5-27 KENSINGTON ROAD WESTCHESTER COUNTY

BRONXVILLE, NEW YORK

SITE MANAGEMENT PLAN

NYSDEC Site Number: C360081

Prepared for:

Gateway Kensington, LLC. 2 Dearfield Drive, Ste.#3 Greenwich, CT 06831

Prepared by:

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DECEMBER, 2016

CERTIFICATION STATEMENT

I, *Juliana De La Fuente* certify that I am currently a Qualified Environmental Professional as in defined in 6 NYCRR Part 375 and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

Julius de la Lute QEP

DECEMBER 7, 2016 DATE

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List of Acronyms

AS	Air Sparging
ASP	Analytical Services Protocol
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CAMP	Community Air Monitoring Plan
C/D	Construction and Demolition
CFR	Code of Federal Regulation
CLP	Contract Laboratory Program
COC	Certificate of Completion
CO2	Carbon Dioxide
CP	Commissioner Policy
DER	Division of Environmental Remediation
EC	Engineering Control
ECL	Environmental Conservation Law
ELAP	Environmental Laboratory Approval Program
ERP	Environmental Restoration Program
EWP	Excavation Work Plan
GHG	Green House Gas
GWE&T	Groundwater Extraction and Treatment
HASP	Health and Safety Plan
IC	Institutional Control
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCRR	New York Codes, Rules and Regulations
O&M	Operation and Maintenance
OM&M	Operation, Maintenance and Monitoring
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PID	Photoionization Detector
PRP	Potentially Responsible Party
PRR	Periodic Review Report
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RP	Remedial Party
RSO	Remedial System Optimization
SAC	State Assistance Contract
SCG	Standards, Criteria and Guidelines

Soil Cleanup Objective
Site Management Plan
Standard Operating Procedures
Statement of Work
State Pollutant Discharge Elimination System
Sub-slab Depressurization
Soil Vapor Extraction
Soil Vapor Intrusion
Target Analyte List
Target Compound List
Toxicity Characteristic Leachate Procedure
United States Environmental Protection Agency
Underground Storage Tank
Voluntary Cleanup Agreement
Voluntary Cleanup Program

ES EXECUTIVE SUMMARY

The following provides a brief summary of the controls implemented for the Site, as well as the inspections, monitoring, maintenance and reporting activities required by this Site Management Plan:

Site Identification:	#C360081 – 5-27 Kensington Road, Bronxville, NY	
Institutional Controls:	The property is to be used for restricted residential use.	
	The use of groundwater underlying the property is prohibited without necessary water quality testing and treatment as determined by the NYSDOH or the Westchester County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department.	
	All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP.	
	Access to the Site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement.	
	Vegetable gardens and farming on the Site are prohibited.	
	All ECs must be inspected at a freq defined in the SMP. This statemen if there are ECs per the Site's reme	uency and in a manner t is to be included here edial program.
Engineering Controls:	1. Cover system	
Inspections:		Frequency
1. Cover inspection		Annually
Reporting:		
1. Periodic Review Re	eport	Annually

Further descriptions of the above requirements are provided in detail in the latter sections of this Site Management Plan.

1.0 INTRODUCTION

1.1 General

This Site Management Plan (SMP) is a required element of the remedial program for 5-27 Kensington Road located in Bronxville, New York (hereinafter referred to as the "Site"). See Figure 1. The Site is currently in the New York State (NYS) Brownfield Cleanup Program (BCP), Site No. C360081, which is administered by New York State Department of Environmental Conservation (NYSDEC).

Gateway Kensington, LLC, entered into a Brownfield Cleanup Agreement (BCA), on August 1, 2014 with the NYSDEC to remediate the Site. A figure showing the Site location and boundaries of this Site is provided in Figure 2. The boundaries of the Site are more fully described in the metes and bounds Site description that is part of the Environmental Easement provided in Appendix D.

After completion of the remedial work, some contamination was left at discrete portions of the Site, which is hereafter referred to as "remaining contamination". Approximately 16.75% of the Site was left with remaining contamination. Institutional and Engineering Controls (ICs and ECs) have been incorporated into the Site remedy to control exposure to remaining contamination to ensure protection of public health and the environment. Approximately 83.25% of the Site achieved the highest possible remedial cleanup (Track 1) which allows unrestricted use and does not require ICs or ECs. An Environmental Easement granted to the NYSDEC, and recorded with the Westchester County Clerk, requires compliance with this SMP and all ECs and ICs placed on the discrete portions of the Site with remaining contamination.

This SMP was prepared to manage remaining contamination at the Site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. This SMP has been approved by the NYSDEC, and compliance with this SMP is required by the grantor of the Environmental Easement and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

It is important to note that:

- This SMP details the Site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the Environmental Easement, which is grounds for revocation of the Certificate of Completion (COC); and
- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the BCA, (Index #C360081-08-14; Site #C360081) for the Site, and thereby subject to applicable penalties.

All reports associated with the Site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State. A list of contacts for persons involved with the Site is provided in Appendix A of this SMP.

This SMP was prepared by Impact Environmental Closures (IEC) on behalf of Gateway Kensington, LLC, in accordance with the requirements of the NYSDEC's DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated August 2016 and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the ICs and/or ECs that are required by the Environmental Easement for the Site.

1.2 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. Revisions will be necessary upon, but not limited to, the following occurring: a change in media monitoring requirements, upgrades to or shut-down of a remedial system, post-remedial removal of contaminated sediment or soil, or other significant change to the Site conditions. In accordance with the Environmental Easement for the Site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.3 Notifications

Notifications will be submitted by the property owner to the NYSDEC, as needed, in accordance with NYSDEC's DER -10 for the following reasons:

- 60-day advance notice of any proposed changes in Site use that are required under the terms of the BCA 6NYCRR Part 375 and/or Environmental Conservation Law.
- 7-day advance notice of any field activity associated with the remedial program.
- 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan.
- Notice within 48-hours of any damage or defect to the foundation, structures or EC that reduces or has the potential to reduce the effectiveness of an EC, and likewise, any action to be taken to mitigate the damage or defect.
- Verbal notice by noon of the following day of any emergency, such as a fire; flood; or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the Site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the Site or the responsibility for implementing this SMP will include the following notifications:

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

Table A below includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of Site-related contact information is provided in Appendix A

Name	Contact Information
Scott Deyette (Chief, Inspection Unit,	(518) 402-9662
NYSDEC Remedial Bureau C)	scott.deyette@dec.ny.gov
Edward Moore (Regional Hazardous Waste	(845) 256-3137
Engineer)	edward.moore@dec.ny.gov
Kelly Lewandowski (Site Control Section	(518) 402-9553
Chief)	kelly.lewandowski@dec.ny.gov

Table A: Notifications*

* Note: Notifications are subject to change and will be updated as necessary.

2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

The 1.63-acre Site is located in a commercial and residential area of Bronxville, Westchester county. The Site is situated along the west side of Kensington Road, and is bound by an office building to the south, a Metro North Railroad station platform and tracks to the west, and a Metro North Transformer building and undeveloped land to the north.

Prior to the development, the Site was utilized as a municipal parking lot by the Village of Bronxville. Historically the Site had been occupied by a hotel, a power and light station, and auto repair garage, with a Texaco service station, and parking facilities.

Semi-volatile organic compounds (SVOCs), specifically Polycyclic Aromatic Hydrocarbons (PAHs), were detected above the NYSDEC Restricted Residential SCOs. Total lead and mercury were detected above the respective SCOs for Residential Use at the middle lot. Poly chlorinated biphenyls (PCBs) were detected below the SCOs for Restricted Residential Use on the central parcel. The major source areas contributing to the contamination of the Site were the former Gramatan Garage and the former power plant. The power plant operated on Site from circa 1905 until the late 1980s. The power plant operated during a time period when coal gasification was prevalent, and there is potential evidence of coal tar in the soil samples taken from the central lot. Coal gasification contaminants include VOCs, SVOCs and metals, and many of these contaminants were detected at the Site.

The Site has been developed with two interconnected multi-family residential apartment buildings and a two-tiered sub-grade parking garage that encompasses the entire parcel. Approximately 85% of the Site was excavated through and down to bedrock at an elevation of approximately 100 feet bgs, with no soil left in place in these areas. A narrow strip of the Site along the west perimeter contains contaminated soils at levels above Track 1 SCOs. A second irregular shaped portion of the northeast corner of the Site also contains contaminated soils at levels above Track 1 SCOs. Soils left in place in these two areas are subject to control under an environmental easement. The existing soil in these two areas have been covered by a demarcation layer and capped by two feet of cover material.

2.1 Site Location and Description

The Site is located in the Village of Bronxville, Westchester County, New York and is identified as Block 5 and Lot 1, 6, and 16 on the Village of Bronxville Tax Map (see Figure 1). The Site consists of an approximately 1.63-acre area and is bounded by Metro North Transformer building to the north, an office building to the south, Kensington Road to the east, and Metro North Railroad station platform and tracks to the west (see Figure 2 – Site Layout Map). The boundaries of the Site are more fully described in Appendix D – Environmental Easement. The owner(s) of the Site parcel(s) at the time of issuance of this SMP is:

Gateway Kensington, LLC

2.2 Physical Setting

2.2.1 Land Use

The Site consists of the following: construction of two (2) interconnected multifamily residential apartment buildings with a two-level sub-grade parking garage. The Site is zoned Residential (17 to 49.9 Dwellings Units Per Acre) and is currently developed with a large residential apartment complex.

The properties adjoining the Site and in the neighborhood surrounding the Site primarily include residential, offices, a church, school and municipal properties. The properties immediately south of the Site include a multi-story office building; the properties immediately north of the Site include a municipal Metro North Railway transformer buildingand undeveloped property; the properties immediately east of the Site include Kensington Road, a church, school and several multi-story apartment buildings; and the properties to the west of the Site include the Metro North Railway line and station platform, followed by multi-story residential properties.

2.2.2 Geology

The Site is located within the New England Uplands physiographic province. The elevation of the Site, as presented on the United States Geologic Survey (USGS), Mount Vernon, New York Quadrangle Map, is approximately 114 feet above mean sea level (msl). The post excavation elevation of the Site is approximately 100 feet above msl for the majority of the Site with the exception of the north end which has an elevation of approximately 122 feet above msl. The Site area exhibits moderate topographic relief (15 to 25 percent slopes), with grade decreasing to the west-southwest at the Site.

In Westchester County, bedrock consists of folded igneous and metamorphic rock, ranging from Precambrian to Ordovician in age, that trend to the northeast in belts. Local bedrock geology in the immediate vicinity of the Site consists of the Inwood Marble and the Hartland Formation. The Inwood Marble, metamorphosed from limestone, consists of a variety of lithologies ranging from thin-to-thick bedded, brownish to gray, sugary-textured dolomitic marble to fine-grained calcitic marble, quartzite, and schist where some layers display crenulated folding. The Hartland Formation is a crystalline bedrock composed of basal amphibolite overlain by pelitic schists.

Outcrops of bedrock are numerous, but the majority of the bedrock surface in the county is covered by Pleistocene age glacial till and/or glacial stratified deposits. The composition of the till is related to nearby bedrock types and to other surficial deposits that were present before the last glaciation. Till generally consists of a nonsorted mixture of gravel, sand, silt, and clay. Glacial stratified deposits include sand and gravel, silt, and clay depoSited in glacial meltwater streams or lakes by the retreating glacier. Till covers most of the bedrock surface in interstream areas and in minor stream valleys, and occurs also beneath outwash in the valleys of the major streams. This overburden can range in total thickness from a few feet to as much as 200 feet.

Site specific geology consists of crystalline bedrock with an overburden of historic fill, fine to medium sand and gravel with varying amounts of silt, clay and cobbles. Prior to the remedial activities performed at the Site, the depth to competent bedrock ranged from approximately 0.5 to 24 feet below grade (fbg). The bedrock slope trended from east to west and the bedrock profile was highest along the east and north portions of the Site. The remedial excavation involved the removal of bedrock at the Site down to an elevation of approximately 100 feet above msl (removal of approximately 14 feet of bedrock) to facilitate the subgrade portions of the new building.

The remedial excavation also involved the removal of historic fill and native soils impacted from past Site operations/activities.

The historic fill material consisted predominantly of brown to gray or dark gray sand and gravel mixed with construction/demolition debris with some cinders/slag from previous Site operations. The historic fill was wide spread predominantly on the central and the north sections of the Site and ranged from approximately 2 to 8 feet in thickness.

Native soil consisted of light brown to reddish-brown sand to sandy silt with gravel and cobbles. These soils ranged in thickness from approximately 0.5 to 14 feet and were above the bedrock predominantly at the south end of the Site.

A geologic cross section is shown in Figure 3. Site specific boring logs are provided in Appendix I.

2.2.3 <u>Hydrogeology</u>

Westchester County has both bedrock and limited unconsolidated aquifers which have not been well defined. Most of these unconsolidated aquifers are typically of limited aerial extent since they were depoSited in low-lying areas such as valleys or plains during deglaciation of the region. Thus, the general pattern of movement of the ground water in these aquifers is from areas of recharge in the uplands to areas of discharge on hillsides and in the bottoms of valleys. Thick, permeable, well-sorted sand and gravel deposits generally yield large quantities of water versus thin sand, sand and gravel deposits or bedrock aquifers. Groundwater was reportedly encountered during previous investigations at the Site in the overburden at depths between 8 and 15 fbg on the south portion of the Site, and generally flowed to the southwest. During remedial excavation activities, there was no overburden groundwater encountered at the south end of the Site. Standing surface water runoff did accumulate on the north portion of the Site from precipitation and central portion of the Site from a combination of precipitation and ground seepage from higher areas of the Site to the top of the relatively impermeable bedrock.

The mechanical break-up of bedrock at the Site at the terminal depth of the excavation did not demonstrate the presence of a bedrock aquifer (bedrock was dry). Additionally, there has been an apparent lack of laterally continuous overburden groundwater at the Site. Based on these factors, no groundwater flow figure has been prepared.

2.3 Investigation and Remedial History

- The Site was formerly used as a municipal parking lot by the Village of Bronxville, prior to which it had been occupied by Texaco Service Station, the South Bronxville auto repair garage, and by The Hotel Gramatan and The Hotel Gramatan Power and Light Plant/Lawrence Park Heat, Light and Power Company.
- A Remedial Investigation (RI) was conducted by Galli Engineering P. C. in 2007. Generally, the RI determined that impacts to soil were identified that required remediation of soil and the area of groundwater impact was isolated to a portion of the south end of the Site in 2006. The future contemplated use of the Site is residential; therefore, laboratory analytical data were compared to the Title 6, New York Code of Rules and Regulations [6 NYCRR] Part 375 SCOs for Restricted Residential Use. Contaminated soils were present at the surface, just below the parking lot pavement, as well as in deeper subsurface soils at the Site. Based on the RI soil samples collected, the VOC and SVOC soil contamination was concentrated on the middle and southern areas of the Site.

• Most recently, the Sites usage was as a municipal parking lot for the Village of Bronxville. The Site has historically served as a gasoline filling station, auto repair, parking garage, and power station.

The following narrative provides a remedial history timeline and a brief summary of the available project records to document key investigative and remedial milestones for the Site. Full titles for each of the reports referenced below are provided in Section 8.0 - References.

Phase I Environmental Site Assessment, February 1989– Environmental Risk Limited (ERL)

The Site in question (5 Kensington) was occupied by a Texaco service station and auto repair, and parking facility. ERL identified two (2) 2,000-gallon gasoline USTs, one (1) 3,000-gallon gasoline UST, and one (1) 3,000-gallon diesel UST. These four (4) USTs were reportedly installed in 1970. According to the report, the two 3,000-gallon USTs had recently failed tightness tests. Additionally, ERL identified a concrete sealed floor drain in the lower parking area.

Buried Gasoline Tank Closure Report, November 1989– Empire Soils Investigators, Inc (ESI).

A UST was removed from beneath the floor, at the south west corner of the garage building. Corrosion holes were noted in the walls of the UST. A sample was collected and analyzed from the base of the tank excavation.

A supplemental letter report stated that the laboratory data from the base of the tank excavation showed elevated concentrations of VOCs. No established cleanup levels for soils were available at the time of this report.

A letter was issued by the NYSDEC requiring the installation of three (3) monitoring wells on the Site, and the subsequent collection of groundwater samples for analysis according to USEPA Method 503.1, and the installation of the soil vapor venting (extraction) system, the operation of which would have been either passive or active, based upon the results of the groundwater analysis.

Site Summary Letter, January 2, 1992 - ESI

The following information was detailed: In a previous quarterly groundwater monitoring event (July 1991), a heavy sheen was noted in groundwater in the three monitoring wells. A passive venting system was installed in January 1990; two (2) additional USTs were removed and one (1) was abandoned in place in April 1991. Based on the summary of the preceding information ESI determined that there is "multiple source petroleum contamination of groundwater at the Site".

Subsurface Soil Investigation, June 1992–Soil Mechanics Drilling Corp (SMDC)

Thirteen (13) soil borings were installed across the property, five (5) of which were sent for laboratory analysis. Benzene, toluene, ethylbenzene, and xylene (BTEX) compounds were detected in the area of the former Gramatan Garage USTs, and elevated total petroleum hydrocarbons (TPH) concentrations were detected in the soil samples collected from the area associated with the former Lawrence Park Heat, Light, and Power Company facility.

Analysis of three groundwater samples (MW-1, MW-2, and MW-3) detected elevated concentrations of TPH in MW-2 and MW-3.

The NYSDEC was notified and a new spill number (93-14613) was assigned regarding the former power company. A work plan for Site remediation, prepared by Stroller Environmental Engineering, P.C./Sadat Associates, was submitted to the NYSDEC in March 1994, was amended April 1994, and was approved. This work plan was never implemented.

Phase II Environmental Site Assessment, May 20, 2004 – Galli Engineering, P.C.

The Phase II ESA was conducted to further investigate recognized environmental conditions identified in a previous Phase I ESA (October 23, 2004 – Galli Engineering). The Phase I ESA identified that the Site had been previously utilized by housing, a heat

and light generating plant, a gasoline filling station, an auto repair facility and parking. Prior usage of the Site is documented to have impacted the environmental quality of the central and southern portions of the Site. The Phase II included soil and groundwater sampling.

Groundwater samples collected from existing monitoring wells on the south portion of the Site (former gasoline station/auto repair shop) indicated VOCs and Metals at concentrations above the NYSDEC Ambient Water Quality Standards and Guidance Values. Additional hydraulically down gradient monitoring wells were intended for installation, but due to refusal, groundwater wells could not be installed.

Concentrations of several SVOCs and Metals were detected above NYSDEC TAGM SCOs in soil samples collected from the south portion of the Site.

Concentrations of several VOCs, SVOCs, and metals were detected above the NYSDEC TAGM SCOs in the central portion of the Site (former power plant parcel). Additional TCLP analysis was conducted on samples from the central portion of the Site, and the materials were not classified as hazardous.

The Phase II determined that groundwater contamination appeared to be isolated, while soil contaminants were consistent with historical usage, and were not classified as hazardous.

The proposed development of the Site was to require the demolition of the existing structures, and removal of soils and bedrock to make way for a sub-grade parking garage. Removal of impacted soils would require transport to an appropriate disposal or treatment facility.

Remedial Investigation Report, April, 2007 – Galli Engineering, P.C.

The scope of work included: installation of three (3) off-Site groundwater monitoring wells; development of the wells; collection of samples from two (2) existing onSite wells and three (3) newly installed offSite wells; installed twelve (12) soil borings using a Geoprobe; collected one sample from each boring.

SVOCs were detected above the NYSDEC Ambient Water Quality Standards (AWQS) in the two (2) onSite existing wells, though no VOCs and SVOCs were detected in the offSite wells. Some Priority Pollutant (PP) Metals were present in the offSite wells, most likely due to high turbidity of the samples, caused by the use of a bailer to collect samples.

Groundwater was determined to flow in a west-southwestern direction, and it appears that impacts from previous usages is minimal and restricted to the area of MW-4 and MW-5.

SVOCs and some metals were detected at concentrations above TAGM SCOs in the soils collected from the south parking lot (former gasoline station/auto repair shop); SVOCs and metals were detected above the NYSDEC Part 375 Restricted Use SCOs in the central portion of the Site (former power plant); and no VOCs or SVOCs were detected above regulatory standards in the northernmost lot. It appears the VOC and SVOC soil contamination is limited to the southern and central parking lots.

Soil, in which contaminants appear, lies in a layer on top of bedrock ranging from ¹/₂', to 24 feet deep. The soil layer is up to 24 feet thick in the vicinity of the middle lot and up to 21 feet thick in the southern lot.

<u>Remedial Action Work Plan, February 2014 – Galli Engineering, P.C.</u>

The RAWP outlined the excavation and off-Site disposal of on-Site soils which exceed unrestricted soil cleanup objectives (SCOs). Approximately 40,000-tons of contaminated soil was estimated for removal from the Site, with excavation depths reaching 25-30 feet below grade surface. Clean fill meeting NYCRR Part 375-6.7(d) was to be brought in, where necessary, to establish designed grades at the Site. The intended remedy was to achieve Track 1 Unrestricted Use; no environmental easement or SMP being anticipated. Should Track 1 SCOs not be met, imposition of an institutional control in the form of an environmental easement and a Site Management Plan was to be required. The remedy would be deemed to have achieved a Track 2 restricted residential cleanup at a minimum which would include imposition of a Site cover (as a contingency if soil greater than 2 feet but less than 15 feet deep does not meet the restricted residential SCOs), an environmental easement, and SMP.

2.4 Remedial Action Objectives

The Remedial Action Objectives (RAOs) for the Site as listed in the Decision Document dated August 2014, are as follows:

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

- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

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

RAOs for Environmental Protection

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

Soil Vapor

RAOs for Public Health Protection

• Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a Site.

2.5 Remaining Contamination

2.5.1 <u>Soil</u>

At the time of the issuance of the Final Engineering Report (FER), there were two known areas, comprising of approximately 16.75% of the Site, in which soils were left in place that did not meet Track 1 Unrestricted Use SCOs.

- A narrow portion of the parcel approximately 30-feet wide, stretching from the southwest corner reaching north approximately 350 feet along the western Site boundary, contains soils left in place that are within Track 2 SCOs, but exceed Track 1 SCOs. This portion of the Site is approximately 10,500 square feet, or an estimated 13% of the Site (see Figure 6 for Metes and Bounds of Track 2 Environmental Easement locations).
 - a. Contaminants present in this location are limited to heavy metals including; copper, mercury, nickel, lead, and zinc, all of which exceed the Part 375 Unrestricted Use (Track 1) SCOs (see Table 3).
 - b. Soils in this area were excavated to an elevation of approximately 109feet above mean sea level (amsl).
 - c. Based on the encountered depths of bedrock during end point sampling beneath this elevation, an average of 7-feet below elevated grade, the estimated volume of soil in this area is 73,500 cubic-feet (or 2,722 cubic yards).

- d. In this area where soils exceed Track 1 SCOs, a plastic sheet was placed below clean back fill and concrete slab to demarcate the soils below.
 Soils below this demarcation layer will be subject to restrictions outlined in this SMP.
- e. This strip of land where the remaining contaminated soil exists is located under of the foundation slab of the parking garage ramp. Due to the lack of exposure pathways in this benign area of the development, contaminated materials left in place in this area would not be hazardous to human health or the environment.
- An irregular shaped section of the Site located in the far northeastern corner, with an area of approximately 3,000-square feet, or an estimated 3.75% of the Site, contains soils that do not meet Track 1 SCOs, but are within Track 2 SCOs.
 - a. Contaminants present in this location are limited to the SVOCs benzo(b)fluoranthene and indeno(1,2,3-cd)pyrene, and the metal mercury, all of which exceed the Part 375 Unrestricted Use (Track 1) SCOs (see Table 2).
 - b. Soil in this area was excavated to a depth of two-feet or more below grade level, but were left in place due to the presence of a retaining wall and associated power transformer vault.
 - c. Based on the encountered depths of bedrock during end point sampling beneath this elevation, an average of 2-feet below elevated grade, the estimated volume of soil in this area is 6,000 cubic-feet (or 222 cubic yards).
 - d. In this area where soils exceed Track 1 SCOs, a plastic sheet was placed below clean backfill to demarcate the location of the contaminated soils below. Soils below this demarcation layer will be subject to restrictions outlined in this SMP.

Based on the above calculations, approximately 83.25% of the Site has achieved Track 1 Cleanup Status. Tables 1 through 4 and Figure 5 summarize the results of all soil samples collected that exceed the Track 1 NYCRR Unrestricted Use SCOs at the Site after completion of remedial action.

3.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

3.1 General

Since remaining contamination exists on 16.75% of the Site, Institutional Controls (ICs) and Engineering Controls (ECs) are required to protect human health and the environment. This IC/EC Plan describes the procedures for the implementation and management of all IC/ECs at the Site. The IC/EC Plan is one component of the SMP and is subject to revision by the NYSDEC.

This plan provides:

- A description of all IC/ECs on the Site;
- The basic implementation and intended role of each IC/EC;
- A description of the key components of the ICs set forth in the Environmental Easement;
- A description of the controls to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of IC/ECs, such as the implementation of the Excavation Work Plan (EWP) (as provided in Appendix B) for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the Site; and
- Any other provisions necessary to identify or establish methods for implementing the IC/ECs required by the Site remedy, as determined by the NYSDEC.

3.2 Institutional Controls

A series of ICs is required by the RAWP and Decision Document to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination; and (3) limit the use and development of the Site to Restricted Residential uses only. Adherence to these ICs on the Site is required by the Environmental Easement and will be implemented under this SMP. ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Environmental Easement. The IC boundaries are shown on Figure 6. These ICs are:

- The property may be used for Restricted Residential use;
- All ECs must be operated and maintained as specified in this SMP;
- No significant surficial or bedrock groundwater aquifer has been identified for the Site. It is possible that groundwater to a limited extent may be present beneath the Site depending on seasonal variations. The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Westchester County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Access to the Site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement; and
- Vegetable gardens and farming on the Site are prohibited.

3.3 Engineering Controls

3.3.1 Cover or Cap

Exposure to remaining contamination at the Site is prevented by a cover system placed over the Site. This cover system is comprised of a minimum of 24 inches of clean soil, asphalt pavement, concrete-covered sidewalks, and concrete building slabs. Figure 7 presents the location of the cover system and applicable demarcation layers. The Excavation Work Plan (EWP) provided in Appendix B outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection of this cover are provided in the Monitoring and Sampling Plan included in Section 4.0 of this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and associated Community Air Monitoring Plan (CAMP) prepared for the Site and provided in Appendix F.

4.0 OPERATION AND MAINTENANCE PLAN

4.1 General

The Site remedy does not rely on any mechanical systems, such as groundwater treatment systems, sub-slab depressurization systems or air sparge/soil vapor extraction systems to protect public health and the environment. Therefore, the operation and maintenance of such components is not included in this SMP.

5.0 PERIODIC ASSESSMENTS/EVALUATIONS

5.1 Climate Change Vulnerability Assessment

Increases in both the severity and frequency of storms/weather events, an increase in sea level elevations along with accompanying flooding impacts, shifting precipitation patterns and wide temperature fluctuation, resulting from global climactic change and instability, have the potential to significantly impact the performance, effectiveness and protectiveness of a given Site and associated remedial systems. Vulnerability assessments provide information so that the Site and associated remedial systems are prepared for the impacts of the increasing frequency and intensity of severe storms/weather events and associated flooding.

This section provides a summary of vulnerability assessments that will be conducted for the Site during periodic assessments, and briefly summarizes the vulnerability of the Site and/or engineering controls to severe storms/weather events and associated flooding.

Based review of FEMA's National Flood а Hazard Layer on maps (https://msc.fema.gov/portal) the Site is located in an area of 'Minimal Flood Hazard'. Storm water drainage is handled on Site by a drainage system that runs beneath the building, and discharges into a large sub-grade retention tank located on the south side of the Site. This retention tank then discharges into the municipal storm water drainage system. The majority of the Site is built on bedrock and not susceptible to erosion. The north end of the Site which will be capped may be subject to minor erosion in the event of severe weather effects. No remedial systems are utilized at the Site, thus, none are susceptible to extreme weather effects. It is expected that a vulnerability assessment will not be required for the Site.

5.2 Green Remediation Evaluation

NYSDEC's DER-31 Green Remediation requires that green remediation concepts and techniques be considered during all stages of the remedial program including Site management, with the goal of improving the sustainability of the cleanup and summarizing the net environmental benefit of any implemented green technology. This section of the SMP provides a summary of any green remediation evaluations to be completed for the Site during Site management, and as reported in the Periodic Review Report (PRR).

Due to the absence of any ongoing remedial systems, the requirements for a Green Remediation Evaluation are limited to those remedial elements conducted during the removal of source contaminated materials and crushed bedrock from the Site; the latter of which was sent to a recycling facility for reuse. No waste will be generated, other than those of a typical residential apartment building; no energy will be used by any remedial systems; no emissions will be created by remedial systems, and no discharge of contaminated groundwater or associated irrigation control measures will be required.

The redevelopment of the Site in its entirety is considered a sustainable development. Due to the absence of any ongoing remedial systems at the Site, the need for a further Green Remediation Evaluation is not anticipated.

6.0. REPORTING REQUIREMENTS

6.1 Site Management Reports

All Site management inspection, maintenance and monitoring events will be recorded on the appropriate Site management forms provided in Appendix G. These forms are subject to NYSDEC revision. All applicable inspection forms and other records, including media sampling data and system maintenance reports, generated for the Site during the reporting period will be provided in electronic format to the NYSDEC in accordance with the requirements of Table B and summarized in the Periodic Review Report.

Table B: Schedule of Interim Inspection Reports

Task/Report	Reporting Frequency*	
Periodic Review Report	Annually	

6.2 Periodic Review Report

A Periodic Review Report (PRR) will be submitted to the Department beginning sixteen (16) months after the Certificate of Completion is issued. After submittal of the initial Periodic Review Report, the next PRR shall be submitted annually to the Department or at another frequency as may be required by the Department. In the event that the Site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the Site described in Appendix D -Environmental Easement. The report will be prepared in accordance with NYSDEC's DER-10 and submitted within 30 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the Site.
- Results of the required annual Site inspections and severe condition inspections, if applicable.
- All applicable Site management forms and other records generated for the Site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted.

- A Site evaluation, which includes the following:
 - The compliance of the remedy with the requirements of the Site-specific RAWP, ROD or Decision Document;
 - The operation and the effectiveness of all cover systems, etc., including identification of any needed repairs or modifications;
 - Any new conclusions or observations regarding Site contamination based on inspections;
 - Recommendations regarding any necessary changes to the remedy; and
 - The overall performance and effectiveness of the remedy.

6.2.1 Certification of Institutional and Engineering Controls

Following the last inspection of the reporting period, a qualified environmental professional or Professional Engineer licensed to practice in New York State will prepare, and include in the Periodic Review Report, the following certification as per the requirements of NYSDEC DER-10:

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

- The inspection of the Site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;
- The institutional control and/or engineering control employed at this Site is unchanged from the date the control was put in place, or last approved by the Department;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any Site management plan for this control;

- Access to the Site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- If a financial assurance mechanism is required under the oversight document for the Site, the mechanism remains valid and sufficient for the intended purpose under the document;
- Use of the Site is compliant with the environmental easement;
- The engineering control systems are performing as designed and are effective;
- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the Site remedial program and generally accepted engineering practices; and
- The information presented in this report is accurate and complete.

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, Juliana de la Fuente, of Impact Environmental Closures, Inc., 170 Keyland Court, Bohemia, NY, am certifying as Owner's Designated Site Representative (and if the Site consists of multiple properties) for the Site."

At the end of each certifying period, as determined by the NYSDEC, the following certification will be provided to the Department:

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

- The institutional control employed at this Site is unchanged from the date the control was put in place, or last approved by the Department;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any Site management plan for this control;

- Access to the Site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- If a financial assurance mechanism is required under the oversight document for the Site, the mechanism remains valid and sufficient for the intended purpose under the document;
- Use of the Site is compliant with the environmental easement.
- The information presented in this report is accurate and complete.

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, Juliana de la Fuente, of Impact Environmental Closures, Inc., 170 Keyland Court, Bohemia, NY, am certifying as Owner's Designated Site Representative (and if the Site consists of multiple properties) for the Site."

- No new information has come to my attention, including groundwater monitoring data from wells located at the Site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of off-Site contamination are no longer valid; and
- The assumptions made in the qualitative exposure assessment remain valid.

The signed certification will be included in the Periodic Review Report. The Periodic Review Report will be submitted, in electronic format, to the NYSDEC Central Office, Regional Office in which the Site is located and the NYSDOH Bureau of Environmental Exposure Investigation. The Periodic Review Report may need to be submitted in hard-copy format, as requested by the NYSDEC project manager.

6.3 Corrective Measures Work Plan

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a Corrective Measures Work Plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work

necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the Corrective Measures Work Plan until it has been approved by the NYSDEC.

