nitroaniline	5	0.49	U
2-Nitrophenol	1*	0.52	U
3,3-Dichlorobenzidine	5	2	U
3+4-Methylphenols	1*	0.38	U
3-Nitroaniline	5	1.1	U
4,6-Dinitro-2-methylphenol	1*	0.74	U
4-Bromophenyl-phenylether	NC	0.23	U
4-Chloro-3-methylphenol	1*	0.4	U
4-Chloroaniline	5	2.9	U
4-Chlorophenyl-phenylether	NC	0.21	U
4-Nitroaniline	5	1.4	U
4-Nitrophenol	1*	2	U
Acenaphthene	20	0.21	U
Acenaphthylene	NC	0.7	U
Acetophenone	NC	0.14	U
Anthracene	50	0.16	U
Atrazine	7.5	0.4	U
Benzaldehyde	NC	0.77	U
Benzo(a)anthracene	0.002	0.16	U
Benzo(a)pyrene	ND	0.14	U
Benzo(b)fluoranthene	0.002	0.29	U
Benzo(g,h,i)perylene	NC	0.29	U
Benzo(k)fluoranthene	0.002	0.18	U
bis(2-Chloroethoxy)methane	5	0.55	U
bis(2-Chloroethyl)ether	1	0.55	U
bis(2-Ethylhexyl)phthalate	5	3	JB
Butylbenzylphthalate	50	0.19	U
Caprolactam	NC	2	U
Carbazole	NC	0.22	U

Table 4-10
Results for Semi-Volatile Organic Compounds in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	FB-032411	
Sample ID	Water Quality	FB-032411	
Lab Sample No.	Standards and	C1648-13	
Sampling Date	Guidance Values	3/24/2011	
Groundwater Sample Depth	Feet		
Matrix	Class GA	WATER	
Units	µg/L	µg/L	
Chrysene	0.002	0.18	U
Dibenz(a,h)anthracene	NC	0.42	U
Dibenzofuran	NC	0.24	U
Diethylphthalate	50	0.38	U
Dimethylphthalate	50	0.22	U
Di-n-butylphthalate	NC	2	U
Di-n-octyl phthalate	50	0.51	U
Fluoranthene	50	0.4	U
Fluorene	50	0.31	U
Hexachlorobenzene	0.04	0.18	U
Hexachlorobutadiene	0.5	0.25	U
Hexachlorocyclopentadiene	5	0.24	U
Hexachloroethane	5	0.3	U
Indeno(1,2,3-cd)pyrene	0.002	0.15	U
Isophorone	50	0.3	U
Naphthalene	10	0.12	U
Nitrobenzene	0.4	0.68	U
N-Nitroso-di-n-propylamine	NC	0.2	U
N-Nitrosodiphenylamine	50	0.6	U
Pentachlorophenol	1*	1.7	U
Phenanthrene	50	5	J
Phenol	1*	0.21	U
Pyrene	50	0.2	U
Total SVOCs	NC	8	
Total PAHs	NC	5	
Total Carcinogenic PAHs	NC	ND	
Total Non-Carcinogenic PAHs	NC	5	

Notes:
U - Non-detect based on data validation.
J - Estimated based on data validation.
R - Rejected based on data validation.
NC - No criteria.
ND - Not detected.
* - Criteria for phenolic compounds.
-- = Data rejected based on data validation.
Shading indicates concentration exceeds criteria.
NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Table 1: Ambient Water Quality Standards and Guidance Values.
Data reported in number of significant figures reported by the laboratory.

Table 4-11
Results for Total Cyanide in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	MW-01		GW-DUP		MW-02		MW-03		SB08GW	
Sample ID	Water Quality	MW-01		GW-DUP		MW-02		MW-03		SB08GW	
Lab Sample No.	Standards and	A1328- 01		A1238-04		A1238-02		A1238-03		A1208-13	
Sampling Date	Guidance Values	2/2/2009		Duplicate of		2/2/2009		2/2/2009		1/20/2009	
Groundwater Sample Depth	Feet	10.5		MW-01		12		12		11.5	
Matrix	Class GA	WATER				WATER		WATER		WATER	
Units	ug/L	µg/L		µg/L		µg/L		µg/L		µg/L	
Total Cyanide	200	0.010	U	0.010	U	0.010	U	0.010	U	0.010	U

Notes:
U - Non-detect based on data validation.
NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Table 1: Ambient Water Quality Standards and Guidance Values.
Data reported in number of significant figures reported by the laboratory.

Table 4-11
Results for Total Cyanide in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	SB18GW		SB09GW		SB10GW		SB11GW		SB20GW		SB20GW	
Sample ID	Water Quality	SB18GW		SB09GW		SB10GW		SB11GW		SB20GW-39-35		SB20GW-29-25	
Lab Sample No.	Standards and	A1208-16		A1208-14		A1208-17		A1208-19		C1648-01		C1648-02	
Sampling Date	Guidance Values	Duplicate of		1/20/2009		1/21/2009		1/21/2009		3/24/2011		3/24/2011	
Groundwater Sample Depth	Feet	12		11		11		11		39-35		29-25	
Matrix	Class GA	SB08GW		WATER		WATER		WATER		WATER		WATER	
Units	ug/L	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
Total Cyanide	200	0.010	U	0.010	U	0.012		0.010	U	5	U	5	U

Notes:
U - Non-detect based on data validation.
NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Table 1: Ambient Water Quality Standards and Guidance Values.
Data reported in number of significant figures reported by the laboratory.

Table 4-11
Results for Total Cyanide in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	SB20GW		SB80GW		SB21GW		SB21GW	
Sample ID	Water Quality	SB20GW-19-15		SB80GW-39-35		SB21GW-39-35		SB21GW-29-25	
Lab Sample No.	Standards and	C1648-05		C1648-06		C1648-07		C1648-08	
Sampling Date	Guidance Values	3/24/2011		3/24/2011		3/24/2011		3/24/2011	
Groundwater Sample Depth	Feet	19-15		39-35		39-35		29-25	
Matrix	Class GA	WATER		WATER		WATER		WATER	
Units	ug/L	µg/L		µg/L		µg/L		µg/L	
Total Cyanide	200	5	U	5	U	5	U	5	U

Notes:
U - Non-detect based on data validation.
NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Table 1: Ambient Water Quality Standards and Guidance Values.
Data reported in number of significant figures reported by the laboratory.

Table 4-11
Results for Total Cyanide in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	SB21GW		SB22GW		SB22GW		SB22GW		FB-032411	
Sample ID	Water Quality	SB21GW-19-15		SB22GW-39-35		SB22GW-29-25		SB22GW-19-15		FB-032411	
Lab Sample No.	Standards and	C1648-09		C1648-10		C1648-11		C1648-12		C1648-13	
Sampling Date	Guidance Values	3/24/2011		3/24/2011		3/24/2011		3/24/2011		3/24/2011	
Groundwater Sample Depth	Feet	19-15		39-35		29-25		19-15			
Matrix	Class GA	WATER		WATER		WATER		WATER		WATER	
Units	ug/L	µg/L		µg/L		µg/L		µg/L		µg/L	
Total Cyanide	200	5	U	5	U	5	U	5	U	5	U

Notes:
U - Non-detect based on data validation.
NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Table 1: Ambient Water Quality Standards and Guidance Values.
Data reported in number of significant figures reported by the laboratory.

