PROPOSED REMEDIAL ACTION PLAN

K - Wythe Ave. Station Operable Unit Number 01: Wythe Berry LLC Properties State Superfund Project Brooklyn, Kings County Site No. 224069 February 2017



Prepared by Division of Environmental Remediation New York State Department of Environmental Conservation

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SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), is proposing a remedy for the above referenced site. The disposal of hazardous wastes at the site resulted in threats to public health and the environment that were addressed by actions known as interim remedial measures (IRMs), which were undertaken at the site. An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the remedial investigation (RI) or feasibility study (FS). The IRMs undertaken at this site are discussed in Section 6.2.

Based on the implementation of the IRM(s), the findings of the RI indicate that the site no longer poses a threat to human health or the environment. The IRM(s) conducted at the site attained the remediation objectives identified for this site, which are presented in Section 6.5, for the protection of public health and the environment. No Further Action is the remedy proposed by this Proposed Remedial Action Plan (PRAP). A No Further Action remedy may include site management, which will include continued operation of any remedial system installed during the IRM and the implementation of any prescribed institutional controls/engineering controls (ICs/ECs) that have been identified as being part of the proposed remedy for the site. This PRAP identifies the IRM(s) conducted and discusses the basis for No Further Action.

The New York State Inactive Hazardous Waste Disposal Site Remedial Program (also known as the State Superfund Program) is an enforcement program, the mission of which is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375. This document is a summary of the information that can be found in the site-related reports and documents in the document repository identified below.

SECTION 2: <u>CITIZEN PARTICIPATION</u>

The Department seeks input from the community on all PRAPs. This is an opportunity for public participation in the remedy selection process. The public is encouraged to review the

reports and documents, which are available at the following repository:

A public comment period has been set from:

February 28, 2017 to March 30, 2017

A public meeting is scheduled for the following date:

March 14, 2017 at 7:00 pm

Public meeting location:

Bushwick Inlet Park Headquarters, Kent Ave. and N. 9th Street, Brooklyn, NY

At the meeting, the findings of the remedial investigation (RI) will be presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period will be held, during which verbal or written comments may be submitted on the PRAP.

Written comments may also be sent to:

Scott Deyette NYS Department of Environmental Conservation Division of Environmental Remediation 625 Broadway Albany, NY 12233 scott.deyette@dec.ny.gov

The Department may modify the proposed remedy presented in this PRAP based on new information or public comments. Therefore, the public is encouraged to review and comment on the proposed remedy identified herein. Comments will be summarized and addressed in the responsiveness summary section of the Record of Decision (ROD). The ROD is the Department's final selection of the remedy for this site.

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location:

The former Wythe Avenue (Berry Street) Holder Station is located in the Williamsburg neighborhood of Brooklyn, New York, Kings County. The site occupies nine parcels, and is bounded by North 13th Street to the north, North 12th Street to the south, Berry Street to the east and Wythe Avenue to the west. These nine parcels are identified as Block 2283, Lots 1, 25, 28, 31, 33, 35, 38, 41 and 43, and comprise approximately 2.3 acres.

Site Features:

The site is comprised of commercial and industrial properties, and site topography is nearly flat. Lot 1 contains a newly constructed twenty-one story hotel and retail stores, the remaining eight lots comprise several one-story warehouse buildings on the east half of the site which are currently occupied by various commercial and industrial tenants.

Current Zoning and Land Use:

The site is zoned M1-1 and M1-2, which allow for light industrial and commercial uses. The site is surrounded by mixed use parcels, including light industrial, commercial and residential. The nearest residential area is within 100 feet to the southwest.

Past Use of the Site:

The site was operated as a manufactured gas plant (MGP) holder station by Brooklyn Union Gas Co. from approximately 1903 to 1965. The holders operated solely as gas distribution holders, and no gas production facilities were present at the site. In 1965 the holders and all associated MGP buildings were dismantled when the property was sold. Subsequent development of the site included two one-story buildings on the western two parcels, used for manufacturing and warehousing, in 1968. The eastern portion of the site was redeveloped with five warehouse buildings between 1985 and 1991.

Operable Units:

The site was divided into two operable units. An operable unit represents a portion of a remedial program for a site that for technical or administrative reasons can be addressed separately to investigate, eliminate or mitigate a release, threat of a release or exposure pathway resulting from the site contamination.