7.0 **REFERENCES**

Phase II Environmental Site Assessment - Galli Engineering, P.C., May 20, 2004

Remedial Investigation Report - Galli Engineering, P. C., April 2007

Remedial Action Work Plan for Contamination in Soil and Groundwater – Galli Engineering, P. C., February 25, 2014

6NYCRR Part 375, Environmental Remediation Programs. December 14, 2006.

NYSDEC DER-10 – "Technical Guidance for Site Investigation and Remediation".

NYSDEC, 1998. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. June 1998 (April 2000 addendum).

TABLES

Table 1

Detected Concentrations in End Point Samples

Total Volatile Organic Compounds

5-27 Kensington Road, Bronxville, New York
Parameter Name	Parameter ID	NYCRR 375 Unrestricted Use	NYCRR 375 Residential	NYCRR 375 Restricted- Residential	EP-1	EP-1	EP-1	EP-1	EP-1	EP-2	EP-2	EP-3
Sample Depth					0-2	2-4	4-6	6-9	9-12	0-2	2-5	0-2
Lab ID Date					L1512202-01 6/2/2015	L1512202-02 6/2/2015	L1512202-03 6/2/2015	L1512202-04 6/2/2015	L1512202-05 6/2/2015	L1512202-06 6/2/2015	L1512202-07 6/2/2015	L1512202-08 6/2/2015
					1				· · · · · · · · · · · · · · · · · · ·		· · · ·	
Unit	VOC	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
1.1.1-Trichloroethane	VOC	680	- 100.000a	- 100.000a	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	VOC	-	35,000	-	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	VOC	270	19,000	26,000	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	VOC	330	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloropropene	VOC	-	-	-	ND	ND	ND	ND ND	ND	ND	ND	ND
1,2,3-Trichloropropage	VOC	-	- 80.000	-	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4,5-Tetramethylbenzene	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	VOC	3,600	47,000	52,000	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	VUC	1,100	100,000a	100,000a								ND
1.2-Dichloroethene	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	VOC	8,400	47,000	52,000	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	VOC	2,400	17,000	49,000	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropene	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	VOC	20	2,300	3,100	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropenzene	VOC	- 1 800	- 9.800	- 13,000								
1,4-Dioxane	VOC	1,000 100b	9,800	13,000	ND	ND	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	VOC	-	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	VOC	-	-	-	ND ND	ND	ND ND	ND ND		ND		ND
Acetone	VOC	50	100.000a	100.000b	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	VOC	60	2,900	4,800	ND	ND	ND	ND	ND	ND	ND	ND
Bromobenzene	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	VOC	-	-	-	ND ND	ND	ND	ND	ND	ND		ND
Bromomethane	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	VOC	-	100,000	-	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	VOC	760	1,400	2,400	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	VOC	1,100	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	VOC	370	10,000	49,000	ND ND	ND	ND	ND	ND	ND	ND	ND
cis-1 2-Dichloroethene	VOC	- 250	- 59,000	- 100.000a	ND		ND					
cis-1,3-Dichloropropene	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	VOC	1,000	30,000	41,000	ND	ND	ND	ND	ND	ND	ND	ND
Etnyl etner Hevachlorobutadiene	VOC	-	-	-	ND ND	ND	ND ND					ND
Isopropylbenzene	VOC		100.000	-	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	VOC	50	51,000	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Tert-Butyl Ether	VOC	930	62,000	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	VOC	12,000	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	VOC	12,000	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	VOC	3,900	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene n-Diethylbenzene	VOC	260	100,000a -	100,000a			ND ND				42 I	
p-Ethyltoluene	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
p-lsoproplytoluene	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
p/m-Xylene	VOC	260	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	VOC	11,000	100,000a	100,000a	ND	ND	ND	ND	ND	ND	42 J	ND
Styrene	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	VOC	5,900	100,000a	100,000a	ND ND	ND ND	ND ND	ND	ND	ND	ND	ND
Toluene	VOC	700	100.000a	100.000a	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	VOC	190	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-Butene	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	VOC	470	10,000	21,000	ND	ND	ND	ND	ND	ND	ND	ND
Irichlorofluoromethane	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	VOC	20	210	900	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

Sample Depth = feet below existing grade

"-" No Guidance or Cleanup Objectives

J - Laboratory Estimated Value

ug/kg = micrograms per kilogram (ppb) ND - Non Detect

NA- Not Analyzed for Parameter

Parameter Name	Parameter ID	NYCRR 375 Unrestricted Use	NYCRR 375 Residential	NYCRR 375 Restricted- Residential	EP-3	EP-3	EP-3	EP-3	EP-4	EP-4	EP-4	EP-5
Sample Depth					2-4	4-6	6-8	8-11	0-2	2-4	4-6.5	0-3
Lab ID Date					6/2/2015	6/2/2015	6/2/2015	6/2/2015	L1512202-13 6/2/2015	6/2/2015	6/2/2015	L1516263-01 7/14/2015
					· · · ·			<i>"</i>	<i>"</i>			
Unit 1.1.1.2-Tetrachloroethane	VOC	ug/kg -	ug/kg -	ug/kg -	ug/kg ND	ug/kg ND	ug/kg ND	ug/kg ND	ug/kg ND	ug/kg ND	ug/kg ND	UG/KG
1,1,1-Trichloroethane	VOC	680	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	VOC	-	35,000	-	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	VOC	270	19,000	26,000	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	VOC	330	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloropropene	VOC	-	-	-								ND
1.2.3-Trichloropropane	VOC		80.000	-	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4,5-Tetramethylbenzene	VOC	-	-	-	ND	ND	ND	1,300	ND	ND	ND	ND
1,2,4-Trichlorobenzene	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	VOC	3,600	47,000	52,000	ND	ND	ND	57 J	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoetnane	VOC	- 1 100	- 100.000a	-								ND
1.2-Dichloroethane	VOC	1,100	100,0008	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethene	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	VOC	8,400	47,000	52,000	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	VOC	2,400	17,000	49,000	ND	ND	ND	ND	ND	ND	ND	ND
1.2-Dichloroethane		- 20	- 2 300	- 3 100								ND
1,3-Dichloropropane	VOC	- 20	-		ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	VOC	1,800	9,800	13,000	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	VOC	100b	9,800	13,000	ND	ND	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	VOC	-	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	
4-Methyl-2-Pentanone	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	VOC	50	100,000a	100,000b	ND	ND	ND	ND	ND	ND	3.9 J	3.1 J
Acrylonitrile	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	VOC	60	2,900	4,800	ND	ND	ND	ND	ND	ND	ND	ND
Bromobenzene	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	
Bromoform	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	VOC	-	100,000	-	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	VOC	760	1,400	2,400	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	VOC	1,100	100,000a	100,000a	ND ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	VOC	370	- 10.000	- 49.000	ND	ND	ND	ND	ND	ND	ND	
Chloromethane	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	VOC	250	59,000	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	VOC	- 1 000	- 30,000	- 41 000	ND	ND	ND	ND	ND	ND	ND	
Ethyl ether	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	VOC	-	100,000	-	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	VOC	50	51,000	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Tert-Butyl Ether	VOC	930	62,000	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	VOC	12,000	100,000a	100,000a	ND	ND	ND	620	ND	ND	ND	
n-Propylbenzene	VOC	3,900	100,000a	100,000a	ND	ND	ND	75	ND	ND	ND	ND
o-Xylene	VOC	260	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
p-Diethylbenzene	VOC	-	-	-	ND	ND	ND	540	ND	ND	ND	ND
p-Ethyltoluene	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
p-Isoproplytoluene	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
p/m-xylene sec-Butylbenzene		260	100,000a	100,000a				590				ND
Styrene	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	VOC	5,900	100,000a	100,000a	ND	ND	ND	58 J	ND	ND	ND	ND
Tetrachloroethene	VOC	1,300	5,500	19,000	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	VOC	700	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	VOC	190	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	VOC	470	10.000	21.000	ND	ND	ND	ND	ND	ND	ND	
Trichlorofluoromethane	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	VOC	20	210	900	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

Sample Depth = feet below existing grade

"-" No Guidance or Cleanup Objectives

J - Laboratory Estimated Value

ug/kg = micrograms per kilogram (ppb) ND - Non Detect

NA- Not Analyzed for Parameter

Parameter Name	Parameter ID	NYCRR 375 Unrestricted Use	NYCRR 375 Residential	NYCRR 375 Restricted- Residential	EP-5	EP-6	EP-6	EP-7	EP-7	EP-8	EP-9	EP-9
Sample Depth					3-7	0-3	3-6	0-3.5	3.5-7	0-2	0-4	4-8
Lab ID Date					L1516263-02 7/14/2015	L1516263-03 7/14/2015	L1516263-04 7/14/2015	L1516263-05 7/14/2015	L1516263-06 7/14/2015	L1516263-07 7/14/2015	L1522496-01 9/10/2015	L1522496-02 9/10/2015
				1							0/ =0/ =0 =0	0/10/1010
Unit	1/00	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
1,1,1,2-Tetrachloroethane	VOC	- 680	-	-	ND							
1.1.2.2-Tetrachloroethane	VOC	-	35.000	-	ND			ND	ND	ND		ND
1,1,2-Trichloroethane	VOC	-	-	-	ND							
1,1-Dichloroethane	VOC	270	19,000	26,000	ND							
1,1-Dichloroethene	VOC	330	100,000a	100,000a	ND							
1,1-Dichloropropene	VOC	-	-	-	ND							
1,2,3-Trichlorobenzene	VOC	-		-	ND							
1,2,3-Themologropane	VOC	-		-	ND				ND			
1.2.4-Trichlorobenzene	VOC	-	-	-	ND	4.03 ND						
1,2,4-Trimethylbenzene	VOC	3,600	47,000	52,000	ND							
1,2-Dibromo-3-Chloropropane	VOC	-	-	-	ND							
1,2-Dibromoethane	VOC	-	-	-	ND							
1,2-Dichlorobenzene	VOC	1,100	100,000a	100,000a	ND							
1,2-Dichloroethane	VOC				ND							
1,2-Dichloropropane	VOC	-	-	-	ND	ND	ND	ND	ND	ND	ND ND	טא ND
1,3,5-Trimethylbenzene	VOC	8,400	47,000	52,000	ND							
1,3-Dichlorobenzene	VOC	2,400	17,000	49,000	ND							
1,3-Dichloropropene	VOC	-	-	-	ND							
1,2-Dichloroethane	VOC	20	2,300	3,100	ND							
1,3-Dichloropropane	VOC	-	-	-	ND							
1,4-Dichlorobenzene	VOC	1,800 100h	9,800	13,000	ND	ND	ND	ND	ND	ND		ND
2,2-Dichloropropane	VOC	-	-	-	ND							
2-Butanone	VOC	-	100,000a	100,000a	ND							
2-Chlorotoluene	VOC	-	-	-	ND							
2-Hexanone	VOC	-	-	-	ND							
4-Chlorotoluene	VOC	-	-	-	ND							
4-Metnyi-2-Pentanone	VOC	- 50	-	- 100.000h	ND	ND	ND	ND	ND 441	ND	ND F 2 L	ND 22 J
Acrylonitrile	VOC		-	-	ND	2.0 J		ND	ND	ND	5.2 J ND	ND
Benzene	VOC	60	2,900	4,800	ND							
Bromobenzene	VOC	-	-	-	ND							
Bromochloromethane	VOC	-	-	-	ND							
Bromodichloromethane	VOC	-	-	-	ND							
Bromotorm	VOC	-	-	-	ND							
Carbon Disulfide	VOC	_	100.000	-	ND							
Carbon Tetrachloride	VOC	760	1,400	2,400	ND							
Chlorobenzene	VOC	1,100	100,000a	100,000a	ND							
Chloroethane	VOC	-	-	-	ND							
Chloroform	VOC	370	10,000	49,000	ND							
Chloromethane	VOC	-	-	-	ND							
cis-1,2-Dichloropropene	VOC	- 250	- 59,000	- 100,000a	ND	ND	ND	ND	ND	ND		ND
Dibromomethane	VOC	-	-	-	ND							
Dibromochloromethane	VOC	-	-	-	ND							
Dichlorodifluoromethane	VOC	-	-	-	ND							
Ethylbenzene	VOC	1,000	30,000	41,000	ND							
Ethyl ether	VOC	-	-	-	ND							
	VOC	-	-	-	ND							
Methylene Chloride	VOC	50	51.000	100.000a	ND			ND	ND	ND		ND
Methyl Tert-Butyl Ether	VOC	930	62,000	100,000a	ND							
Naphthalene	VOC	12,000	100,000a	100,000a	ND							
n-Butylbenzene	VOC	12,000	100,000a	100,000a	ND							
n-Propylbenzene	VOC	3,900	100,000a	100,000a	ND							
o-Xylene	VOC	260	100,000a	100,000a	ND							
	VOC	-	-	-	ND	1.2 J						
p-lsoproplytoluene	VOC	-	-	-	ND							
p/m-Xylene	VOC	260	100,000a	100,000a	ND							
sec-Butylbenzene	VOC	11,000	100,000a	100,000a	ND							
Styrene	VOC	-	-	-	ND							
tert-Butylbenzene	VOC	5,900	100,000a	100,000a	ND							
Tetrachloroethene	VOC	1,300	5,500	19,000	ND							
roluelle		190	100,000a	100,000a	ND							
trans-1,3-Dichloropropene	VOC	-	-	-	ND							
trans-1,4-Dichloro-2-Butene	VOC	-	-	-	ND							
Trichloroethene	VOC	470	10,000	21,000	ND							
Trichlorofluoromethane	VOC	-	-	-	ND							
Vinyl Acetate	VOC	-	-	-	ND							
vinyi Unioride	VUC	20	210	900	ND							

Notes:

Sample Depth = feet below existing grade

"-" No Guidance or Cleanup Objectives

J - Laboratory Estimated Value

ug/kg = micrograms per kilogram (ppb) ND - Non Detect

NA- Not Analyzed for Parameter

Parameter Name	Parameter ID	NYCRR 375 Unrestricted Use	NYCRR 375 Residential	NYCRR 375 Restricted- Residential	EP-10	EP-10	EP-10	EP-11	EP-11	EP-11	EP-11	EP-11
Sample Depth					0-2	2-4	4-7	0-2	2-4	4-6	6-8	8-11
Lab ID Date					L1618276-01 6/14/2016	L1618276-02 6/14/2016	L1618276-03 6/14/2016	L1618276-04 6/14/2016	L1618276-05 6/14/2016	L1618276-06 6/14/2016	L1618276-07 6/14/2016	L1618276-08 6/14/2016
Unit 1 1 1 2-Tetrachloroethane	VOC	ug/kg -	ug/kg -	ug/kg -	ug/kg							
1.1.1-Trichloroethane	VOC	680	100.000a	100.000a	ND							
1,1,2,2-Tetrachloroethane	VOC	-	35,000	-	ND							
1,1,2-Trichloroethane	VOC	-	-	-	ND							
1,1-Dichloroethane	VOC	270	19,000	26,000	ND							
1,1-Dichloroethene	VOC	330	100,000a	100,000a	ND							
1,1-Dichloropropene	VOC	-	-	-	ND							
1,2,3-Trichloropropane	VOC	-	80.000	-	ND ND			ND ND	ND ND	ND ND		
1,2,4,5-Tetramethylbenzene	VOC	-	-	-	ND							
1,2,4-Trichlorobenzene	VOC	-	-	-	ND							
1,2,4-Trimethylbenzene	VOC	3,600	47,000	52,000	ND							
1,2-Dibromo-3-Chloropropane	VOC	-	-	-	ND							
1,2-Dibromoethane	VOC	-	-	-	ND							
1,2-Dichloroethane	VUC	1,100	100,000a	100,000a	ND							
1,2-Dichloroethene	VOC	-	-	-	ND							
1,2-Dichloropropane	VOC	-	-	-	ND							
1,3,5-Trimethylbenzene	VOC	8,400	47,000	52,000	ND							
1,3-Dichlorobenzene	VOC	2,400	17,000	49,000	ND							
1,3-Dichloropropene	VOC	-	-	-	ND							
1,2-Dichloroperopage	VOC	20	2,300	3,100	ND							
1.4-Dichlorobenzene	VOC	1.800	9.800	- 13.000	ND ND		עא חא					
1,4-Dioxane	VOC	100b	9,800	13,000	ND							
2,2-Dichloropropane	VOC	-	-	-	ND							
2-Butanone	VOC	-	100,000a	100,000a	ND							
2-Chlorotoluene	VOC	-	-	-	ND							
2-Hexanone	VOC	-	-	-	ND							
4-Chiorotoluene 4-Methyl-2-Pentanone	VOC	-	-	-	ND							
Acetone	VOC	50	100.000a	100.000b	121	111	21	2.5.1	151	ND	0.2	171
Acrylonitrile	VOC	-	-	-	ND							
Benzene	VOC	60	2,900	4,800	ND							
Bromobenzene	VOC	-	-	-	ND							
Bromochloromethane	VOC	-	-	-	ND							
Bromodichloromethane	VOC	-	-	-	ND							
Bromomethane	VOC	_	-	-	ND							
Carbon Disulfide	VOC	-	100,000	-	ND							
Carbon Tetrachloride	VOC	760	1,400	2,400	ND							
Chlorobenzene	VOC	1,100	100,000a	100,000a	ND							
Chloroethane	VOC	-	-	-	ND							
Chloromethane	VOC	370	10,000	49,000	ND 0.22 L	ND 0.22 J	ND 0.21 J	ND 0.28 J	ND O.C.I	ND 0.22 L	ND 0.45 L	ND
cis-1.2-Dichloroethene	VOC	250	59.000	100.000a	0.52 J	0.55 J ND	ND	0.58 J	ND	0.55 J ND	0.45 J	ND
cis-1,3-Dichloropropene	VOC	-	-	-	ND							
Dibromomethane	VOC	-	-	-	ND							
Dibromochloromethane	VOC	-	-	-	ND							
Dichlorodifluoromethane	VOC	-	-	-	ND							
Ethylbenzene Ethyl athar	VOC	1,000	30,000	41,000	ND							
Hexachlorobutadiene	VOC	-	-	-	ND ND			ND ND	ND ND	ND		ND
Isopropylbenzene	VOC	-	100,000	-	ND							
Methylene Chloride	VOC	50	51,000	100,000a	ND							
Methyl Tert-Butyl Ether	VOC	930	62,000	100,000a	ND							
Naphthalene	VOC	12,000	100,000a	100,000a	ND							
n-Butylbenzene	VOC	12,000	100,000a	100,000a	ND							
n-Propylbenzene	VOC	3,900	100,000a	100,000a	ND							
p-Diethylbenzene	VOC	- 260	-	-	ND							
p-Ethyltoluene	VOC	-	-	-	ND							
p-Isoproplytoluene	VOC	-	-	-	ND							
p/m-Xylene	VOC	260	100,000a	100,000a	ND							
sec-Butylbenzene	VOC	11,000	100,000a	100,000a	ND							
Styrene	VOC	-	-	-	ND							
Tetrachloroethene	VOC	5,900	5 500	19,000a	ND							
Toluene	VOC	700	100,000a	100,000a	ND	ND	ND	0.22	0.25	ND	ND	ND
trans-1,2-Dichloroethene	VOC	190	100,000a	100,000a	ND							
trans-1,3-Dichloropropene	VOC	-	-	-	ND							
trans-1,4-Dichloro-2-Butene	VOC	-	-	-	ND							
Trichloroethene	VOC	470	10,000	21,000	ND							
Vinyl Acetate	VOC	-	-	-	ND							
Vinyl Chloride	VOC	20	210	900	ND							

Notes:

Sample Depth = feet below existing grade

"-" No Guidance or Cleanup Objectives

J - Laboratory Estimated Value

ug/kg = micrograms per kilogram (ppb) ND - Non Detect

NA- Not Analyzed for Parameter

Parameter Name	Parameter ID	NYCRR 375 Unrestricted Use	NYCRR 375 Residential	NYCRR 375 Restricted- Residential	EP-12	EP-12	EP-13	EP-14	EP-15	EP-16	EP-17	EP-18
Sample Depth					0-2	2-5	0-3	0-3	0-2	0-4	0-2	0-2
Lab ID Date					L1618276-09 6/14/2016	L1618276-10 6/14/2016	L1618276-17 6/14/2016	L1618276-11 6/14/2016	L1618276-12 6/14/2016	L1618276-13 6/14/2016	L1625871-01 8/17/2016	L1625871-02 8/17/2016
Unit 1 1 1 2-Tetrachloroethane	VOC	ug/kg -	ug/kg -	ug/kg -	ug/kg							
1.1.1-Trichloroethane	VOC	680	100.000a	100.000a	ND							
1,1,2,2-Tetrachloroethane	VOC	-	35,000	-	ND							
1,1,2-Trichloroethane	VOC	-	-	-	ND							
1,1-Dichloroethane	VOC	270	19,000	26,000	ND							
1,1-Dichloroethene	VOC	330	100,000a	100,000a	ND							
1,1-Dichloropropene	VOC	-	-	-	ND							
1,2,3-Trichloropropane	VOC	-	80.000	-	ND ND			ND ND	ND ND	ND 13	ND ND	
1,2,4,5-Tetramethylbenzene	VOC	-	-	-	ND	ND	ND	ND	ND	720	ND	ND
1,2,4-Trichlorobenzene	VOC	-	-	-	ND							
1,2,4-Trimethylbenzene	VOC	3,600	47,000	52,000	ND	ND	ND	ND	ND	1,800	ND	ND
1,2-Dibromo-3-Chloropropane	VOC	-	-	-	ND							
1,2-Dibromoethane	VOC	-	-	-	ND							
1,2-Dichloroethane	VUC	1,100	100,000a	100,000a	ND				ND		ND	
1,2-Dichloroethene	VOC	-	-	-	ND							
1,2-Dichloropropane	VOC	-	-	-	ND							
1,3,5-Trimethylbenzene	VOC	8,400	47,000	52,000	ND	ND	ND	ND	ND	280	ND	ND
1,3-Dichlorobenzene	VOC	2,400	17,000	49,000	ND							
1,3-Dichloropropene	VOC	-	-	-	ND							
1 3-Dichloropropage		20	2,300	3,100	ND							
1.4-Dichlorobenzene	VOC	1.800	9.800	13.000	ND							
1,4-Dioxane	VOC	100b	9,800	13,000	ND							
2,2-Dichloropropane	VOC	-	-	-	ND							
2-Butanone	VOC	-	100,000a	100,000a	ND	ND	ND	6 J	ND	6.4 J	ND	ND
2-Chlorotoluene	VOC	-	-	-	ND							
2-Hexanone	VOC	-	-	-	ND							
4-Onorotototene 4-Methyl-2-Pentanone	VOC	-	-	-	ND ND			ND ND	ND ND		ND ND	
Acetone	VOC	50	100,000a	100,000b	0.5 J	1.7 J	ND	56	3.6 J	32	ND	ND
Acrylonitrile	VOC	-	-	-	ND							
Benzene	VOC	60	2,900	4,800	ND							
Bromobenzene	VOC	-	-	-	ND							
Bromochloromethane	VOC	-	-	-	ND							
Bromoform	VOC	-	-	-	ND							
Bromomethane	VOC	-	-	-	ND							
Carbon Disulfide	VOC	-	100,000	-	ND							
Carbon Tetrachloride	VOC	760	1,400	2,400	ND							
Chlorobenzene	VOC	1,100	100,000a	100,000a	ND							
Chloroethane	VOC	-	-	-	ND							
	VOC		- 10,000	49,000	ND 0.53 I	ND 0.48 I	ND	ND 0.43 I	0.51 L		ND	ND
cis-1,2-Dichloroethene	VOC	250	59,000	100,000a	ND	0.48 J	ND	0.43 J	ND	ND	ND	ND
cis-1,3-Dichloropropene	VOC	-	-	-	ND							
Dibromomethane	VOC	-	-	-	ND							
Dibromochloromethane	VOC	-	-	-	ND							
Dichlorodifluoromethane	VOC	-	-	-	ND							
Ethylether	VOC	1,000	- 30,000	41,000	ND	ND	ND	ND	ND	38	ND	ND
Hexachlorobutadiene	VOC	-	-	-	ND							
Isopropylbenzene	VOC	-	100,000	-	ND	ND	ND	ND	ND	50	ND	ND
Methylene Chloride	VOC	50	51,000	100,000a	ND							
Methyl Tert-Butyl Ether	VOC	930	62,000	100,000a	ND							
Naphthalene	VOC	12,000	100,000a	100,000a	ND	ND	ND	ND	ND	510	0.00026 J	ND
n-Butylbenzene	VOC	12,000	100,000a	100,000a	ND	ND	ND	ND	ND	310	ND	ND
o-Xylene	VOC	260	100,000a	100,000a	ND			ND		300	ND	
p-Diethylbenzene	VOC	- 200	-	-	ND	ND	ND	ND	ND	4.4	ND	ND
p-Ethyltoluene	VOC	-	-	-	ND	ND	ND	ND	ND	410	ND	ND
p-Isoproplytoluene	VOC	-	-	-	ND	ND	ND	ND	ND	55	ND	ND
p/m-Xylene	VOC	260	100,000a	100,000a	ND	ND	ND	ND	ND	14	ND	ND
sec-Butylbenzene	VOC	11,000	100,000a	100,000a	ND	ND	ND	ND	ND	78	ND	ND
Styrene	VOC	-	-	-	ND							
Tetrachloroethene	VOC	1.300	5.500	19.000								
Toluene	VOC	700	100,000a	100,000a	0.25 J	ND	ND	ND	0.22 J	0.24 J	ND	ND
trans-1,2-Dichloroethene	VOC	190	100,000a	100,000a	ND							
trans-1,3-Dichloropropene	VOC	-	-	-	ND							
trans-1,4-Dichloro-2-Butene	VOC	-	-	-	ND							
Trichloroethene	VOC	470	10,000	21,000	ND							
Vinyl Acetate		-	-	-	ND ND							
Vinyl Chloride	VOC	20	210	900	ND							

Notes:

Sample Depth = feet below existing grade

"-" No Guidance or Cleanup Objectives

J - Laboratory Estimated Value

ug/kg = micrograms per kilogram (ppb) ND - Non Detect

NA- Not Analyzed for Parameter

Parameter Name	Parameter ID	NYCRR 375 Unrestricted Use	NYCRR 375 Residential	NYCRR 375 Restricted- Residential	SW-1	SW-2	ΡΙΤ ΕΡ
Sample Depth					~	~	~
Lab ID Date					L1512907-01	L1512907-02	L1521851
Date					0/10/2015	0/10/2015	5/5/2015
Unit		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
1,1,1,2-Tetrachloroethane	VOC	-	-	-	ND	ND	ND
1,1,1-Trichloroethane	VOC	680	100,000a	100,000a	ND	ND	ND
1,1,2,2-Tetrachloroethane	VOC	-	35,000	-	ND	ND	ND
1 1-Dichloroethane	VOC	270	- 19.000	26.000	ND	ND	ND
1.1-Dichloroethene	VOC	330	100.000a	100.000a	ND	ND	ND
1,1-Dichloropropene	VOC	-	-	-	ND	ND	ND
1,2,3-Trichlorobenzene	VOC	-	-	-	ND	ND	ND
1,2,3-Trichloropropane	VOC	-	80,000	-	ND	ND	ND
1,2,4,5-Tetramethylbenzene	VOC	-	-	-	ND	ND	1.2 J
1,2,4-Trichlorobenzene	VOC	-	-	-	ND	ND	ND
1,2,4-Trimethylbenzene	VOC	3,600	47,000	52,000	ND	ND	1.6 J
1,2-Dibromo-3-Chloropropane	VOC	-	-	-	ND	ND	ND
1,2-Dibromoethane	VOC	-	-	-	ND	ND	ND
1,2-Dichlorobenzene	VOC	1,100	100,000a	100,000a	ND	ND	ND
1,2-Dichloroethane	VOC				ND	ND	ND
1.2-Dichloropropane	VOC	-	-	-			
1,3,5-Trimethylbenzene	VOC	8,400	47,000	52,000	ND	ND	2.71
1,3-Dichlorobenzene	VOC	2,400	17,000	49,000	ND	ND	ND
1,3-Dichloropropene	VOC	-	-	-	ND	ND	ND
1,2-Dichloroethane	VOC	20	2,300	3,100	ND	ND	ND
1,3-Dichloropropane	VOC	-	-	-	ND	ND	ND
1,4-Dichlorobenzene	VOC	1,800	9,800	13,000	ND	ND	ND
1,4-Dioxane	VOC	100b	9,800	13,000	ND	ND	ND
2,2-Dichloropropane	VOC	-	-	-	ND	ND	ND
2-Butanone	VOC	-	100,000a	100,000a	ND	ND	ND
2-Chlorotoluene	VOC	-	-	-	ND	ND	ND
2-Hexanone	VOC	-	-	-	ND	ND	ND
4-Chiorotoluene	VOC	-	-	-	ND	ND	ND
	VOC	50	- 100.000a	- 100.000b	ND	ND	ND 25
Accylonitrile	VOC	- 50	-	-			25
Benzene	VOC	60	2.900	4.800	ND	ND	ND
Bromobenzene	VOC	-	-	-	ND	ND	ND
Bromochloromethane	VOC	-	-	-	ND	ND	ND
Bromodichloromethane	VOC	-	-	-	ND	ND	ND
Bromoform	VOC	-	-	-	ND	ND	ND
Bromomethane	VOC	-	-	-	ND	ND	ND
Carbon Disulfide	VOC	-	100,000	-	ND	ND	ND
Carbon Tetrachloride	VOC	760	1,400	2,400	ND	ND	ND
Chlorobenzene	VOC	1,100	100,000a	100,000a	ND	ND	ND
Chloroform	VOC	- 270	- 10.000	-	ND	ND	ND
Chloromethane	VOC						ND
cis-1.2-Dichloroethene	VOC	250	59.000	100.000a	ND	ND	ND
cis-1.3-Dichloropropene	VOC	-	-	-	ND	ND	ND
Dibromomethane	VOC	-	-	-	ND	ND	ND
Dibromochloromethane	VOC	-	-	-	ND	ND	ND
Dichlorodifluoromethane	VOC	-	-	-	ND	ND	ND
Ethylbenzene	VOC	1,000	30,000	41,000	ND	ND	ND
Ethyl ether	VOC	-	-	-	ND	ND	ND
Hexachlorobutadiene	VOC	-	-	-	ND	ND	ND
Isopropylbenzene	VOC	-	100,000	-	ND	ND	ND
Methylene Chloride	VOC	50	51,000	100,000a	ND	ND	ND
Naphthalono	VOC	930	62,000	100,000a	ND	ND	ND
n Butylbonzono	VOC	12,000	100,000a	100,000a	ND	ND	ND
n-Propylbenzene	VOC	3 900	100,000a	100,000a	ND	ND	ND
o-Xvlene	VOC	260	100,000a	100,000a	ND	ND	ND
p-Diethylbenzene	VOC	-	-	-	ND	ND	3.8.1
p-Ethyltoluene	VOC	-	-	-	ND	ND	0.35 J
p-Isoproplytoluene	VOC	-	-	-	ND	ND	ND
p/m-Xylene	VOC	260	100,000a	100,000a	ND	ND	ND
sec-Butylbenzene	VOC	11,000	100,000a	100,000a	ND	ND	ND
Styrene	VOC	-	-	-	ND	ND	ND
tert-Butylbenzene	VOC	5,900	100,000a	100,000a	ND	ND	ND
Tetrachloroethene	VOC	1,300	5,500	19,000	ND	ND	ND
Toluene	VOC	700	100,000a	100,000a	ND	ND	ND
trans-1,2-Dichloroethene	VOC	190	100,000a	100,000a	ND	ND	ND
	VOC	-	-	-	ND	ND	ND
	VOC	- 470	- 10.000	- 21 000	ND	ND	ND
Trichlorofluoromethane	VOC		-	-			
Vinvl Acetate	VOC	_	_	_	ND	ND	ND
Vinyl Chloride	VOC	20	210	900	ND	ND	ND

Notes:

Sample Depth = feet below existing grade

"-" No Guidance or Cleanup Objectives

J - Laboratory Estimated Value

ug/kg = micrograms per kilogram (ppb) ND - Non Detect

NA- Not Analyzed for Parameter

,

Table 2

Detected Concentrations in End Point Samples Total Semi-Volatile Organic Compounds