Table 4-12
Results for Polycyclic Aromatic Compounds (PAHs) in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	MW-01	GW-DUP	MW-02	MW-03	SB08GW	SB18GW	SB09GW	SB10GW	SB11GW
Sample ID	Water Quality	MW-01	GW-DUP	MW-02	MW-03	SB08GW	SB18GW	SB09GW	SB10GW	SB11GW
Lab Sample No.	Standards and	A1328- 01	A1238-04	A1238-02	A1238-03	A1208-13	A1208-16	A1208-14	A1208-17	A1208-19
Sampling Date	Guidance Values	2/2/2009	Duplicate of	2/2/2009	2/2/2009	1/20/2009	Duplicate of	1/20/2009	1/21/2009	1/21/2009
Groundwater Sample Depth (feet)	Class GA	10.5	MW-01	12	12	11.5	SB08GW	11	11	11
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	20	0.53 UJ	0.49 UJ	0.49 UJ	0.49 UJ	12 J	12 UJ	0.48 UJ	13 UJ	0.49 UJ
Acenaphthylene	NC	0.54 UJ	0.5 UJ	0.5 UJ	0.69 J	62 U	63	0.49 U	2.6 U	0.5 U
Anthracene	50	0.51 UJ	0.47 UJ	0.47 UJ	0.47 UJ	23	21	0.46 U	2.4 U	0.47 U
Benzo(a)anthracene	0.002	0.58 UJ	0.53 UJ	0.53 UJ	0.54 UJ	**5.3 J**	**3.1 J**	0.52 U	2.7 U	0.53 U
Benzo(a)pyrene	ND	0.52 UJ	0.48 UJ	0.48 UJ	0.48 UJ	3.3 J	2.4 U	0.47 U	2.5 U	0.48 U
Benzo(b)fluoranthene	0.002	0.67 UJ	0.61 UJ	0.61 UJ	0.62 UJ	3 U	3 U	0.6 U	3.2 U	0.61 U
Benzo(g,h,i)perylene	NC	0.69 UJ	0.63 UJ	0.63 UJ	0.64 UJ	3.1 U	3.1 U	0.62 U	3.3 U	0.63 U
Benzo(k)fluoranthene	0.002	0.60 UJ	0.55 UJ	0.55 UJ	0.56 UJ	2.7 U	2.7 U	0.54 U	2.8 U	0.55 U
Chrysene	0.002	0.68 UJ	0.62 UJ	0.62 UJ	0.63 UJ	**4.6 J**	3 U	0.61 U	3.2 U	0.62 U
Dibenz(a,h)anthracene	NC	0.92 UJ	0.85 UJ	0.85 UJ	0.86 UJ	4.2 U	4.2 U	0.83 U	4.4 U	0.85 U
Fluoranthene	50	0.47 UJ	0.43 UJ	0.43 UJ	0.43 UJ	18	14	0.42 U	2.2 U	0.43 U
Fluorene	50	0.44 UJ	0.41 UJ	0.41 UJ	1 J	**65**	**65**	0.4 U	9.9 J	0.41 U
Indeno(1,2,3-cd)pyrene	0.002	0.54 UJ	0.5 UJ	0.5 UJ	0.51 UJ	2.4 U	2.4 U	0.49 U	2.6 U	0.5 U
Naphthalene	10	0.46 UJ	0.42 UJ	0.42 UJ	0.42 UJ	**16**	**17**	0.41 U	**46**	0.42 U
Phenanthrene	50	0.52 UJ	0.48 UJ	0.48 UJ	0.93 J	**120**	**120**	1.1 J	13	0.48 U
Pyrene	50	0.66 UJ	0.6 UJ	0.6 UJ	0.61 UJ	21	16	0.59 U	3.1 U	0.6 U
Total PAHs	NC	ND	ND	ND	2.62	288.2	319.1	1.1	68.9	ND
Total Carcinogenic PAHs	NC	ND	ND	ND	ND	13.2	3.1	ND	ND	ND
Total Non-Carcinogenic PAHs	NC	ND	ND	ND	2.62	275	316	1.1	68.9	ND

Notes:
D - From a diluted sample.
J - Estimated based on data validation.
R - Rejected based on data validation.
U - Non-detect based on data validation.
NC - No criteria.
ND - Not detected.
Shading indicates concentration exceeds criteria.
NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Table 1: Ambient Water Quality Standards and Guidance Values.
Data reported in number of significant figures reported by the laboratory.
All units in ug/L.

Table 4-12
Results for Polycyclic Aromatic Compounds (PAHs) in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	SB20GW	SB20GW	SB20GW	SB20GW	SB21GW	SB21GW	SB21GW	SB22GW	SB22GW
Sample ID	Water Quality	SB20GW-19-15	SB20GW-29-25	SB20GW-39-35	SB80GW-39-35	SB21GW-19-15	SB21GW-29-25	SB21GW-39-35	SB22GW-19-15	SB22GW-29-25
Lab Sample No.	Standards and	C1648-05	C1648-02	C1648-01	C1648-06	C1648-09	C1648-08	C1648-07	C1648-12	C1648-11
Sampling Date	Guidance Values	3/24/2011	3/24/2011	3/24/2011	Duplicate of	3/24/2011	3/24/2011	3/24/2011	3/24/2011	3/24/2011
Groundwater Sample Depth (feet)	Class GA	15-19	25-29	35-39	SB20GW-39-35	15-19	25-29	35-39	15-19	25-29
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	20	**42**	2.2 J	10 U	10 U	10 U	10 U	10 U	7.8 J	19
Acenaphthylene	NC	78	17	17	6.2 J	2.9 J	10 U	10 U	26	270 D
Anthracene	50	13	1.8 J	10 U	10 U	1.4 J	10 U	10 U	16	12
Benzo(a)anthracene	0.002	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	ND	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	0.002	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	NC	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	0.002	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	0.002	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	NC	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	50	6.4 J	1.7 J	10 U	10 U	10 U	10 U	10 U	9.2 J	6.8 J
Fluorene	50	15	10 U	2.9 J	2.7 J	10 U	10 U	10 U	22	**70**
Indeno(1,2,3-cd)pyrene	0.002	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10	**28**	**11**	**62**	**42**	2.5 J	10 U	10 U	5.4 J	**220 D**
Phenanthrene	50	**110 D**	13	3.8 J	3.1 J	6.2 J	10 U	10 U	**90 D**	**93 D**
Pyrene	50	7 J	2 J	1.7 J	10 U	10 U	10 U	10 U	8.3 J	5.3 J
Total PAHs	NC	299.4	48.7	87.4	54	13	ND	ND	184.7	696.1
Total Carcinogenic PAHs	NC	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Non-Carcinogenic PAHs	NC	299.4	48.7	87.4	54	13	ND	ND	184.7	696.1

Notes:
D - From a diluted sample.
J - Estimated based on data validation.
R - Rejected based on data validation.
U - Non-detect based on data validation.
NC - No criteria.
ND - Not detected.
Shading indicates concentration exceeds criteria.
NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Table 1: Ambient Water Quality Standards and Guidance Values.
Data reported in number of significant figures reported by the laboratory.
All units in ug/L.

Table 4-12
Results for Polycyclic Aromatic Compounds (PAHs) in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	SB22GW	SB23GW	SB23GW	SB23GW	SB24GW	SB24GW	SB24GW	SB25GW	SB25GW
Sample ID	Water Quality	SB22GW-39-35	SB23GW-15	SB23GW-25	SB23GW-35	SB24GW-15	SB24GW-25	SB24GW-35	SB25GW-15	SB25GW-25
Lab Sample No.	Standards and	C1648-10	C4411-09	C4411-08	C4411-12	C4411-11	C4411-10	C4411-07	C4411-06	C4411-05
Sampling Date	Guidance Values	3/24/2011	10/29/2011	10/29/2011	10/29/2011	10/29/2011	10/29/2011	10/29/2011	10/29/2011	10/29/2011
Groundwater Sample Depth (feet)	Class GA	35-39	15	25	35	15	25	35	15	25
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	20	10 U	10 U	10 U	10 U	10 U	10 U	10 U	**40**	14
Acenaphthylene	NC	10 U	10 U	10 U	10 U	10 U	10 U	10 U	46	97 D
Anthracene	50	10 U	10 U	10 U	10 U	10 U	10 U	10 U	15	8.9 J
Benzo(a)anthracene	0.002	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	ND	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	0.002	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	NC	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	0.002	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	0.002	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	NC	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	50	10 U	10 U	10 U	10 U	10 U	10 U	10 U	11	7.9 J
Fluorene	50	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	22
Indeno(1,2,3-cd)pyrene	0.002	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10	10 U	10 U	10 U	10 U	10 U	10 U	10 U	9.9 J	**63**
Phenanthrene	50	10 U	10 U	10 U	10 U	10 U	10 U	10 U	**92 D**	**66**
Pyrene	50	10 U	10 U	10 U	10 U	10 U	10 U	10 U	13	8.9 J
Total PAHs	NC	ND	ND	ND	ND	ND	ND	ND	226.9	287.7
Total Carcinogenic PAHs	NC	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Non-Carcinogenic PAHs	NC	ND	ND	ND	ND	ND	ND	ND	226.9	287.7

Notes:
D - From a diluted sample.
J - Estimated based on data validation.
R - Rejected based on data validation.
U - Non-detect based on data validation.
NC - No criteria.
ND - Not detected.
Shading indicates concentration exceeds criteria.
NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Table 1: Ambient Water Quality Standards and Guidance Values.
Data reported in number of significant figures reported by the laboratory.
All units in ug/L.

Table 4-12
Results for Polycyclic Aromatic Compounds (PAHs) in Groundwater
Babylon Former MGP Site

Sample Location	NYSDEC	SB25GW	SB26GW	SB26GW	SB26GW
Sample ID	Water Quality	SB25GW-35	SB26GW-15	SB26GW-25	SB26GW-35
Lab Sample No.	Standards and	C4411-04	C4411-03	C4411-02	C4411-01
Sampling Date	Guidance Values	10/29/2011	10/29/2011	10/29/2011	10/29/2011
Groundwater Sample Depth (feet)	Class GA	35	15	25	35
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	20	10 U	10 U	10 U	10 U
Acenaphthylene	NC	10 U	10 U	10 U	10 U
Anthracene	50	10 U	10 U	10 U	10 U
Benzo(a)anthracene	0.002	10 U	10 U	10 U	10 U
Benzo(a)pyrene	ND	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	0.002	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	NC	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	0.002	10 U	10 U	10 U	10 U
Chrysene	0.002	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	NC	10 U	10 U	10 U	10 U
Fluoranthene	50	10 U	10 U	10 U	10 U
Fluorene	50	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	0.002	10 U	10 U	10 U	10 U
Naphthalene	10	10 U	10 U	10 U	10 U
Phenanthrene	50	10 U	10 U	10 U	10 U
Pyrene	50	10 U	10 U	10 U	10 U
Total PAHs	NC	ND	ND	ND	ND
Total Carcinogenic PAHs	NC	ND	ND	ND	ND
Total Non-Carcinogenic PAHs	NC	ND	ND	ND	ND

Notes:
D - From a diluted sample.
J - Estimated based on data validation.
R - Rejected based on data validation.
U - Non-detect based on data validation.
NC - No criteria.
ND - Not detected.
Shading indicates concentration exceeds criteria.
NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Table 1: Ambient Water Quality Standards and Guidance Values.
Data reported in number of significant figures reported by the laboratory.
All units in ug/L.