Operable Unit 1 (OU1) consists of the parcel (Lot 1) owned by Wythe Berry LLC on the western half of the site. Operable unit 2 (OU2) consists of the remaining eight parcels owned by Mihata Corporation on the eastern half of the site.

Geology and Hydrogeology:

The site is underlain by up to 12 feet of urban fill material, then various layers of gravelly sands, silts and clays. Bedrock is approximately 100 feet below the ground surface. Groundwater is encountered at depths of 7 to 10 feet beneath the site, and generally flows to the north in the western portion of the site, and to the east in the eastern portion of the site.

Operable Unit (OU) 1 is the subject of this document.

A Record of Decision will be issued for OU 2 in the future.

A site location map is attached as Figure 1. The Operable Unit 1 portion of the site is shown on Figure 2.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to restricted-residential use (which allows for commercial use and industrial use) as described in Part 375-1.8(g) is/are being evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the investigation to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is included in the Tables for the media being evaluated in Exhibit A.

SECTION 5: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The PRPs for the site, documented to date, include:

KeySpan dba National Grid

National Grid

The Department and KeySpan Energy Delivery, New York and KeySpan Energy Delivery, Long Island entered into a Consent Order on August 10, 2007 (Index #A2-0552-0606). KeySpan Corporation is a wholly-owned subsidiary of National Grid USA. The Order obligates the responsible parties to implement a full remedial program for this and 11 other former MGP sites.

SECTION 6: SITE CONTAMINATION

6.1: <u>Summary of the Remedial Investigation</u>

A Remedial Investigation (RI) has been conducted. The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The field activities and findings of the investigation are described in the RI Report.

The following general activities are conducted during an RI:

- Research of historical information,
- Geophysical survey to determine the lateral extent of wastes,
- Test pits, soil borings, and monitoring well installations,
- Sampling of waste, surface and subsurface soils, groundwater, and soil vapor,
- Sampling of surface water and sediment,
- Ecological and Human Health Exposure Assessments.

The analytical data collected on this site includes data for:

- groundwater
- soil

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in Exhibit A list the applicable SCGs in the footnotes. For a full listing of all SCGs see: <u>http://www.dec.ny.gov/regulations/61794.html</u>

6.1.2: <u>RI Results</u>

The data have identified contaminants of concern. A "contaminant of concern" is a hazardous waste that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized in Exhibit A. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified for this Operable Unit at this site is/are:

benzene toluene ethylbenzene xylene (mixed) 1,2,4-trimethylbenzene 1,3,5-trimethylbenzene benzo(a)anthracene chrysene indeno(1,2,3-CD)pyrene benzo(a)pyrene benzo(b)fluoranthene benzo[k]fluoranthene dibenz[a,h]anthracene lead

mercury

arsenic

Based on the investigation results, comparison to the SCGs, and the potential public health and environmental exposure routes, certain media and areas of the site required remediation. These media were addressed by the IRM(s) described in Section 6.2. More complete information can be found in the RI Report and the IRM Construction Completion Report.

6.2: <u>Interim Remedial Measures</u>

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Record of Decision.

The following IRM has been completed at this site based on conditions observed during the RI.

Lot 1 Wythe Berry LLC (OU-1)

As detailed in the May 2015 IRM Construction Completion Report, the IRM was completed between June and September, 2014, during which the holder remnants and associated contaminated subsurface soil were excavated for disposal at an off-site permitted facility. As shown in Figure 3, this excavation removed all of the MGP contaminated soil that exceeded restricted residential soil cleanup objectives (SCOs), except in two locations, where exceedances remained deeper than fifteen feet below ground surface. The IRM removed approximately 68,000 tons of soil to a depth of 15 to 25 feet below ground surface.

The excavation proceeded from the ground surface until soil sampling indicated that the SCOs had been achieved. The sidewalls of the excavation were shored and the excavation dewatered. Confirmatory samples were taken from the bottom of the excavation, and visual inspections were performed to verify the excavation effectively removed all of the visually-impacted soil from the site.

Of the 28 confirmatory samples taken, 25 met the SCOs for restricted residential use. The three samples which did not meet the SCOs, and which exceeded only for metals and PAHs, were detected in soil samples collected from two locations, at depths greater than 15 feet below ground surface.

Two different types of backfill were used at the site. Approximately 1,150 cubic yards of flowable fill, meeting the unrestricted SCOs, was placed at the bottom of the excavation. Approximately 1,300 cubic yards of soil meeting the restricted residential SCOs was placed between the building foundation and the excavation sidewall around the site.