5-27 Kensington Road, Bronxville, New York

Parameter Name	Parameter ID	NYCRR 375 Unrestricted Use	NYCRR 375 Residential	NYCRR 375 Restricted- Residential	EP-1	EP-1	EP-1	EP-1	EP-1	EP-2	EP-2
Sample Depth (feet below existing grade)					0-2	2-4	4-6	6-9	9-12	0-2	2-5
Lab ID					L1512202-01	L1512202-02	L1512202-03	L1512202-04	L1512202-05	L1512202-06	L1512202-07
Date					6/2/2015	6/2/2015	6/2/2015	6/2/2015	6/2/2015	6/2/2015	6/2/2015
Unit	T	ug/kg	ug/kg	uq/kq	ug/kg	ug/kg	uq/kq	ug/kg	ug/kg	uq/kq	ug/kg
1,2-Dichlorobenzene	SVOC	-	-	-	ND						
1,3-Dichlorobenzene	SVOC	-	-	-	ND						
1,4-Dichlorobenzene	SVOC	-	-	-	ND						
1,2,4-Trichlorobenzene	SVOC	-	-	-	ND						
1,2,4,5-Tetrachlorobenzene	SVOC	-	-	-	ND						
2,4,5-Trichlorophenol	SVOC	-	100,000	-	ND						
2,4,6-Trichlorophenol	SVOC	-	-	-	ND						
2,4-Dichlorophenol	SVOC	-	100,000	-	ND						
2,4-Dimethylphenol	SVOC	-	-	-	ND						
2,4-Dinitrophenol	SVOC	-	100,000	-	ND						
2,4-Dinitrotoluene	SVOC	-	-	-	ND						
2,6-Dinitrotoluene	SVOC	-	1,030	-	ND						
2-Chloronaphthalene	SVOC	-	-	-	ND						
2-Chlorophenol	SVOC	-	100,000	-	ND						
2-Methylnaphthalene	SVOC	-	-	-	ND						
2-Methylphenol	SVOC	330b	100,000a	100,000a	ND						
2-Nitroaniline	SVOC	-	-	-	ND						
2-Nitrophenol	SVOC	-	-	-	ND						
3+4 Methylphenol	SVOC	-	-	-	ND						
3,3-Dichlorobenzidine	SVOC	-	-	-	ND						
3-Nitroaniline	SVOC	-	-	-	ND						
4,6-Dinitro-o-cresol	SVOC	-	-	-	ND						
4-Bromophenyl phenyl ether	SVOC	-	-	-	ND						
4-Chloroaniline	SVOC	-	100,000	-	ND						
4-Chlorophenyl phenyl ether	SVOC	-	-	-	ND						
4-Nitroaniline	SVOC	-	-	-	ND						
4-Nitrophenol	SVOC	-	-	-	ND						
Acenaphthene	SVOC	20,000	100,000a	100,000a	ND						
Acenaphthylene	SVOC	100,000a	100,000a	100,000a	ND						
Acetophenone	SVOC	-	-	-	ND						
Anthracene	SVOC	100,000a	100,000a	100,000a	ND	ND	ND	ND	ND	ND	110
Azobenzene	SVOC	-	-	-	ND						
Benzo-a-Anthracene	SVOC	1,000c	1,000f	1,000f	ND	ND	ND	ND	ND	ND	35 J
Benzo-a-Pyrene	SVOC	1,000c	1,000f	1,000f	ND						
Benzo-b-Fluoranthene	SVOC	1,000c	1,000f	1,000f	ND						
Benzo-k-Fluoranthene	SVOC	800c	1,000	3,900	ND						
Benzo-g,h,i-Perylene	SVOC	100,000	100,000a	100,000a	ND	ND	ND	ND	ND	ND	58 J
Benzoic Acid	SVOC	-	-	-	ND						
Benzyl Alcohol	SVOC	-	-	-	ND						
Biphenyl	SVOC	-	-	-	ND						
Bis(2-Chloroethyl)ether	SVOC	-	-	-	ND						
Bis(2-chloroethoxy)methane	SVOC	-	-	-	ND						
Bis(2-Chloroisopropyl)ether	SVOC	-	-	-	ND						
Bis(2-Ethylhexyl)Phthalate	SVOC	-	50,000	-	ND						
Butylbenzylphthalate	SVOC	-	100,000	-	ND						
Carbazole	SVOC	-	-	-	ND						
Chrysene	SVOC	1,000c	1,000f	3,900	ND	ND	ND	ND	ND	ND	65 J
Dibenzofuran	SVOC	7,000	14,000	59,000	ND						
Dibenzo-a,h-Anthracene	SVOC	330b	330e	330e	ND						
Diethyl Phthalate	SVOC	-	100,000	-	ND						
Dimethyl Phthalate	SVOC	-	100,000	-	ND						
Di-n-Butyl Phthalate	SVOC	-	100,000	-	ND						
Di-n-Octyl Phthalate	SVOC	-	100,000	-	ND						
Fluoranthene	SVOC	100,000	100,000a	100,000a	53 J	ND	ND	ND	ND	ND	66 J
Fluorene	SVOC	30,000	100,000a	100,000a	ND						
Hexachlorobenzene	SVOC	330	330e	1,200	ND						
Hexachlorobutadiene	SVOC	-	-	-	ND						
Hexachlorocyclopentadiene	SVOC	-	-	-	ND						
Hexachloroethane	SVOC	-	-	-	ND						
Indeno(1,2,3-cd)Pyrene	SVOC	500c	500f	500f	ND						
Isophorone	SVOC	-	100,000	-	ND						
Naphthalene	SVOC	12,000	100,000a	100,000a	ND						
Nitrobenzene	SVOC	-	3,700	15,000	ND						
N-Nitroso-di-n-Propylamine	SVOC	-	-	-	ND						
NDPA/DPA	SVOC	-	-	-	ND						
P-Chloro-M-Cresol	SVOC	-	-	-	ND						
Pentachlorophenol	SVOC	800b	2,400	6,700	ND						
Phenanthrene	SVOC	100,000	100,000a	100,000a	ND						
Phenol	SVOC	330b	100,000a	100,000a	ND						
Pyrene	SVOC	100,000	100,000a	100,000a	ND	ND	ND	ND	ND	ND	170

Notes:

Sample Depth = feet below existing grade

"-" No Guidance or Cleanup Objectives

J - Laboratory Estimated Value

ug/kg = micrograms per kilogram (ppb) ND - Non Detect NA- Not Analyzed for Parameter

Parameter Name	Parameter ID	NYCRR 375 Unrestricted Use	NYCRR 375 Residential	NYCRR 375 Restricted- Residential	EP-3	EP-3	EP-3	EP-3	EP-3	EP-4	EP-4	EP-4
Sample Depth (feet below existing grade) Lab ID					0-2 L1512202-08	2-4 L1512202-09	4-6 L1512202-10	6-8 L1512202-11	8-11 L1512202-12	0-2 L1512202-13	2-4 L1512202-14	4-6.5 L1512202-15
Date					6/2/2015	6/2/2015	6/2/2015	6/2/2015	6/2/2015	6/2/2015	6/2/2015	6/2/2015
Unit		ua/ka	ua/ka	ua/ka	ua/ka	ua/ka	ua/ka	ua/ka	ua/ka	ua/ka	ua/ka	ua/ka
1.2-Dichlorobenzene	SVOC	- uy/ky	- uy/ky	- ug/kg	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4,5-Tetrachlorobenzene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	SVOC	-	1,030	-	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	SVOC	3300	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniine	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
2+1/10 opnetion	SV0C	-	-	-								
3 3-Dichlorobenzidine	SVOC	-	-	-								
3-Nitroaniline	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
4 6-Dinitro-o-cresol	SVOC				ND	ND	ND	ND	ND	ND	ND	ND
4-Bromonhenyl phenyl ether	SVOC	_	_	-	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	SVOC	-	100.000	-	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	SVOC	20,000	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	SVOC	100,000a	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
Acetophenone	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	SVOC	100,000a	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
Azobenzene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Benzo-a-Anthracene	SVOC	1,000c	1,000f	1,000f	ND	34 J	ND	ND	ND	ND	ND	ND
Benzo-a-Pyrene	SVOC	1,000c	1,000f	1,000f	ND	ND	ND	ND	ND	ND	ND	ND
Benzo-b-Fluoranthene	SVOC	1,000c	1,000f	1,000f	ND	37 J	ND	ND	ND	ND	ND	ND
Benzo-k-Fluoranthene	SVOC	800c	1,000	3,900	ND	ND	ND	ND	ND	ND	ND	ND
Benzo-g,h,i-Perylene	SVOC	100,000	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
Benzoic Acid	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Benzyl Alcohol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Biphenyl	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-chloroethyl)ether	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-chloroisopropul)other	SVOC	-	-	-	ND	ND	ND	ND	ND		ND	
Bis(2-Ethylbeyyl)Phthalate	SVOC	-	50,000	-	ND	ND	ND	ND	ND	ND	ND	ND
Butylbenzylnbthalate	SVOC		100.000		ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	SVOC	_	-	_	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	SVOC	1.000c	1.000f	3.900	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	SVOC	7,000	14,000	59,000	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo-a,h-Anthracene	SVOC	330b	330e	330e	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl Phthalate	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-Butyl Phthalate	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-Octyl Phthalate	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	SVOC	100,000	100,000a	100,000a	ND	64 J	ND	ND	ND	ND	ND	ND
Fluorene	SVOC	30,000	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	SVOC	330	330e	1,200	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)Pyrene	SVOC	500c	500f	500f	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobones -	SVOC	12,000	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND	ND
Nitropenzene	SVOC	-	3,700	15,000	ND	ND	ND	ND	ND	ND	ND	ND
	SVUC	-	-	-								
P-Chloro-M-Cresol	SVOC	-	-	-								
Pentachloronhenol	SVOC	800b	2 400	6 700								
Phenanthrene	SVOC	100.000	100.000a	100.000a	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	SVOC	330b	100.000a	100.000a	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	SVOC	100,000	100,000a	100,000a	ND	55 J	ND	ND	ND	ND	ND	ND

Notes:

Sample Depth = feet below existing grade

"-" No Guidance or Cleanup Objectives

J - Laboratory Estimated Value

ug/kg = micrograms per kilogram (ppb)

ND - Non Detect

NA- Not Analyzed for Parameter

Parameter Name	Parameter ID	NYCRR 375 Unrestricted Use	NYCRR 375 Residential	NYCRR 375 Restricted- Residential	EP-5	EP-5	EP-6	EP-6	EP-7	EP-7
Sample Depth (feet below existing grade)					0-3	3-7	0-3	3-6	0-3.5	3.5-7
Lab ID Date					L1516263-01 42199	L1516263-02 42199	L1516263-03 42199	L1516263-04 42199	L1516263-05 42199	L1516263-06 42199
	-					12255	12255	12200	12100	12100
Unit		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
1,2-Dichlorobenzene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
1,5-Dichlorobenzene	SVOC	-	-	-	ND	ND		ND	ND	ND
1.2.4-Trichlorobenzene	SVOC	_	-	-	ND	ND	ND	ND	ND	ND
1,2,4,5-Tetrachlorobenzene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	SVOC	-	- 1,030	-	ND	ND		ND		
2-Chlorophenol	SVOC		100.000	-	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
2-Methylphenol	SVOC	330b	100,000a	100,000a	ND	ND	ND	ND	ND	ND
2-Nitroaniline	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
2-Nitrophenol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
3+4 Methylphenol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
3,3-Dichlorobenzidine	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
3-Nitroaniline	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
4,6-Dinitro-o-cresol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
4-biomophenyi phenyi ether	SVOC	-	- 100.000	-	ND	ND	ND	ND	ND	
4-Chlorophenyl phenyl ether	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
4-Nitroaniline	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
4-Nitrophenol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Acenaphthene	SVOC	20,000	100,000a	100,000a	ND	ND	ND	ND	ND	ND
Acenaphthylene	SVOC	100,000a	100,000a	100,000a	ND	ND	36 J	ND	110 J	ND
Acetophenone	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Anthracene	SVOC	100,000a	100,000a	100,000a	ND	ND	47 J	ND	81 J	ND
Azobenzene	SVOC	-	- 1.000f	- 1.000f	ND	ND	ND	ND	ND	ND
Benzo-a-Anthracene	SVOC	1,000c	1,000f	1,000f	ND	ND	160	ND	240	
Benzo-b-Eluoranthene	SVOC	1,000c	1,000f	1,000f	ND	ND	240	ND	460	ND
Benzo-k-Fluoranthene	SVOC	800c	1,000	3,900	ND	ND	84 J	ND	140	ND
Benzo-g,h,i-Perylene	SVOC	100,000	100,000a	100,000a	ND	ND	140	ND	390	ND
Benzoic Acid	SVOC	-	-	-	ND	ND	450 J	ND	ND	ND
Benzyl Alcohol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Biphenyl	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Bis(2-Chloroethyl)ether	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Bis(2-chloroethoxy)methane	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Bis(2-Chioroisopropyi)ether	SVOC	-	-	-	ND	ND 80.1	110 J	ND		
Butylbenzylphthalate	SVOC		100 000		ND	ND	ND	ND	ND	ND
Carbazole	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Chrysene	SVOC	1,000c	1,000f	3,900	ND	ND	160	ND	280	ND
Dibenzofuran	SVOC	7,000	14,000	59,000	ND	ND	ND	ND	ND	ND
Dibenzo-a,h-Anthracene	SVOC	330b	330e	330e	ND	ND	54 J	ND	95 J	ND
Diethyl Phthalate	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
Di-n-Butyl Phthalate	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
DI-h-Octyl Phthalate	SVOC	- 100.000	100,000	-	ND	ND	ND 320	ND	270	
Fluorene	SVOC	30.000	100,000a	100,000a	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	SVOC	330	330e	1,200	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Hexachloroethane	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)Pyrene	SVOC	500c	500f	500f	ND	ND	130 J	ND	270	ND
Isophorone	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
Naphthalene	SVOC	12,000	100,000a	100,000a	ND	ND	ND	ND	ND	ND
Nitrobenzene	SVOC	-	3,700	15,000	ND	ND	ND	ND	ND	ND
	SVOC	-	-	-						
P-Chloro-M-Cresol	SVOC	-	-	_	ND	ND	ND	ND	ND	ND
Pentachlorophenol	SVOC	800b	2,400	6,700	ND	ND	ND	ND	ND	ND
Phenanthrene	SVOC	100,000	100,000a	100,000a	ND	ND	150	ND	140	ND
Phenol	SVOC	330b	100,000a	100,000a	ND	ND	ND	ND	ND	ND
Pyrene	SVOC	100,000	100,000a	100,000a	ND	ND	280	ND	380	ND

Notes:

Sample Depth = feet below existing grade

"-" No Guidance or Cleanup Objectives

J - Laboratory Estimated Value

ug/kg = micrograms per kilogram (ppb) ND - Non Detect NA- Not Analyzed for Parameter

Parameter Name	Parameter ID	NYCRR 375 Unrestricted Use	NYCRR 375 Residential	NYCRR 375 Restricted- Residential	EP-8	EP-9	EP-9	EP-10	EP-10	EP-10
Sample Depth (feet below existing grade)					0-2	0-4	4-8	0-2	2-4	4-7
Lab ID Date					L1516263-07 42199	L1522496-01 9/10/2015	L1522496-02 9/10/2015	L1618276-01 6/14/2016	L1618276-02 6/14/2016	L1618276-03 6/14/2016
		//	1	//	, //	//	//	//	//	//
Unit 1.2-Dichlorobenzene	SVOC	ug/kg -	ug/kg -	ug/kg -	ug/kg ND	Ug/kg	Ug/kg	Ug/kg	Ug/kg	ug/kg ND
1,3-Dichlorobenzene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
1,2,4,5-Tetrachlorobenzene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	SVOC	-	-	-	ND	ND		ND	ND	ND
2.4-Dimethylphenol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	SVOC	-	1,030	-	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
2-Chlorophenol	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
2-Methylphenol	SVOC	- 330b	- 100.000a	- 100.000a	ND	ND	ND	ND	ND	ND
2-Nitroaniline	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
2-Nitrophenol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
3+4 Methylphenol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
3,3-Dichlorobenzidine	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
3-Nitroaniline	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
4,6-Dinitro-o-cresol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
4-biomophenyi phenyi ether	SVOC	-	- 100.000	-	ND ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
4-Nitroaniline	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
4-Nitrophenol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Acenaphthene	SVOC	20,000	100,000a	100,000a	ND	ND	ND	ND	ND	ND
Acenaphthylene	SVOC	100,000a	100,000a	100,000a	ND	ND	ND	ND	ND	ND
Acetophenone	SVOC	- 100.000a	-	-				ND		
Azobenzene	SVOC	-	-	-	82 J	ND	ND	ND	ND	ND
Benzo-a-Anthracene	SVOC	1,000c	1,000f	1,000f	93 J	ND	ND	ND	ND	0.047 J
Benzo-a-Pyrene	SVOC	1,000c	1,000f	1,000f	73 J	ND	ND	ND	ND	0.051 J
Benzo-b-Fluoranthene	SVOC	1,000c	1,000f	1,000f	150	ND	ND	ND	ND	0.055 J
Benzo-k-Fluoranthene	SVOC	800c	1,000	3,900	ND	ND	ND	ND	ND	ND
Benzoic Acid	SVOC	100,000	100,000a	100,000a	74 J	ND	ND	ND	ND	0.036 J
Benzyl Alcohol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Biphenyl	SVOC	-	-	-	170	ND	ND	ND	ND	ND
Bis(2-Chloroethyl)ether	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Bis(2-chloroethoxy)methane	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Bis(2-Chloroisopropyl)ether	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Bis(2-Ethylhexyl)Phthalate	SVOC	-	50,000	-	130 J	ND	ND	ND	ND	0.41
Butylbenzylphthalate	SVOC	-	100,000	-				ND		
Chrysene	SVOC	1.000c	1.000f	3.900	92 J	ND	ND	ND	ND	0.05 J
Dibenzofuran	SVOC	7,000	14,000	59,000	ND	ND	ND	ND	ND	ND
Dibenzo-a,h-Anthracene	SVOC	330b	330e	330e	73 J	ND	ND	ND	ND	ND
Diethyl Phthalate	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
Di-n-Butyl Phthalate	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
DI-N-OCTYI Phthalate	SVOC	- 100.000	100,000	- 100.000a	160	ND		ND		0.1
Fluorene	SVOC	30,000	100,000a	100,000a	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	SVOC	330	330e	1,200	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Hexachloroethane	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)Pyrene	SVOC	500c	500f	500f	82 J	ND	ND	ND	ND	0.028 J
Naphthalene	SVOC	- 12 000	100,000	-						
Nitrobenzene	SVOC	-	3.700	15.000	ND	ND	ND	ND	ND	ND
N-Nitroso-di-n-Propylamine	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
NDPA/DPA	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
P-Chloro-M-Cresol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Pentachlorophenol	SVOC	800b	2,400	6,700	ND	ND	ND	ND	ND	ND
Phenanthrene	SVOC	100,000	100,000a	100,000a	44 J	ND	ND	ND	ND	0.063 J
Pyrene	SVOC	330b	100,000a	100,000a						
		100,000	100,0004							0.007 0

Notes:

Sample Depth = feet below existing grade

"-" No Guidance or Cleanup Objectives

J - Laboratory Estimated Value

ug/kg = micrograms per kilogram (ppb) ND - Non Detect NA- Not Analyzed for Parameter

Parameter Name	Parameter ID	NYCRR 375 Unrestricted Use	NYCRR 375 Residential	NYCRR 375 Restricted- Residential	EP-11	EP-11	EP-11	EP-11	EP-11	EP-12	EP-12
Sample Depth (feet below existing grade)					0-2	2-4	4-6	6-8	8-11	0-2	2-5
Lab ID					L1618276-04	L1618276-05	L1618276-06	L1618276-07	L1618276-08	L1618276-09	L1618276-10
]]			0/14/2010	0/14/2010	0/14/2010	0/14/2010	0/14/2010	0/14/2010	0/14/2010
Unit		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
1,2-Dichlorobenzene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
1,2,4-Themorobenzene	SVOC	-	-	-		ND	ND		ND		
2 4 5-Trichlorophenol	SVOC		100.000	-	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	SVOC	-	1,030	-	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	SVOC	- 220h	-	-	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	SVOC	5500	100,000a	100,000a		ND	ND	ND	ND	ND	
2-Nitronhenol	SVOC		-		ND	ND	ND	ND	ND	ND	ND
3+4 Methylphenol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
3,3-Dichlorobenzidine	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-o-cresol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl phenyl ether	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	SVOC	20,000	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	SVOC	100,000a	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND
Acetophenone	svoc	- 100.000a	- 100.000a	- 100.000a		ND	ND				
Azobenzene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
Benzo-a-Anthracene	SVOC	1,000c	1,000f	1,000f	ND	ND	0.034 J	0.061 J	ND	0.059 J	ND
Benzo-a-Pyrene	SVOC	1,000c	1,000f	1,000f	ND	ND	ND	ND	ND	ND	ND
Benzo-b-Fluoranthene	SVOC	1,000c	1,000f	1,000f	ND	ND	0.045 J	0.06 J	ND	0.072 J	ND
Benzo-k-Fluoranthene	SVOC	800c	1,000	3,900	ND	ND	ND	ND	ND	ND	ND
Benzo-g,h,i-Perylene	SVOC	100,000	100,000a	100,000a	ND	ND	0.03 J	0.027 J	ND	0.027 J	ND
Benzoic Acid	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
Benzyl Alcohol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
Biphenyl	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
Bis(2-Chloroethyl)ether	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
Bis(2-Chloroisopropyl)ether	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
Bis(2-Ethylbexyl)Phthalate	SVOC		50.000	-	0.17.1	ND	0.27	ND	0.25	0.078	ND
Butylbenzylphthalate	SVOC	-	100.000	-	ND	ND	ND	ND	ND	ND	ND
Carbazole	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
Chrysene	SVOC	1,000c	1,000f	3,900	ND	ND	0.039 J	0.062 J	ND	0.069 J	ND
Dibenzofuran	SVOC	7,000	14,000	59,000	ND	ND	ND	ND	ND	ND	ND
Dibenzo-a,h-Anthracene	SVOC	330b	330e	330e	ND	ND	ND	ND	ND	ND	ND
Diethyl Phthalate	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND	ND
Di-n-Butyl Phthalate	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND	ND
Di-n-Octyl Phthalate	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	SVOC	100,000	100,000a	100,000a	ND	ND	0.047 J	0.092 J	0.023 J	0.066 J	ND
Hevachlorobenzene	SVOC	30,000	2200	1 200			ND		ND	ND	
Hexachlorobutadiene	SVOC		5508	1,200	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	SVOC		-		ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)Pyrene	SVOC	500c	500f	500f	ND	ND	0.031 J	0.024 J	ND	0.027 J	ND
Isophorone	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND	ND
Naphthalene	SVOC	12,000	100,000a	100,000a	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	SVOC	-	3,700	15,000	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-di-n-Propylamine	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
NDPA/DPA	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
P-Chloro-M-Cresol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	SVOC	800b	2,400	6,700	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	SVOC	100,000	100,000a	100,000a	ND	ND	0.031 J	0.023 J	ND	ND	ND
	SVOC	330b	100,000a	100,000a				ND 0.022 i			
i yrene	3000	100,000	100,000a	100,000a			0.043 J	0.002 J	0.027 J	0.0391	

Notes:

Sample Depth = feet below existing grade

"-" No Guidance or Cleanup Objectives

J - Laboratory Estimated Value

ug/kg = micrograms per kilogram (ppb) ND - Non Detect NA- Not Analyzed for Parameter

Parameter Name	Parameter ID	NYCRR 375 Unrestricted Use	NYCRR 375 Residential	NYCRR 375 Restricted- Residential	EP-13	EP-14	EP-15	EP-16	EP-17	EP-18
Sample Depth (feet below existing grade) Lab ID Date					0-3 L1618276-17	0-3 L1618276-11	0-2 L1618276-12	0-4 L1618276-13	0-2 L1625871-01 8/17/2016	0-2 L1625871-02 8/17/2016
Butt						0/14/2010	0/14/2010	0/14/2010	0/17/2010	0/1//2010
Unit		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
1,2-Dichlorobenzene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
1,2,4,5-Tetrachlorobenzene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	SVOC	-	1,030	-	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
2-Chlorophenol	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	SVOC	-	-	-	1.5	0.025 J	ND	ND	0.071 J	ND
2-Methylphenol	SVOC	330b	100,000a	100,000a	ND	ND	ND	ND	ND	ND
2-Nitroaniline	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
2-Nitrophenol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
3+4 Methylphenol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
3,3-Dichlorobenzidine	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
3-Nitroaniline	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
4,6-Dinitro-o-cresol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
4-Bromophenyl phenyl ether	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
4-Chloroaniline	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
4-Nitroaniline	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
4-Nitrophenol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Acenaphthene	SVOC	20,000	100,000a	100,000a	ND	ND	ND	ND	230	ND
Acenaphthylene	SVOC	100,000a	100,000a	100,000a	ND	0.028 J	ND	ND	140	86 J
Acetophenone	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Anthracene	SVOC	100,000a	100,000a	100,000a	0.062 J	ND	ND	ND	400	43 J
Azobenzene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Benzo-a-Anthracene	SVOC	1,000c	1,000f	1,000f	0.022 J	0.12	ND	0.11	990	150
Benzo-a-Pyrene	SVOC	1,000c	1,000f	1,000f	ND	0.14	ND	0.1 J	830	180
Benzo-b-Fluoranthene	SVOC	1,000c	1,000f	1,000f	ND	0.16	ND	0.16	1,200	240
Benzo-k-Fluoranthene	SVOC	800c	1,000	3,900	ND	0.064 J	ND	0.052 J	360	71 J
Benzo-g,h,i-Perylene	SVOC	100,000	100,000a	100,000a	ND	0.11 J	ND	0.086 J	560	120 J
Benzoic Acid	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Benzyl Alcohol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Biphenyl	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Bis(2-Chloroethyl)ether	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Bis(2-chloroethoxy)methane	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Bis(2-Chloroisopropyl)ether	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Bis(2-Ethylhexyl)Phthalate	SVOC	-	50,000	-	ND	ND	ND	0.76	ND	82 J
Butylbenzylphthalate	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
Carbazole	SVOC	-	-	-	ND	ND	ND	ND	160 J	ND
Chrysene	SVOC	1,000c	1,000f	3,900	0.025 J	0.16	ND	0.13	880	160
Dibenzofuran	SVOC	7,000	14,000	59,000	ND	ND	ND	ND	86 J	ND
Dibenzo-a,h-Anthracene	SVOC	330b	330e	330e	ND	0.021 J	ND	ND	160	49 J
Diethyl Phthalate	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
Di-n-Butyl Phthalate	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
Di-n-Octyl Phthalate	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
Fluoranthene	SVOC	100,000	100,000a	100,000a	0.047 J	ND	0.24 J	0.17	2,000	270
Fluorene	SVOC	30,000	100,000a	100,000a	0.24	0.18	ND	ND	170 J	ND
Hexachlorobenzene	SVOC	330	330e	1,200	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Hexachloroethane	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)Pyrene	SVOC	500c	500f	500f	ND	0.086 J	ND	0.081 J	640	160
Isophorone	SVOC	-	100,000	-	ND	ND	ND	ND	ND	ND
Naphthalene	SVOC	12,000	100,000a	100,000a	ND	ND	ND	ND	120 J	ND
Nitrobenzene	SVOC	-	3,700	15,000	ND	ND	ND	ND	ND	ND
N-Nitroso-di-n-Propylamine	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
NDPA/DPA	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
P-Chloro-M-Cresol	SVOC	-	-	-	ND	ND	ND	ND	ND	ND
Pentachlorophenol	SVOC	800b	2,400	6,700	ND	ND	ND	ND	ND	ND
Phenanthrene	SVOC	100,000	100,000a	100,000a	0.53	0.097 J	ND	0.074 J	1,400	92 J
Phenol	SVOC	330b	100,000a	100,000a	ND	ND	ND	ND	ND	ND
Pyrene	SVOC	100,000	100,000a	100,000a	0.11	0.17	0.22 J	0.16	1,700	240

Notes:

Sample Depth = feet below existing grade

"-" No Guidance or Cleanup Objectives

J - Laboratory Estimated Value

ug/kg = micrograms per kilogram (ppb) ND - Non Detect NA- Not Analyzed for Parameter

Parameter Name	Parameter ID	NYCRR 375 Unrestricted Use	NYCRR 375 Residential	NYCRR 375 Restricted- Residential	SW-1	SW-2	PIT EP
Sample Depth (feet below existing grade)					~	~	~
Lab ID Date					L1512907-01	L1512907-02	L1521851 9/3/2015
					0/10/2015	0/10/2013	5/5/2015
	0.000	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
1,2-Dichlorobenzene	SVOC	-	-	-	ND	ND	ND
1,3-Dichlorobenzene	SVOC	-	-	-	ND	ND	ND
1,2,4-Trichlorobenzene	SVOC	-	-	-	ND	ND	ND
1,2,4,5-Tetrachlorobenzene	SVOC	-	-	-	ND	ND	ND
2,4,5-Trichlorophenol	SVOC	-	100,000	-	ND	ND	ND
2,4,6-Trichlorophenol	SVOC	-	-	-	ND	ND	ND
2,4-Dichlorophenol	SVOC	-	100,000	-	ND	ND	ND
2,4-Dimethylphenol	SVOC	-	-	-	ND	ND	ND
2,4-Dinitrophenol	SVOC	-	100,000	-			ND
2.6-Dinitrotoluene	SVOC		1.030		ND	ND	ND
2-Chloronaphthalene	SVOC	-	-	-	ND	ND	ND
2-Chlorophenol	SVOC	-	100,000	-	ND	ND	ND
2-Methylnaphthalene	SVOC	-	-	-	180 J	150 J	83 J
2-Methylphenol	SVOC	330b	100,000a	100,000a	ND	ND	ND
2-Nitroaniline	SVOC	-	-	-	ND	ND	ND
2-Nitrophenol	SVOC	-	-	-	ND	ND	ND
3+4 Methylphenol	SVOC	-	-	-	ND	ND	ND
3,3-Dichlorobenzidine	SVOC	-	-	-	ND	ND	ND
3-Nitroaniline	SVOC	-	-	-	ND	ND	ND
4,6-Dinitro-o-cresol	SVOC	-	-	-			ND
4-Chloroaniline	SVOC	-	100.000	-	ND	ND	ND
4-Chlorophenyl phenyl ether	SVOC	-	-	-	ND	ND	ND
4-Nitroaniline	SVOC	-	-	-	ND	ND	ND
4-Nitrophenol	SVOC	-	-	-	ND	ND	ND
Acenaphthene	SVOC	20,000	100,000a	100,000a	300	210	ND
Acenaphthylene	SVOC	100,000a	100,000a	100,000a	290	ND	ND
Acetophenone	SVOC	-	-	-	ND	ND	ND
Anthracene	SVOC	100,000a	100,000a	100,000a	980	530	51 J
Azobenzene	SVOC	-	- 1.000f	-	ND	ND	ND
Benzo-a-Anthracene	SVOC	1,0000	1,000f	1,000f	2,400	1,600	140
Benzo-b-Fluoranthene	SVOC	1,000c	1,000f	1,000f	3.000	2,100	180
Benzo-k-Fluoranthene	SVOC	800c	1,000	3,900	1,700	880	67 J
Benzo-g,h,i-Perylene	SVOC	100,000	100,000a	100,000a	2,000	1,100	98 J
Benzoic Acid	SVOC	-	-	-	ND	ND	ND
Benzyl Alcohol	SVOC	-	-	-	ND	ND	ND
Biphenyl	SVOC	-	-	-	ND	ND	ND
Bis(2-Chloroethyl)ether	SVOC	-	-	-	ND	ND	ND
Bis(2-chloroethoxy)methane	SVOC	-	-	-	ND	ND	ND
Bis(2-Chioroisopropyi)ether	SVOC	-	-	-			ND
Butylbenzylphthalate	SVOC	-	100.000	-	ND	ND	ND
Carbazole	SVOC	-	-	-	ND	ND	ND
Chrysene	SVOC	1,000c	1,000f	3,900	2,800	1,800	180 J
Dibenzofuran	SVOC	7,000	14,000	59,000	200	160 J	ND
Dibenzo-a,h-Anthracene	SVOC	330b	330e	330e	770	240	ND
Diethyl Phthalate	SVOC	-	100,000	-	ND	ND	ND
Dimethyl Phthalate	SVOC	-	100,000	-	ND	ND	ND
Di-n-Butyl Phthalate	SVOC	-	100,000	-	ND	ND	ND
DI-n-Octyl Phthalate	SVOC	-	100,000	-	ND 5 100	ND 2.600	ND 280
Fluorene	SVOC	30,000	100,000a	100,000a	5,100 ND	3,000 ND	58 1
Hexachlorobenzene	SVOC	330	330e	1.200	ND	ND	ND
Hexachlorobutadiene	SVOC	-	-	-	ND	ND	ND
Hexachlorocyclopentadiene	SVOC	-	-	-	ND	ND	ND
Hexachloroethane	SVOC	-	-	-	ND	ND	ND
Indeno(1,2,3-cd)Pyrene	SVOC	500c	500f	500f	1,700	1,200	100 J
Isophorone	SVOC	-	100,000	-	ND	ND	ND
Naphthalene	SVOC	12,000	100,000a	100,000a	260	180 J	84 J
Nitrobenzene	SVOC	-	3,700	15,000	ND	ND	ND
	SVOC	-	-	-			ND
P-Chloro-M-Cresol	SVOC	-	-	-			ND
Pentachlorophenol	SVOC	800b	2,400	6,700	ND	ND	ND
Phenanthrene	SVOC	100,000	100,000a	100,000a	3,000	2,100	210
Phenol	SVOC	330b	100,000a	100,000a	ND	ND	ND
Pyrene	SVOC	100,000	100,000a	100,000a	4,900	3,600	240