Table 4-12a
Detected Polycyclic Aromatic Compounds (PAHs) in Groundwater - County Wells
Babylon Former MGP Site

Sample Location	NYSDEC	R-1	R-1	R-1	R-1	R-1	R-2	R-2	R-2	R-2	R-2	R-2	R-3
Sample ID	Water Quality Standards	R-1 (10-15)	R-1 (20-25)	R-1 (30-35)	R-1 (40-45)	R-1 (50-55)	R-2 (10-15)	R-2 (20-25)	R-2 (30-35)	R-2 (40-45)	R-2 (50-55)	R-2 (60-65)	R-3 (10-15)
Sampling Date	and Guidance Values	2/16/2011	2/16/2011	2/16/2011	2/16/2011	2/16/2011	2/17/2011	2/17/2011	2/17/2011	2/17/2011	2/17/2011	2/17/2011	2/23/2011
Groundwater Sample Depth (feet)	Class GA	10-15	20-25	30-35	40-45	50-55	10-15	20-25	30-35	40-45	50-55	60-65	10-15
Polycyclic Aromatic Hydrocarbons													
Acenaphthene	20	0.9	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	50	0.44	0.66	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PAHs	NC	1.34	1.66	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Carcinogenic PAHs	NC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Non-Carcinogenic PAHs	NC	1.34	1.66	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
NC - No criteria.
ND - Not detected.
Shading indicates concentration exceeds criteria.
NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Table 1: Ambient Water Quality Standards and Guidance Values.
All units are in ug/L.

Table 4-12a
Detected Polycyclic Aromatic Compounds (PAHs) in Groundwater - County Wells
Babylon Former MGP Site

Sample Location	NYSDEC	R-3	R-3	R-3	R-3	R-4	R-4	R-4	R-4	R-4	R-5	R-5	R-5
Sample ID	Water Quality Standards	R-3 (20-25)	R-3 (30-35)	R-3 (40-45)	R-3 (50-55)	R-4 (5-10)	R-4 (15-20)	R-4 (25-30)	R-4 (35-40)	R-4 (45-50)	R-5 (5-10)	R-5 (15-20)	R-5 (25-30)
Sampling Date	and Guidance Values	2/23/2011	2/23/2011	2/23/2011	2/23/2011	4/27/2011	4/27/2011	4/27/2011	4/27/2011	4/27/2011	4/28/2011	4/28/2011	4/28/2011
Groundwater Sample Depth (feet)	Class GA	20-25	30-35	40-45	50-55	5-10	15-20	25-30	35-40	45-50	5-10	15-20	25-30
Polycyclic Aromatic Hydrocarbons													
Acenaphthene	20	ND	ND	ND	ND	ND	0.5	ND	ND	ND	ND	ND	ND
Phenanthrene	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PAHs	NC	ND	ND	ND	ND	ND	0.5	ND	ND	ND	ND	ND	ND
Total Carcinogenic PAHs	NC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Non-Carcinogenic PAHs	NC	ND	ND	ND	ND	ND	0.5	ND	ND	ND	ND	ND	ND

Notes:
NC - No criteria.
ND - Not detected.
Shading indicates concentration exceeds criteria.
NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Table 1: Ambient Water Quality Standards and Guidance Values.
All units are in ug/L.

Table 4-12a
Detected Polycyclic Aromatic Compounds (PAHs) in Groundwater - County Wells
Babylon Former MGP Site

Sample Location	NYSDEC	R-5	R-5	R-6	R-6	R-6	R-6	R-6
Sample ID	Water Quality Standards	R-5 (35-40)	R-5 (45-50)	R-6 (5-10)	R-6 (15-20)	R-6 (25-30)	R-6 (35-40)	R-6 (45-50)
Sampling Date	and Guidance Values	4/28/2011	4/28/2011	4/28/2011	4/28/2011	4/28/2011	4/28/2011	4/28/2011
Groundwater Sample Depth (feet)	Class GA	35-40	45-50	5-10	15-20	25-30	35-40	45-50
Polycyclic Aromatic Hydrocarbons								
Acenaphthene	20	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	50	ND	ND	ND	ND	ND	ND	ND
Total PAHs	NC	ND	ND	ND	ND	ND	ND	ND
Total Carcinogenic PAHs	NC	ND	ND	ND	ND	ND	ND	ND
Total Non-Carcinogenic PAHs	NC	ND	ND	ND	ND	ND	ND	ND

Notes:
NC - No criteria.
ND - Not detected.
Shading indicates concentration exceeds criteria.
NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Table 1: Ambient Water Quality Standards and Guidance Values.
All units are in ug/L.

Table 3-11 - Groundwater Sample Results - BTEX

2/16/2003

Site Name: **Babylon**								
		Sample Point ->	WBGW-01	WBGW-02	WBGW-03D	WBGW-03S	WBGW-04	WBGW-05
		Sample Date ->	9/4/2002	9/4/2002	9/4/2002	9/4/2002	9/4/2002	9/4/2002
		Lab # ->	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo
Matrix: Water		Dilution ->	1	1	1	1	1	1
Parameters	**SCG**	**Units**						
Benzene	**1**	ug/l	5 U	5 U	5 U	**[110]**	5 U	5 U
Ethylbenzene	**5**	ug/l	5 U	5 U	5 U	**[71]**	5 U	5 U
Toluene	**5**	ug/l	5 U	5 U	5 U	3.9 J	5 U	5 U
Xylenes (Total)	**5**	ug/l	15 U	15 U	15 U	**[45]**	15 U	15 U
Total BTEX		ug/l	ND	ND	ND	229	ND	ND

Table 3-11 - Groundwater Sample Results - BTEX

2/16/2003

Site Name: Babylon								
		Sample Point ->	WBGW-06					
		Sample Date ->	9/4/2002					
		Lab # ->	STLBuffalo					
Matrix: Water		Dilution ->	1					
Parameters	**SCG**	**Units**						
Benzene	**1**	ug/l	5 U					
Ethylbenzene	**5**	ug/l	5 U					
Toluene	**5**	ug/l	5 U					
Xylenes (Total)	**5**	ug/l	15 U					
Total BTEX		ug/l	ND					

Notes:

Results ≥SCG are reported in bold and bracketed.

ND - Not Detected

Flags:

J - Estimated Value; Conc. < MDL

U - Parameter Not Detected at MDL

Regulatory Standards, Criteria, and Guidance (SCG) Type:

NYSDEC Water SCG

Table 3-12 - Groundwater Sample Results - PAHs

2/16/2003

Site Name: Babylon								
		Sample Point ->	WBGW-01	WBGW-02	WBGW-03D	WBGW-03S	WBGW-04	WBGW-05
		Sample Date ->	9/4/2002	9/4/2002	9/4/2002	9/4/2002	9/4/2002	9/4/2002
		Lab # ->	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo
Matrix: Water		Dilution ->	1	1	1	1	1	1
Parameters	**SCG**	**Units**						
2-Methylnaphthalene		ug/l	10 U	10 U	85	86	10 U	10 U
Acenaphthene	**20**	ug/l	10 U	10 U	9 J	**[61]**	10 U	10 U
Acenaphthylene	**50**	ug/l	10 U	10 U	**[92]**	6 J	10 U	10 U
Anthracene	**50**	ug/l	10 U	10 U	13	13	10 U	10 U
Benz(a)anthracene	**0.002**	ug/l	10 U	10 U	10 U	**[1 J]**	10 U	10 U
Benzo(a)pyrene	**0.002**	ug/l	10 U	10 U	10 U	**[0.5 J]**	10 U	10 U
Benzo(b)fluoranthene	**0.002**	ug/l	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	**5**	ug/l	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	**0.002**	ug/l	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	**0.002**	ug/l	10 U	10 U	10 U	**[1 J]**	10 U	10 U
Dibenz(a,h)anthracene	**50**	ug/l	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	**50**	ug/l	10 U	10 U	10	10	10 U	10 U
Fluorene	**50**	ug/l	10 U	10 U	**[58]**	**[51]**	10 U	10 U
Indeno(1,2,3-cd)pyrene	**0.002**	ug/l	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	**10**	ug/l	10 U	10 U	**[120]**	**[150]**	10 U	10 U
Phenanthrene	**50**	ug/l	10 U	10 U	**[99]**	**[78]**	10 U	10 U
Pyrene	**50**	ug/l	10 U	10 U	12	12	10 U	10 U
Total CPAH		ug/l	ND	ND	ND	2	ND	ND
Total PAH		ug/l	ND	ND	498	469	ND	ND