To enable the excavation of the site soils and structures, the site was dewatered during the IRM. Over the 4 months of site work, approximately 33 million gallons of water were removed from the site and surrounding areas. All of the water removed from the excavation was treated in an on-site system and then discharged to the sanitary sewer under permit. The removal of source materials and flushing effect of dewatering are considered to have effectively addressed the groundwater contamination and the potential for soil vapor intrusion at OU1.

6.3: <u>Summary of Environmental Assessment</u>

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water.

Based upon the resources and pathways identified and the toxicity of the contaminants of ecological concern at this site, a Fish and Wildlife Resources Impact Analysis (FWRIA) was not necessary for OU 01.

Prior to Completion of Remediation

For OU 1: Lot 1 Parcel

Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), and pesticides. Based upon investigations conducted, the primary contaminants of concern for OU 1 were BTEX and naphthalene (VOCs), and polycyclic aromatic hydrocarbons (PAHs) (SVOCs).

Prior to the IRM, the subsurface soil exceeded the unrestricted soil cleanup objectives (SCOs) for benzene, toluene, ethylbenzene and xylene (BTEX), various PAH constituents, and several metals. Benzene was found as high as 70 parts per million (ppm), compared to an SCO of 0.06 ppm. Toluene was found as high as 550 ppm (0.7 SCO), ethylbenzene as high as 270 ppm (1 ppm SCO), and total xylenes as high as 610 ppm (0.26 ppm SCO). Naphthalene was detected as high as 9,400 ppm, compared to an SCO of 12 ppm. Several PAH compounds were detected as high as 96 ppm, with most having an SCO of 1 ppm. The metal constituents that exceeded the unrestricted SCOs were as follows: lead as high as 1400 ppm (63 ppm SCO); mercury as high as 18 ppm (0.18 ppm SCO); and arsenic as high as 40 ppm (13 ppm SCO). Subsurface soil offsite had minor exceedances of only the unrestricted SCOs.

Groundwater - Groundwater was only sampled at one on-site location during the investigation due to existing buildings, and was found to be impacted by SVOCs and lead. Lead was detected at a concentration of 254 ppb (25 ppb standard); and the four PAHs detected (benz(a)anthracene, benz(a)pyrene, benzo(b)fluoranthene, and chrysene) had a maximum concentration of 0.08 ppb, with a standard of 0.002 ppb. Groundwater sampled at two offsite locations was found to be impacted by VOCs and SVOCs. At MW-01 (located side-gradient), benzene was detected at 21 ppb, ethylbenzene at 140 ppb, xylenes at 50 ppb, naphthalene at 270 ppb, and 1,2,4-Trimethylbenzene at 52 ppb. At MW-02 (located up-gradient), only benzene was detected at 3.4 ppb.

Soil Vapor - There were no soil vapor samples collected at OU-1.

Post-remediation (OU1 only):

An IRM was performed at OU1 in 2014 that removed approximately 68,000 tons of impacted material to depths ranging from 15 to 25 feet below ground surface. Prior to remediation, the primary contaminants of concern were BTEX and naphthalene (VOCs), and PAHs (SVOCs). Of the 28 confirmatory soil samples taken, 25 met the site remedial action SCOs for restricted residential use. The three samples which did not meet the SCOs, and which exceeded only for metals and PAHs, were found at depths greater than 15 feet below ground surface. Groundwater samples collected post-IRM from three locations adjacent to and down-gradient of MW-01 had BTEX results of non-detect at two locations, and 7.9 ppb at the third location. No other constituents were detected at these locations.

6.4: <u>Summary of Human Exposure Pathways</u>

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure*.

Contaminated groundwater at the site is not used for drinking or other purposes and the area is served by a public water supply that is not affected by this contamination (OU-1; OU-2). Direct contact with contaminants in the soil is unlikely because the site is covered with pavement and buildings (OU-1; OU-2). Volatile organic compounds in the contaminated soil or contamination groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying structures and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. The potential exists for people to inhale site contaminants in indoor air due to soil vapor intrusion for any future on-site redevelopment (OU-2). Environmental sampling indicates that soil vapor intrusion is not a concern for off-site buildings.

6.5: <u>Summary of the Remediation Objectives</u>

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection

Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.

• Remove the source of ground or surface water contamination.

<u>Soil</u>

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from vapor volatilizing from contaminants in soil.

RAOs for Environmental Protection

Prevent migration of contaminants that would result in groundwater or surface water contamination.