Notes:

Sample Depth = feet below existing grade

"-" No Guidance or Cleanup Objectives

J - Laboratory Estimated Value

ug/kg = micrograms per kilogram (ppb) ND - Non Detect NA- Not Analyzed for Parameter

Table 3

Detected Concentrations in End Point Samples

Total Metals

5-27 Kensington Road, Bronxville, New York

Parameter Name	Parameter ID	NYCRR 375 Unrestricted Use	NYCRR 375 Residential	NYCRR 375 Restricted- Residential	EP-1	EP-1	EP-1	EP-1	EP-1	EP-2	EP-2	EP-3	EP-3	EP-3
Sample Depth (feet below	v existing gra	ade)			0-2	2-4	4-6	6-9	9-12	0-2	2-5	0-2	2-4	4-6
Lab ID					L1512202-01	L1512202-02	L1512202-03	L1512202-04	L1512202-05	L1512202-06	L1512202-07	L1512202-08	L1512202-09	L1512202-10
Date					6/2/2015	6/2/2015	6/2/2015	6/2/2015	6/2/2015	6/2/2015	6/2/2015	6/2/2015	6/2/2015	6/2/2015
			•											
Unit		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum, Al	METAL	-	-	-	20,000	14,000	11,000	7,900	14,000	12,000	9,900	9,200	13,000	6,100
Antimony, Sb	METAL	-	-	-	1.4 J	ND								
Arsenic, As	METAL	13	16	16	2.3	ND	ND	ND	ND	ND	2.2	0.41 J	0.16 J	0.26 J
Barium, Ba	METAL	350c	350f	400	180	110	86	64	180	75	75	63	100	45
Beryllium, Be	METAL	7.2	14	72	0.29 J	0.31 J	0.13 J	ND	0.29 J	ND	ND	0.46	0.28 J	0.16 J
Cadmium, Cd	METAL	2.5	2.5	4.3	0.26 J	ND								
Calcium, Ca	METAL	-	-	-	42,000	2,100	1,500	1,300	1,600	900	1,400	1,800	1,600	770
Chromium, Cr	METAL	-	-	110	64	42	23	16	41	18	29	24	51	12
Cobalt, Co	METAL	-	30	-	12	12	8.4	8.0	13	8.7	8.2	16	12	5.8
Copper, Cu	METAL	50	270	270	54	64	35	30	51	23	26	30	34	16
Iron, Fe	METAL	-	2,000	-	31,000	26,000	19,000	18,000	26,000	22,000	21,000	30,000	27,000	12,000
Lead, Pb	METAL	63c	400	400	33	8.2	5.9	3.0 J	8.0	5.8	4.8	5.2	6.4	2.9 J
Magnesium, Mg	METAL	-	-	NA	17,000	6,300	5,600	3,000	6,700	5,300	4,700	3,500	6,000	2,600
Manganese, Mn	METAL	1,600	2,000	2,000	500	440	350	210	770	400	260	670	480	250
Mercury, Hg	METAL	0.18	0.81	0.81	0.65	0.24	0.02 J	0.68	0.18	ND	0.35	ND	ND	ND
Nickel, Ni	METAL	30	140	310	52	38	55	94	64	23	33	19	24	15
Potassium, K	METAL	-	-	-	6,200	4,200	4,000	2,500	4,300	2,800	2,800	1,900	3,600	1,700
Selenium, Se	METAL	3.9	36	180	ND	ND	ND	ND	ND	ND	0.44 J	ND	ND	ND
Silver, Ag	METAL	2	36	180	0.39 J	ND								
Sodium, Na	METAL	-	-	-	1,200	380	220	180	370	320	260	260	520	260
Thallium, Ti	METAL	-	-	-	ND									
Vanadium, V	METAL	-	100	-	110	49	81	140	57	200	200	32	39	13
Zinc, Zn	METAL	109	2,200	10,000	120	66	46	51	68	46	50	50	55	26

Notes:

Sample Depth = feet below existing grade

"-" No Guidance or Cleanup Objectives

J - Laboratory Estimated Value

mg/kg = milligrams per kilogram (ppm) ND - Non Detect

NA- Not Analyzed for Parameter

Table 3 Detected Concentrations in End Point Soil Samples - Priority Pollutant Metals 5-27 Kensington Road, Bronxville, New York

Parameter Name	Parameter ID	NYCRR 375 Unrestricted Use	NYCRR 375 Residential	NYCRR 375 Restricted- Residential	EP-3	EP-3	EP-4	EP-4	EP-4	EP-5	EP-5	EP-6	EP-6	EP-7
Sample Depth (feet below	v existing gra	ide)			6-8	8-11	0-2	2-4	4-6.5	0-3	3-7	0-3	3-6	0-3.5
Lab ID					L1512202-11	L1512202-12	L1512202-13	L1512202-14	L1512202-15	L1516263-01	L1516263-02	L1516263-03	L1516263-04	L1516263-05
Date					6/2/2015	6/2/2015	6/2/2015	6/2/2015	6/2/2015	7/14/2015	7/14/2015	7/14/2015	7/14/2015	7/14/2015
Unit		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum, Al	METAL	-	-	-	8,200	10,000	10,000	15,000	12,000	6,800	8,500	8,900	7,500	12,000
Antimony, Sb	METAL	-	-	-	ND	ND	ND	ND	ND	0.65 J	ND	ND	ND	ND
Arsenic, As	METAL	13	16	16	0.76 J	8.9	1.2	1.2	1.1	2.10	3.30	2.20	2.4	6.3
Barium, Ba	METAL	350c	350f	400	67	100	85	95	100	41	120	48	52	110
Beryllium, Be	METAL	7.2	14	72	0.21 J	0.40 J	0.25 J	0.38 J	0.32 J	0.16 J	0.18 J	0.22 J	0.20 J	0.38 J
Cadmium, Cd	METAL	2.5	2.5	4.3	ND	0.10 J								
Calcium, Ca	METAL	-	-	-	970	3,900	1,100	1,800	1,500	1,000	2,000	1,000	1,200	6,400
Chromium, Cr	METAL	-	-	110	16	25	15	20	19	15	12	14	23	20
Cobalt, Co	METAL	-	30	-	8.7	21	8.1	12	11	5	6.1	6.4	5	7.1
Copper, Cu	METAL	50	270	270	21	30	23	42	49	14	36	12	16	39
Iron, Fe	METAL	-	2,000	-	18,000	34,000	19,000	26,000	25,000	11,000	15,000	14,000	13,000	20,000
Lead, Pb	METAL	63c	400	400	3.0	5.3	5.5	4.1	8.2	ND	ND	ND	ND	130
Magnesium, Mg	METAL	-	-	NA	3,200	5,500	5,100	7,700	5,600	3,400	4,300	3,800	3,700	4,500
Manganese, Mn	METAL	1,600	2,000	2,000	120	1,000	560	460	530	210	340	260	240	380
Mercury, Hg	METAL	0.18	0.81	0.81	ND	0.03 J	ND	ND	ND	ND	0.01 J	0.32	ND	0
Nickel, Ni	METAL	30	140	310	17	33	18	23	23	12	21	12	13	14
Potassium, K	METAL	-	-	-	2,600	3,400	2,800	3,100	3,000	1,600	2,800	2,000	1,900	1,500
Selenium, Se	METAL	3.9	36	180	ND	0.88 J	ND							
Silver, Ag	METAL	2	36	180	ND									
Sodium, Na	METAL	-	-	-	350	360	100	150 J	110 J	80 J	84 J	220	240	490
Thallium, Ti	METAL	-	-	-	ND									
Vanadium, V	METAL	-	100	-	21	26	22	33	25	21	26	20	19	27
Zinc, Zn	METAL	109	2,200	10,000	33	57	47	61	52	36	50	35	29	130

Notes:

Sample Depth = feet below existing grade

"-" No Guidance or Cleanup Objectives

J - Laboratory Estimated Value

mg/kg = milligrams per kilogram (ppm) ND - Non Detect NA- Not Analyzed for Parameter

NYCRR 375-6 Remedial Program Soil Cleanup Objectives - Unrestricted Use

NYCRR 375-6 Remedial Program Soil Cleanup Objectives - Residential Use NYCRR 375-6 Remedial Program Soil Cleanup Objectives - Residential

Parameter Name	Parameter ID	NYCRR 375 Unrestricted Use	NYCRR 375 Residential	NYCRR 375 Restricted- Residential	EP-7	EP-8	EP-9	EP-9	EP-10	EP-10	EP-10	EP-11	EP-11	EP-11
Sample Depth (feet below	v existing gra	ade)			3.5-7	0-2	0-4	4-8	0-2	2-4	4-7	0-2	2-4	4-6
Lab ID					L1516263-06	L1516263-07	L1522496-01	L1522496-02	L1618276-01	L1618276-02	L1618276-03	L1618276-04	L1618276-05	L1618276-06
Date					7/14/2015	7/14/2015	9/10/2015	9/10/2015	6/14/2016	6/14/2016	6/14/2016	6/14/2016	6/14/2016	6/14/2016
Unit		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum, Al	METAL	-	-	-	8,800	15,000	6,600	5,700	4,500	5,100	5,500	4500	5,700	6,100
Antimony, Sb	METAL	-	-	-	ND	ND	ND	ND	3.90	4.10	4.10	4.2	4.00	4.30
Arsenic, As	METAL	13	16	16	2.3	4.8	1.7	0.79 J	2.4	1.2	2.2	1.6	1.2	2
Barium, Ba	METAL	350c	350f	400	60	190	35	40	42	42	78	31	36	53
Beryllium, Be	METAL	7.2	14	72	0.17 J	ND	0.16 J	0.15 J	0.1 J	0.13 J	0.13 J	0.12 J	0.14 J	0.13 J
Cadmium, Cd	METAL	2.5	2.5	4.3	ND	ND	ND	ND	0.78	0.82	0.83	0.84	0.81	0.86
Calcium, Ca	METAL	-	-	-	1,000	4,000	660	1,000	660	480	2,000	1400	600	1,800
Chromium, Cr	METAL	-	-	110	16	73	12	17	7.8	9.2	11	11	12	17
Cobalt, Co	METAL	-	30	-	6.9	12	4	4	4	4	4	4.8	5	5
Copper, Cu	METAL	50	270	270	17	47	13	18	11	14	16	11	15	14
Iron, Fe	METAL	-	2,000	-	15,000	26,000	10,000	11,000	8,000	9,800	9,500	9200	11,000	12,000
Lead, Pb	METAL	63c	400	400	ND	ND	0.67 J	ND	4.8	4.1	30	2.3 J	4	11
Magnesium, Mg	METAL	-	-	NA	3,700	9,500	2,700	1,900	2,000	2,200	2,400	1900	2,500	3,200
Manganese, Mn	METAL	1,600	2,000	2,000	380	340	120	66	190	200	230	150	110	300
Mercury, Hg	METAL	0.18	0.81	0.81	ND	0.09	ND	ND	0.04 J	0.07	0.04 J	0.02 J	0.07	0.03 J
Nickel, Ni	METAL	30	140	310	16	46	17	27	8.9	10	11	9.8	12	15
Potassium, K	METAL	-	-	-	2,300	9,400	1,400	1,400	1,000	1,400	1,300	1100	1,500	1,800
Selenium, Se	METAL	3.9	36	180	ND	ND	Nd	0.36 J	1.6	1.6	1.6	1.7	1.6	1.7
Silver, Ag	METAL	2	36	180	ND	ND	ND	ND	0.78	0.82	0.83	0.84	0.81	0.86
Sodium, Na	METAL	-	-	-	330	430	97 J	100	120 J	140 J	160	110 J	140 J	140 J
Thallium, Ti	METAL	-	-	-	ND	ND	ND	ND	1.60	1.60	1.60	1.7	1.60	1.70
Vanadium, V	METAL	-	100	-	20	54	14	21	10	12	12	11	15	18
Zinc, Zn	METAL	109	2,200	10,000	40	76	26	21	23	20	49	23	26	35

Notes:

Sample Depth = feet below existing grade

"-" No Guidance or Cleanup Objectives

J - Laboratory Estimated Value

mg/kg = milligrams per kilogram (ppm) ND - Non Detect

NA- Not Analyzed for Parameter

Parameter Name	Parameter ID	NYCRR 375 Unrestricted Use	NYCRR 375 Residential	NYCRR 375 Restricted- Residential	EP-11	EP-11	EP-12	EP-12	EP-13	EP-14	EP-15	EP-16	EP-17	EP-18
Sample Depth (feet below	w existing gra	ade)			6-8	8-11	0-2	2-5	0-3	0-3	0-2	0-4	0-2	0-2
Lab ID					L1618276-07	L1618276-08	L1618276-09	L1618276-10	L1618276-17	L1618276-11	L1618276-12	L1618276-13	L1625871-01	L1625871-02
Date					6/14/2016	6/14/2016	6/14/2016	6/14/2016	6/14/2016	6/14/2016	6/14/2016	6/14/2016	8/17/2016	8/17/2016
Unit		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum, Al	METAL	-	-	-	4,500	4,700	7,200	4,300	6,300	8,300	7,700	9,200	NA	NA
Antimony, Sb	METAL	-	-	-	4.10	4.10	4.20	4.60	4.20	4.40	4.40	4.30	NA	NA
Arsenic, As	METAL	13	16	16	1.5	1.8	1.8	1.1	3	2.6	7.1	3.5	4.7	4
Barium, Ba	METAL	350c	350f	400	31	35	48	23	52	77	93	100	NA	NA
Beryllium, Be	METAL	7.2	14	72	0.14	0.12 J	0.15 J	0.14 J	0.1 J	0.2 J	0.21 J	0.43	0.12 J	0.14 J
Cadmium, Cd	METAL	2.5	2.5	4.3	0.82	0.81	0.83	0.91	0.84	0.87	0.87	0.85	0.27 J	NA
Calcium, Ca	METAL	-	-	-	830	910	1,800	610	1,600	2,200	29,000	5,600	NA	NA
Chromium, Cr	METAL	-	-	110	10	12	13	7.6	10	18	21	37	21	20
Cobalt, Co	METAL	-	30	-	4	5	5	4	5	7	6	8	NA	NA
Copper, Cu	METAL	50	270	270	12	12	14	9.4	18	20	32	26	37	31
Iron, Fe	METAL	-	2,000	-	9,100	9,200	11,000	7,600	11,000	13,000	23,000	17,000	NA	NA
Lead, Pb	METAL	63c	400	400	7	1.6 J	13	4.6	4.2	17	95	20	40	24
Magnesium, Mg	METAL	-	-	NA	2,000	2,100	3,200	1,700	2,800	3,600	11,000	5,300	NA	NA
Manganese, Mn	METAL	1,600	2,000	2,000	170	200	220	130	99	790	200	210	NA	NA
Mercury, Hg	METAL	0.18	0.81	0.81	0.07	0.07	0.03 J	0.07	0.01 J	0.02 J	0.14	0.09	0.29	0.03 J
Nickel, Ni	METAL	30	140	310	10	11	12	8.5	7.3	16	14	23	17	14
Potassium, K	METAL	-	-	-	1,000	1,300	1,800	980	2,500	1,600	2,800	4,700	NA	NA
Selenium, Se	METAL	3.9	36	180	1.6	1.6	1.7	1.8	1.7	1.7	1.7	1.7	NA	NA
Silver, Ag	METAL	2	36	180	0.82	0.81	0.83	0.91	0.84	0.87	0.87	0.85	NA	NA
Sodium, Na	METAL	-	-	-	94	110 J	170	99 J	140 J	260	310	200	NA	NA
Thallium, Ti	METAL	-	-	-	1.60	1.60	1.70	1.80	1.70	1.70	1.70	1.70	NA	NA
Vanadium, V	METAL	-	100	-	11	12	17	9	21	19	33	29	NA	NA
Zinc, Zn	METAL	109	2,200	10,000	27	24	39	19	17	47	88	58	60	47

Notes:

Sample Depth = feet below existing grade

"-" No Guidance or Cleanup Objectives

J - Laboratory Estimated Value

mg/kg = milligrams per kilogram (ppm) ND - Non Detect

NA- Not Analyzed for Parameter

Parameter Name	Parameter ID	NYCRR 375 Unrestricted Use	NYCRR 375 Residential	NYCRR 375 Restricted- Residential	SW-1	SW-2	PIT EP
Sample Depth (feet belo	w existing gra	ide)			2	~	~
Lab ID					L1512907-01	L1512907-02	L1521851
Date					6/10/2015	6/10/2015	9/3/2015
Unit		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum, Al	METAL	-	-	-	12,000	11,000	12,000
Antimony, Sb	METAL	-	-	-	40.00	ND	ND
Arsenic, As	METAL	13	16	16	6.4	5.8	59
Barium, Ba	METAL	350c	350f	400	160	150	260
Beryllium, Be	METAL	7.2	14	72	ND	ND	ND
Cadmium, Cd	METAL	2.5	2.5	4.3	1.3	2.4	ND
Calcium, Ca	METAL	-	-	-	17,000	23,000	7,000
Chromium, Cr	METAL	-	-	110	51	42	100
Cobalt, Co	METAL	-	30	-	9	8	7
Copper, Cu	METAL	50	270	270	99	92	46
Iron, Fe	METAL	-	2,000	-	19,000	18,000	61,000
Lead, Pb	METAL	63c	400	400	110	81	ND
Magnesium, Mg	METAL	-	-	NA	6,500	6,500	8,700
Manganese, Mn	METAL	1,600	2,000	2,000	300	280	180
Mercury, Hg	METAL	0.18	0.81	0.81	1.7	1.4	0.92
Nickel, Ni	METAL	30	140	310	41	37	54
Potassium, K	METAL	-	-	-	4,400	3,600	8,500
Selenium, Se	METAL	3.9	36	180	0.30 J	0.31 J	0.54
Silver, Ag	METAL	2	36	180	ND	ND	ND
Sodium, Na	METAL	-	-	-	250	300	500
Thallium, Ti	METAL	-	-	-	ND	ND	ND
Vanadium, V	METAL	-	100	-	140	150	63
Zinc, Zn	METAL	109	2,200	10,000	220	230	45

Notes:

Sample Depth = feet below existing grade

"-" No Guidance or Cleanup Objectives

J - Laboratory Estimated Value

mg/kg = milligrams per kilogram (ppm)

ND - Non Detect

NA- Not Analyzed for Parameter

Table 4

Detected Concentrations in End Point Samples

Total PCBs

5-27 Kensington Road, Bronxville, New York

Table 4
Detected Concentrations in End Point Soil Samples - PCBs
5-27 Kensington Road, Bronxville, New York

Parameter Name	Parameter ID	NYCRR 375 Unrestricted Use	NYCRR 375 Residential	NYCRR 375 Restricted- Residential	EP-1	EP-1	EP-1	EP-1	EP-1	EP-2	EP-2	EP-3	EP-3	EP-3
Sample Depth					0-2	2-4	4-6	6-9	9-12	0-2	2-5	0-2	2-4	4-6
Lab ID					L1512202-01	L1512202-02	L1512202-03	L1512202-04	L1512202-05	L1512202-06	L1512202-07	L1512202-08	L1512202-09	L1512202-10
Date					6/2/2015	6/2/2015	6/2/2015	6/2/2015	6/2/2015	6/2/2015	6/2/2015	6/2/2015	6/2/2015	6/2/2015
Unit		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Aroclor 1016	PCB	100	1,000	1,000	ND									
Aroclor 1221	PCB	100	1,000	1,000	ND									
Aroclor 1232	PCB	100	1,000	1,000	ND									
Aroclor 1242	PCB	100	1,000	1,000	ND									
Aroclor 1248	PCB	100	1,000	1,000	ND									
Aroclor 1254	PCB	100	1,000	1,000	ND									
Aroclor 1260	PCB	100	1,000	1,000	ND									
Aroclor 1262	PCB	100	1,000	1,000	ND									
Aroclor 1268	PCB	100	1,000	1,000	ND									

Sample Depth = feet below existing grade

"-" No Guidance or Cleanup Objectives

J - Laboratory Estimated Value

ug/kg = micrograms per kilogram (ppb) ND - Non Detect NA- Not Analyzed for Parameter

Table 4
Detected Concentrations in End Point Soil Samples - PCBs
5-27 Kensington Road, Bronxville, New York

Parameter Name	Parameter ID	NYCRR 375 Unrestricted Use	NYCRR 375 Residential	NYCRR 375 Restricted- Residential	EP-3	EP-3	EP-4	EP-4	EP-4	EP-5	EP-5	EP-6	EP-6	EP-7
Sample Depth					6-8	8-11	0-2	2-4	4-6.5	0-3	3-7	0-3	3-6	0-3.5
Lab ID					L1512202-11	L1512202-12	L1512202-13	L1512202-14	L1512202-15	L1516263-01	L1516263-02	L1516263-03	L1516263-04	L1516263-05
Date					6/2/2015	6/2/2015	6/2/2015	6/2/2015	6/2/2015	7/14/2015	7/14/2015	7/14/2015	7/14/2015	7/14/2015
Unit		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Aroclor 1016	PCB	100	1,000	1,000	ND									
Aroclor 1221	PCB	100	1,000	1,000	ND									
Aroclor 1232	PCB	100	1,000	1,000	ND									
Aroclor 1242	PCB	100	1,000	1,000	ND									
Aroclor 1248	PCB	100	1,000	1,000	ND									
Aroclor 1254	PCB	100	1,000	1,000	ND									
Aroclor 1260	PCB	100	1,000	1,000	ND									
Aroclor 1262	PCB	100	1,000	1,000	ND									
Aroclor 1268	PCB	100	1,000	1,000	ND									

Sample Depth = feet below existing grade

"-" No Guidance or Cleanup Objectives

J - Laboratory Estimated Value

ug/kg = micrograms per kilogram (ppb) ND - Non Detect NA- Not Analyzed for Parameter

Table 4
Detected Concentrations in End Point Soil Samples - PCBs
5-27 Kensington Road, Bronxville, New York

Parameter Name	Parameter ID	NYCRR 375 Unrestricted Use	NYCRR 375 Residential	NYCRR 375 Restricted- Residential	EP-7	EP-8	EP-9	EP-9	EP-10	EP-10	EP-10	EP-11	EP-11	EP-11
Sample Depth					3.5-7	0-2	0-4	4-8	0-2	2-4	4-7	0-2	2-4	4-6
Lab ID					L1516263-06	L1516263-07	L1522496-01	L1522496-02	L1618276-01	L1618276-02	L1618276-03	L1618276-04	L1618276-05	L1618276-06
Date					7/14/2015	7/14/2015	9/10/2015	9/10/2015	42535	42535	42535	42535	42535	42535
					•									
Unit		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Aroclor 1016	PCB	100	1,000	1,000	ND									
Aroclor 1221	PCB	100	1,000	1,000	ND									
Aroclor 1232	PCB	100	1,000	1,000	ND									
Aroclor 1242	PCB	100	1,000	1,000	ND									
Aroclor 1248	PCB	100	1,000	1,000	ND									
Aroclor 1254	PCB	100	1,000	1,000	ND	0.00644 J								
Aroclor 1260	PCB	100	1,000	1,000	ND	0.003 J								
Aroclor 1262	PCB	100	1,000	1,000	ND									
Aroclor 1268	PCB	100	1,000	1,000	ND									

Sample Depth = feet below existing grade

"-" No Guidance or Cleanup Objectives

J - Laboratory Estimated Value

ug/kg = micrograms per kilogram (ppb) ND - Non Detect NA- Not Analyzed for Parameter

Table 4
Detected Concentrations in End Point Soil Samples - PCBs
5-27 Kensington Road, Bronxville, New York

Parameter Name	Parameter ID	NYCRR 375 Unrestricted Use	NYCRR 375 Residential	NYCRR 375 Restricted- Residential	EP-11	EP-11	EP-12	EP-12	EP-13	EP-14	EP-15	EP-16	EP-17	EP-18
Sample Depth					6-8	8-11	0-2	2-5	0-3	0-3	0-2	0-4	0-2	0-2
Lab ID					L1618276-07	L1618276-08	L1618276-09	L1618276-10	L1618276-17	L1618276-11	L1618276-12	L1618276-13	L1625871-01	L1625871-02
Date					42535	42535	42535	42535	42535	42535	42535	42535	8/17/2016	8/17/2016
Unit		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Aroclor 1016	PCB	100	1,000	1,000	ND									
Aroclor 1221	PCB	100	1,000	1,000	ND									
Aroclor 1232	PCB	100	1,000	1,000	ND									
Aroclor 1242	PCB	100	1,000	1,000	ND									
Aroclor 1248	PCB	100	1,000	1,000	ND									
Aroclor 1254	PCB	100	1,000	1,000	ND	ND	ND	ND	ND	0.00669 J	0.0104 J	0.00426 J	ND	ND
Aroclor 1260	PCB	100	1,000	1,000	ND	ND	ND	ND	ND	0.0049 J	0.00376 J	0.00351 J	0.0241	0.0081
Aroclor 1262	PCB	100	1,000	1,000	ND									
Aroclor 1268	PCB	100	1,000	1,000	ND									

Sample Depth = feet below existing grade

"-" No Guidance or Cleanup Objectives

J - Laboratory Estimated Value

ug/kg = micrograms per kilogram (ppb) ND - Non Detect NA- Not Analyzed for Parameter

Table 4 Detected Concentrations in End Point Soil Samples - PCBs 5-27 Kensington Road, Bronxville, New York

Parameter Name	Parameter ID	NYCRR 375 Unrestricted Use	NYCRR 375 Residential	NYCRR 375 Restricted- Residential	SW-1	SW-2	PIT EP
Sample Depth					~	~	~
Lab ID					L1512907-01	L1512907-02	L1521851
Date					6/10/2015	6/10/2015	9/3/2015
Unit		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Aroclor 1016	PCB	100	1,000	1,000	ND	ND	ND
Aroclor 1221	PCB	100	1,000	1,000	ND	ND	ND
Aroclor 1232	PCB	100	1,000	1,000	ND	ND	ND
Aroclor 1242	PCB	100	1,000	1,000	572.00	623.00	ND
Aroclor 1248	PCB	100	1,000	1,000	ND	ND	ND
Aroclor 1254	PCB	100	1,000	1,000	120.00	128.00	ND
Aroclor 1260	PCB	100	1,000	1,000	ND	ND	ND
Aroclor 1262	PCB	100	1,000	1,000	ND	ND	ND
Aroclor 1268	PCB	100	1,000	1,000	ND	ND	ND

Notes:

Sample Depth = feet below existing grade

"-" No Guidance or Cleanup Objectives

J - Laboratory Estimated Value

ug/kg = micrograms per kilogram (ppb) ND - Non Detect NA- Not Analyzed for Parameter

Table 5

NYCRR Part 375 Soil Cleanup Objectives

5-27 Kensington Road, Bronxville, New York

375-6.8

Soil cleanup objective tables. Unrestricted use soil cleanup objectives. (a)

Track 1 SCOs

Table 575-0.8(a). On estilcted Use Son Cleanup Objectives									
Contaminant	CAS Number	Unrestricted Use							
Metals									
Arsenic	7440-38-2	13 °							
Barium	7440-39-3	350 °							
Beryllium	7440-41-7	7.2							
Cadmium	7440-43-9	2.5 °							
Chromium, hexavalent °	18540-29-9	1 ^b							
Chromium, trivalent ^e	16065-83-1	30 °							
Copper	7440-50-8	50							
Total Cyanide ^{e, f}		27							
Lead	7439-92-1	63 °							
Manganese	7439-96-5	1600 °							
Total Mercury		0.18 °							
Nickel	7440-02-0	30							
Selenium	7782-49-2	3.9°							
Silver	7440-22-4	2							
Zinc	7440-66-6	109 °							
F	PCBs/Pesticides								
2,4,5-TP Acid (Silvex) ^f	93-72-1	3.8							
4,4'-DDE	72-55-9	0.0033 ^b							
4,4'-DDT	50-29-3	0.0033 ^b							
4,4'-DDD	72-54-8	0.0033 ^b							
Aldrin	309-00-2	0.005 °							
alpha-BHC	319-84-6	0.02							
beta-BHC	319-85-7	0.036							
Chlordane (alpha)	5103-71-9	0.094							

Table 375-6 8(a) Unrestricted Use Soil Cleanup Objectives

Track 1 SCOs

Contaminant	CAS Number	Unrestricted Use
delta-BHC ^g	319-86-8	0.04
Dibenzofuran ^f	132-64-9	7
Dieldrin	60-57-1	0.005 °
Endosulfan I ^{d, f}	959-98-8	2.4
Endosulfan II ^{d, f}	33213-65-9	2.4
Endosulfan sulfate ^{d, f}	1031-07-8	2.4
Endrin	72-20-8	0.014
Heptachlor	76-44-8	0.042
Lindane	58-89-9	0.1
Polychlorinated biphenyls	1336-36-3	0.1
Semivolat	tile organic compo	ounds
Acenaphthene	83-32-9	20
Acenapthylene ^f	208-96-8	100 ^a
Anthracene ^f	120-12-7	100 ^a
Benz(a)anthracene ^f	56-55-3	1°
Benzo(a)pyrene	50-32-8	1°
Benzo(b)fluoranthene ^f	205-99-2	1°
Benzo(g,h,i)perylene ^f	191-24-2	100
Benzo(k)fluoranthene ^f	207-08-9	0.8 °
Chrysene ^f	218-01-9	1°
Dibenz(a,h)anthracene ^f	53-70-3	0.33 ^b
Fluoranthene ^f	206-44-0	100 ^a
Fluorene	86-73-7	30
Indeno(1,2,3-cd)pyrene ^f	193-39-5	0.5 °
m-Cresol ^f	108-39-4	0.33 ^b
Naphthalene ^f	91-20-3	12
o-Cresol ^f	95-48-7	0.33 ^b

Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives

Track 1 SCOs

Contaminant	CAS Number	Unrestricted Use
p-Cresol ^f	106-44-5	0.33 ^b
Pentachlorophenol	87-86-5	0.8 ^b
Phenanthrene ^f	85-01-8	100
Phenol	108-95-2	0.33 ^b
Pyrene ^f	129-00-0	100
Volatile	e organic compour	nds
1,1,1-Trichloroethane ^f	71-55-6	0.68
1,1-Dichloroethane ^f	75-34-3	0.27
1,1-Dichloroethene ^f	75-35-4	0.33
1,2-Dichlorobenzene ^f	95-50-1	1.1
1,2-Dichloroethane	107-06-2	0.02 °
cis -1,2-Dichloroethene ^f	156-59-2	0.25
trans-1,2-Dichloroethene ^f	156-60-5	0.19
1,3-Dichlorobenzene ^f	541-73-1	2.4
1,4-Dichlorobenzene	106-46-7	1.8
1,4-Dioxane	123-91-1	0.1 ^b
Acetone	67-64-1	0.05
Benzene	71-43-2	0.06
n-Butylbenzene ^f	104-51-8	12
Carbon tetrachloride ^f	56-23-5	0.76
Chlorobenzene	108-90-7	1.1
Chloroform	67-66-3	0.37
Ethylbenzene ^f	100-41-4	1
Hexachlorobenzene ^f	118-74-1	0.33 ^b
Methyl ethyl ketone	78-93-3	0.12
Methyl tert-butyl ether ^f	1634-04-4	0.93
Methylene chloride	75-09-2	0.05

Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives

Track 1 SCOs

Contaminant	CAS Number	Unrestricted Use
n - Propylbenzene ^f	103-65-1	3.9
sec-Butylbenzene ^f	135-98-8	11
tert-Butylbenzene ^f	98-06-6	5.9
Tetrachloroethene	127-18-4	1.3
Toluene	108-88-3	0.7
Trichloroethene	79-01-6	0.47
1,2,4-Trimethylbenzene ^f	95-63-6	3.6
1,3,5-Trimethylbenzene ^f	108-67-8	8.4
Vinyl chloride ^f	75-01-4	0.02
Xylene (mixed)	1330-20-7	0.26

 Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives

All soil cleanup objectives (SCOs) are in parts per million (ppm).

Footnotes

^a The SCOs for unrestricted use were capped at a maximum value of 100 ppm. See Technical Support Document (TSD), section 9.3.

^b For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value.

^c For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.

^d SCO is the sum of endosulfan I, endosulfan II and endosulfan sulfate.

^e The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.

^f Protection of ecological resources SCOs were not developed for contaminants identified in Table 375-6.8(b) with "NS". Where such contaminants appear in Table 375-6.8(a), the applicant may be required by the Department to calculate a protection of ecological resources SCO according to the TSD.

(b) Restricted use soil cleanup objectives.