Table 3-12 - Groundwater Sample Results - PAHs

2/16/2003

Site Name: **Babylon** Matrix: Water	Sample Point -> Sample Date -> Lab # -> Dilution ->	WBGW-06 9/4/2002 STLBuffalo 1					
Parameters	**SCG** **Units**						
2-Methylnaphthalene	ug/l	10 U					
Acenaphthene	**20** ug/l	10 U					
Acenaphthylene	**50** ug/l	10 U					
Anthracene	**50** ug/l	10 U					
Benz(a)anthracene	**0.002** ug/l	10 U					
Benzo(a)pyrene	**0.002** ug/l	10 U					
Benzo(b)fluoranthene	**0.002** ug/l	10 U					
Benzo(g,h,i)perylene	**5** ug/l	10 U					
Benzo(k)fluoranthene	**0.002** ug/l	10 U					
Chrysene	**0.002** ug/l	10 U					
Dibenz(a,h)anthracene	**50** ug/l	10 U					
Fluoranthene	**50** ug/l	10 U					
Fluorene	**50** ug/l	10 U					
Indeno(1,2,3-cd)pyrene	**0.002** ug/l	10 U					
Naphthalene	**10** ug/l	10 U					
Phenanthrene	**50** ug/l	10 U					
Pyrene	**50** ug/l	10 U					
Total CPAH	ug/l	ND					
Total PAH	ug/l	ND					

Notes:

Carcinogenic PAH (CPAH) subset includes: Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, and Indeno(1,2,3-cd)pyrene.

Results ≥SCG are reported in bold and bracketed.

ND - Not Detected

Flags:

J - Estimated Value; Conc. < MDL

U - Parameter Not Detected at MDL

Regulatory Standards, Criteria, and Guidance (SCG) Type:

NYSDEC Water SCG

Table 3-13 - Groundwater Sample Results - Inorganics

2/16/2003

Site Name: Babylon								
	Sample Point ->		WBGW-01	WBGW-02	WBGW-03D	WBGW-03S	WBGW-04	WBGW-05
	Sample Date ->		9/4/2002	9/4/2002	9/4/2002	9/4/2002	9/4/2002	9/4/2002
	Lab # ->		STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo	STLBuffalo
Matrix: Water	Dilution ->		1	1	1	1	1	1
Parameters	**SCG**	**Units**						
Arsenic	**25**	ug/l	7 U	7 U	7 U	7 U	7 U	7 U
Barium	**1000**	ug/l	16.8	24.9	17.4	62.9	31.5	29.4
Cadmium	**5**	ug/l	1 U	1 U	1 U	1 U	1 U	1 U
Chromium	**50**	ug/l	2 U	2.7	2 U	2 U	2 U	2 U
Lead	**25**	ug/l	10 U	10 U	10 U	10 U	10 U	10 U
Mercury	**0.7**	ug/l	0.333 U	0.333 U	0.333 U	0.333 U	0.333 U	0.333 U
Selenium	**10**	ug/l	10 U	10 U	10 U	10 U	10 U	10 U
Silver	**50**	ug/l	3 U	3 U	3 U	3 U	3 U	3 U
Total Cyanide	**200**	ug/l	10 U	10 U	10 U	10 U	10 U	10 U

Table 3-13 - Groundwater Sample Results - Inorganics

2/16/2003

Site Name: **Babylon**								
		Sample Point ->	WBGW-06					
		Sample Date ->	9/4/2002					
		Lab # ->	STLBuffalo					
Matrix: Water		Dilution ->	1					
Parameters	**SCG**	**Units**						
Arsenic	**25**	ug/l	7 U					
Barium	**1000**	ug/l	33.1					
Cadmium	**5**	ug/l	1 U					
Chromium	**50**	ug/l	2 U					
Lead	**25**	ug/l	10 U					
Mercury	**0.7**	ug/l	0.333 U					
Selenium	**10**	ug/l	10 U					
Silver	**50**	ug/l	3 U					
Total Cyanide	**200**	ug/l	10 U					

Notes:

Flags:

U - Parameter Not Detected at MDL

Regulatory Standards, Criteria, and Guidance (SCG) Type:

NYSDEC Water SCG

Appendix C

Comparison of Soil Results to Regulatory Criteria

Summary of Subsurface Soil Impacts
Babylon Former MGP Site

Locations	Depth (ft. bgs)	NYSDEC Part 375 Soil Cleanup Objectives									CP-51 Commercial total PAHs	Visible Impacts			
		Residentital			Restricted Residential			Commercial							
		BTEX	PAH	CN	BTEX	PAH	CN	BTEX	PAH	CN		Stringers	Coated	Blebs	Lenses
On-Site															
MW- 3	12-15											X			
MW- 3	17													X	
SBMW- 3A	2-4														
SBMW- 3A	10-15														
SB- 1	3-8														
SB- 1	8-14														
SB- 1	9-11		X			X			X						
SB- 1	14-15													X	
SB- 1	**18-20**		X			X			X		**X**				
SB- 2	4.5-8														
SB- 2	**8-10**	X	X		X	X			X		**X**				X
SB- 2	10-13														X
SB- 2	13-15													X	
SB- 2	15-19											X			
SB- 2	20-25										X	X			X
SB- 2	29.5														
SB- 2	33-35														
SB- 3	11-13		X			X			X						
SB- 4	5-10														
SB- 4	13-15													X	
SB- 4	16-18		X			X			X						
SB- 4	**23-25**		X			X			X					20-25	21.5-22
SB- 5	5-15														
SB- 5	15.5-19.5														
SB- 7	6.8-8.5		X			X			X		X				
SB- 7	8-10														
SB- 7	11-11.5														
SB- 7	12-15														
SB- 7	23-25														
WBSB- 9	8.5-10		X			X			X						
WBSB- 9	'16-20		X			X			X						
WBSB- 4	**8-12**		X		X	X			X		**X**				
WBSB- 4	12-16		X			X			X						
WBSB- 5	12-16		X			X			X						
Forensic Analysis															
SB-01	11-14														
SB-02	10-15										X				
	18-20														
	23-25										X				
Off-Site															
SB- 8	7.5-10														
SB- 8	9-13		X			X			X					11-15	
SB- 8	15-17.5													X	
SB- 8	22-24											X			
SB- 8	25-28														
SB- 8	30-44											35		30-30.25	
														36-44	
SB- 10	8.5-10														
SB- 10	10-11														
SB- 10	16-17													X	
SB- 10	17-20														
SB- 10	21-25													X	
SB- 13	5-10														
SB- 13	10-11.5					X									
SB- 13	11-16														
SB- 13	16-18					X								X	
SB- 13	18-20														
SB- 13	20-25														
SB- 13	25-28.5														
SB- 15	15-16		X			X			X				15-15.25		
SB- 15	34.2 - 34.3														X
SB- 15	40.1-40.5														X

Notes:

denotes interval within the saturated zone (depth to groundwater ranges from 6.5 to 8 ft bgs)

X indictates constituetn concentrations greater than criteria, or presence of visible impact

Appendix D

Summary of Cost Estimates for Alternatives

Project Name:	West Babylon MGP	**Revision No.:**	4
Cost Estimate No.:	Alternative 3	**Date:**	1/9/14
Client	National Grid	**Status:**	Draft
Location	Suffolk County NY	**Author:**	LAW
		Office:	WEST
Project Element:	Solidification and Product Recovery	**Reviewed By:**	
Type of Estimate:	Feasibility/Conceptual		

Project Details

Project Location:	West Babylon, NY
Project Start Date:	2013
Project Duration:	1Mo
Type of Contract:	Direct Owner
Level of Accuracy:	*-30% to +50%*
Contingency:	20%

Scope Summary

ISS of soils to 25'

Soil ISS Vol	1,300	CY
Total ISS Volume	1,300	CY

Document Source: RI Report **Rev. Date:** 12/1/2012 **Site Visit?** yes
Document Source: **Rev. Date:**
Document Source: **Rev. Date:**

Cost Summary

Prime Contractor Costs	$	960,538
Other Contracts & Purchases	$	87,620
Subcontractor Costs		
Project Total Estimated Cost	$	1,737,602

Notes:
1. Note intended use and audience
2. List major project assumptions
3. Accuracy ranges are based on information provided in "Association for Advancement of Cost Engineering (AACE), International Cost Estimating Classifications, 18R-97"

Estimate Type	*Accuracy Range*
Preliminary	*-50% to +100%*
Feasibility/Conceptual	*-30% to +50%*
Engineering	
30%	*-20% to +30%*
60%	*-15% to +20%*
90%	*-10% to +15%*