SECTION 7: SUMMARY OF PROPOSED REMEDY

Based on the results of the investigations at the site, the IRM that has been performed, and the evaluation presented here, the Department is proposing No Further Action as the remedy for the site. The Department believes that this remedy is protective of human health and the environment and satisfies the remediation objectives described in Section 6.5.

The elements of the IRM already completed as detailed in Section 6.2

The proposed remedy is referred to as the No Further Action with Institutional Controls remedy.

The elements of the proposed remedy are as follows:

1. A site cover (building) currently exists and will be maintained to allow for restricted residential use of the site. Any future site redevelopment will maintain the existing site cover, which consists either of the structures such as buildings, pavement, and sidewalks, or soil where the upper two feet of exposed surface soil meets the applicable soil cleanup objectives (SCOs) for restricted residential use. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6NYCRR part 375-6.7(d).

2. Imposition of an institutional control in the form of an environmental easement for the OU-1 portion of the site which will:

•require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);

•allow the use and development of the controlled property for restricted residential use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

•restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or NYCDOH; and

•require compliance with the Department approved Site Management Plan.

3. A Site Management Plan is required for OU-1, which includes the following:

- an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 2 above.

Engineering Controls: The cover system discussed in Paragraph 1.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

Exhibit A

Nature and Extent of Contamination

This section describes the findings of the Remedial Investigation for all environmental media that were evaluated. As described in Section 6.1, samples were collected from various environmental media to characterize the nature and extent of contamination.

For each medium for which contamination was identified, a table summarizes the findings of the investigation. The tables present the range of contamination found at the site in the media and compares the data with the applicable SCGs for the site. The contaminants are arranged into four categories; volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides/ polychlorinated biphenyls (PCBs), and inorganics (metals and cyanide). For comparison purposes, the SCGs are provided for each medium that allows for unrestricted use. For soil, if applicable, the Restricted Use SCGs identified in Section 4 and Section 6.1.1 are also presented.

Waste/Source Areas

As described in the RI report, waste/source materials were identified at the site and were impacting groundwater and soil.

Wastes are defined in 6 NYCRR Part 375-1.2(aw) and include solid, industrial and/or hazardous wastes. Source areas are defined in 6 NYCRR Part 375(au). Source areas are areas of concern at a site were substantial quantities of contaminants are found which can migrate and release significant levels of contaminants to another environmental medium. Waste and source areas, in the form of both VOCs (BTEX) and SVOCs PAHs, were found in subsurface soils over the entire parcel, up to 25 feet below ground surface. This included areas inside, underneath and outside the former gas holder.

The waste/source areas identified at the site were addressed by the IRM(s) described in Section 6.2.

Groundwater

Groundwater was collected from only one on-site location, and two off-site locations (upgradient and downgradient) prior to the IRM. The results indicated that on-site shallow groundwater only slightly exceeded SCGs for PAHs and inorganics, while the off-site groundwater exceeded SCGs for VOCs and SVOCs. During the IRM approximately 33 million gallons of groundwater were pumped from the ground and treated.

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|-----------------------|--|---------------------------|-------------------------|--|--|
| Detected Constituents | Concentration Range Detected (ppb) ^a | SCG ^b (ppb) | Frequency Exceeding SCG | | |
| VOCs | | | | | |
| Benzene | 3.4 - 21 | 1 | 2 of 3 | | |
| Ethylbenzene | 140 | 5 | 1 of 3 | | |
| Total Xylenes | 50 | 5 | 1 of 3 | | |
| Naphthalene | 270 | 10 | 1 of 3 | | |

Table #1 – Groundwater (Prior to IRM)

| Detected Constituents | Concentration Range Detected (ppb) ^a | SCG ^b (ppb) | Frequency Exceeding SCG | | |
|------------------------|--|---------------------------|-------------------------|--|--|
| 1,2,4-Trimethylbenzene | 52 | 5 | 1 of 3 | | |
| Isopropyl Benzene | 32 | 5 | 1 of 3 | | |
| SVOCs | | | | | |
| Benz(a)anthracene | 0.08 | 0.002 | 1 of 3 | | |
| Benzo(a)pyrene | 0.08 | ND | 1 of 3 | | |
| Benzo(b)fluoranthene | 0.08 | 0.002 | 1 of 3 | | |
| Benzo(k)fluoranthene | 0.07 | 0.002 | 1 of 3 | | |
| Chrysene | 0.08 | 0.002 | 1 of 3 | | |
| Naphthalene | 110 | 10 | 1 of 3 | | |
| Inorganics | | | | | |
| Lead | 254 | 25 | 1 of 3 | | |
| Arsenic | 31 | 25 | 1 of 3 | | |

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.

b- SCG: Standard Criteria or Guidance - Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1), 6 NYCRR Part 703, Surface water and Groundwater Quality Standards, and Part 5 of the New York State Sanitary Code (10 NYCRR Part 5).