	CAS		Protection of 1	Protection	Protection			
Contaminant	Number	Residential	Restricted- Residential	Commercial	Industrial	Ecological Resources	Ground- water	
Metals		Т	rack 2 SCC	S				
Arsenic	7440-38-2	16 ^f	16 ^f	16 ^f	16 ^f	13 ^f	16 ^f	
Barium	7440-39-3	350 ^f	400	400	10,000 ^d	433	820	
Beryllium	7440-41-7	14	72	590	2,700	10	47	
Cadmium	7440-43-9	2.5 ^f	4.3	9.3	60	4	7.5	
Chromium, hexavalent h	18540-29-9	22	110	400	800	1 ^e	19	
Chromium, trivalent ^h	16065-83-1	36	180	1,500	6,800	41	NS	
Copper	7440-50-8	270	270	270	10,000 ^d	50	1,720	
Total Cyanide ^h		27	27	27	10,000 ^d	NS	40	
Lead	7439-92-1	400	400	1,000	3,900	63 ^f	450	
Manganese	7439-96-5	2,000 ^f	2,000 ^f	10,000 ^d	10,000 ^d	1600 ^f	2,000 ^f	
Total Mercury		0.81 ^j	0.81 ^j	2.8 ^j	5.7 ^j	0.18 ^f	0.73	
Nickel	7440-02-0	140	310	310	10,000 ^d	30	130	
Selenium	7782-49-2	36	180	1,500	6,800	3.9 ^f	4 ^f	
Silver	7440-22-4	36	180	1,500	6,800	2	8.3	
Zinc	7440-66-6	2200	10,000 ^d	10,000 ^d	10,000 ^d	109 ^f	2,480	
PCBs/Pesticides								
2,4,5-TP Acid (Silvex)	93-72-1	58	100 ^a	500 ^b	1,000°	NS	3.8	
4,4'-DDE	72-55-9	1.8	8.9	62	120	0.0033 °	17	
4,4'-DDT	50-29-3	1.7	7.9	47	94	0.0033 ^e	136	
4,4'- DDD	72-54-8	2.6	13	92	180	0.0033 °	14	
Aldrin	309-00-2	0.019	0.097	0.68	1.4	0.14	0.19	
alpha-BHC	319-84-6	0.097	0.48	3.4	6.8	0.04 ^g	0.02	
beta-BHC	319-85-7	0.072	0.36	3	14	0.6	0.09	
Chlordane (alpha)	5103-71-9	0.91	4.2	24	47	1.3	2.9	

Table 375-6.8(b): Restricted Use Soil Cleanup Objectives

Track 2 SCOs

Table 375	-6.8(b):	Restricted	Use Soil	Cleanup	Objectives

	CAS]	Protection of]	Public Health		Protection	Protection
Contaminant	Number	Residential	Restricted- Residential	Commercial	Industrial	Ecological Resources	Ground- water
delta-BHC	319-86-8	100 ^a	100 ^a	500 ^b	1,000 ^c	0.04 ^g	0.25
Dibenzofuran	132-64-9	14	59	350	1,000 ^c	NS	210
Dieldrin	60-57-1	0.039	0.2	1.4	2.8	0.006	0.1
Endosulfan I	959-98-8	4.8 ⁱ	24 ⁱ	200 ⁱ	920 ⁱ	NS	102
Endosulfan II	33213-65-9	4.8 ⁱ	24 ⁱ	200 ⁱ	920 ⁱ	NS	102
Endosulfan sulfate	1031-07-8	4.8 ⁱ	24 ⁱ	200 ⁱ	920 ⁱ	NS	1,000°
Endrin	72-20-8	2.2	11	89	410	0.014	0.06
Heptachlor	76-44-8	0.42	2.1	15	29	0.14	0.38
Lindane	58-89-9	0.28	1.3	9.2	23	6	0.1
Polychlorinated biphenyls	1336-36-3	1	1	1	25	1	3.2
Semivolatiles							
Acenaphthene	83-32-9	100 ^a	100 ^a	500 ^b	1,000 ^c	20	98
Acenapthylene	208-96-8	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	107
Anthracene	120-12-7	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	1,000°
Benz(a)anthracene	56-55-3	1^{f}	1 ^f	5.6	11	NS	1^{f}
Benzo(a)pyrene	50-32-8	1^{f}	1 ^f	1^{f}	1.1	2.6	22
Benzo(b)fluoranthene	205-99-2	1^{f}	1 ^f	5.6	11	NS	1.7
Benzo(g,h,i)perylene	191-24-2	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	1,000°
Benzo(k)fluoranthene	207-08-9	1	3.9	56	110	NS	1.7
Chrysene	218-01-9	1^{f}	3.9	56	110	NS	1^{f}
Dibenz(a,h)anthracene	53-70-3	0.33 ^e	0.33 ^e	0.56	1.1	NS	1,000°
Fluoranthene	206-44-0	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	1,000°
Fluorene	86-73-7	100ª	100 ^a	500 ^b	1,000 ^c	30	386
Indeno(1,2,3-cd)pyrene	193-39-5	0.5^{f}	0.5^{f}	5.6	11	NS	8.2
m-Cresol	108-39-4	100 ^a	100 ^a	500 ^b	1,000°	NS	0.33 ^e
Naphthalene	91-20-3	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	12

Track 2 SCOs

Table	375-6.8(b):	Restricted	Use Soil	Cleanup	Objectives

	CAS	1	Protection of]	Protection	Protection		
Contaminant	Number	Residential	Restricted- Residential	Commercial	Industrial	Ecological Resources	Ground- water
o-Cresol	95-48-7	100 ^a	100 ^a	500 ^b	1,000°	NS	0.33 ^e
p-Cresol	106-44-5	34	100 ^a	500 ^b	1,000°	NS	0.33 ^e
Pentachlorophenol	87-86-5	2.4	6.7	6.7	55	0.8 ^e	0.8 ^e
Phenanthrene	85-01-8	100 ^a	100 ^a	500 ^b	1,000°	NS	1,000°
Phenol	108-95-2	100 ^a	100 ^a	500 ^b	1,000°	30	0.33 ^e
Pyrene	129-00-0	100 ^a	100 ^a	500 ^b	1,000°	NS	1,000°
Volatiles							
1,1,1-Trichloroethane	71-55-6	100 ^a	100 ^a	500 ^b	1,000°	NS	0.68
1,1-Dichloroethane	75-34-3	19	26	240	480	NS	0.27
1,1-Dichloroethene	75-35-4	100 ^a	100 ^a	500 ^b	1,000°	NS	0.33
1,2-Dichlorobenzene	95-50-1	100 ^a	100 ^a	500 ^b	1,000°	NS	1.1
1,2-Dichloroethane	107-06-2	2.3	3.1	30	60	10	0.02^{f}
cis-1,2-Dichloroethene	156-59-2	59	100 ^a	500 ^b	1,000°	NS	0.25
trans-1,2-Dichloroethene	156-60-5	100 ^a	100 ^a	500 ^b	1,000°	NS	0.19
1,3-Dichlorobenzene	541-73-1	17	49	280	560	NS	2.4
1,4-Dichlorobenzene	106-46-7	9.8	13	130	250	20	1.8
1,4-Dioxane	123-91-1	9.8	13	130	250	0.1 ^e	0.1 ^e
Acetone	67-64-1	100 ^a	100 ^b	500 ^b	1,000°	2.2	0.05
Benzene	71-43-2	2.9	4.8	44	89	70	0.06
Butylbenzene	104-51-8	100 ^a	100 ^a	500 ^b	1,000°	NS	12
Carbon tetrachloride	56-23-5	1.4	2.4	22	44	NS	0.76
Chlorobenzene	108-90-7	100 ^a	100 ^a	500 ^b	1,000°	40	1.1
Chloroform	67-66-3	10	49	350	700	12	0.37
Ethylbenzene	100-41-4	30	41	390	780	NS	1
Hexachlorobenzene	118-74-1	0.33 ^e	1.2	6	12	NS	3.2
Methyl ethyl ketone	78-93-3	100 ^a	100 ^a	500 ^b	1,000 ^c	100 ^a	0.12

Track 2 SCOs

Contaminant	CAS Number	Protection of Public Health				Protection of	Protection of
		Residential	Restricted- Residential	Commercial	Industrial	Ecological Resources	Ground- water
Methyl tert-butyl ether	1634-04-4	62	100 ^a	500 ^b	1,000 ^c	NS	0.93
Methylene chloride	75-09-2	51	100 ^a	500 ^b	1,000 ^c	12	0.05
n-Propylbenzene	103-65-1	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	3.9
sec-Butylbenzene	135-98-8	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	11
tert-Butylbenzene	98-06-6	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	5.9
Tetrachloroethene	127-18-4	5.5	19	150	300	2	1.3
Toluene	108-88-3	100 ^a	100 ^a	500 ^b	1,000 ^c	36	0.7
Trichloroethene	79-01-6	10	21	200	400	2	0.47
1,2,4-Trimethylbenzene	95-63-6	47	52	190	380	NS	3.6
1,3,5- Trimethylbenzene	108-67-8	47	52	190	380	NS	8.4
Vinyl chloride	75-01-4	0.21	0.9	13	27	NS	0.02
Xylene (mixed)	1330-20-7	100 ^a	100 ^a	500 ^b	1,000 ^c	0.26	1.6

Table 375-6.8(b): Restricted Use Soil Cleanup Objectives

All soil cleanup objectives (SCOs) are in parts per million (ppm).

NS=Not specified. See Technical Support Document (TSD).

Footnotes

^a The SCOs for residential, restricted-residential and ecological resources use were capped at a maximum value of 100 ppm. See TSD section 9.3.

^b The SCOs for commercial use were capped at a maximum value of 500 ppm. See TSD section 9.3.

^c The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 ppm. See TSD section 9.3.

^d The SCOs for metals were capped at a maximum value of 10,000 ppm. See TSD section 9.3.

^e For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the SCO value.

^f For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.

^g This SCO is derived from data on mixed isomers of BHC.

^h The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.

ⁱ This SCO is for the sum of endosulfan I, endosulfan II, and endosulfan sulfate.

^j This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts). See TSD Table 5.6-1.

375-6.9 Development or modification of soil cleanup objectives.

(a) Applicability. This section identifies when and the procedures under which a contaminant-specific soil cleanup objective may be developed or modified.

(1) Soil cleanup objectives for contaminants not included in Tables 375-6.8(a) and (b) may be developed by the remedial party or required by the Department.

(2) Soil cleanup objectives for contaminants included in Tables 375-6.8(a) and (b), may be modified based on site-specific data if desired by the remedial party; as set forth in:

(i) subpart 375-3 for Tracks 3 or 4, as set forth in paragraphs 375-3.8(e)(3) or (4), respectively; or

(ii) subparts 375-2 and 375-4, as set forth in subparagraph 375-2.8(b)(1)(iii) and subparagraph 375-4.8(c)(1)(iii).

(3) Protection of ecological resources soil cleanup objectives were not developed for certain contaminants, which are identified in Table 375-6.8(b) as "NS". Where such contaminants:

(i) appear in Table 375-6.8(a), the applicant may be required by the Department to calculate a protection of ecological resources soil cleanup objective for the contaminant for use in Track 1 and apply such soil cleanup objective where it is lower than the soil cleanup objective set forth in Table 375-6.8(a); or

(ii) are identified as impacting or threatening an ecological resource for a restricted use remedial program the Department may require a protection of ecological resources soil cleanup objective be developed.

(b) New soil cleanup objectives must:

(1) Be developed utilizing the same methodologies that were used by the Department to develop the respective soil cleanup objective, as provided in the Technical Support Document.

(2) Apply the following caps, as set forth in section 9.3 of the Technical Support Document, on any soil cleanup objective included in Tables 375-6.8(a) and (b), with the exception of metals, as set forth in paragraph (3) below, developed for:

(i) unrestricted use, residential use, restricted-residential use and the protection of ecological resources, a maximum value of 100 ppm;

(ii) commercial use, a maximum value of 500 ppm; and

(iii) industrial use and the protection of groundwater a maximum value of 1000 ppm,

and

(3) Apply a cap for metals at a maximum value of 10,000 ppm.

(c) Development of unrestricted use soil cleanup objectives. The unrestricted use soil cleanup objective for a compound will be the lowest of the soil cleanup values, calculated as set forth in appendix E of the Technical Support Document, for the protection of groundwater, protection of ecological resources and protection of public health.

(d) Development of restricted use soil cleanup objectives. The protection of:

(1) Groundwater soil cleanup objective will be the values calculated for the protection of groundwater as set forth in appendix E of the Technical Support Document;

(2) Ecological resources soil cleanup objectives will be the values calculated for the protection of ecological resources as set forth in appendix E of the Technical Support Document; and

(3) Public health cleanup objective will be the values calculated for the protection of public health for the identified use of the site, as set forth in appendix E of the Technical Support Document.

(e) Modification of soil cleanup objectives. The contaminant-specific soil cleanup objectives set forth at Tables 675-6.8(a) and $(b)^1$ may be modified by site specific data as set forth in this subdivision.

¹ Original should read "Tables 375-6.8(a) and (b)"
FIGURES

Site Location Map



Site Layout Map



Geologic Cross Section



Foundation Backfill Plan



Endpoint Sampling Location Map



Institutional Control Boundaries

Legend

This property is subject to an
Environmental Easement held by the New
York State Department of Environmental
Conservation pursuant to Title 36 of
Article 71 of the New York Environmental
Conservation Law.

THE ENGINEERING AND INSTITUTIONAL CONTROLS for the Easement are set forth in more detail in the Site Management Plan ("SMP"). A copy of the SMP must be obtained by any party with an interest in the property. The SMP may be obtained from New York State Department of Environmental Conservation, Division of Environmental Remediation, Site Control Section, 625 Broadway, Albany, NY 12233 or at derweb@dec.ny.gov.

b	Utility Pole	
	Catchbasin	
Ç,	Hydrant	
S	Sewer Manhole	
D	Drain Manhole	
E	Electric Manhole	
() ()	Gas Valve Water Valve	
	Drain Inlet	
Þ	Light Pole	
ۇر	Handicap Parking Space	

ENVIRONMENTAL EASEMENT AREA ACCESS THE DEC OR THEIR AGENT MAY ACCESS THE ENVIRONMENTAL EASEMENT AREA AS SHOWN HEREON THROUGH ANY EXISTING

STREET ACCESS OR BUILDING INGRESS/EGRESS ACCESS POINT.





FORMER GRAMATAN GARAGE & PARKING LOT ENVIRONMENTAL EASEMENT AREA (IN RED)
DESCRIPTION OF ENVIRONMENTAL EASEMENT #1 LOCATED IN THE VILLAGE OF
BRONXVILLE, TOWN OF EASTCHESTER, COUNTY OF WESTCHESTER, STATE OF NEW YORK
ALL that certain plot, piece or parcel of property situate, lying and being located in the Village of Bronxville, Town of Eastchester, County of Westchester, State of New York and more particularly bounded and described as follows:
Beginning at a point formed by the division line between property now or formerly Pondfield Avenue LLC, property now or formerly Gateway Kensington LLC, said point being distant 70.68 feet as measured on a course of N.76°04'30"W, from the westerly side of Kensington Road to point of BEGINNING;
thence from said point of beginning along said division line and along the herein described Environmental Easement #1, N.76°04'30"W., a distance of 29.37 feet to a point on the easterly side of property now or formerly Metro–North Railroad;
thence along said easterly side of Metro–North Railroad, N.13°54'45"E., a distance of 428.89 feet;
thence over and across property now or formerly Gateway Kensington LLC, S.82°57'03"E., a distance of 6.29 feet;
thence S.33°59'56"E., a distance of 6.28 feet;
thence S.09°59'33"E., a distance of 39.94 feet;
thence S.13°29'45"W., a distance of 37.54 feet;
thence S.15°24'34"W., a distance of 44.03 feet;
thence S.15*47'32"W., a distance of 69.40 feet;
thence S.15*40'20"W., a distance of 46.60 feet;
thence S.11°49'56"W., a distance of 24.77 feet;
thence S.11°33'22"W., a distance of 40.42 feet;
thence S.13*43'14"W., a distance of 27.84 feet;
thence S.11°27'44"W., a distance of 98.51 feet to a point on the division line between Gateway Kensington LLC and property now or formelry 1 Pondfield LLC, the point and place of BEGINNING.

BROWNFIELD CLEANUP PROGRAM SITE # C360081

Containing 10,678 square feet or 0.2451 acres, more or less.

August 29, 2016

Road

Gateway-52335-EnvEsmt1.rtf

DETAIL "B"

0.4'

POURED CONCRETE

FOUNDATION

3

0

A

`D

G=121.88 I=118.68



LEGEND

—— WPM——— = Water Paint Mark

W.V. = Water Valve

---- EPM ---- = Electric Paint Mark

July 29, 2015

GRAPHIC SCALE (IN METERS 1 :100 GRAPHIC SCALE (IN FEET) 1 inch = 30 ft.

Railroad

- SEE DETAIL "E"

Gateway-52335-EnvEsmt3.rtf

<u>SCHEDULE A DESCRIPTION</u> <u>TITLE NO. TA#03(10)1417</u>

Liber 2416 cp 437.

<u>Tax Lot 6 (Section 11, Block 5)</u>

ALL those certain lots, pieces or parcels of land, situate, lying and being in the Town of Eastchester, County of Westchester and State of New York, which said lots are known as designated as Lot numbers 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 16 on the westerly side of Gramatan Avenue (now known as Kensington Road) and shown on a certain map entitled "Map of Lawrence Park, Bronxville, New York" made by Charles A. Mapes, Surveyor dated June 1902 and now on file in the County Clerk's Office Division of Land Records, formerly Register's Office of Westchester County, EXCEPTING THEREFROM that portion of Lot 16 as shown on the above mentioned map, conveyed by deed recorded in

Premises described in deed recorded in Liber 2416 cp 437 as described as follows: ALL that certain plot, piece or parcel of land situated in the Village of Bronxville, Town of Eastchester, County of Westchester and State of New York, known and designated as the southerly portion of Lot Number sixteen (16) as shown on a certain map entitled, "Map of Lawrence Park & Associated Properties situated at Bronxville, Westchester County, New York". revised by William A. Smith, Civil Engineer, Tuckahoe and Bronxville, New York, dated December 1915, and filed in the office of the Register of Westchester County on May 16, 1916 as Map No. 2132, said southerly portion of Lot Number sixteen (16) being

more particularly described as follows: BEGINNING at a point of intersection of the boundary line between lots 16 and 17 with the westerly boundary line of Kensington Road; RUNNING THENCE along the boundary line between lots 16 and 17 North 76 degrees 04

minutes 30 seconds West a distance of 100.05 feet; THENCE North 13 degrees 54 minutes 45 seconds East a distance of 7.0 feet: THENCE in a southeasterly direction and parallel with the boundary line between lots 16 and 17 to the westerly boundary of Kensington Road;

THENCE along the westerly boundary line of Kensington Road in the southerly direction to the point or place of BÉGINNING. Containing 25,033 sq. ft. or 0.5747 acres, more or less.

<u>Tax Lot 1 (Section 11, Block 5)</u>

ALL that certain plot, piece or parcel of land, situate, lying and being in the Village of Bronxville, Town of Eastchester, County of Westchester and State of New York commonly known as Kensington Road Parking Lot (Section 11, Block 5, Lot 1) being more particularly described as follows: ALL that certain lot, piece or parcel of land, situate lying being in the Village of

Bronxville, Town of Eastchester, County of Westchester and State of New York known as "Lot A" and "Lot 1 to 5", Block 10 on a certain entitled. "Map of No. 2 Lawrence Park and Associated Properties, situated at Bronxville, Westchester County, New York" made by William A. Smith, Civil Engineer and Surveyor, dated February 17, 1920 and filed in the Office of the County Clerk of the County of Westchester, Division of Land Records, on March 24, 1920 as Map No. 2237, bounded and described as follows:

BEGINNING at the southwesterly corner of "Lots 1 to 5" as shown on the said Map No. 2237, proceed northwesterly along the common line between "Lots 1 to 5" and "Lots 6 to 15", North 76 degrees 04 minutes 30 seconds West 100.11 feet to a point marking the southwesterly corner of the said "Lots 1 to 5"

THENCE proceed northeasterly, southeasterly and northwesterly along the common line between "Lots 1 to 5" and "Lot A" and lands now or formerly of the New York Central Railroad, the following courses and distances:

- 1. North 13 degrees 54 minutes 45 seconds East 85.58 feet; 2.THENCE along a curve to the right having a radius of 2058.68 feet a distance of 51.52 feet to the northwesterly corner of "Lots 1 to 5"; 3.THENCE South 69 degrees 07 minutes 20 seconds East 15.89 feet to the
- southwesterly corner of "Lot A"; 4. THENCE North 28 degrees 16 minutes 40 seconds East 161.37 feet;

5. THENCE North 23 degrees 16 minutes 26 seconds East 70.72 feet to a point in the westerly boundary of Kensington Road marking the northerly corner of "Lot A"; THENCE southerly along the common line between "Lot A" and "Lots 1 to 5" and the westerly boundary of Kensington Road, the following courses and distances:

1. Along curve to the left having a radius of 245.98 feet a distance of 128.10 feet; computing 128.35 2. Thence along a curve to the right having a radius of 315.00 feet a distance of

112.65 feet: 3. Thence South 13 degrees 55 minutes 30 seconds West 125.00 feet to the point or place of BEGINNING. Containing 21,469 sq. ft. or 0.4929 acres, more or less.

<u>Tax Lot 16 (Section 11, Block 5)</u>

ALL that certain plot, piece or parcel of land, situate, lying and being in the Village of Bronxville, Town of Eastchester, County of Westchester and State of New York commonly known as Gramatan Garage (Section 11, Block 5, Lot 16) being more particularly described as follows:

ALL that certain lot, piece or parcel of land, situate, lying and being in the Village of Bronxville, Town of Eastchester, County of Westchester and State of New York, known as Lots 17, 18, 19 part of Lots 16, 20, 21, 22, 23, in Block 10 and part of Pondfield Road on certain Map entitled, "Map of NO. 2, Lawrence Park, and Associated Properties, situated at Bronxville, Westchester County, New York", dated February 17, 1920 and filed in the Office of the County Clerk, Division of Land Records, formerly Register's Office of Westchester County, New York, on March 24, 1920 as Map No. 2237, said lots when taken together are more particularly bounded and described as follows: STARTING at a point on the northerly side of Pondfield Road as presently laid out where the same is intersected by the division line between premises hereinafter described and

RUNNING THENCE along said division line North 13 degrees 54 minutes 45 seconds East 69.96 feet to the point or place of BEGINNING; THENCE continuing along lands now or formerly of New York Central Railroad North 13 degrees 54 minutes 45 seconds East 226.41 feet to a point; RUNNING THENCE through Lot No. 16 South 76 degrees 04 minutes 30 seconds East 100.05 feet to a point on the westerly side of Kensington Road; RUNNING THENCE along the same South 13 degrees 55 minutes 30 seconds West 226.41 feet along the westerly side of Kensington Road to a point; THENCE North 76 degrees 04 minutes 30 seconds West 100 feet through Lot 23 to the point or place of BEGINNING. Containing 22,659 sq. ft. or 0.5202 acres, more or less.

PHYSICAL ADDRESSES OF PARCES WITHIN

<u>ADDRESS</u> 27 KENSINGTON ROAD 23 KENSINGTON ROAD 15 KENSINGTON ROAD

ENVIRONMENTAL EASEMENT

land of New York Central Railroad:

<u>SECTION-BLOCK-LOT</u> 11–5–1 11–5–6 11–5–16

<u>NOTES</u>

1) The premises source of title as recorded in the Westchester County Clerk's Office (Division of Land Records) are as follows: a) Liber 8569 Page 340 recorded Sept. 30, 1986 (Tax Lot 6) and Liber 9651 page 247 recorded Oct. 16, 1989 (Tax Lots 1 and 16). (The property described in the deed is the same property as shown

on the survey). 2) There is currently a building under construction shown on the surveyed property. 3) The premsies is known as Section 11, Block 5, Lots 1, 6 & 16 as

shown on the official Tax Assessment Maps for the Village of Bronxville, Town of Eastchester. 4) The area within the Environmental Easement is shown bounded by red boundary line.

5) This survey has been revised with the benefit of Title Report Commitment No. TA#03(10)1417 dated Aug. 26, 2003.



Phone No.: 914-949-6000

Cover System Design



Air Sampling Locations with Prevailing Wind



APPENDICES

Name	Phone/Email Address
Gateway Kensington	Gene Paulen
	gpaulen@gatewaydev.com
Impact Environmental Closures	631-269-8800
	jdelafuente@impactenvironmental.com
Qualified Environmental	631-269-8800
Professional	jdelafuente@impactenvironmental.com
Scott Deyette, NYSDEC	518-402-9662
	scott.deyette@dec.ny.gov
Edward Moore, NYSDEC	(845) 256-3137
	edward.moore@dec.ny.gov
	(510) 400 70(0
Dawn Hettrick, NYSDOH Project	(518) 402 - 7860
Manager	dawn.hettrick(@health.ny.gov
Come Deviler (Developer Project	(014) 590 1(59
Gene Paulen (Developer Project	(914) 589-1658
Manager)	gpaulen(@gatewaydev.com
Daniga D'Ambragia (lagal)	(014) 202 0578
Denise D'Amorosio (legal)	(914) 595-95/0 denisedembrosiology@amoil.com
	demsedamorosionaw(@gman.com

APPENDIX A – LIST OF SITE CONTACTS

APPENDIX B EXCAVATION WORK PLAN (EWP)

APPENDIX B – EXCAVATION WORK PLAN (EWP)

B-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the Site owner or their representative will notify the NYSDEC. Table I includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of Site-related contact information is provided in Appendix A.

Name	Contact Information
Scott Deyette (Chief, Inspection Unit,	(518) 402-9662
NYSDEC Remedial Bureau C)	scott.deyette@dec.ny.gov
Edward Moore (Regional Hazardous Waste	(845) 256-3137
Engineer)	edward.moore@dec.ny.gov
Kelly Lewandowski (Site Control Section	(518) 402-9553
Chief)	kelly.lewandowski@dec.ny.gov

Table I: Notifications*

* Note: Notifications are subject to change and will be updated as necessary.

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent of excavation, plans/drawings for Site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control;
- A summary of environmental conditions anticipated to be encountered in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;

- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this EWP;
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120;
- A copy of the contractor's health and safety plan (HASP), in electronic format, if it differs from the HASP provided in Appendix F of this SMP;
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

B-2 SOIL SCREENING METHODS

Visual, olfactory and instrument-based (e.g. photoionization detector) soil screening will be performed by a qualified environmental professional during all excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed when invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-Site disposal and material that requires testing to determine if the material can be reused on-Site as soil beneath a cover or if the material can be used as cover soil. Further discussion of off-Site disposal of materials and on-Site reuse is provided in Section B-6 of this Appendix.

B-3 SOIL STAGING METHODS

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by the NYSDEC.

B-4 MATERIALS EXCAVATION AND LOAD-OUT

A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and remedial party (if applicable) and its contractors are responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the Site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the Site.

Loaded vehicles leaving the Site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

A truck wash will be operated on-Site, as appropriate. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the Site until the activities performed under this section are complete Truck wash waters will be collected and disposed of off-Site in an appropriate manner.

Locations where vehicles enter or exit the Site shall be inspected daily for evidence of off-Site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the Site are clean of dirt and other materials derived from the Site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site-derived materials.

B-5 MATERIALS TRANSPORT OFF-SITE

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the Site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

Truck transport routes are as follows: trucks will exit the Site and head south on Kensington Road, onto Pondfield Road heading west, over a traffic island onto Palmer Avenue heading west, north onto Bronxville Road which turns into Cross Street, left onto Tuckahoe Road, and left onto Highway 87. All trucks loaded with Site materials will exit the vicinity of the Site using only these approved truck routes. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive Sites; (b) use of city mapped truck routes; (c) prohibiting off-Site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport.

Trucks will be prohibited from stopping and idling in the neighborhood outside the project Site.

Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during Site remediation and development.

Queuing of trucks will be performed on-Site in order to minimize off-Site disturbance. Off-Site queuing will be prohibited.

B-6 MATERIALS DISPOSAL OFF-SITE

All material excavated and removed from the Site will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of material from this Site is proposed for unregulated off-Site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-Site management of materials from this Site will not occur without formal NYSDEC approval.

Off-Site disposal locations for excavated soils will be identified in the preexcavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-Site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does not meet Unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

B-7 MATERIALS REUSE ON-SITE

The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-Site. Contaminated on-Site material, including historic fill and contaminated soil, that is acceptable for reuse on-Site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

Any demolition material proposed for reuse on-Site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-Site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the Site will not be reused on-Site.

B-8 FLUIDS MANAGEMENT

All liquids to be removed from the Site, including but not limited to, excavation dewatering, decontamination waters and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the Site, and will be managed off-Site, unless prior approval is obtained from NYSDEC.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed under a SPDES permit.

B-9 COVER SYSTEM RESTORATION

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the RAWP and decision document. The existing cover system is comprised of a minimum of 24 inches of clean soil, asphalt pavement, concrete covered sidewalks and concrete building. The demarcation layer, consisting of orange snow fencing material, white geotextile or equivalent material, will be replaced to provide a visual reference to the top of the remaining contamination zone, the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in this SMP. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the remaining contamination. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in an updated SMP.

B-10 BACKFILL FROM OFF-SITE SOURCES

Any and all backfill that is intended to be brought onto the Site must first be vetted, and sampled and analyzed in accordance with NYSDEC requirements, to ensure the materials meet the Imported Soil requirements set forth in DER-10. The backfill source should be consistent to ensure backfill sampled is the material used on Site. The required portion of backfill material should be segregated at the supplying facility, and this material should be left untouched until the sample analysis has been received. Once the material's chemical analysis has been approved by the NYSDEC, it can be imported to the Site.

The materials should be transported to the Site by NYSDOT approved trucking contractors with sufficient insurance coverage to work with and on potentially hazardous Sites.

Once onSite, is materials are not immediately place in their desired backfill locations, imported soils should be staged on Site in segregate stockpiles away from any soils due to

be exported from the Site, to eliminate the potential for cross-contamination. Staged materials should be underlain and overlain by poly sheeting.

All materials proposed for import onto the Site will be approved by the qualified environmental professional and will be in compliance with provisions in this SMP prior to receipt at the Site. A Request to Import/Reuse Fill or Soil form, which can be found at http://www.dec.ny.gov/regulations/67386.html, will be prepared and submitted to the NYSDEC project manager allowing a minimum of 5 business days for review.

Material from industrial Sites, spill Sites, or other environmental remediation Sites or potentially contaminated Sites will not be imported to the Site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards are listed in Appendix J. Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this Site, will not be imported onto the Site without prior approval by NYSDEC. Solid waste will not be imported onto the Site.

Trucks entering the Site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

B-11 STORMWATER POLLUTION PREVENTION

Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by the NYSDEC. All necessary repairs shall be made immediately. Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

B-12 EXCAVATION CONTINGENCY PLAN

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the Site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive Site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the Periodic Review Report.

B-13 COMMUNITY AIR MONITORING PLAN

- Two (2) 'DustTrac 2' particulate monitors will be implemented on Site to actively monitor the potential for migrating dust off Site. The monitors will be situated dependent on wind direction, up-wind and down-wind, whenever soil disturbances are occurring. A single 'MiniRae' Photo Ionization Detector will be utilized to monitor for potential VOCs in the air in the proximity to particular onSite remedial excavations.
- Particulate action level: 0.100 mg/m3; VOC concentration action level: 5 ppm.

A figure showing the location of air sampling stations based on generally prevailing wind conditions is shown in Figure 8. These locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and at least two downwind monitoring stations.

Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

B-14 ODOR CONTROL PLAN

This odor control plan is capable of controlling emissions of nuisance odors off-Site and on-Site, if there are residents or tenants on the property. Specific odor control methods to be used on a routine basis will include covering stockpiled contaminated materials with anchored 6mm plastic sheeting, and wetting down the Site in the event that potentially contaminated dusts are agitated. If nuisance odors are identified at the Site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the remedial party's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on- and off-Site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-Site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-Site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

B-15 DUST CONTROL PLAN

A dust suppression plan that addresses dust management during invasive on-Site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved through the use of a dedicated on-Site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of larger Sites will be done in stages to limit the area of exposed, un-vegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-Site roads will be limited in total area to minimize the area required for water truck sprinkling.

APPENDIX C RESPONSIBILITIES of OWNER and REMEDIAL PARTY

Responsibilities

The responsibilities for implementing the Site Management Plan ("SMP") for the Kensington Road Site (the "Site"), number C360081 are divided between the Site owner(s) and a Remedial Party, as defined below. The current owner is Gateway Kensington LLC (the "owner").

Solely for the purposes of this document and based upon the facts related to a particular Site and the remedial program being carried out, the term Remedial Party ("RP") refers to any of the following: certificate of completion holder, volunteer, applicant, responsible party, and, in the event the New York State Department of Environmental Conservation ("NYSDEC") is carrying out remediation or Site management, the NYSDEC and/or an agent acting on its behalf. The RP is: Impact Environmental Closures (IEC).