4. Contingency values are based on information provided in 'USEPA, Guide to Developing Cost Estimates, July 2000

Remediation Technology	*Scope Contingency*
Soil Excavation	*15% to 55%*
Groundwater Treatment (Multiple	*15% to 35%*
On-site Incineration	*15% to 35%*
Extraction Wells	*10% to 30%*
Vertical Barriers	*10% to 30%*
Synthetic Cap	*10% to 20%*
Off-site Disposal	*5% to 15%*
Off-site Incineration	*5% to 15%*
Bulk Liquid Processing	*5% to 15%*
Clay Cap	*5% to 10%*
Surface Grading/Diking	*5% to 10%*
Revegetation	*5% to 10%*

West Babylon MGP
Alternative 3
National Grid
Suffolk County NY

Solidification and Product Recovery

By: LAW Rev Date: 1/9/2014

Prime Contractor Costs									
					10%	20%			
Task ID	Task Descr.	Unit	Quantity	Bare Cost	MU	Contingency	Total Cost	Unit Rate	%
1	Mobilization	LS	1	$375,000	$37,500	$75,000	$487,500	$487,500	51%
2	Temporary Facilities and Controls	MO	1	$29,250	$2,925	$5,850	$38,025	$38,025	4%
3	Erosion and Sediment Controls/Stockpile	LF	260	$10,005	$1,001	$2,001	$13,007	$50	1%
4	Site Preparation	SF	2,100	$520	$52	$104	$676	$0	0%
5	Odor Foam Consumables	Wk	1	$11,500	$1,150	$2,300	$14,950	$14,950	2%
6	ISS Standard 8' Columns	CY	1,300	$161,253	$16,125	$32,251	$209,629	$161	22%
7	Surface Soil Excavation and Stockpiling	CY	400	$13,000	$1,300	$2,600	$16,900	$42	2%
8	Spoils Management	CY	325	$6,048	$605	$1,210	$7,862	$24	1%
9	Recovery Well Installation and Monitoring	Ea	8	$55,000	$5,500	$11,000	$71,500	$8,938	7%
10	Backfill of Surface Soils	CY	400	$19,400	$1,940	$3,880	$25,220	$63	3%
11	Site Restoration	LS	1	$57,900	$5,790	$11,580	$75,270	$75,270	8%
				$738,876	$73,888	$147,775	$960,538		100%

Other Contracts & Purchases									
					10%	20%			
Task ID	Task Descr.	Unit	Quantity	Bare Cost	MU	Contingency	Total Cost	Unit Rate	%
1	Waste Disposal	Ton	812	$67,400	$6,740	$13,480	$87,620	$108	100%
				$67,400	$6,740	$13,480	$87,620		100%

Costs									
					10%	20%			
Task ID	Task Descr.	Unit	Quantity	Bare Cost	MU	Contingency	Total Cost	Unit Rate	%
1	Engineering Design	LS	1	$203,888	$20,389	$40,778	$265,054	$265,054	38%
2	Air Monitoring and Health and Safety	Mo	1	$40,000	$4,000	$8,000	$52,000	$52,000	8%
3	Operations and Maintenance	Ea	28	$240,000	$24,000	$48,000	$312,000	$11,143	45%
4	Personnel	Man Hours	515	$50,325	$0	$10,065	$60,390	$117	9%
				$534,213	$48,389	$106,843	$689,444		100%

Grand Total	$1,737,602	

West Babylon MGP
Alternative 3
National Grid
Suffolk County NY

Solidification and Product Recovery

Add Task | Delete Row | Add 1 Blank Row

By: LAW Rev Date: 1/9/14

Task/Sub Task	Description	Unit	Qty	Rate	Total Cost
Prime Contractor Costs		NOTE- All costs include contractor Overhead and Profit			
1	**Mobilization**	**LS**	**1**		**$375,000.00**
	ISS Equipment	LS	1	350000	$350,000.00
	Excavation Equipment	LS	1	25000	$25,000.00
2	**Temporary Facilities and Controls**	**MO**	**1**		**$29,250.00**
	Temporary Facilities- Trailers/PortaJohn	MO	1	750	$750.00
	Office Equipment	MO	1	500	$500.00
	Office Supplies	MO	1	500	$500.00
	Cell Phones	MO	1	1000	$1,000.00
	Electric	MO	1	250	$250.00
	Water	MO	1	750	$750.00
	Cleaning	MO	1	350	$350.00
	Pick Up	MO	1	750	$750.00
	Fuel/Maint	MO	1	400	$400.00
	Misc. Supplies	MO	1	500	$500.00
	Decontamonation Supplies	MO	1	500	$500.00
	Water Truck	MO	1	2000	$2,000.00
	Dumpster	Wk	2	50	$100.00
					$0.00
	Survey	LS	1	5000	$5,000.00
	Project Manager	Day	10	750	$7,500.00
	Admin Support	Day	10	340	$3,400.00
	Superintendant	Day	10	500	$5,000.00
3	**Erosion and Sediment Controls/Stockpile Area**	**LF**	**260**		**$10,005.00**
					$0.00
	Privacy Fabric	SF	2080	0.5	$1,040.00
	Silt Fence	LF	260	1.25	$325.00
	Hay Bales	LF	260	6	$1,560.00
	Temporary Fencing	LF	260	8	$2,080.00
	Stockpile Construction	LS	1	5000	$5,000.00
4	**Site Preparation**	**SF**	**2100**		**$520.00**
	Asphalt Removal	CY	52	10	$520.00
					$0.00
					$0.00
					$0.00
5	**Odor Foam Consumables**	**Wk**	**1**		**$11,500.00**
	Foam Unit Mob.	LS	1	500	$500.00
	Foam Unit Rental	MO	1	500	$2,500.00
	Foam Labor	Day	10	450	$4,500.00
	Foam (drums)	Drum	10	400	$4,000.00
					$0.00
6	**ISS Standard 8' Columns**	**CY**	**1300**		**$161,252.70**
	ISS Labor	LS	1	0	$0.00
	ISS Superintendent	Day	7	635.44	$4,448.08
	ISS Engineer	Day	7	444.8	$3,113.60
	ISS Laborers-3	Day	7	2760.12	$19,320.84
	ISS Lead	Day	7	983.2	$6,882.40
	ISS Steward	Day	7	784.91	$5,494.37
	ISS Foreman	Day	7	784.91	$5,494.37
	Additional ISS Union Member	Day	7	724.36	$5,070.52
	ISS Crew Travel and Per Diem	DAY	7	1071	$7,497.00
					$0.00
	ISS Material Cost-Cement	Day	7	465.695	$3,259.87
	ISS Material Cost-Slag	Day	7	2850.125	$19,950.88
	ISS Material Cost-Bentonite	Day	7	995.28	$6,966.96
	Water For Grout (1.4:1)-City $30/7480 Gal	Day	7	41.425	$289.98
					$0.00
					$0.00
	Site Truck (2)	Day	7	132.28	$925.96
	Survey GPS	Day	7	243.02	$1,701.14
	330 Excavaator w/thumb	Day	7	687.71	$4,813.97
	644 Wheel Loader w/Forks	Day	7	496.19	$3,473.33
	Operators-2	Day	7	920.04	$6,440.28
	6" Trash pump	Day	7	194.03	$1,358.21
	Batch Plant	Day	7	719.11	$5,033.77
	Manlift 135'	Day	7	466.44	$3,265.08
	Soil Mec SR100	Day	7	5343.6	$37,405.20
	Frac Tank	Day	7	66.83	$467.81
	Welder	Day	7	46.4	$324.80
	Water Truck	Day	7	136.01	$952.07
	Pressure Washer Trailer	Day	7	62.47	$437.29
	Rusmar Foaming Unit	Day	7	271.19	$1,898.33
	Electric Service- 1 batch plant	Day	7	279.36	$1,955.52
	PPE- Modified Level D	Day	7	430.155	$3,011.09
7	**Surface Soil Excavation and Stockpiling**	**CY**	**400**		**$13,000.00**
	Excavation, Stockpiling	CY	400	28	$11,200.00
	Loading-30% of soils	CY	120	15	$1,800.00
8	**Spoils Management**	**CY**	**325**		**$6,047.96**
	330 Excavaator	Day	2	687.71	$1,375.42
	644 Wheel Loader	Day	2	496.19	$992.38
	Laborer (2)	Day	2	1840.08	$3,680.16
9	**Recovery Well Installation and Monitoring Well Installation**	**Ea**	**8**		**$55,000.00**
	Monitoring Well Installation	Ea	5	5000	$25,000.00
	Installation of 4" diameter, 10' SS Screen Wells to 50'	Ea	3	10000	$30,000.00
					$0.00