Groundwater contamination identified during the RI was addressed during the IRM described in Section 6.2.

Subsurface Soil

Soil contamination was assessed both by visual observation and chemical analysis. A total of 28 samples were collected after the excavation from depths of 15-30 feet below ground surface. The sample locations are shown on Figure 3. The results indicate that soils at the site after the IRM exceed the unrestricted SCGs for volatile and semi-volatile organics in 26 of the 28 samples, but only 2 samples exceed the restricted residential SCOs for semi-volatile organics and metals below 15 feet.

| Detected Constituents | Concentration Range Detected (ppm) ^a | Unrestricted SCG ^b (ppm) | Frequency Exceeding Unrestricted SCG | Restricted Use SCG ^{c,d} (ppm) | Frequency Exceeding Restricted SCG |
|------------------------|---|--|---|--|---|
| VOCs | | | | | |
| Benzene | ND-3.4 | 0.06 | 5 of 28 | 0.06 ^d | 5 of 28 |
| Ethylbenzene | ND-29 | 1 | 4 of 28 | 1 ^d | 4 of 28 |
| Toluene | ND-120 | 0.7 | 1 of 28 | 100 | 1 of 28 |
| Total Xylene | ND-180 | 0.26 | 8 of 28 | 1.6 ^d | 7 of 28 |
| Methylene Chloride | ND-1.3 | 0.05 | 6 of 28 | 100 | 0 of 28 |
| Naphthalene | ND-17 | 12 | 2 of 28 | 12 ^d | 2 of 28 |
| 1,2,4-Trimethylbenzene | ND-110 | 3.6 | 3 of 28 | 3.6 ^d | 3 of 28 |
| 1,3,5-Trimethylbenzene | ND-37 | 8.4 | 1 of 28 | 52 | 0 of 28 |

Table # 2- Subsurface Soil (Post-IRM)

| Detected Constituents | Concentration Range Detected (ppm) ^a | Unrestricted SCG ^b (ppm) | Frequency Exceeding Unrestricted SCG | Restricted Use SCG ^{c,d} (ppm) | Frequency Exceeding Restricted SCG |
|------------------------|---|--|---|--|---|
| SVOCs | | | | | |
| Benzo(a)anthracene | ND-4.9 | 1 | 1 of 28 | 1 | 1 of 28 |
| Benzo(a)pyrene | ND-3.6 | 1 | 1 of 28 | 1 | 1 of 28 |
| Benzo(b)fluoranthene | ND-2.9 | 1 | 1 of 28 | 1 | 1 of 28 |
| Benzo(k)fluoranthene | ND-3.2 | 0.8 | 1 of 28 | 1.7 ^d | 1 of 28 |
| Chrysene | ND-3.6 | 1 | 1 of 28 | 1 ^d | 1 of 28 |
| Dibenz(a,h)anthracene | ND-0.66 | 0.33 | 1 of 28 | 0.33 | 1 of 28 |
| Indeno(1,2,3-cd)pyrene | ND-2.0 | 0.5 | 1 of 28 | 0.5 | 1 of 28 |
| Naphthalene | ND-140 | 12 | 1 of 28 | 12 ^d | 1 of 28 |
| Inorganics | | | | | |
| Arsenic | ND-24 | 13 | 1 of 28 | 16 | 1 of 28 |
| Mercury | ND-0.39 | 0.18 | 1 of 28 | 0.73 | 0 of 28 |

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;

b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives.

c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Restricted Residential Use, unless otherwise noted.

d - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Groundwater.

Soil contamination identified during the RI exceeding applicable site SCOs was addressed during the IRM described in Section 6.2.



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Soil Boring Location (GEI May-2014)



IRM Excavation Cells and Sample Locations





Excavation Cells Elevator Pits Former MGP Structures

- Meets Unrestricted SCOs
- Meets Restricted Residential SCOs
- Meets Commercial SCOs

SCOs = Soil Cleanup Objectives

Figure 4

Soil Impacts Remaining Post-Excavation