Nothing on this page shall supersede the provisions of an Environmental Easement, Consent Order, Consent Decree, agreement, or other legally binding document that affects rights and obligations relating to the Site.

Site Owner's Responsibilities:

- 1) The owner shall follow the provisions of the SMP as they relate to future construction and excavation at the Site.
- 2) In accordance with a periodic time frame determined by the NYSDEC, the owner shall periodically certify, in writing, that all Institutional Controls set forth in a(n) Environmental Easement remain in place and continue to be complied with. The owner shall provide a written certification to the RP, upon the RP's request, in order to allow the RP to include the certification in the Site's Periodic Review Report (PRR) certification to the NYSDEC.
- 3) In the event the Site is delisted, the owner remains bound by the Environmental Easement and shall submit, upon request by the NYSDEC, a written certification that the Environmental Easement is still in place and has been complied with.

- 4) The owner shall grant access to the Site to the RP and the NYSDEC and its agents for the purposes of performing activities required under the SMP and assuring compliance with the SMP.
- 5) The owner is responsible for assuring the security of the remedial components located on its property to the best of its ability. In the event that damage to the remedial components or vandalism is evident, the owner shall notify the Site's RP and the NYSDEC in accordance with the timeframes indicated in Section 1.3-Notifications.
- 6) In the event some action or inaction by the owner adversely impacts the Site, the owner must notify the Site's RP and the NYSDEC in accordance with the time frame indicated in Section 1.3- Notifications and (ii) coordinate the performance of necessary corrective actions with the RP.
- 7) The owner must notify the RP and the NYSDEC of any change in ownership of the Site property (identifying the tax map numbers in any correspondence) and provide contact information for the new owner of the Site property. 6 NYCRR Part contains notification requirements applicable to any construction or activity changes and changes in ownership. Among the notification requirements is the following: Sixty days prior written notification must be made to the NYSDEC. Notification is to be submitted to the NYSDEC Division of Environmental Remediation's Site Control Section. Notification requirements for a change in use are detailed in Section 2.4 of the SMP. A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html.
- 8) The owner will maintain landscaped portions on behalf of the RP. The RP remains ultimately responsible for maintaining the engineering controls.
- 9) In accordance with the tenant notification law, within 15 days of receipt, the owner must supply a copy of any vapor intrusion data, that is produced with respect to structures and that exceeds NYSDOH or OSHA guidelines on the Site, whether produced by the NYSDEC, RP, or owner, to the tenants on the property. The owner must otherwise comply with the tenant and occupant notification provisions of Environmental Conservation Law Article 27, Title 24.

Change in ownership and/or control and/or Site ownership does not affect the RP's obligations with respect to the Site unless a legally binding document executed by the NYSDEC releases the RP of its obligations.

Future Site owners and RPs and their successors and assigns are required to carry out the activities set forth above.

APPENDIX D – ENVIRONMENTAL EASEMENT

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this _____day of _____, 20__, between Owner(s) Gateway Kensington LLC, having an office at 2 Dearfield Drive, Suite 3, Greenwich, Connecticut 06831, County of Fairfield, State of Connecticut (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 15 Kensington Road (f/k/a 5-27 Kensington Road) in the Village of Bronxville, Town of Eastchester, County of Westchester and State of New York, known and designated on the tax map of the County Clerk of Westchester as tax map parcel numbers: Section 11 Block 5 Lots 1, 6 and 16, being a portion of the property conveyed to Grantor by deed dated November 6, 2015 and recorded in the Westchester County Clerk's Office as Control # 553083227. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 0.2982 +/- acres, and is hereinafter more fully described in the Land Title Survey dated July 29, 2015 last revised October 6, 2016 prepared by William H. Free, Jr., L.L.S. of Ward Carpenter Engineers, Inc., which will be attached to the Site Management Plan. The Controlled Property description (identified as Environmental Easement #1 consisting of 0.2451 acres and Environmental Easement #2 consisting of 0.0531 acres) is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the
protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Index Number: C360081-04-14, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement").

1. <u>Purposes</u>. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. <u>Institutional and Engineering Controls</u>. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Restricted Residential as described in 6 NYCRR Part 375-1.8(g)(2)(ii), Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Westchester County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential purposes as defined in $6NYCRR\ 375-1.8(g)(2)(i)$, and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section Division of Environmental Remediation NYSDEC 625 Broadway Albany, New York 12233 Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation

pursuant to Title 36 of Article 71 of the Environmental Conservation

Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved by the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5) the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. <u>Right to Enter and Inspect</u>. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. <u>Reserved Grantor's Rights</u>. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. <u>Enforcement</u>

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. <u>Notice</u>. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:	Site Number: C360081 Office of General Counsel NYSDEC 625 Broadway Albany New York 12233-5500
With a copy to:	Site Control Section Division of Environmental Remediation NYSDEC 625 Broadway Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and

communicating notices and responses to requests for approval.

7. <u>Recordation</u>. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. <u>Amendment</u>. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. <u>Extinguishment.</u> This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. <u>Joint Obligation</u>. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

Remainder of Page Intentionally Left Blank

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

Gateway Kensington LLC:

By: _____

Print Name: _____

Title:_____ Date:_____

Grantor's Acknowledgment

STATE OF NEW YORK)) ss: COUNTY OF)

On the _____ day of _____, in the year 20 __, before me, the undersigned, personally appeared ______, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Notary Public - State of New York

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner,

By:

Robert W. Schick, Director Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)) ss: COUNTY OF ALBANY)

On the _____ day of _____, in the year 20__, before me, the undersigned, personally appeared Robert W. Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

Notary Public - State of New York

SCHEDULE "A" PROPERTY DESCRIPTION

DESCRIPTION OF ENVIRONMENTAL EASEMENT #1 LOCATED IN THE VILLAGE OF BRONXVILLE, TOWN OF EASTCHESTER, COUNTY OF WESTCHESTER, STATE OF NEW YORK.

ALL that certain plot, piece or parcel of property situate, lying and being located in the Village of Bronxville, Town of Eastchester, County of Westchester, State of New York and more particularly bounded and described as follows:

Beginning at a point formed by the division line between property now or formerly 1 Pondfield Avenue LLC, property now or formerly Gateway Kensington LLC, said point being distant 70.68 feet as measured on a course of N.76°04'30"W., from the westerly side of Kensington Road to the point of BEGINNING;

thence from said point of beginning along said division line and along the herein described Environmental Easement #1, N.76°04'30"W., a distance of 29.37 feet to a point on the easterly side of property now or formerly Metro-North Railroad;

thence along said easterly side of Metro-North Railroad, N.13°54'45"E., a distance of 428.89 feet;

thence over and across property now or formerly Gateway Kensington LLC, S.82°57'03"E., a distance of 6.29 feet;

thence S.33°59'56"E., a distance of 6.28 feet;

thence S.09°59'33"E., a distance of 39.94 feet;

thence S.13°29'45"W., a distance of 37.54 feet;

thence S.15°24'34"W., a distance of 44.03 feet;

thence S.15°47'32"W., a distance of 69.40 feet;

thence S.15°40'20"W., a distance of 46.60 feet;

thence S.11°49'56"W., a distance of 24.77 feet;

thence S.11°33'22"W., a distance of 40.42 feet;

thence S.13°43'14"W., a distance of 27.84 feet;

thence S.11°27'44"W., a distance of 52.36 feet;

thence S.69°50'51"E., a distance of 98.51 feet to a point on the division line between Gateway Kensington LLC and property now or formerly 1 Pondfield LLC, the point and place of BEGINNING.

Containing 10,678 square feet or 0.2451 acres, more or less.

This easement falls partly in Lots 6 and 16, Block 5, Section11.

DESCRIPTION OF ENVIRONMENTAL EASEMENT #2 LOCATED IN THE VILLAGE OF BRONXVILLE, TOWN OF EASTCHESTER, COUNTY OF WESTCHESTER, STATE OF NEW YORK.

ALL that certain plot, piece or parcel of property situate, lying and being located in the Village of Bronxville, Town of Eastchester, County of Westchester, State of New York and more particularly bounded and described as follows:

Beginning at a point formed by the division line between property now or formerly Metro-North Railroad, property now or formerly Gateway Kensington LLC,, and the westerly side of Kensington Road, said point being the POINT OF BEGINNING;

thence from said point of beginning, said point being the beginning of a curve to the left, of which the radius point lies S.66°45'10"E., a radial distance of 245.98 feet; thence southerly along the arc, through a central angle of 29°50'16", a distance of 128.10 feet;

thence southerly, a distance of 82.05 feet along a non tangent curve to the right of which the radius point lies S.83°26'09"W. a radius of 315.00 feet, and having a central angle of 14°55'26";

thence N.28°38'39"W., a distance of 7.25 feet;

thence northwesterly, a distance of 30.09 feet along a non tangent curve to the left of which the radius point lies S.63°49'44"W. a radius of 49.24 feet, and having a central angle of 35°00'25";

thence N.47°00'39"E., a distance of 27.77 feet;

thence N.15°50'54"W., a distance of 21.60 feet;

thence N.15°58'51"W., a distance of 40.37 feet;

thence N.56°33'44"W., a distance of 6.16 feet;

thence N.28°16'40"E., a distance of 36.86 feet;

thence N.23°16'26"E., a distance of 70.72 feet to the POINT OF BEGINNING.

Containing 2,311 square feet or 0.0531 acres, more or less.

This easement falls entirely in Tax Lot 1, Block 5, Section 11.

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

°.,	Gateway Kensington LLC:
	By:
	Print Name: John J. Fareri
*	Title: Manages Date:
	Grantor's Acknowledgment
STATE OF NEW YO	RK)
COUNTY OF) SS:
On the personally appeared	day of, in the year 20, before me, the undersigned,, personally known to me or proved to me on the basis

personally appeared ______, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Notary Public - State of New York

Legend

This property is subject to an
Environmental Easement held by the New
York State Department of Environmental
Conservation pursuant to Title 36 of
Article 71 of the New York Environmental
Conservation Law.

THE ENGINEERING AND INSTITUTIONAL CONTROLS for the Easement are set forth in more detail in the Site Management Plan ("SMP"). A copy of the SMP must be obtained by any party with an interest in the property. The SMP may be obtained from New York State Department of Environmental Conservation, Division of Environmental Remediation, Site Control Section, 625 Broadway, Albany, NY 12233 or at derweb@dec.ny.gov.

b	Utility Pole	
	Catchbasin	
Ç,	Hydrant	
S	Sewer Manhole	
D	Drain Manhole	
E	Electric Manhole	
() ()	Gas Valve Water Valve	
	Drain Inlet	
Þ	Light Pole	
ۇر	Handicap Parking Space	

ENVIRONMENTAL EASEMENT AREA ACCESS THE DEC OR THEIR AGENT MAY ACCESS THE ENVIRONMENTAL EASEMENT AREA AS SHOWN HEREON THROUGH ANY EXISTING

STREET ACCESS OR BUILDING INGRESS/EGRESS ACCESS POINT.





FORMER GRAMATAN GARAGE & PARKING LOT ENVIRONMENTAL EASEMENT AREA (IN RED)
DESCRIPTION OF ENVIRONMENTAL EASEMENT #1 LOCATED IN THE VILLAGE OF
BRONXVILLE, TOWN OF EASTCHESTER, COUNTY OF WESTCHESTER, STATE OF NEW YORK
ALL that certain plot, piece or parcel of property situate, lying and being located in the Village of Bronxville, Town of Eastchester, County of Westchester, State of New York and more particularly bounded and described as follows:
Beginning at a point formed by the division line between property now or formerly Pondfield Avenue LLC, property now or formerly Gateway Kensington LLC, said point being distant 70.68 feet as measured on a course of N.76°04'30"W, from the westerly side of Kensington Road to point of BEGINNING;
thence from said point of beginning along said division line and along the herein described Environmental Easement #1, N.76°04'30"W., a distance of 29.37 feet to a point on the easterly side of property now or formerly Metro–North Railroad;
thence along said easterly side of Metro–North Railroad, N.13°54'45"E., a distance of 428.89 feet;
thence over and across property now or formerly Gateway Kensington LLC, S.82°57'03"E., a distance of 6.29 feet;
thence S.33°59'56"E., a distance of 6.28 feet;
thence S.09°59'33"E., a distance of 39.94 feet;
thence S.13°29'45"W., a distance of 37.54 feet;
thence S.15°24'34"W., a distance of 44.03 feet;
thence S.15*47'32"W., a distance of 69.40 feet;
thence S.15*40'20"W., a distance of 46.60 feet;
thence S.11°49'56"W., a distance of 24.77 feet;
thence S.11°33'22"W., a distance of 40.42 feet;
thence S.13*43'14"W., a distance of 27.84 feet;
thence S.11°27'44"W., a distance of 98.51 feet to a point on the division line between Gateway Kensington LLC and property now or formelry 1 Pondfield LLC, the point and place of BEGINNING.

BROWNFIELD CLEANUP PROGRAM SITE # C360081

Containing 10,678 square feet or 0.2451 acres, more or less.

August 29, 2016

Road

Gateway-52335-EnvEsmt1.rtf

DETAIL "B"

0.4'

POURED CONCRETE

FOUNDATION

3

0

A

Ò

G=121.88 I=118.68



LEGEND

—— WPM——— = Water Paint Mark

W.V. = Water Valve

---- EPM ---- = Electric Paint Mark

July 29, 2015

GRAPHIC SCALE (IN METERS 1 :100 GRAPHIC SCALE (IN FEET) 1 inch = 30 ft.

Railroad

- SEE DETAIL "E"

Gateway-52335-EnvEsmt3.rtf

<u>SCHEDULE A DESCRIPTION</u> <u>TITLE NO. TA#03(10)1417</u>

Liber 2416 cp 437.

<u>Tax Lot 6 (Section 11, Block 5)</u>

ALL those certain lots, pieces or parcels of land, situate, lying and being in the Town of Eastchester, County of Westchester and State of New York, which said lots are known as designated as Lot numbers 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 16 on the westerly side of Gramatan Avenue (now known as Kensington Road) and shown on a certain map entitled "Map of Lawrence Park, Bronxville, New York" made by Charles A. Mapes, Surveyor dated June 1902 and now on file in the County Clerk's Office Division of Land Records, formerly Register's Office of Westchester County, EXCEPTING THEREFROM that portion of Lot 16 as shown on the above mentioned map, conveyed by deed recorded in

Premises described in deed recorded in Liber 2416 cp 437 as described as follows: ALL that certain plot, piece or parcel of land situated in the Village of Bronxville, Town of Eastchester, County of Westchester and State of New York, known and designated as the southerly portion of Lot Number sixteen (16) as shown on a certain map entitled, "Map of Lawrence Park & Associated Properties situated at Bronxville, Westchester County, New York". revised by William A. Smith, Civil Engineer, Tuckahoe and Bronxville, New York, dated December 1915, and filed in the office of the Register of Westchester County on May 16, 1916 as Map No. 2132, said southerly portion of Lot Number sixteen (16) being

more particularly described as follows: BEGINNING at a point of intersection of the boundary line between lots 16 and 17 with the westerly boundary line of Kensington Road; RUNNING THENCE along the boundary line between lots 16 and 17 North 76 degrees 04

minutes 30 seconds West a distance of 100.05 feet; THENCE North 13 degrees 54 minutes 45 seconds East a distance of 7.0 feet: THENCE in a southeasterly direction and parallel with the boundary line between lots 16 and 17 to the westerly boundary of Kensington Road;

THENCE along the westerly boundary line of Kensington Road in the southerly direction to the point or place of BÉGINNING. Containing 25,033 sq. ft. or 0.5747 acres, more or less.

<u>Tax Lot 1 (Section 11, Block 5)</u>

ALL that certain plot, piece or parcel of land, situate, lying and being in the Village of Bronxville, Town of Eastchester, County of Westchester and State of New York commonly known as Kensington Road Parking Lot (Section 11, Block 5, Lot 1) being more particularly described as follows: ALL that certain lot, piece or parcel of land, situate lying being in the Village of

Bronxville, Town of Eastchester, County of Westchester and State of New York known as "Lot A" and "Lot 1 to 5", Block 10 on a certain entitled. "Map of No. 2 Lawrence Park and Associated Properties, situated at Bronxville, Westchester County, New York" made by William A. Smith, Civil Engineer and Surveyor, dated February 17, 1920 and filed in the Office of the County Clerk of the County of Westchester, Division of Land Records, on March 24, 1920 as Map No. 2237, bounded and described as follows:

BEGINNING at the southwesterly corner of "Lots 1 to 5" as shown on the said Map No. 2237, proceed northwesterly along the common line between "Lots 1 to 5" and "Lots 6 to 15", North 76 degrees 04 minutes 30 seconds West 100.11 feet to a point marking the southwesterly corner of the said "Lots 1 to 5"

THENCE proceed northeasterly, southeasterly and northwesterly along the common line between "Lots 1 to 5" and "Lot A" and lands now or formerly of the New York Central Railroad, the following courses and distances:

- 1. North 13 degrees 54 minutes 45 seconds East 85.58 feet; 2.THENCE along a curve to the right having a radius of 2058.68 feet a distance of 51.52 feet to the northwesterly corner of "Lots 1 to 5"; 3.THENCE South 69 degrees 07 minutes 20 seconds East 15.89 feet to the
- southwesterly corner of "Lot A"; 4. THENCE North 28 degrees 16 minutes 40 seconds East 161.37 feet;

5. THENCE North 23 degrees 16 minutes 26 seconds East 70.72 feet to a point in the westerly boundary of Kensington Road marking the northerly corner of "Lot A"; THENCE southerly along the common line between "Lot A" and "Lots 1 to 5" and the westerly boundary of Kensington Road, the following courses and distances:

1. Along curve to the left having a radius of 245.98 feet a distance of 128.10 feet; computing 128.35 2. Thence along a curve to the right having a radius of 315.00 feet a distance of

112.65 feet: 3. Thence South 13 degrees 55 minutes 30 seconds West 125.00 feet to the point or place of BEGINNING. Containing 21,469 sq. ft. or 0.4929 acres, more or less.

<u>Tax Lot 16 (Section 11, Block 5)</u>

ALL that certain plot, piece or parcel of land, situate, lying and being in the Village of Bronxville, Town of Eastchester, County of Westchester and State of New York commonly known as Gramatan Garage (Section 11, Block 5, Lot 16) being more particularly described as follows:

ALL that certain lot, piece or parcel of land, situate, lying and being in the Village of Bronxville, Town of Eastchester, County of Westchester and State of New York, known as Lots 17, 18, 19 part of Lots 16, 20, 21, 22, 23, in Block 10 and part of Pondfield Road on certain Map entitled, "Map of NO. 2, Lawrence Park, and Associated Properties, situated at Bronxville, Westchester County, New York", dated February 17, 1920 and filed in the Office of the County Clerk, Division of Land Records, formerly Register's Office of Westchester County, New York, on March 24, 1920 as Map No. 2237, said lots when taken together are more particularly bounded and described as follows: STARTING at a point on the northerly side of Pondfield Road as presently laid out where the same is intersected by the division line between premises hereinafter described and

RUNNING THENCE along said division line North 13 degrees 54 minutes 45 seconds East 69.96 feet to the point or place of BEGINNING; THENCE continuing along lands now or formerly of New York Central Railroad North 13 degrees 54 minutes 45 seconds East 226.41 feet to a point; RUNNING THENCE through Lot No. 16 South 76 degrees 04 minutes 30 seconds East 100.05 feet to a point on the westerly side of Kensington Road; RUNNING THENCE along the same South 13 degrees 55 minutes 30 seconds West 226.41 feet along the westerly side of Kensington Road to a point; THENCE North 76 degrees 04 minutes 30 seconds West 100 feet through Lot 23 to the point or place of BEGINNING. Containing 22,659 sq. ft. or 0.5202 acres, more or less.

PHYSICAL ADDRESSES OF PARCES WITHIN

<u>ADDRESS</u> 27 KENSINGTON ROAD 23 KENSINGTON ROAD 15 KENSINGTON ROAD

ENVIRONMENTAL EASEMENT

land of New York Central Railroad:

<u>SECTION-BLOCK-LOT</u> 11–5–1 11–5–6 11–5–16

<u>NOTES</u>

1) The premises source of title as recorded in the Westchester County Clerk's Office (Division of Land Records) are as follows: a) Liber 8569 Page 340 recorded Sept. 30, 1986 (Tax Lot 6) and Liber 9651 page 247 recorded Oct. 16, 1989 (Tax Lots 1 and 16). (The property described in the deed is the same property as shown

on the survey). 2) There is currently a building under construction shown on the surveyed property. 3) The premsies is known as Section 11, Block 5, Lots 1, 6 & 16 as

shown on the official Tax Assessment Maps for the Village of Bronxville, Town of Eastchester. 4) The area within the Environmental Easement is shown bounded by red boundary line.

5) This survey has been revised with the benefit of Title Report Commitment No. TA#03(10)1417 dated Aug. 26, 2003.



Phone No.: 914-949-6000

The Office of the Westchester County Clerk: This page is part of the instrument; the County Clerk will rely on the information provided on this page for purposes of indexing this instrument. To the best of submitter's knowledge, the information contained on this Recording and Endorsement Cover Page is consistent with the information contained in the attached document.



563193632EAS0032 Westchester County Recording & Endorsement Page Submitter Information 914-393-9578 Denise J. D'Ambrosio Phone: Name: One North Lexington Avenue Fax: Address 1: Address 2: Email: denisedambrosiolaw@gmail.com Reference for Submitter: Environmental Easement and TP 584 City/State/Zip: White Plains NY 10601 **Document Details** Control Number: 563193632 Document Type: Easement (EAS) Package ID: 2016111400314001003 Document Page Count: 10 Total Page Count: 11 Parties Additional Parties on Continuation page 1st PARTY 2nd PARTY 1: - Other 1: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL C - Other GATEWAY KENSINGTON LLC 2: - Other 2: - Individual NEW YORK STATE OF FARERI JOHN Property Additional Properties on Continuation page Street Address: 15 KENSINGTON ROAD Tax Designation: 11-5-16 Village: City/Town: EASTCHESTER BRONXVILLE Additional Cross-Refs on Continuation page **Cross-References** 4: 1: 2: 3: Supporting Documents 1: TP-584 Mortgage Taxes **Recording Fees** Document Date: \$0.00 Statutory Recording Fee: Mortgage Amount: \$0.00 Page Fee: Cross-Reference Fee: \$0.00 \$0.00 Basic: Mortgage Affidavit Filing Fee: \$0.00 Westchester: \$0.00 RP-5217 Filing Fee: \$0.00 Additional: \$0.00 TP-584 Filing Fee: \$0.00 MTA: \$0.00 Total Recording Fees Paid: \$0.00 \$0.00 Special: **Transfer Taxes** \$0.00 Yonkers: Consideration: \$0.00 Total Mortgage Tax: \$0.00 Transfer Tax: \$0.00 Exempt: Mansion Tax: Dwelling Type: \$0.00 Serial #: Transfer Tax Number: 5759 **Record and Return To** RECORDED IN THE OFFICE OF THE WESTCHESTER COUNTY CLERK Pick-up at County Clerk's office Recorded: 11/23/2016 at 02:52 PM Control Number: 563193632 Witness my hand and official seal Tunty Denise J. D'Ambrosio SEA One North Lexington Avenue, 15th Floor Timothy C.Idoni Westchester County Clerk White Plains, NY 10601

RECORDING OR FILING FEES PURSUANT

lina

Assistan

TO LAW.

Carol 7

Equity County Attorney ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36

OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 8th day of Nevenher, 2016, between Owner(s) Gateway Kensington LLC, having an office at 2 Dearfield Drive, Suite 3, Greenwich, Connecticut 06831, County of Fairfield, State of Connecticut (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 15 Kensington Road (f/k/a 5-27 Kensington Road) in the Village of Bronxville, Town of Eastchester, County of Westchester and State of New York, known and designated on the tax map of the County Clerk of Westchester as tax map parcel numbers: Section 11 Block 5 Lots 1, 6 and 16, being a portion of the property conveyed to Grantor by deed dated November 6, 2015 and recorded in the Westchester County Clerk's Office as Control # 553083227. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 0.2982 +/- acres, and is hereinafter more fully described in the Land Title Survey dated July 29, 2015 last revised October 6, 2016 prepared by William H. Free, Jr., L.L.S. of Ward Carpenter Engineers, Inc., which will be attached to the Site Management Plan. The Controlled Property description (identified as Environmental Easement #1 consisting of 0.2451 acres and Environmental Easement #2 consisting of 0.0531 acres) is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the

protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Index Number: C360081-04-14, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement").

1. <u>Purposes</u>. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. <u>Institutional and Engineering Controls</u>. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Restricted Residential as described in 6 NYCRR Part 375-1.8(g)(2)(ii), Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Westchester County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section Division of Environmental Remediation NYSDEC 625 Broadway Albany, New York 12233 Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation

pursuant to Title 36 of Article 71 of the Environmental Conservation

Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved by the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5) the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. <u>Right to Enter and Inspect</u>. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. <u>Reserved Grantor's Rights</u>. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

County: Westchester Site No: C360081 Brownfield Cleanup Agreement Index : C360081-04-14

5. <u>Enforcement</u>

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. <u>Notice</u>. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: C360081 Office of General Counsel NYSDEC 625 Broadway Albany New York 12233-5500

With a copy to:

Site Control Section Division of Environmental Remediation NYSDEC 625 Broadway Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and

County: Westchester Site No: C360081 Brownfield Cleanup Agreement Index : C360081-04-14

communicating notices and responses to requests for approval.

7. <u>Recordation</u>. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. <u>Amendment</u>. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. <u>Extinguishment.</u> This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. <u>Joint Obligation</u>. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

Remainder of Page Intentionally Left Blank

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.



Grantor's Acknowledgment

STATE OF NEW YORK)) ss: COUNTY OF FAIR FIED)

On the 10 day of <u>OCHODEX</u>, in the year 20 <u>C</u>, before me, the undersigned, personally appeared <u>John Foxer</u>, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

rever Notary Public - State of New

Jill Katherine Young Notary Public State of Connecticut Commision Expires 2/29/2020 THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner,

By:

Robert W. Schick, Director Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK) ss: COUNTY OF ALBANY

On the 3^{++} day of 4^{++} day of 4^{+} day

an Notary ublic - \$tate of New York

David J. Chiusano Notary Public, State of New York No. 01CH5032146 Qualified in Schenectady County Commission Expires August 22, 20

DESCRIPTION OF ENVIRONMENTAL EASEMENT #2 LOCATED IN THE VILLAGE OF BRONXVILLE, TOWN OF EASTCHESTER, COUNTY OF WESTCHESTER, STATE OF NEW YORK.

ALL that certain plot, piece or parcel of property situate, lying and being located in the Village of Bronxville, Town of Eastchester, County of Westchester, State of New York and more particularly bounded and described as follows:

Beginning at a point formed by the division line between property now or formerly Metro-North Railroad, property now or formerly Gateway Kensington LLC,, and the westerly side of Kensington Road, said point being the POINT OF BEGINNING;

thence from said point of beginning, said point being the beginning of a curve to the left, of which the radius point lies S.66°45'10"E., a radial distance of 245.98 feet; thence southerly along the arc, through a central angle of 29°50'16", a distance of 128.10 feet;

thence southerly, a distance of 82.05 feet along a non tangent curve to the right of which the radius point lies S.83°26'09"W. a radius of 315.00 feet, and having a central angle of 14°55'26";

thence N.28°38'39"W., a distance of 7.25 feet;

thence northwesterly, a distance of 30.09 feet along a non tangent curve to the left of which the radius point lies S.63°49'44"W. a radius of 49.24 feet, and having a central angle of 35°00'25";

thence N.47°00'39"E., a distance of 27.77 feet;

thence N.15°50'54"W., a distance of 21.60 feet;

thence N.15°58'51"W., a distance of 40.37 feet;

thence N.56°33'44"W., a distance of 6.16 feet;

thence N.28°16'40"E., a distance of 36.86 feet;

thence N.23°16'26"E., a distance of 70.72 feet to the POINT OF BEGINNING.

Containing 2,311 square feet or 0.0531 acres, more or less.

This easement falls entirely in Tax Lot 1, Block 5, Section 11.



Allen & Desnoyers LLF

Partners: Gregory J. Allen Dale A. Desnoyers Patrick L. Kehoe Denise J. D'Ambrosio

Of Counsel: Ralph F. Ambrosio Darren S. O'Connor Val Washington George J. Hoffman, Jr.

Notice to Municipality

November 30, 2016

Hon. Mary C. Marvin Mayor Village of Bronxville 200 Pondfield Road Bronxville, New York 10708

Re: 5-27 Kensington Road BCP Site No.: C360081 Environmental Easement

Dear Hon. Mayor Marvin:

Attached please find a copy of an Environmental Easement granted to the New York State Department of Environmental Conservation ("Department") on November 8, 2016, by Gateway Kensington LLC for property at 15 Kensington Road (formerly 5-27 Kensington Road) with Tax Map No. 11-5-16, and DEC Site No: C360081.

This Environmental Easement restricts future use of the above-referenced property to restricted residential uses in discrete areas of the property as provided for in the Environmental Easement. Any on-site activity must be done in accordance with the Environmental Easement and the Site Management Plan which is incorporated into the Environmental Easement.

Article 71, Section 71-3607 of the New York State Environmental Conservation Law requires that:

1. Whenever the department is granted an environmental easement, it shall provide each affected local government with a copy of such easement and shall also provide a copy of any documents modifying or terminating such environmental easement.

2. Whenever an affected local government receives an application for a building permit or any other application affecting land use or development of land that is subject to an environmental easement and that may relate to or impact such easement, the affected local government shall notify the department and refer such application to the department. The department shall evaluate whether the application is consistent with the environmental easement and shall notify the

90 State Street – Suite 1009, Albany, New York 12208 • (518) 426-2288 One North Lexington Avenue – 15th Floor, White Plains, New York 10601 • (914) 393-9578 www.allendesnoyers.com affected local government of its determination in a timely fashion, considering the time frame for the local government's review of the application. The affected local government shall not approve the application until it receives approval from the department.

An electronic version of every environmental easement that has been accepted by the Department is available to the public at: http://www.dec.ny.gov/chemical/36045.html. Please forward this notice to your building and/or planning departments, as applicable, to ensure your compliance with these provisions of New York State Environmental Conservation Law. If you have any questions or comments regarding this matter, please do not hesitate to contact me.

Very truly yours,

Denise J.D'Ambrosio, Esq.

Enc.

90 State Street - Suite 1009, Albany, New York 12208 • (518) 426-2288 One North Lexington Avenue - 15th Floor, White Plains, New York 10601 • (914) 393-9578 www.allendesnovers.com

NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION: BROWNFIELD CLEANUP PROGRAM

In the Matter of a Brownfield Cleanup Program Application,

AFFIDAVIT OF SERVICE

DEC Site Name: 5-27 Kensington Road Applicant: Gateway Kensington LLC BCP Site No.: C360081

Denise J. D'Ambrosio, being duly sworn deposes and says:

I am attorney for the Applicant Gateway Kensington LLC, and am over the age of 18 years with offices at Allen & Desnoyers LLP, One North Lexington Avenue, White Plains, New York, 10601.

-----X

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On November 30, 2016, I served a true copy of the annexed Notice to Municipality of Environmental Easement in the following manner:

by transmitting the same to the attorney by electronic means to the telephone number or other station or other limitation designated by the attorney for that purpose. In doing so I received a signal from the equipment of the attorney indicating that the transmission was received.

by delivering the same personally to the person(s) and at the address indicated below a true copy of the annexed upon:

by mailing the same in a sealed envelope with an overnight delivery service in a wrapper properly addressed. Said delivery was made prior to the latest time designated by said service. The address and delivery service are designated below:

by depositing a true copy thereof, enclosed in a post-paid wrapper, in an official depository under the exclusive care and custody of the U.S. Postal Service within New York State addressed to each of the following persons at the last known address set forth after each name:

Hon. Mary C. Marvin Mayor Village of Bronxville 200 Pondfield Road Bronxville, New York 10708

Denise J. D'Ambrosio

Sworn to before me this 30th of November, 2016.