10	**Backfill of Surface Soils**	**CY**	**400**		**$19,400.00**	
					$0.00	
	Soil Backfill with Exisiting Soils	CY	280	35	$9,800.00	
	Common Fill	CY	120	80	$9,600.00	
					$0.00	
					$0.00	
11	**Site Restoration**	**LS**	**1**		**$57,900.00**	
	Excavator	Day	2	1200	$2,400.00	
	Dozer	Day	2	400	$800.00	
	Equip Oper	Day	2	750	$1,500.00	
	Laborer	Day	2	600	$1,200.00	
	Topsoil	cy	0	22	$0.00	
	Seeding	Acre	0	2500	$0.00	
	Paving	SF	1300	40	$52,000.00	
	SUB-TOTAL CONTRACTOR				**$738,875.66**	**$738,875.66**
	Mark-up	10%				**$73,887.57**
	Contingency	20%				**$147,775.13**
	Total Subcontractor					**$960,538.36**
Other Contracts & Purchases						
1	**Waste Disposal**	**Ton**	**812**		**$67,400.00**	
	Transportation and Disposal (Non Haz)-Soils	ton	192	75	$14,400.00	
	Transportation and Disposal (Non-Haz)-Assumes325 CY spoils	Ton	520	75	$39,000.00	
	Water Disposal	gallon	0	0.45	$0.00	
	Transportation and Disposal -Asphalt	Ton	100	140	$14,000.00	
					$0.00	
	SUB-TOTAL OTHER CONTRACTS				**$67,400.00**	**$67,400.00**
	Mark-up	10%				**$6,740.00**
	Contingency	20%				**$13,480.00**
	Total Subcontractor					**$87,620.00**
Costs						
1	**Engineering Design**	**LS**	**1**		**$203,887.57**	
	Engineering Design	LS	1	$73,887.57	$73,887.57	
	PDI	LS	1	130000	$130,000.00	
2	**Air Monitoring and Health and Safety**	**Mo**	**1**		**$40,000.00**	
	Air Monitoring-Equip	Mo	0	$8,000.00	$0.00	
	Suma Canisters	Mo	0	$4,000.00	$0.00	
	HSO-Air Monitoring/Office Support	Hr	0	$100.00	$0.00	
	Air Monitoring	MO	1	40000	$40,000.00	
3	**Operations and Maintenance**	**Ea**	**28**		**$240,000.00**	
	Quarterly product recovery/disposal	Ea	8	$5,000.00	$40,000.00	
	Quarterly GW Monitoring	EA	20	10000	$200,000.00	
4	**Personnel**	**Man Hours**	**515**		**$50,325.00**	
	Project Manager	Hr	40	$130.00	$5,200.00	
	Construction Manager	HR	300	$90.00	$27,000.00	
	Engineer	Hr	150	$110.00	$16,500.00	
	Adiministration (Home Office)	HR	25	$65.00	$1,625.00	
	Travel Expenses	LS	0	$0.00	$0.00	
	SUB-TOTAL COSTS				**$534,212.57**	**$534,212.57**
	Mark-up (ODCs Only)	10%		**(no m/u on labor)**		**$48,388.76**
	Contingency	20%				**$106,842.51**
	Total					**$689,443.84**
	GRAND TOTAL					**$1,737,602.19**

Project Name:	West Babylon MGP	**Revision No.:**	11
Cost Estimate No.:	Alternative 4	**Date:**	1/9/14
Client	National Grid	**Status:**	Draft
Location	Suffolk County NY	**Author:**	LAW
		Office:	WEST
Project Element:	Excavation and Product Recovery Excavation to 20' with Sheetpile to 50'	**Reviewed By:**	
Type of Estimate:	Feasibility/Conceptual		

Project Details

Project Location:	West Babylon, NY
Project Start Date:	2014
Project Duration:	1Mo
Type of Contract:	Direct Owner
Level of Accuracy:	*-30% to +50%*
Contingency:	20%

Scope Summary

Excavation and disposal of soils to 20' using Sheetpile

Soil Excavation Vol	600	CY
Total Excavation Volume	600	CY

Document Source: RI Report **Rev. Date:** 12/1/2012 **Site Visit?** yes
Document Source: **Rev. Date:**
Document Source: **Rev. Date:**

Cost Summary

Prime Contractor Costs	$	2,174,218
Other Contracts & Purchases	$	153,920
Subcontractor Costs		
Project Total Estimated Cost	$	3,049,198

Notes:
1. Note intended use and audience
2. List major project assumptions
3. Accuracy ranges are based on information provided in "Association for Advancement of Cost Engineering (AACE), International Cost Estimating Classifications, 18R-97"

Estimate Type	*Accuracy Range*
Preliminary	*-50% to +100%*
Feasibility/Conceptual	*-30% to +50%*
Engineering	
30%	*-20% to +30%*
60%	*-15% to +20%*
90%	*-10% to +15%*

4. Contingency values are based on information provided in 'USEPA, Guide to Developing Cost Estimates, July 2000

Remediation Technology	*Scope Contingency*
Soil Excavation	*15% to 55%*
Groundwater Treatment (Multiple	*15% to 35%*
On-site Incineration	*15% to 35%*
Extraction Wells	*10% to 30%*
Vertical Barriers	*10% to 30%*
Synthetic Cap	*10% to 20%*
Off-site Disposal	*5% to 15%*
Off-site Incineration	*5% to 15%*
Bulk Liquid Processing	*5% to 15%*
Clay Cap	*5% to 10%*
Surface Grading/Diking	*5% to 10%*
Revegetation	*5% to 10%*

West Babylon MGP
Alternative 4
National Grid
Suffolk County NY

Excavation and Product Recovery

By: LAW Rev Date: 1/9/2014

Prime Contractor Costs									
					10%	20%			
Task ID	Task Descr.	Unit	Quantity	Bare Cost	MU	Contingency	Total Cost	Unit Rate	%
1	Mobilization	LS	1	$125,000	$12,500	$25,000	$162,500	$162,500	7%
2	Temporary Facilities and Controls	MO	1	$45,250	$4,525	$9,050	$58,825	$58,825	3%
3	Site Preparation	SF	2,100	$520	$52	$104	$676	$0	0%
4	Erosion and Sediment Controls	LF	260	$5,005	$501	$1,001	$6,507	$25	0%
5	Odor Foam Consumables	Wk	1	$11,500	$1,150	$2,300	$14,950	$14,950	1%
6	Sheetpile Installation	SF	12,500	$625,000	$62,500	$125,000	$812,500	$65	37%
7	Excavation	CY	1,500	$46,050	$4,605	$9,210	$59,865	$40	3%
8	Excavation Dewatering	Day	10	$600,000	$60,000	$120,000	$780,000	$78,000	36%
9	Fill Placement	CY	1,620	$101,250	$10,125	$20,250	$131,625	$81	6%
10	Product Recovery Well and Monitoring W	Ea	8	$55,000	$5,500	$11,000	$71,500	$8,938	3%
11	Site Restoration	LS	1	$57,900	$5,790	$11,580	$75,270	$75,270	3%
				$1,672,475	$167,248	$334,495	$2,174,218		100%

Other Contracts & Purchases									
					10%	20%			
Task ID	Task Descr.	Unit	Quantity	Bare Cost	MU	Contingency	Total Cost	Unit Rate	%
1	Waste Disposal	Ton	1,492	$118,400	$11,840	$23,680	$153,920	$103	100%
				$118,400	$11,840	$23,680	$153,920		100%

Costs									
					10%	20%			
Task ID	Task Descr.	Unit	Quantity	Bare Cost	MU	Contingency	Total Cost	Unit Rate	%
1	Engineering Design	LS	1	$213,624	$21,362	$42,725	$277,711	$277,711	39%
2	Air Monitoring and Health and Safety	Mo	1	$40,000	$4,000	$8,000	$52,000	$52,000	7%
3	Quarterly product recovery/disposal and	Yr	5	$240,000	$24,000	$48,000	$312,000	$62,400	43%
4	Personnel	Man Hours	675	$66,125	$0	$13,225	$79,350	$118	11%
				$559,749	$49,362	$111,950	$721,061		100%