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NOTARY PUBLIC DEBRA TREVORAH Notary Public, State of New York No. 01TR6250488 Qualified in Westchester County Commission Expires October 24, 2018

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APPENDIX E – QUALITY ASSURANCE PROJECT PLAN

All sampling and analyses will be performed in accordance with the requirements of the Quality Assurance Project Plan (QAPP) prepared for the site. Main Components of the QAPP include:

- QA/QC Objectives for Data Measurement;
- Sampling Program:
 - Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such.
 - Sample holding times will be in accordance with the NYSDEC ASP requirements.
 - Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.
- Sample Tracking and Custody;
- Calibration Procedures:
 - All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.
 - The laboratory will follow all calibration procedures and schedules as specified in USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.
- Analytical Procedures;
- Preparation of a Data Usability Summary Report (DUSR), which will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method.
- Internal QC and Checks;
- QA Performance and System Audits;
- Preventative Maintenance Procedures and Schedules;
- Corrective Action Measures.
- Assessing achievement of the remedial performance criteria.
- Preparing the necessary reports for the various monitoring activities.
- Reporting requirements;
- Quality Assurance/Quality Control (QA/QC) requirements;

APPENDIX F – HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN

October 11, 2016

Site:

5-27 Kensington Road Bronxville, New York Village of Bronxville Tax Map Designation: Block 5; Lot 1, 6, and 16

Prepared for:

Gateway Development Group, Inc. 2 Dearfield Drive, Suite #3 Greenwich, Connecticut 06831

Submitted to:

New York State Department of Environmental Conservation Region 3 Offices 21 South Putt Corners Road New Paltz, New York 12561

NYSDEC Site Number: C360081



IMPACT ENVIRONMENTAL | 170 Keyland Court | Bohemia | New York | 11716 | 631.269.8800

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1 Introduction

This Investigation Health and Safety Plan (HASP) describes the procedures to be followed in order to reduce employee exposure to potential health and safety hazards that may be present during environmental investigation activities being performed at the site. The emergency response procedures necessary to respond to such hazards are also described within this HASP. All activities performed under this HASP are targeted to comply with Occupational Safety and Health Administration (OSHA) Regulations 29 CFR Part 1910.1025.

This document is not, nor does it purport to be, a complete description of all safety and health requirements applicable to work performed at the site. Rather, the HASP is a general overview of the compliance policies and work practices applicable to the primary tasks and hazards associated with the environmental assessment portion of the development project, as well as a recitation of <u>minimum</u> safety and health compliance obligations for contractors, subcontractors and workers at the site. All subcontractors of any tier operating at the worksite are obligated to implement and maintain comprehensive safety and health requirements. All subcontractors operating at the worksite should refer to the applicable specific OSHA Standards for detailed requirements.

1.1 Purpose

The purpose of this HASP is to provide the contractors' field personnel, as well as other site-occupants, with an understanding of the potential chemical and physical hazards that exist or may arise while portions of this project are being performed. To this end, this HASP also presents information on the progression of the environmental restoration activities and specific details regarding the handling of materials excavated from the site.

The primary objective is to ensure the well being of all field personnel and the community surrounding this site. In order to accomplish this, project staff and approved subcontractors of any tier shall acknowledge and adhere to the policies and procedures established herein. Accordingly, all personnel assigned to the remediation activities associated with this project (Remedial Personnel) shall read this HASP and sign the Agreement and Acknowledgment Statement (Appendix F) to certify that they have read, understood, and agree to abide by its provisions. A copy of this HASP will be available to anyone that requests it. Personnel involved in construction activities (Construction Personnel) and other Personnel (e.g. government officials, administrators, bank inspectors, assessors, etc.) that will have limited exposure to the site native soil/fill material during construction activities will be instructed on how to reduce the probability of exposure to site contaminants, but will not be required read the HASP.

2 Application of Health and Safety Plan

The procedures of this HASP apply for any person that will enter the boundaries of the site or a portion of the Site during environmental remediation activities or construction, until the existing soil/fill material has been covered with either a paved surface or an uncontaminated soil cap. When the Project Manager has designated an area of the site as clear of any environmental issues, construction contractors and subcontractors of any tier will perform the balance of the work in accordance with their individual OSHA-compliant corporate HASP.

2.1 Restoration Personnel

Employees of contractors and subcontractors of any tier performing the following activities will be considered Restoration Personnel:

- Excavation of native soil/fill material
- Loading of native soil/fill onto vehicles
- Processing of native soil/fill into components
- Transporting of native soil/fill across the site
- Sampling of native soil/fill material for subsequent physical or chemical analysis
- Cleaning or decontaminating equipment or personnel
- Handling of ground waters

All subcontractors, of any tier, must submit a HASP to the Site Health and Safety Officer for review and approval prior to mobilizing to the site. Only HASPs that comply with this HASP will be approved. Where a subcontractors HASP is deficient, the Site Health and Safety Officer will provide written notification of any required changes. Approved HASPs will be submitted to the Project Manager and retained on-site for reference by the Site Health and Safety Officer.

2.1.1 Construction Personnel

For this document, "Construction Personnel" is the term given for those employees of contractors and subcontractors of any tier performing activities associated with site development other than those performed by the Remedial Personnel. This designation does not preclude that Construction Personnel will traverse or work upon native soil/fill material, rather, it infers that it will not involve performing tasks that will create a route of exposure to the contaminants contained therein. Construction Personnel will receive instruction to limit the potential for exposure to these contaminants. Construction Personnel will be prohibited from entering Environmental Remediation Areas (i.e., active excavation / handling / processing areas, loading areas, exclusion zones or support zones).

3 Key Personnel / Identification of Health & Safety Personnel

3.1 Key Personnel

A list of the pertinent personnel authorized to be present on site is as follows:

Title	Name	Telephone Number
Project Manager Impact Environmental	Juliana del la Fuente	(O) 631-269-8800 (C) 631-704-5920
Site Health & Safety Officer Impact Environmental	Juliana del la Fuente	(O) 631-269-8800 (C) 631-704-5920

3.2 Organizational Responsibility

3.2.1 Project Manager

The Project Manager will be responsible for implementing the project and obtaining any necessary personnel or resources for the completion of the project. Specific duties will include:

- Coordinating the activities of all construction and Remedial Personnel, to include informing them of the required Personal Protective Equipment (PPE) and insuring their signature acknowledging this HASP;
- Selecting a Site Health and Safety Officer and field personnel for the work to be undertaken on site;
- Ensuring that the tasks assigned are being completed as planned and on schedule;
- Providing authority and resources to ensure that the Site Health and Safety Officer is able to implement and manage safety procedures;
- Preparing reports and recommendations about the project to clients and affected personnel;
- Ensuring that all persons allowed to enter the site (e.g.., EPA, contractors, state officials, visitors) are made aware of the potential hazards associated with the substances known or suspected to be on site, and are knowledgeable as to the on-site copy of the specific HASP;
- Ensuring that the Site Health and Safety Officer is aware of all of the provisions of this HASP and is instructing all personnel on site about the safety practices and emergency procedures defined in the plan;
- Serving as liaison with public officials where there is no Public Affairs official designated.

3.2.2 Field Operations Leader

The Field Operations Leader will be responsible for field operations and safety. Specific duties will include, but are not limited to:

- Scheduling with the construction company and their subcontractors;
- Coordinating with the Site Health and Safety Officer in determining protection levels;
- Documenting field activities;
- Coordinate activities between environmental and construction personnel.
- Coordination with waste management contractors.
- Review and approval of waste disposal facilities.

In the event that the Project Manager and the Site Health and Safety Officer are not on site, the Field Operations Leader will assume all responsibility of the Site Health and Safety Officer.

3.2.3 Site Health and Safety Officer

The Site Health and Safety Officer shall be responsible for the implementation of the HASP on site. Specific duties will include:

- Monitoring the compliance of construction and environmental remediation activities personnel (field personnel) for the routine and proper use of the PPE that has been designated for each task;
- Routinely inspecting PPE and clothing to ensure that it is in good condition and is being stored and maintained properly;
- Stopping work on the site or changing work assignments or procedures if any operation threatens the health and safety of workers or the public;
- Monitoring personnel who enter and exit the site and all controlled access points.
- Reporting any signs of fatigue, work-related stress, or chemical exposures to the Project Manager;
- Dismissing field personnel from the site if their actions or negligence endanger themselves, co-workers, or the public, and reporting the same to the Project Manager;
- Reporting any accidents or violations of the HASP plan to the Project Manager and documenting the same for the project in the records;
- Knowing emergency procedures, evacuation routes, and the telephone numbers of the ambulance, local hospital, poison control center, fire and police departments;
- Ensuring that all project-related personnel have signed the personnel agreement and acknowledgments form contained in this HASP;
- Coordinate upgrading and downgrading PPE as necessary due to changes in exposure levels, monitoring results, weather, and other site conditions;
- Perform air monitoring with approved instruments in accordance with requirements stated in this HASP.

4 Health and Safety Risk Analysis

The field tasks covered by the HASP will include material excavation with hydraulic equipment and hand tools, the manual sorting of materials, and containerization of soil and groundwater samples. Additionally, standard job task hazards that are inherent to a construction project will exist.

4.1 Explosion and Fire

This Section is not, nor does it purport to be, a comprehensive recitation of safety and health requirements applicable to explosion and fire. Rather, contractors, subcontractors and workers at the site must refer to OSHA's Fire Protection and Prevention Standard, set forth at 29 C.F.R. § 1910 part 1926.35, as well as all supporting OSHA Compliance Directives and Letters of Interpretation, for complete information on safety and health compliance obligations. The following are possible fire and explosion hazards that may be encountered on the job site along with fire preventive measures to take.

4.1.1 Flammable Vapors

The presence of flammable vapors can pose a potential fire and health hazard. Hazard reduction procedures include monitoring the ambient air with an oxygen/LEL meter (combustible gas indicator). If the LEL reading exceeds 20%, all work will stop and employees will leave the site immediately and contact the fire department. For OSHA-defined "confined space" activities, work will stop if the LEL reading exceeds 10%.

4.1.2 High Oxygen Levels

Atmospheres that contain a level of oxygen greater than 23% pose an extreme fire hazard (the usual ambient oxygen level is approximately 20.5%). All personnel encountering atmospheres that contain a level of oxygen greater than 23% must evacuate the site immediately and must notify the Fire Department. If the oxygen level is less than 19.5%, do not enter the space without level B PPE.

4.1.3 Fire Prevention

- During equipment operation, periodic vapor concentration measurements should be taken with an explosimeter or combustimeter. If at any time the vapor concentrations exceed 20% of the lower explosive limit (LEL), then the Site Health and Safety Officer or designated field worker should immediately shut down all operations.
- Only approved safety cans will be used to transport and store flammable liquids.
- All gasoline and diesel-driven engines requiring refueling must be shut down and allowed to cool prior to filling.
- Smoking is not allowed during any operations within the work area in which petroleum products or solvents in freefloating, dissolved, or vapor forms, or other flammable liquids may be present.
- No open flame or spark is allowed in any area containing petroleum products or other flammable liquids.

4.2 Operational Safety Hazards

This Section is not, nor does it purport to be, a comprehensive recitation of safety and health requirements applicable to earth moving equipment. Rather, contractors, subcontractors and workers at the site must refer to OSHA's Excavation Standard, set forth at 29 C.F.R. § 1910 Subpart P as well as all supporting OSHA Compliance Directives and Letters of Interpretation, for complete information on safety and health compliance obligations.

4.2.1 Heavy Machinery / Equipment

All site employees must remain aware of those site activities that involve the use of heavy equipment and machinery. Respiratory protection and protective eyewear may be worn frequently during site activities. This protective equipment significantly reduces peripheral vision of the wearer. Therefore, it is essential that all employees at the site exercise extreme caution during operation of equipment and machinery to avoid physical injury to themselves or others.

4.2.2 Vehicular Traffic

All employees will be required to wear a fluorescent safety vest at all times while on site. In addition, supplemental traffic safety equipment use can be exercised when warranted by specific task. Supplemental equipment can be items such as cones, flags, barricades, and/or caution tape. Drivers of waste transportation vehicles will only exit vehicles in designated areas within the Support Zone. During this time, drivers will only be allowed to inspect the placement of waste loads and cover their trailers.

4.3 Noise Hazards

This Section is not, nor does it purport to be, a comprehensive recitation of safety and health requirements applicable to noise hazards. Rather, contractors, subcontractors and workers at the site must refer to OSHA's Occupational Noise Exposure Standard, set forth at 29 C.F.R. § 1910 part 1926.52, as well as all supporting OSHA Compliance Directives and Letters of Interpretation, for complete information on safety and health compliance obligations.

Hearing protection shall be provided to the employees where sound pressure levels exceed 85 dB. Hearing protection shall be worn where sound pressure levels in areas and/or on equipment exceeds 90 dB. Typical heavy excavation operations have been monitored with a sound level meter and indicate that hearing protection is required for all personnel while engaged in this action.

4.4 Safe Material Handling

This Section is not, nor does it purport to be, a comprehensive recitation of safety and health requirements applicable to safe material (soil/fill) handling. Rather, contractors, subcontractors and workers at the site must refer to OSHA's Eye and Face, and Respiratory Safety Standards, set forth at 29 C.F.R. § 1910 Parts 1926.102 and 1926.103 as well as all supporting OSHA Compliance Directives and Letters of Interpretation, for complete information on safety and health compliance obligations.

Skin and eye contact with contaminated soil/fill or materials in contact with the soil/fill may occur during excavation, handling and decontamination activities. Nitrile gloves and approved safety glasses must be worn to prevent exposure to the associated

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contaminants. Employees working at or near (within ten feet of) excavation fronts could be required to wear respiratory protection. If necessary, all associated activities will be performed pursuant to 29 C.F.R. § 1910 Parts 1926.134 (a)(2) and 1926.55.

4.5 Temperature Hazards

This Section is not, nor does it purport to be, a comprehensive recitation of safety and health requirements applicable to temperature stresses. Rather, contractors, subcontractors and workers at the site must refer to OSHA's Technical Manual (TED 1-0.15A), Section III – Chapter 4 (1999) as well as all supporting OSHA Compliance Directives and Letters of Interpretation, for complete information on safety and health compliance obligations.

Since climatic changes cannot be avoided, work schedules will be adjusted to provide time intervals for intake of juices, juice products, and water in an area free from contamination and in quantities appropriate for fluid replacement to prevent heat stress conditions from occurring.

4.5.1 Types of Heat Stress

Heat stress may occur even in moderate temperature areas and may present any or all of the following:

4.5.1.1 Heat Rash

Result of continuous exposure to heat, humid air, and chafing clothes. Heat rash is uncomfortable and decreases the ability to tolerate heat.

4.5.1.2 Heat Cramps

Result of the inadequate replacement of body electrolytes lost through perspiration. Signs include severe spasms and pain in the extremities and abdomen.

4.5.1.3 Heat Exhaustion

Result of increased stress on the vital organs of the body in the effort to meet the body's cooling demands. Signs include shallow breathing; pale, cool, moist skin; profuse sweating; and dizziness.

4.5.1.4 Heat Stroke

Result of overworked cooling system. Heat stroke is the most serious form of heat stress. Body surfaces must be cooled and medical help must be obtained immediately to prevent severe injury and/or death. Signs include red, hot, dry skin, absence of perspiration, nausea, dizziness and confusion, strong, rapid pulse that could lead to coma or death.

4.5.2 Heat Stress Prevention

A. Replace body fluids (water and electrolytes) lost through perspiration. Solutions may include a 0.1% salt and water solution or commercial mixes such as "Gatorade". Employees must be encouraged to drink more than the amount required in order to satisfy thirst.

- B. Use cooling devices to aid the natural body ventilation. Cooling occurs through evaporation of perspiration and limited body contact with heat-absorbing protective clothing. Utilize fans and air conditioners to assist in evaporation. Long, cotton underwear is suggested to absorb perspiration and limit any contact with heat-absorbing protective clothing (i.e., coated Tyvek suits).
- C. Conduct non-emergency response activities in the early morning or evening during very hot weather.
- D. Provide shelter against heat and direct sunlight to protect personnel. Take breaks in shaded areas.
- E. Rotate workers utilizing protective clothing during hot weather.
- F. Establish a work regime that will provide adequate rest periods, with personnel working in shifts.

4.6 Cold Exposure Hazards

Work schedules will be adjusted to provide sufficient rest periods in a heated area for warming up during operations conducted in cold weather. Also, thermal protective clothing such as wind and/or moisture resistant outerwear is recommended to be worn.

If work is performed continuously in the cold at or below -7 °C (20 °F), including wind chill factor, heated warming shelters (tents, cabins, company vehicles, rest rooms, etc.) shall be made available nearby and the worker should be encouraged to use these shelters at regular intervals, the frequency depending on the severity of the environmental exposure. The onset of heavy shivering, frostnip, the feeling of excessive fatigue, drowsiness, irritability, or euphoria, are indications for immediate return to the shelter. When entering the heated shelter, the outer layer of clothing shall be removed and the remainder of the clothing loosened to permit sweat evaporation. A change of dry work clothing shall be provided as necessary to prevent workers from returning to their work with wet clothing.

Dehydration, or the loss of body fluids, occurs in the cold environment and may increase the susceptibility of the worker to cold injury due to a significant change in blood flow to the extremities. Warm sweet drinks and soups should be provided at the work site to provide caloric intake and fluid volume. The intake of coffee should be limited because of a diuretic and circulatory effect (adapted from TLV's and Biological Exposure Indices 1988-1989, ACGIH).

5 Personnel Training

5.1 Pre-assignment and OSHA Training

All Remedial Personnel that will be in direct contact (that is hand digging, sampling, processing) with the native soil/fill materials must complete an initial 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training course and, where necessary, a current eight hour refresher course (as required annually after initial 40-hour training completion). Restoration Personnel that will not be in direct contact with native soil/fill materials are only required to prove they have read and understood the procedures presented in this HASP.

On-site managers and supervisors of Restoration Personnel (Field Operations Leader, Site Health and Safety Officer) directly responsible for employees engaged in hazardous substance operations have received an initial 40-hour HAZWOPER training course and an additional (above the 40-hour HAZWOPER) eight hours of supervisory training. These training requirements comply with the OSHA Hazardous Waste Operations and Emergency Response Regulation, 29 CFR 1910.120. The Site Health and Safety Officer will be certified in First Aid and Cardiovascular Pulmonary Resuscitation.

The Site Health and Safety Officer will conduct an on-site training meeting for all Construction Personnel and observers that could potentially be exposed to the native soil/fill material during construction activities. Training meetings will be provided routinely for any new project personnel. This program will cover specific health and safety equipment and protocols and potential problems inherent to each project operation. The Site Health and Safety Officer will be present for any activities being performed by Construction Personnel that will involve the handling of soil/fill during construction activities to provide supervision on exposure reduction. This may include insuring the use of proper PPE and air quality monitoring.

5.2 Respirator Requirements

5.2.1 Respirator Requirements and Fit Testing

The OSHA respiratory protection standard, 29 CFR 1910.134, under paragraph (f)(2), requires fit testing for all employees using tight fitting respirators including filtering facepiece respirator. The fit test must be performed before the respirator is used and must be repeated at least annually and whenever a different respirator facepiece is used or a change in the employee's physical condition could affect the respirator fit.

The user seal check is a separate requirement under paragraph (g)(1)(iii) and must be performed each time the employee dons the respirator. Employers must adhere to the recommendations of the respirator's manufacturer; different manufacturers recommend different procedures.

5.2.2 Medical Surveillance

OSHA requires a medical evaluation to determine whether each employee required to wear a respirator is physically able to wear a respirator and perform the work. This evaluation can be a medical examination or an evaluation of employee responses to the OSHA Respirator Medical Evaluation Questionnaire located in Appendix C of the Respiratory Protection Standard. Either method must be performed by a physician or other licensed healthcare professional. Appendix E has a copy of the forms to be completed.

A medical examination may be necessary whenever the employee gives a positive response to any of questions 1 through 8 in Appendix C, Part A, Section 2.

6 Personal Protective Equipment

This Section is not, nor does it purport to be, a comprehensive recitation of safety and health requirements applicable to personal protective equipment. Rather, contractors, subcontractors and workers at the site must refer to OSHA's Personal Protective Equipment Standard, set forth at 29 C.F.R. § 1910.Part 1926.28(a) as well as all supporting OSHA Compliance Directives and Letters of Interpretation, for complete information on safety and health compliance obligations.

The purpose of personal protective clothing and equipment (PPE) is to shield or isolate individuals from the chemical, physical, and biological hazards that may be encountered on-site when engineering and other controls are not feasible or cannot provide adequate protection. Careful selection and use of adequate PPE should protect the health of all on-site workers. No single combination of PPE is capable of protecting against all hazards. Therefore, PPE should be used in conjunction with, not in place of, other protective methods, such as engineering controls and safe work practices.

Site-specific chemicals of concern include semi-volatile organic compounds. These chemicals are of moderate to low hazard. Therefore, level D personal protective equipment will be required at all times when on site. The following is a breakdown of the types of protective clothing and equipment to be used during the site activities.

6.1.1 Levels of Protection

The Site Health and Safety Officer will determine whether a level of protection should be upgraded or downgraded. Changes in the level of protection will be recorded in the dedicated site logbook along with the rationale for the changes (see Section 7.1.3 for additional information on PPE upgrades). Level D PPE will be the minimum requirement at all times during the environmental remediation portion of the project.

6.1.2 Level D Personal Protective Equipment

All initial site access and activities will be done in Level D attire. Level D protection is sufficient under conditions where no contaminants are present or those activities that do not pose a potential threat of unexpected inhalation of or contact with hazardous levels of any substances. Typical Level D activities may include sediment, logging and groundwater sampling, and as surficial site surveys.

- Hard hat
- Safety glasses (as appropriate)
- Steel toe and shank boots
- Fluorescent vest
- Hearing protection (as appropriate)

6.1.3 Modified Level D Personal Protective Equipment

Hard hat

- Safety glasses
- Steel toe and shank boots
- Fluorescent vest
- Nitrile "N-Dex" inner gloves
- Latex outer boots (chemical resistant)
- Polyethylene coated Tyvek suit
- Hearing protection (as appropriate)

6.1.4 Level C Personal Protective Equipment

Level C protection, as described in this plan, will be available at a minimum for those activities that involve surface and subsurface soil (strata disturbance such as well installation, and all subsurface media sampling activities such as split-spoon sampling and borings). Level C protection equipment should be readily available at all times. Consistent with OSHA training, prior to donning Level C, oxygen percent must be continuously monitored.

- Buddy system required at all times
- Full face respirator with NIOSH approved OV/AG/HEPA combination cartridges (MSA GMC-H)
- Saranex coated Tyvek Suit
- Inner Nitrile "N-Dex" gloves
- Outer Nitrile (NBR) gloves
- Steel toe and shank boots
- Outer boots (chemical resistant)
- Hard hat
- Hearing protection (as appropriate)

6.1.5 Level B Personal Protective Equipment

Some activities may require Level B protection. In atmospheres potentially containing toluene and xylenes, the protective ensemble should include chemical resistant clothing since the two compounds have skin absorption potential. Regional Health and Safety representatives must be on site upon start-up of <u>any</u> project requiring level B protection. This should be understood to include subcontractors conducting Level B activity.

- Buddy system required at all times
- Supplied air respirator or SCBA
- Saranex coated Tyvek Suit
- Inner Nitrile "N-Dex" gloves
- Outer Nitrile (NBR) gloves
- Steel toe and shank boots
- Outer boots (chemical resistant)
- Hard hat
- Hearing protection (as appropriate)

6.1.6 Personal Use Factors and Equipment Change Out Schedule

Prohibitive or precautionary measures should be taken as necessary to prevent workers from jeopardizing safety during equipment use.

If necessary, all respiratory protective equipment used will be approved by NIOSH/MSHA. Respirator cartridges will be changed once per eight-hour shift at a minimum. This can be accomplished at the end of the workday during respirator decontamination. Employees working within the excavation front should change the cartridge of their respirators once every four hours. If odor breakthrough is detected while wearing the respirator or if breathing becomes difficult, change cartridges immediately. A filter change out schedule is provided below.

Remedial Worker	Work Area	Filter Type	Replacement Rate
Site Screener	EZ – At Excavation Front	MSA GMC-H	Every 4 Hours
Laborer	EZ – At Excavation Front	MSA GMC-H	Every 2 Hours
	SZ, CRZ	MSA GMC-H	Every 8 Hours
Equipment Operator	EZ	MSA GMC-H	Every 4 Hours
	SZ, CRZ	MSA GMC-H	Every 8 Hours
Administrator	EZ	MSA GMC-H	Every 4 Hours
	SZ, CRZ	MSA GMC-H	Every 8 Hours

When utilizing protective garments such as Tyvek suits, gloves, and booties, all seams between protective items will be sealed with duct tape.

Contact with contaminated surfaces, or surfaces suspected of being contaminated, should be avoided. This includes walking through, kneeling in, or placing equipment in puddles, mud, discolored surfaces, or on drums and other containers.

Eating, smoking, drinking, and/or the application of cosmetics in the immediate work area is prohibited. Ingestion of contaminants or absorption of contaminants into the skin may occur.

The use of contact lenses on the job site is strongly advised against. Contact lenses may trap contaminants and/or particulate between the lens and eye, causing irritation. However, when glasses are not available, contact lenses are preferred over faulty vision. When contact lenses are worn, safety glasses and/or goggles must be worn at all times while on the job site. Wearing contact lenses with a respirator in a contaminated atmosphere is prohibited under 29 CFR ss1910.134 (e)(5)(iii).

7 Air Monitoring Program

During excavation, waste handling, and material transport, the air in work areas will be sampled periodically (on the site and at the property lines) for the presence of contaminants. Levels of organic vapors in the ambient air will be monitored during the

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fieldwork to ensure that appropriate levels of respiratory protection are employed at all times. Additionally, the testing will be performed to determine if changes to this plan are warranted to protect workers and the environment.

7.1 Organic Compounds

When deemed appropriate, a member of the safety team will use a real-time, organic vapor analyzer to monitor the concentration VOCs in the air in the work areas, and will determine when changes in site operations and personal protection equipment are necessary. No changes in the levels of respiratory protection specified above will be made without the approval of the site safety supervisor and the project team leader.

During the environmental restoration activities, the site workers will use a photo ionization detector (PID) and/or a combustible gas indicator (CGI) to monitor levels of organic vapor in the air and verify that they are within the safety guidelines established by the preliminary assessment of the risks associated with site investigations. The PID has an audible alarm set for 5 ppm (the lowest action threshold presented within this plan). If used, the GCI will have an audible alarm set to detect explosive atmospheres. Testing will be performed as necessary within the exclusion zone and at the nearest down-wind property line.

Screening activities with respect to soil quality are detailed in section 8 of this report. At a minimum, where monitoring equipment is used, the following information will be logged.

- Instrument type and detection range
- Control settings
- Reading locations
- Atmospheric conditions
- Calibration Records To be performed a minimum of once per day

For health and safety purposes, the benzene concentration in air will be identified as 2% of the total concentration of detected hydrocarbons. This method is consistent with air monitoring conducted by the NYSDEC.

The data collected during monitoring will be used to guide site operations in a manner that is consistent with the New York State Department of Environmental Conservation, DER-I0 Technical Guidance for Site Investigation and Remediation, Generic Community Air Monitoring Plan.

Accordingly, if the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the I5-minute average. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

7.2 Fugitive Emissions and Odor Monitoring

Airborne fugitive particulate emissions at the site EZ and at the nearest down wind property line will be measured by the Site Safety Officer on a continuous basis during waste handling activities. The measurements will be made using a portable particulate monitoring device manufactured by the Casella Corporation. The monitoring device is capable of detecting airborne particulate (PM-10) at concentrations ranging from 1 to 1000 micrograms per cubic meter (ug/m3). Detected concentrations are logged within the instrument memory and can be retrieved using Microsoft Windows-based software provided by the manufacturer. Retrieved data cab be imported into standard PC-based spreadsheet and database software for analysis and report presentation.

At a minimum, where the particulate monitoring device is used, the following information will be logged.

- Instrument type and detection range
- Control settings
- Reading locations
- Atmospheric conditions
- Calibration Records To be performed a minimum of once per day

The data collected during monitoring will be used to guide site operations in a manner that is consistent, or due to the presence of heavy metal contaminants within the soil is more restrictive than those presented within the New York State Department of Environmental Conservation, DER-IO Technical Guidance for Site Investigation and Remediation, Generic Community Air Monitoring Plan.

If <u>during handling or the historic fill</u> the total downwind PM-10 particulate level is 150 micrograms per cubic meter (ug/m3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then the handling activities must immediately stop, and the dust suppression techniques listed in section 8.3 of this document must be employed. Activities cannot resume until the mitigating measures result in a net downwind PM-10 particulate concentration below150 ug/m3.

If during <u>handling of certified clean soil</u> the total downwind PM-10 particulate level is 200 micrograms per cubic meter (ug/m3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques listed in section 8.3 of this document must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 200 ug/m3 above the upwind level and provided that no visible dust is migrating from the work area.

If, after implementation of dust suppression techniques, downwind PM - 10 particulate levels are greater than 150 ug/m3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust

suppression measures and other controls are successful in reducing the downwind PM-IO particulate concentration to within 150 ug/m3 of the upwind level and in preventing visible dust migration.

Because the detection of odors is subjective, the Site Health and Safety Officer will be charged with the responsibility of making a determination if measures are required to abate odors. Since the contaminant concentrations in the soil/fill are generally below the odor threshold, the odor sources during the site will be the operation of diesel engines associated with hydraulic material handling and transportation.

7.3 Site Matrix for Protection Level Determinations

Action levels represent those conditions requiring an upgrade of personal protective equipment (PPE). The information presented below applies to the above chemical constituents. All air monitoring results should be logged in the Site Safety Log. The following tables provide for quick reference for each monitored parameter.

Ionization Detector Response

Photoionization Detector (PID)			
Concentrations (in ppm) Level of PPE Required/Procedure			
0.0 to 15.0	Level D		
15.1 to 250.0	Level C		
> 750.0	Immediately withdraw from the area		

Combustible Gas Response

Combustible Gas Indicator (CGI)			
Results (% of LEL) Level of PPE Required/Procedure			
0.0 to 20.0	Level D - Continue with normal activity		
Above 20.0	Discontinue all site restoration activities - Immediately withdraw from the area and		
	implement emergency procedures presented in Section 11 of this document.		

Particulate Detector Response

Real Time Particulate Detection Meter			
Results (mg/m3) Level of PPE Required/Procedure			
0.0 to 5.0	Continue with normal activity – Level D		
>5.0	Level C Protection - Discontinue site activities – initiate dust control		
	activities listed in Section 8.3 of this document		

7.4 Work Zone Definitions

Work and support areas shall be established based on ambient air data and proposed work sites. They shall be established in order to contain contamination within the smallest areas possible and shall ensure that each employee has the proper PPE for the area or zone in which work is to be performed.

7.4.1 Exclusion Zone (EZ)

It is within this zone that the excavation or environmental remediation activities such as tank abandonment operations (as described in 8.1.1.1) are performed. No one shall enter this zone unless the appropriate PPE is donned. The location of this zone will change as the construction-related excavation activities are performed.

7.4.2 Contaminant Reduction Zone (CRZ)

It is within this zone that the decontamination process is undertaken. Personnel and their equipment must be adequately decontaminated before leaving this zone for the support zone. This zone will be set up between the EZ (no less than 100 feet away) and the site boundary.

7.4.3 Support Zone (SZ)

The support zone is considered to be uncontaminated; as such, protective clothing and equipment are not required but should be available for use in emergencies. All equipment and materials are stored and maintained within this zone. Protective clothing is put on within the SZ before entering the EZ or the CRZ. The SZ will be established in a safe environment at least 50 feet away from the EZ.

7.4.4 Fugitive Dust Control Measures

To prevent the occurrence of fugitive emissions the following procedures will be implemented.

- A strict facility speed limit will be set at 15 miles per hour.
- Roads will be wetted using potable water.
- Media stockpiles over 500 cubic yards will be covered with plastic poly sheeting.
- Excavation and handling activities will be halted where winds exceed 40 miles per hour.
- Loading and mechanical screening of material will be performed within the central portions of the site as to provide maximum distance to the property lines.
- Media handled about the site will be covered while being transported within trucks.

7.5 Backfilling

All backfill material must be demonstrated to be free of any detectable concentrations of organic compounds and have concentrations of inorganic compounds that are consistent with uncontaminated regional soils (McGovern, NYSDEC, 1987).

8 General Safety and Health Provisions

This Section is not, nor does it purport to be, a comprehensive recitation of safety and health requirements applicable to general safety and health provisions. Rather, contractors, subcontractors and workers at the site must refer to OSHA's General Safety and Health Provision Standard, set forth at 29 C.F.R. § 1910 subparts C and G as well as all supporting OSHA Compliance Directives and Letters of Interpretation, for complete information on safety and health compliance obligations.

8.1 Safety Practices / Standing Orders

The following are important safety precautions that will be enforced during work activities.