Grand Total	$3,049,198	

West Babylon MGP
Alternative 4
National Grid
Suffolk County NY

Excavation and Product Recovery

Add Task | Delete Row | Add 1 Blank Row

By: LAW Rev Date: 1/9/14

Task/Sub Task	Description	Unit	Qty	Rate	Total Cost	
Prime Contractor Costs		NOTE- All costs include contractor Overhead and Profit				
1	**Mobilization**	**LS**	**1**		**$125,000.00**	
	Excavation Equipment	LS	1	25000	$25,000.00	
	Sheetpile Mobilization	LS	1	100000	$100,000.00	
					$0.00	
2	**Temporary Facilities and Controls**	**MO**	**1**		**$45,250.00**	
	Temporary Facilities- Trailers/PortaJohn	MO	1	750	$750.00	
	Office Equipment	MO	1	500	$500.00	
	Office Supplies	MO	1	500	$500.00	
	Cell Phones	MO	1	1000	$1,000.00	
	Electric	MO	1	250	$250.00	
	Water	MO	1	750	$750.00	
	Cleaning	MO	1	350	$350.00	
	Pick Up	MO	1	750	$750.00	
	Fuel/Maint	MO	1	400	$400.00	
	Misc. Supplies	MO	1	500	$500.00	
	Decontamonation Supplies	MO	1	500	$500.00	
	Water Truck	MO	1	2000	$2,000.00	
	Dumpster	Wk	4	50	$200.00	
					$0.00	
	Survey	LS	1	5000	$5,000.00	
	Project Manager	Day	20	750	$15,000.00	
	Admin Support	Day	20	340	$6,800.00	
	Superintendant	Day	20	500	$10,000.00	
3	**Site Preparation**	**SF**	**2100**		**$520.00**	
	Asphalt Removal	CY	52	10	$520.00	
4	**Erosion and Sediment Controls**	**LF**	**260**		**$5,005.00**	
					$0.00	
	Privacy Fabric	SF	2080	0.5	$1,040.00	
	Silt Fence	LF	260	1.25	$325.00	
	Hay Bales	LF	260	6	$1,560.00	
	Temporary Fencing	LF	260	8	$2,080.00	
5	**Odor Foam Consumables**	**Wk**	**1**		**$11,500.00**	
					$0.00	
	Foam Unit Mob	LS	1	500	$500.00	
	Foam Unit Rental	MO	1	2500	$2,500.00	
	Foam Labor	Day	10	450	$4,500.00	
	Foam (drums)	Drum	10	400	$4,000.00	
					$0.00	
					$0.00	
6	**Sheetpile Installation**	**SF**	**12500**		**$625,000.00**	
	Sheetpile Installation	SF	12500	50	$625,000.00	
					$0.00	
7	**Excavation**	**CY**	**1500**		**$46,050.00**	
	Excavation and Stockpiling of Surface Soils (2,000SF area)	CY	900	28	$25,200.00	
	Excavation and loading deeper soils	CY	600	28	$16,800.00	
	Loading 30% surface soils	CY	270	15	$4,050.00	
8	**Excavation Dewatering**	**Day**	**10**		**$600,000.00**	
	Construction Water Treatment Operation	DAY	10	5000	$50,000.00	
	Mobilization of Water Treatment System Mob	LS	1	450000	$450,000.00	
	Dewatering	LS	1	100000	$100,000.00	
					$0.00	
					$0.00	
9	**Fill Placement**	**CY**	**1620**		**$101,250.00**	
	Backfill and Grading: Common Fill	CY	990	80	$79,200.00	
	Backfill and Grading-Reused Soils	CY	630	35	$22,050.00	
10	**Product Recovery Well and Monitoring Well Installation**	**Ea**	**8**		**$55,000.00**	
					$0.00	
	Installation of 4" diameter, 10' SS Screen Wells to 50'	Ea	3	10000	$30,000.00	
	Monitoring well Installation	Ea	5	5000	$25,000.00	
					$0.00	
11	**Site Restoration**	**LS**	**1**		**$57,900.00**	
	Excavator	Day	2	1200	$2,400.00	
	Dozer	Day	2	400	$800.00	
	Equip Oper	Day	2	750	$1,500.00	
	Laborer	Day	2	600	$1,200.00	
	Topsoil	cy	0	22	$0.00	
	Seeding	Acre	0	2500	$0.00	
	Paving	SF	1300	40	$52,000.00	
					$0.00	
	SUB-TOTAL CONTRACTOR				**$1,672,475.00**	**$1,672,475.00**
	Mark-up	10%				**$167,247.50**
	Contingency	20%				**$334,495.00**
	Total Subcontractor					**$2,174,217.50**
Other Contracts & Purchases						
1	**Waste Disposal**	**Ton**	**1492**		**$118,400.00**	
	Transportation and Disposal (Non-Haz) Surface Soils	ton	432	75	$32,400.00	
	Transportation and Disposal (Non-Haz)	Ton	960	75	$72,000.00	
	Water Disposal	gallon	7200000	0	$0.00	
	Transportation and Disposal Asphalt	Ton	100	140	$14,000.00	
					$0.00	

		SUB-TOTAL OTHER CONTRACTS			**$118,400.00**	**$118,400.00**
		Mark-up	10%			**$11,840.00**
		Contingency	20%			**$23,680.00**
		Total Subcontractor				**$153,920.00**
Costs						
1	**Engineering Design**	**LS**	**1**		**$213,623.75**	
	Engineering Design	LS	1	$83,623.75	$83,623.75	
	PDI	LS	1	$130,000.00	$130,000.00	
2	**Air Monitoring and Health and Safety**	**Mo**	**1**		**$40,000.00**	
	Air Monitoring-Equip	Mo	0	$8,000.00	$0.00	
	Suma Canisters	Mo	0	$4,000.00	$0.00	
	HSO-Air Monitoring/Office Support	Hr	0	$100.00	$0.00	
	Air Monitoring	MO	1	40000	$40,000.00	
3	**Quarterly product recovery/disposal and GW Sampling**	**Yr**	**5**		**$240,000.00**	
	Quarterly product recovery/disposal	Ea	8	$5,000.00	$40,000.00	
	Quarterly GW Monitoring	EA	20	10000	$200,000.00	
4	**Personnel**	**Man Hours**	**675**		**$66,125.00**	
	Project Manager	Hr	50	$130.00	$6,500.00	
	Construction Manager	HR	400	$90.00	$36,000.00	
	Engineer	Hr	200	$110.00	$22,000.00	
	Adiministration (Home Office)	HR	25	$65.00	$1,625.00	
	Travel Expenses	LS	0	$0.00	$0.00	
		SUB-TOTAL COSTS			**$559,748.75**	**$559,748.75**
		Mark-up (ODCs Only)	10%		**(no m/u on labor)**	**$49,362.38**
		Contingency	20%			**$111,949.75**
		Total				**$721,060.88**
		GRAND TOTAL				**$3,049,198.38**

Project Name:	West Babylon MGP	**Revision No.:**	6
Cost Estimate No.:	Alternative 5	**Date:**	1/9/14
Client	National Grid	**Status:**	Draft
Location	Suffolk County NY	**Author:**	LAW
		Office:	WEST
Project Element:	Restoration of On-Site and Commercial Off-site Properties ot Unrestricted Use	**Reviewed By:**	
Type of Estimate:	Feasibility/Conceptual		

Project Details

Project Location:	West Babylon, NY
Project Start Date:	2014
Project Duration:	7Mo
Type of Contract:	Direct Owner
Level of Accuracy:	*-30% to +50%*
Contingency:	20%

Scope Summary

Excavation and disposal of soils using Secant pile/On-Site and Off-site

Soil Excavation Vol	1,700	CY
Total Excavation Volume	1,700	CY

Document Source: RI Report **Rev. Date:** 12/1/2012 **Site Visit?** yes
Document Source: **Rev. Date:**
Document Source: **Rev. Date:**

Cost Summary

Prime Contractor Costs	$	8,634,304
Other Contracts & Purchases	$	358,280
Subcontractor Costs		
Project Total Estimated Cost	$	10,235,449

Notes:
1. Note intended use and audience
2. List major project assumptions
3. Accuracy ranges are based on information provided in "Association for Advancement of Cost Engineering (AACE), International Cost Estimating Classifications, 18R-97"

Estimate Type	*Accuracy Range*
Preliminary	*-50% to +100%*
Feasibility/Conceptual	*-30% to +50%*
Engineering	
30%	*-20% to +30%*
60%	*-15% to +20%*
90%	*-10% to +15%*

4. Contingency values are based on information provided in 'USEPA, Guide to Developing Cost Estimates, July 2000

Remediation Technology	*Scope Contingency*
Soil Excavation	*15% to 55%*
Groundwater Treatment (Multiple	*15% to 35%*
On-site Incineration	*15% to 35%*
Extraction Wells	*10% to 30%*
Vertical Barriers	*10% to 30%*
Synthetic Cap	*10% to 20%*
Off-site Disposal	*5% to 15%*
Off-site Incineration	*5% to 15%*
Bulk Liquid Processing	*5% to 15%*
Clay Cap	*5% to 10%*
Surface Grading/Diking	*5% to 10%*
Revegetation	*5% to 10%*

West Babylon MGP
Alternative 5
National Grid
Suffolk County NY

AECOM

Restoration of On-Site and Commercial Off-site

By: LAW Rev Date: 1/9/2014

Prime Contractor Costs									
					10%	20%			
Task ID	Task Descr.	Unit	Quantity	Bare Cost	MU	Contingency	Total Cost	Unit Rate	%
1	Mobilization	LS	1	$225,000	$22,500	$45,000	$292,500	$292,500	3%
2	Temporary Facilities and Controls	MO	4	$229,600	$22,960	$45,920	$298,480	$74,620	3%
3	Clearing and Grubbing-1500SF Off-site	LS	1	$11,240	$1,124	$2,248	$14,612	$14,612	0%
4	Site Preparation	SF	2,100	$520	$52	$104	$676	$0	0%
5	Erosion and Sediment Controls	LF	410	$7,893	$789	$1,579	$10,260	$25	0%
6	Odor Foam Consumables	MO	4	$36,000	$3,600	$7,200	$46,800	$11,700	1%
7	Secant Pile Wall Installation	SF	29,000	$4,350,000	$435,000	$870,000	$5,655,000	$195	65%
8	Excavation	CY	2,180	$102,400	$10,240	$20,480	$133,120	$61	2%
9	Excavation Dewatering	Day	30	$1,375,000	$137,500	$275,000	$1,787,500	$59,583	21%
10	Fill Placement	CY	2,964	$186,720	$18,672	$37,344	$242,736	$82	3%
11	Product Recovery and Monitoring Well In	Ea	5	$55,000	$5,500	$11,000	$71,500	$14,300	1%
12	Site Restoration	LS	1	$62,400	$6,240	$12,480	$81,120	$81,120	1%
				$6,641,773	$664,177	$1,328,355	$8,634,304		100%

Other Contracts & Purchases									
					10%	20%			
Task ID	Task Descr.	Unit	Quantity	Bare Cost	MU	Contingency	Total Cost	Unit Rate	%
1	Waste Disposal	Ton	3,588	$275,600	$27,560	$55,120	$358,280	$100	100%
				$275,600	$27,560	$55,120	$358,280		100%

Costs									
					10%	20%			
Task ID	Task Descr.	Unit	Quantity	Bare Cost	MU	Contingency	Total Cost	Unit Rate	%
1	Engineering Design	LS	1	$532,089	$53,209	$106,418	$691,715	$691,715	56%
2	Air Monitoring and Health and Safety	Mo	3	$80,000	$8,000	$16,000	$104,000	$34,667	8%
3	Quarterly product recovery/disposal and	Yr	5	$240,000	$24,000	$48,000	$312,000	$62,400	25%
4	Personnel	Man Hours	1,125	$112,625	$0	$22,525	$135,150	$120	11%
				$964,714	$85,209	$192,943	$1,242,865		100%

Grand Total	$10,235,449	

West Babylon MGP
Alternative 5
National Grid
Suffolk County NY

Restoration of On-Site and Commercial Off-site

Add Task | Delete Row | Add 1 Blank Row

By: LAW Rev Date: 1/9/14

Task/Sub Task	Description	Unit	Qty	Rate	Total Cost
Prime Contractor Costs		NOTE- All costs include contractor Overhead and Profit			
1	**Mobilization**	**LS**	**1**		**$225,000.00**
	Excavation Equipment	LS	1	25000	$25,000.00
	Secant Pile Wall Mobilization	LS	1	200000	$200,000.00
					$0.00
2	**Temporary Facilities and Controls**	**MO**	**4**		**$229,600.00**
	Temporary Facilities- Trailers/PortaJohn	MO	4	750	$3,000.00
	Office Equipment	MO	4	500	$2,000.00
	Office Supplies	MO	4	500	$2,000.00
	Cell Phones	MO	4	1000	$4,000.00
	Electric	MO	4	250	$1,000.00
	Water	MO	4	750	$3,000.00
	Cleaning	MO	4	350	$1,400.00
	Pick Up	MO	4	750	$3,000.00
	Fuel/Maint	MO	4	400	$1,600.00
	Misc. Supplies	MO	4	500	$2,000.00
	Decontamonation Supplies	MO	4	500	$2,000.00
	Water Truck	MO	4	2000	$8,000.00
	Dumpster	Wk	16	50	$800.00
					$0.00
	Survey	LS	1	5000	$5,000.00
	Project Manager	Day	120	750	$90,000.00
	Admin Support	Day	120	340	$40,800.00
	Superintendant	Day	120	500	$60,000.00
3	**Clearing and Grubbing-1500SF Off-site**	**LS**	**1**		**$11,240.00**
	Excavator	Day	3	565	$1,695.00
	Chain Saw	Day	3	150	$450.00
	Chipper	Day	3	350	$1,050.00
	Equip Operator	Day	3	565	$1,695.00
	Laborer	Day	3	450	$1,350.00
	Stockpile Construction	LS	1	5000	$5,000.00
4	**Site Preparation**	**SF**	**2100**		**$520.00**
					$0.00
	Asphalt Removal	CY	52	10	$520.00
					$0.00
					$0.00
5	**Erosion and Sediment Controls**	**LF**	**410**		**$7,892.50**
					$0.00
	Privacy Fabric	SF	3280	0.5	$1,640.00
	Silt Fence	LF	410	1.25	$512.50
	Hay Bales	LF	410	6	$2,460.00
	Temporary Fencing	LF	410	8	$3,280.00
					$0.00
6	**Odor Foam Consumables**	**MO**	**4**		**$36,000.00**
					$0.00
	Foam Unit Mob	LS	1	500	$500.00
	Foam Unit Rental	MO	4	2500	$10,000.00
	Foam Labor	Day	30	450	$13,500.00
	Foam (drums)	Drum	30	400	$12,000.00
					$0.00
					$0.00
7	**Secant Pile Wall Installation**	**SF**	**29000**		**$4,350,000.00**
	Secant Pile Wall Onsite	SF	15000	150	$2,250,000.00
	Secant Pile Wall Offsite	SF	14000	150	$2,100,000.00
8	**Excavation**	**CY**	**2180**		**$102,400.00**
	Excavation andLoading Soils	CY	1700	28	$47,600.00
	Excavation and Stockpiling- Vadose Zone soils	CY	1600	28	$47,600.00
	Loading-30% stockpiled soils	CY	480	15	$7,200.00
9	**Excavation Dewatering**	**Day**	**30**		**$1,375,000.00**
	Construction Water Treatment Operation	DAY	30	12500	$375,000.00
	Mobilization of Water Treatment System Mob	LS	2	450000	$900,000.00
	Dewatering	LS	1	100000	$100,000.00
					$0.00
					$0.00
10	**Fill Placement**	**CY**	**2964**		**$186,720.00**
	Backfill and Grading: Common Fill	CY	1844	80	$147,520.00
	Backfill and Grading-Reused Soils	CY	1120	35	$39,200.00
11	**Product Recovery and Monitoring Well Installation**	**Ea**	**5**		**$55,000.00**
					$0.00
	Installation of 4" diameter, 10' SS Screen Wells to 50'-Recovery wells	Ea	3	10000	$30,000.00
	Installation of Monitoring Wells	Ea	5	5000	$25,000.00
					$0.00
12	**Site Restoration**	**LS**	**1**		**$62,400.00**
	Excavator	Day	2	1200	$2,400.00
	Dozer	Day	2	400	$800.00
	Equip Oper	Day	2	750	$1,500.00
	Laborer	Day	2	600	$1,200.00
	Topsoil	cy	0	22	$0.00
	Seeding	SF	1500	3	$4,500.00
	Paving	SF	1300	40	$52,000.00
					$0.00
	SUB-TOTAL CONTRACTOR				**$6,641,772.50**
	Mark-up	10%			**$664,177.25**

		Contingency	20%			**$1,328,354.50**
		Total Subcontractor				**$8,634,304.25**
Other Contracts & Purchases						
1	**Waste Disposal**	**Ton**	**3588**		**$275,600.00**	
	Transportation and Disposal (Non Haz)-Suface Soils	ton	768	75	$57,600.00	
	Transportation and Disposal (Non-Haz)	Ton	2720	75	$204,000.00	
	Water Disposal	gallon	7200000	0	$0.00	
	Transportation and Disposal asphalt	Ton	100	140	$14,000.00	
					$0.00	
		SUB-TOTAL OTHER CONTRACTS			**$275,600.00**	**$275,600.00**
		Mark-up	10%			**$27,560.00**
		Contingency	20%			**$55,120.00**
		Total Subcontractor				**$358,280.00**
Costs						
1	**Engineering Design**	**LS**	**1**		**$532,088.63**	
	Engineering Design	LS	1	$332,088.63	$332,088.63	
	PDI	LS	1	$200,000.00	$200,000.00	
2	**Air Monitoring and Health and Safety**	**Mo**	**3**		**$80,000.00**	
	Air Monitoring	LS	1	80000	$80,000.00	
3	**Quarterly product recovery/disposal and GW Sampling**	**Yr**	**5**		**$240,000.00**	
	Quarterly product recovery/disposal	Ea	8	$5,000.00	$40,000.00	
	Quarterly GW Monitoring	EA	20	10000	$200,000.00	
4	**Personnel**	**Man Hours**	**1125**		**$112,625.00**	
	Project Manager	Hr	100	$130.00	$13,000.00	
	Construction Manager	HR	600	$90.00	$54,000.00	
	Engineer	Hr	400	$110.00	$44,000.00	
	Adiministration (Home Office)	HR	25	$65.00	$1,625.00	
	Travel Expenses	LS	0	$0.00	$0.00	
		SUB-TOTAL COSTS			**$964,713.63**	**$964,713.63**
		Mark-up (ODCs Only)	10%		**(no m/u on labor)**	**$85,208.86**
		Contingency	20%			**$192,942.73**
		Total				**$1,242,865.21**
		GRAND TOTAL				**$10,235,449.46**