- 1. Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand-to-mouth transfer and ingestion of material is prohibited in any area designated as contaminated.
- 2. Hands and face must be thoroughly washed upon leaving the work area and before eating, drinking, or any other activity.
- 3. Whenever decontamination procedures for outer garments are in effect, the entire body should be thoroughly washed as soon as possible after the protective garments are removed.
- 4. No excessive facial hair that interferes with the effectiveness of a respirator will be permitted on personnel required to wear respiratory protection equipment. The respirator must seal against the face so that the wearer receives air only through the air purifying cartridges attached to the respirator. Fit testing shall be performed prior to respirator use to ensure the wearer obtains a proper seal.
- 5. Contact with potentially contaminated surfaces should be avoided whenever possible. One should not walk through puddles; kneel on the ground; lean, sit, or place equipment on drums, containers, vehicles, or the ground.
- 6. Medicine and alcohol can potentate the effect from exposure to certain compounds. Prescribed drugs and alcoholic beverages should not be consumed by personnel involved in the project.
- 7. Personnel and equipment in the work areas should be minimized, consistent with effective site operations.
- 8. Work areas for various operational activities should be established.
- 9. Procedures for leaving the work area must be planned and implemented prior to going to the site. Work areas and decontamination procedures must be established on the basis of prevailing site conditions.
- 10. Respirators will be issued for the exclusive use of one worker and will be cleaned and disinfected after each use.
- 11. Safety gloves and boots shall be taped to the disposable, chemical-protective suits as necessary.
- 12. All unsafe equipment left unattended will be identified by a "DANGER, DO NOT OPERATE" tag.
- 13. Noise mufflers or earplugs may be required for all site personnel working around heavy equipment. This requirement will be at the discretion of the Site Health and Safety Officer. Disposable, form-fitting plugs are preferred.
- 14. Cartridges for air-purifying respirators in use will be changed daily at a minimum.
- 8.2 Buddy System

Site personnel will employ the buddy system when working under certain circumstances, such as enclosed spacing. Under the buddy system, each site worker is responsible for monitoring the well-being of another worker. No one will work alone when the buddy system is implemented. At no time will fewer than two employees be present at the site if activities are underway.

8.3 Site Communications Plan

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Mobile telephone and/or two-way radios will be used to communicate between the work parties on the site. The following standard hand signals will be used in case of failure of radio communication:

- Hands on top of head
 = Need assistance
 - Thumbs up = OK, I am alright, I understand
- Thumbs down = No, negative

Personnel in the Contaminated Zone should remain in constant radio communication or within sight of the project team leader. Any failure of radio communication will require the team leader to evaluate whether personnel should leave the zone.

8.4 Retention of Records

The following records will be maintained on-site and in corporate records for no less than three years.

- Fit test results
- OSHA Training Certification
- Medical Questionairre and/or Medical Clearance
- Medical Data Sheets
- Accident Report Forms

9 Decontamination Plan

9.1 General

Personnel involved in work activities at the site may be exposed to compounds in a number of ways, despite the most stringent protective procedures. Site personnel may come in contact with vapors, gases, mists, particulates in the air, or other site media while performing site duties. Use of monitoring instruments and site equipment can also result in exposure and transmittal of hazardous substances.

In general, decontamination involves scrubbing with a detergent water solution followed by clean water rinses. All disposable items shall be disposed of in a dry container. Certain parts of contaminated respirators, such as harness assemblies and leather or cloth components, are difficult to decontaminate. If grossly contaminated, they may have to be discarded. Rubber components can be soaked in detergent and water and scrubbed with a brush. In addition to being contaminated, all respirators, non-disposable protective clothing, and other personal articles must be sanitized or replaced before they can be used again if they become soiled from exhalation, body oils, and perspiration. The manufacturer's instructions should be followed in sanitizing the respirator masks.

The Site Health and Safety Officer will be responsible for the proper maintenance, decontamination, and sanitizing of any respirator equipment that may be used on-site.

The decontamination zone layout and procedures should match the prescribed levels of personal protection.

The following procedures have been established to provide site personnel with minimum guidelines for proper decontamination. Personnel leaving the point of operations designated as the EZ must follow these minimum procedures. The decontamination process shall take place within the contaminant reduction zone.

9.2 Minimum Decontamination Procedure

Personnel leaving the point of operations should remove or change outer gloves. At a minimum, boots shall be cleaned of all accumulated soil/fill. Outer boots must be properly washed where gross contamination is evident or disposed of. If Tyvek suits are being utilized, they should be removed or changed. Personnel should remove the Tyvek suits so that the inner clothing does not come in contact with any contaminated surfaces. After Tyvek removal, personnel shall remove and discard outer Nitrile gloves. Personnel shall then remove the respirator, where applicable. Respirators shall be disinfected between uses with towelettes or other sanitary methods. Potable water, at a minimum, will be present so that site personnel can thoroughly wash hands and face after leaving the point of operations.

The Site Health and Safety Officer will monitor decontamination procedures to ensure their effectiveness. Modifications of the decontamination procedure may be necessary as determined by the Site Health and Safety Officer's observations.

9.3 Standard Decontamination Procedure

The following decontamination procedures should be implemented during site operations for the appropriate level of protection.

9.3.1 Level B

Segregated equipment drop	Deposit equipment (tools, sampling devices, notes, monitoring instruments, radios,		
	etc.) used on the site onto plastic drop cloths.		
Boot covers and glove wash	Outer boots and outer gloves should be scrubbed with a decontamination solution of		
	detergent and water or replaced.		
Rinse off boot covers and	Decontamination solution should be rinsed off boot covers and gloves using generous		
gloves	amounts of water. Repeat as many times as necessary.		
Tape removal	Remove tape from around boots and gloves and place into container with plastic		
	liner.		
Boot cover removal	Remove disposable boot covers and place into container with plastic liner.		
Outer glove removal	Remove outer gloves and deposit in container with plastic liner.		
Suit / safety boot wash	Completely wash splash suit, SCBA, gloves, and safety boots. Care should be		
	exercised that no water is allowed into the SCBA regulator. It is suggested that the		
	SCBA regulator be wrapped in plastic.		
Suit / safety boot rinse	Thoroughly rinse off all decontamination solution from protective clothing.		
Tank or canister changes	This is the last step in the decontamination procedure for those workers wishing to		
	change air tanks and return to the EZ. The worker's air tank or cartridge is exchanged,		
	new outer glove and boot covers are donned, and joints taped.		
Removal of safety boots	Remove safety boots and deposit in container with a plastic liner.		
SCBA backpack removal	Without removing the face piece, the SCBA backpack should be removed and placed		
	on a table. The face piece should then be disconnected from the remaining SCBA unit		
	and then proceed to the next station.		
Splash suit removal	With care, remove the splash suit. The exterior of the splash suit should not come in		
	contact with any inner layers of clothing.		
Inner glove wash	The inner gloves should be washed with a mild decontamination solution (detergent /		
	water).		
Inner glove rinse	Generously rinse the inner gloves with water.		
Face piece removal	Without touching the face with gloves, remove the face piece. The face piece should		
	be deposited into a container that has a plastic liner.		
Inner glove removal	Remove the inner glove and deposit into a container that has a plastic liner.		
Field wash	Wash hands and face thoroughly. If highly toxic, skin corrosive, or skin absorbent		
	materials are known or suspected to be present, a shower should be taken.		

9.3.2 Level C and Level D

The decontamination procedure for Level C and Level D will be satisfied with the Minimum procedures outlined in section 8.2.

9.4 Heavy Equipment and Handling Equipment Decontamination

Equipment traversing the site and exiting the site will be subjected to a decontamination protocol. At a minimum the protocol will consist of an inspection of the truck fenders, tires and mud flaps for accumulated soil/fill, and removal of all accumulations

using hand tools (brush, broom and scrapers). If deemed necessary by the Health and Safety Officer, this inspection will be performed over a thirty by fifteen foot area that has been filled with $\frac{3}{2}$ inch crushed recycled concrete aggregate to facilitate the removal of soil/fill accumulations from the tires, and to immobilize soil/fill removed from the truck body. Additionally, all trucks hauling waste will be required to be covered prior to exiting the site.

At the conclusion of the use of each piece of excavation equipment on the site, it will be decontaminated with an Alconox / water solution followed by a clean water rinse within the Contaminant Reduction Zone. The rinsate will be allowed to charge into the site ground.

10 Emergency Response / Contingency Plan

10.1 Pre-Emergency Planning

In order to properly prepare for emergencies, Material Safety Data Sheets (MSDS) will be maintained on-site for the type of contaminants to which workers may be exposed. Based upon the results of previous investigations, these contaminants consist of a mixture of organic compounds consistent with those found within diesel and/or heating oil. The MSDS for both products are presented on the following pages.

In the event a suspected or known hazardous substance or substance container is encountered during site activities, a contingency plan will be triggered (see Section 11.3).

10.1.1 Pesticides & PCB's Pesticides

ENVIRONMENTAL RESOURCE ASSOCIATES -- PESTICIDES & PCB'S PESTICIDS -- 6810-00F030787

Product ID: PESTICIDES & PCB'S PESTICIDS MSDS Date:09/30/1987 FSC:6810 NIIN:00F030787 MSDS Number: BSLVW === Responsible Party === Company Name: ENVIRONMENTAL RESOURCE ASSOCIATES Address:5540 MARSHALL ST City:ARVADA State:CO ZIP:80002-3108 Country:US Info Phone Num:303-431-8454 Emergency Phone Num:303-431-8454 Preparer's Name: DANIEL THAU TEITELBAUM CAGE:1R664 === Contractor Identification === **Company Name: ENVIRONMENTAL RESOURCE ASSOCIATES** Address:5540 MARSHALL STREET Box:City:ARVADA State:CO ZIP:80002 Country:US Phone:303-431-8454 CAGE:1R664

Ingred Name:LINDANE, G-BHC, CYCLOHEXANE,1,2,3,4,5,6-HEXACHLORO (SUSPECTED HUMAN CARCINOGEN) CAS:58-89-9 RTECS #:GV4900000 OSHA PEL:0.5 MG/CUM (SKIN) ACGIH TLV:0.5 M/CUM (SKIN) EPA Rpt Qty:1 LB DOT Rpt Qty:1 LB

Ingred Name:METHOXYCHLOR CAS:72-43-5 RTECS #:KJ3675000 OSHA PEL:15 MG/CUM ACGIH TLV:10 MG/CUM EPA Rpt Qty:1 LB DOT Rpt Qty:1 LB

Ingred Name:METHYL CHLOROFORM (1,1,1-TRICHLOROETHANE) (CHLOROTHENE NU),

AEROTHANE TT, CHLOROTHENE CAS:71-55-6 RTECS #:KJ2975000 Other REC Limits:450 PPM STEL **OSHA PEL:350 PPM** ACGIH TLV:1910 MG/CUM EPA Rpt Qty:1000 LBS DOT Rpt Qty:1000 LBS Ozone Depleting Chemical:1 Ingred Name: METHANOL (METHYL ALCOHOL), COLUMBIAN SPIRITS CAS:67-56-1 RTECS #:PC1400000 Fraction by Wt: 99.2% Other REC Limits:200 PPM OSHA PEL:260 MG/CUM ACGIH TLV:262 MG/CUM (SKIN) EPA Rpt Qty:5000 LBS DOT Rpt Qty:5000 LBS Ingred Name: POLYCHLORINATED BIPHENYL, PCB, AROCLOR 1016 (CL 41%) CAS:12674-11-2 RTECS #:TQ1351000 Other REC Limits: 0.001 MG/CUM NIOSH EPA Rpt Qty:1 LB DOT Rpt Qty:1 LB Ingred Name: CHLORODIPHENYL (42% CL), PCB, POLYCHLORINATED BIPHENYL, AROCHLOR 1242 CAS:53469-21-9 RTECS #:TQ1356000 Other REC Limits: 0.001 MG/CUM NIOSH OSHA PEL:1 MG/CUM ACGIH TLV:1 MG/CUM EPA Rpt Qty:1 LB DOT Rpt Qty:1 LB Ingred Name: POLYCHLORINATED BIPHEYNL, PCB, AROCLOR 1248, (CL 48%) CAS:12672-29-6 RTECS #:TQ1358000 Other REC Limits:0.001 MG/CUM NIOSH EPA Rpt Qty:1 LB DOT Rpt Qty:1 LB Ingred Name: CHLORODIPHENYL (54% CL), PCB, AROCLOR 1254, POLYCHLORINATED BIPHENYL (SUSPECTED HUMAN CARCINOGEN) CAS:11097-69-1 RTECS #:TQ1360000 Other REC Limits: 0.001 MG/CUM NIOSH OSHA PEL:0.5 MG/CUM (SKIN) ACGIH TLV:0.5 MG/CUM (SKIN) EPA Rpt Qty:1 LB DOT Rpt Qty:1 LB

Ingred Name:POLYCHLORINATED BIPHENYL, PCB, AROCLOR 1260, (CL 60%) CARCINOGEN BY NTP & IARC. CAS:11096-82-5 RTECS #:TQ1362000 Other REC Limits:0.001 MG/CUM NIOSH EPA Rpt Qty:1 LB DOT Rpt Qty:1 LB

Ingred Name:ALDRIN CAS:309-00-2 RTECS #:IO2100000 OSHA PEL:0.25 MG/CUM ACGIH TLV:0.25 MG/CUM (SKIN) EPA Rpt Qty:1 LB DOT Rpt Qty:1 LB

Ingred Name:CHLORDANE (SUSPECTED HUMAN CARCINOGEN) CAS:57-74-9 RTECS #:PB9800000 Other REC Limits:0.5 MG/CUM (SKIN) OSHA PEL:0.5 MG/CUM ACGIH TLV:0.5 MG/CUM EPA Rpt Qty:1 LB DOT Rpt Qty:1 LB

Ingred Name:DDT ISOMERS (DICHLORODIPHENYL-TRICHLOROETHANE) (SUSPECTED HUMAN CARCINOGEN) CAS:50-29-3 RTECS #:KJ3325000 ACGIH TLV:1 MG/CUM (SKIN) EPA Rpt Qty:1 LB DOT Rpt Qty:1 LB

Ingred Name:1,1,1-TRICHLORO-2- O-CHLOROPHENYL!-2- P-CHLOROPHENYL!ETHANE CAS:789-02-6 RTECS #:KH7910000

Ingred Name:4,4'-DDE CAS:72-55-9 RTECS #:KV9450000 Other REC Limits:1 MG/CUM EPA Rpt Qty:1 LB DOT Rpt Qty:1 LB

Ingred Name:ETHYLENE, 1,1-DICHLORO-2-(O-CHLOROPHENYL)-2-(P-CHLOROPHENYL)-CAS:3424-82-6 RTECS #:KV9454000

Ingred Name:4,4'-DDD CAS:72-54-8 RTECS #:KI0700000 Other REC Limits:1 MG/CUM EPA Rpt Qty:1 LB DOT Rpt Qty:1 LB

Ingred Name:1-CHLORO-2-(2,2-DICHLORO-1-(4-CHLOROPHENYL)ETHYL)BENZENE CAS:53-19-0 RTECS #:KH7880000

Ingred Name:DIELDRIN (SUSPECTED HUMAN CARCINOGEN) CAS:60-57-1 RTECS #:IO1750000 OSHA PEL:0.25 MG/CUM (SKIN) ACGIH TLV:0.25 MG/CUM (SKIN) EPA Rpt Qty:1 LB DOT Rpt Qty:1 LB

Ingred Name:ENDRIN CAS:72-20-8 RTECS #:IO1575000 OSHA PEL:0.1 MG/CUM ACGIH TLV:0.1 MG/CUM (SKIN) EPA Rpt Qty:1 LB DOT Rpt Qty:1 LB

Ingred Name:ENDOSULFAN CAS:115-29-7 RTECS #:RB9275000 ACGIH TLV:0.1 MG/CUM EPA Rpt Qty:1 LB DOT Rpt Qty:1 LB

Ingred Name:HEPTACHLOR INTENDED CHANGE (IC) CAS:76-44-8 RTECS #:PC0700000 OSHA PEL:0.5 MG/CUM (SKIN) ACGIH TLV:0.5 MG/CUM (SKIN) A2 EPA Rpt Qty:1 LB DOT Rpt Qty:1 LB

Ingred Name:HEPTACHLOR EPOXIDE; 1,4,5,6,7,8,8-HEPTACHLORO-2,3-EPOXY-3A,4,7,7A-TETRAHYDRO-4,7 CAS:1024-57-3 RTECS #:PB9450000 EPA Rpt Qty:1 LB DOT Rpt Qty:1 LB

Ingred Name:HEXACHLOROBENZENE CAS:118-74-1 RTECS #:DA2975000 EPA Rpt Qty:10 LBS DOT Rpt Qty:10 LBS

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES Reports of Carcinogenicity:NTP:YES IARC:YES OSHA:YES Health Hazards Acute and Chronic:PRIMARY IRRITANT. IRRITATES & DAMAGES ALL TISSUES. MAY CAUSE LIVER, KIDNEY & LUNG DAMAGE, CARDIAC ARRYTHMIA. MAY SENSITIZE THE HEART TO EPINEPHRINE. SKIN: ALLERGIC DERMATITIS OR CHLORACNE. MAY CAUSE C ANCER IN HUMANS. MAY CAUSE ACIDOSIS & BLINDNESS. Explanation of Carcinogenicity:SEE INGREDIENTS Effects of Overexposure:SKIN: RED, DRY, SCALY, CRACKING & WEEPING. INHALATION: COUGHING, WHEEZING. INGESTION: JAUNDICE, NAUSEA, VOMITING, UREMIA & ACIDOSIS. Medical Cond Aggravated by Exposure: DERMATITIS, LIVER DISEASE, KIDNEY DISEASE First Aid:INHALATION: REMOVE TO FRESH AIR. BE PREPARED TO DO CPR. INGESTION: GIVE SYRUP OF IPECAC 60CC W/180CC WATER. SKIN: WASH W/WATER. OBTAIN MEDICAL ATTENTION IN ALL CASES. Flash Point Method:TOC Flash Point:15.5C Extinguishing Media: DRY CHEMICAL, CO2, ALCOHOL FOAM Fire Fighting Procedures: IF LARGE AMOUNTS INVOLVED IN FIRE, USE SELF-CONTAINED BREATHING APPARATUS & WET DOWN TO KEEP FROM EXPLODING. USE WATER MIST OR ALCOHOL FOAM. Unusual Fire/Explosion Hazard: MAY FORM CO, PHOSGENE, & CARBONYL BROMIDE IN FIRE. Spill Release Procedures: DAM UP & ABSORB. VENTILATE AREA. CALL CLEANUP TEAM. DON'T WASH TO DRAINS. _____ Handling and Storage Precautions: AVOID FREEZING, BREAKAGE. STORE AWAY FROM INCOMPATIBLE MATERIALS. Other Precautions: HANDLE W/CARE. MATERIAL CONTAINS CARCINOGENS. ======= Exposure Controls/Personal Protection ========== Respiratory Protection: USE ORGANIC VAPOR CARTRIDGE, FULL FACE-PIECE, SELF-CONTAINED OR AIR-SUPPLIED RESPIRATOR Ventilation:USE IN HOOD Protective Gloves: VITON OR NEOPRENE Eve Protection:SPLASH GOGGLES Other Protective Equipment:LABORATORY COAT, CLOSE SHOES Supplemental Safety and Health

EACH SAMPLE WILL CONTAIN BETWEEN THREE & EIGHT PESTICIDES & ONE OR TWO AROCLORS.

Boiling Pt:B.P. Text:64.5C Vapor Density:1.11 Spec Gravity:0.792 Solubility in Water:COMPLETE Appearance and Odor:CLEAR, COLORLESS LIQUID W/ORGANIC ODOR

Stability Indicator/Materials to Avoid:YES CHROMIC ANHYDRIDE, IODINE, ETHANOL, MERCURIC OXIDE, POTASSIUM HYDROXIDE, SODIUM HYDROXIDE, CHLOROFORM, LEAD PERCHLORATE Hazardous Decomposition Products:CO, PHOSGENE, CARBONYL BROMIDE

Waste Disposal Methods: INCINERATE OR DISPOSE AS HAZARDOUS WASTE IN ACCORDANCE W/FEDERAL, STATE & LOCAL REGULATIONS.

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10.1.2 PCBs Material Safety Data Sheet

Product ID:P103F337,POLYCHLORINATED BIPHENYLS (PCBS) MSDS Date:10/15/1985 FSC:5910 NIIN:00-086-2688 MSDS Number: BCYGD === Responsible Party === Company Name:AEROVOC INC. Address:740 BELLEVILLE AVE City:NEW BEDFORD State:MA ZIP:02745 Country:US Info Phone Num:508-994-9607 Emergency Phone Num:508-994-9607 Preparer's Name: JOHN H. CRADDOCK CAGE:KO040 === Contractor Identification === Company Name: AEROVOC INC. Address:740 BELLEVILLE AVE Box:City:NEW BEDFORD State:MA ZIP:02745 Country:US Phone:508-994-9607 CAGE:KO040 Company Name: AEROVOX INC. Address:740 BELLEVILLE AVE Box:City:NEW BEDFORD State:MA ZIP:02745-6010 Country:US Phone:508-994-9661 / 508-994-9635 CAGE:00656 Company Name: MONSANTO COMPANY Address:800 N LINDBERGH BLVD Box:City:SAINT LOUIS State:MO ZIP:63167 Country:US Phone:314-694-6661 OR 800-332-3111 CAGE:76541

======= Composition/Information on Ingredients =========

Ingred Name:POLYCHLORINATED BIPHENYLS (PCBS) (SARA III) CAS:1336-36-3 RTECS #:TQ1350000 Fraction by Wt: >99.9% Other REC Limits:NONE RECOMMENDED OSHA PEL:0.5 MG/M3 SKIN ACGIH TLV:0.5 MG/M3 SKIN EPA Rpt Qty:1 LB DOT Rpt Qty:1 LB

LD50 LC50 Mixture:ORAL LD50(RAT);8.65GM/KG(42%CHLORINATED) Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES Reports of Carcinogenicity:NTP:YES IARC:YES OSHA:NO Health Hazards Acute and Chronic:ACUTE: EYES: IRRITATING. SKIN: DRYING, CRACKING, CHLORACNE. INHALATION: MAY CAUSE LIVER INJURY. INGESTION: SLIGHTLY TOXIC. LD50 ORAL RATS: 8.65 GM/KG FOR 42% CHLORINATED AND 11.9 GM/KG FOR 50% CHLORIN ATED. CHRONIC: TESTS HAVE NOT DEMONSTRATED CHRONIC HUMAN ILLNESSES SUCH AS CANCER/NEUROLOGICAL/CARDIOVASCULAR EFFECTS. Explanation of Carcinogenicity:NTP: LISTED AC. ANTICIPATED TO BE CARCINOGENS. IARC: LISTED 2A. PROBABLY CARCINOGENIC TO HUMANS. OSHA; NOT LISTED.

Effects of Overexposure:EYES: IRRITATION. SKIN: DRYING,CHLORACNE. INHALATION: MAY CAUSE LIVER INJURY. INGESTION: SLIGHTLY TOXIC. NUMEROUS EPIDEMIOLOGICAL STUDIES OF HUMANS HAVE NOT DEMONSTRATED ANY STATISTICALLY SIGNIFICANT CAUSAL RELATIONSHIP BETWEEN PCB EXPOSURE AND CHRONIC HUMAN ILLNESSES SUCH AS CANCER/NEUROLOGICAL/CARDIOVASCULAR EFFECTS.

Medical Cond Aggravated by Exposure:PCBS CAN CAUSE DERMATOLOGICAL SYMPTOMS; HOWEVER THESE ARE REVERSIBLE UPON REMOVAL OF EXPOSURE SOURCE.

First Aid:EYES: FLUSH WITH LARGE AMOUNTS OF WATER.PETROLATUM-BASED OPHTHALMIC OINTMENT MAY BE APPLIED FOR IRRITATION. SKIN: REMOVE CONTAMINATED CLOTHING. WASH SKIN WITH SOAP AND WATER. HOT PCBS MAY CAUSE BURNS. INHALATION: MOVE TO FRESH AIR.IF IRRITATION PERSISTS,GET MEDICAL ATTENTION. INGESTION: GET MEDICAL ATTENTION.DO NOT INDUCE VOMITING OR GIVE OILY LAXITIVES.FOR LARGE AMOUNTS GASTRIC LAVAGE SUGGESTED.

Flash Point:383F,195C

Extinguishing Media:NONE SPECIFIED BY MANUFACTURER.

Fire Fighting Procedures:STANDARD FIRE FIGHTING WEARING APPAREL AND

SCAB SHOULD BE WORN WHEN FIGHTING FIRES INVOLVING FIRES INVOLVING EXPOSURE TO CHEMICAL COMBUSTION PRODUCTS.

Unusual Fire/Explosion Hazard:AT TEMPERATURE IN RANGE OF 600-650C IN PRESENCE OF EXCESS OXYGEN PCBS MAY FORM POLYCHLORINATED DIBENZOFURANS (PCDFS).

Spill Release Procedures:VENTILATE AREA. PREVENT LOSS TO SEWER SYSTEMS, NAVIGABLE WATERWAYS AND STREAMS. CONTAIN SPILL WITH DIKE. PUMP LIQUID TO SUITABLE WASTE CONTAINER. ABSORB RESIDUAL SPILL WITH ABSORBENTS SUCH AS SAND, VE RMICULITE. ISOLATE AREA AND NOTIFY AUTHORITIES.

Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

Handling and Storage Precautions:STORAGE MUST FOLLOW RCRA REQUIREMENTS. AVOID PROLONGED BREATHING OF VAPORS OR MISTS. AVOID CONTACT WITH EYES OR PROLONGED CONTACT WITH SKIN.

Other Precautions:FEDERAL REGULATIONS UNDER THE TOXIC SUBSTANCES CONTROL ACT REQUIRE PCBS AND PCB ITEMS TO BE MARKED. CHECK FEDERAL REGULATIONS FOR DETAILS.

======= Exposure Controls/Personal Protection =========

Respiratory Protection:USE NIOSH/MSHA APPROVED EQUIPMENT WHEN AIRBORNE EXPOSURE LIMITS ARE EXCEEDED. FULL FACEPIECE EQUIPMENT RECOMMENDED. HIGH AIRBORNE CONCENTRATIONS MAY REQUIRE USE OF SCBA OR SUPPLIED AIR RESPIRATOR.

Ventilation:RECOMMEND LOCAL MECHANICAL EXHAUST VENTILATION AT SOURCES OF AIR CONTAMINATION SUCH AS OPEN PROCESS EQUIPMENT.

Protective Gloves: WEAR APPROPRIATE PROTECTIVE GLOVES.

Eye Protection: WEAR CHEMICAL SPLASH GOGGLES, FACESHIELD.

Other Protective Equipment:WEAR PROTECTIVE CLOTHING THAT PROVIDE A BARRIER TO PREVENT SKIN CONTACT. PROVIDE EYE WASH STATION AND SAFETY SHOWER.

Work Hygienic Practices: WASH AFTER HANDLING AND BEFORE

EATING, DRINKING, SMOKING. LAUNDER CONTAMINATED CLOTHING/PROTECTIVE EQUIPMENT BEFORE REUSE.

Supplemental Safety and Health

IF A PCB TRANSFORMER IS INVOLVED IN A FIRE-RELATED INCIDENT, THE OWNER OF THE TRANSFORMER MAY BE REQUIRED TO REPORT THE INCIDENT. CONSULT AND FOLLOW APPROPRIATE FEDERAL, STATE, AND LOCAL REGULATIONS.

HCC:T6 Boiling Pt:B.P. Text:644F,340C Vapor Pres:0.005 Spec Gravity:1.2-1.6 Appearance and Odor:LIGHT STRAW-COLOR LIQUID,AROMATIC ODOR.

Stability Indicator/Materials to Avoid:YES STRONG OXIDIZERS. Stability Condition to Avoid:FLAMES, HOT SURFACES. Hazardous Decomposition Products:DURING FIRES, PCBS MAY PRODUCE BOTH CHLORINATED DIOXINS (PCDDS) AND FURANS (PCDFS).

Waste Disposal Methods:DISPOSAL OF PCB AND PCB ITEMS IS REGULATED BY GOVERNMENT. WASTES AND ITEMS CONTAINING PCBS (E.G., WIPING CLOTHS, ABSORBENT MATERIAL, CLOTHING, ETC.) SHOULD BE PLACED IN PROPER CONTAINERS FOR DISPOSAL B ASED ON LOCAL, STATE AND FEDERAL REGULATIONS.

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10.1.3 Chlorinated Solvent

ELDORADO CHEMICAL COMPANY, INC. -- CHLORINATED SOLVENT ID PR-3500 -- 8010-00-181-7568

Product ID:CHLORINATED SOLVENT ID PR-3500 MSDS Date:07/27/1988 FSC:8010 NIIN:00-181-7568 MSDS Number: BHDBS === Responsible Party === Company Name: ELDORADO CHEMICAL COMPANY, INC. Address:14350 LOOKOUT ROAD Box:34837 **City:SAN ANTONIO** State:TX ZIP:78265 Country:US Info Phone Num:512-653-9323 Emergency Phone Num:1-800-531-1088 Preparer's Name: PAT E. SMITH CAGE:55208 === Contractor Identification === Company Name: ELDORADO CHEMICAL COMPANY, INC. Address:14350 LOOKOUT ROAD Box:34837 **City:SAN ANTONIO** State:TX ZIP:78265-4837 Country:US Phone:800-531-1088/ 210-653-2060 CAGE:55208

======= Composition/Information on Ingredients =========

Ingred Name:METHYLENE CHLORIDE (SARA III) CAS:75-09-2 RTECS #:PA8050000 Fraction by Wt: 50% OSHA PEL:500 PPM/C,1000; Z2 ACGIH TLV:50 PPM, A2; 9192 EPA Rpt Qty:1000 LBS DOT Rpt Qty:1000 LBS

Ingred Name:PHENOL CAS:108-95-2 RTECS #:SJ3325000 Fraction by Wt: 17% OSHA PEL:5 PPM ACGIH TLV:5 PPM EPA Rpt Qty:1000 LBS DOT Rpt Qty:1000 LBS

Ingred Name:SODIUM CHROMATE CAS:7775-11-3 Fraction by Wt: 0.8% ACGIH TLV:.5 PPM EPA Rpt Qty:10 LBS DOT Rpt Qty:10 LBS

Routes of Entry: Inhalation:YES Skin:YES Ingestion:NO Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO Health Hazards Acute and Chronic:SKIN CONTACT MAY RESULT IN DERMATITIS. INHALATION REDUCES OXYGEN IN BLOOD. Effects of Overexposure:INHALATION: DIZZINESS, NARCOSIS, NAUSEA,

REDUCES OXYGEN IN BLOOD.SKIN CONTACT MAY PRODUCEDERMATITIS. SKIN ABSORPTION: CONTACT IS PAINFUL.EYE CONTACT:BURNS EYES IMMEDIATELYEYE CONTACT:

First Aid:EYES: FLUSH WITH WATER FOR 15 MINUTES. CONSULT PHYSICIAN. SKIN: FLUSH WITH WATERFOR 15 MINUTES, WASH WITH SOAP AND WATER. INHALATION: REMOVE TO FRESH AIR.

Autoignition Temp:Autoignition Temp Text:1200F Fire Fighting Procedures:SELF-CONTAINED BREATHING APPARATUS REQUIRED Unusual Fire/Explosion Hazard:TOXIC CHLORIDE FUMES MAY BE GENERATED BY CONTACT WITH FLAME.

Spill Release Procedures: RINSE WITH WATER

====== Exposure Controls/Personal Protection =========

Respiratory Protection:SELF-CONTAINED BREATHING APPARATUS REQUIRED IF LIMITS EXCEED. Ventilation:RESPIRATORY Protective Gloves:POLYETHYLENE Eye Protection:FACE SHIELD AND GOGGLES Other Protective Equipment:RUBBER APRON & BOOTS Supplemental Safety and Health NK

HCC:T4 Boiling Pt:B.P. Text:120F Vapor Pres:380 MM Vapor Density:2.9 Spec Gravity:1.15 pH:9.2 Evaporation Rate & Reference:(WATER = 1) 1 Solubility in Water:PARTIALLY SOLUBLE Appearance and Odor:THICK YELLOW LIQUID, PHENOL ODOR Percent Volatiles by Volume:70

STRONG ALKALIS, STRONG OXIDIZERS Hazardous Decomposition Products:HEAT WILL PRODUCE DICHLOROMETHANE FUMES

Waste Disposal Methods:CONSULT FEDERAL, STATE, AND LOCAL REGULATORY AGENCIES FOR PROPER DISPOSAL.

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10.1.4 Degreaser Solvent

Product ID:DEGREASER SOLVENT MSDS Date:09/23/1997 FSC:7930 NIIN:01-436-7893 MSDS Number: CGNPC === Responsible Party === Company Name:P-T TECHNOLOGIES, INC. Address:108 4TH AVE. S. City:SAFETY HARBOR State:FL ZIP:34695 Country:US Info Phone Num:800-441-7874 Emergency Phone Num:800-441-7874 CAGE:0JVH6 === Contractor Identification === Company Name:P-T TECHNOLOGIES INC Address:108 4TH AVENUE, SOUTH Box:City:SAFETY HARBOR State:FL ZIP:34695 Country:US Phone:813-726-4644 CAGE:0JVH6

======= Composition/Information on Ingredients ==========

Ingred Name:ORANGE OIL, TERPENES (NON-HAZARDOUS) CAS:68647-72-3 Other REC Limits:NONE RECOMMENDED

Ingred Name:PARAFFINIC OILS (NON-HAZARDOUS) CAS:64771-72-8 Other REC Limits:NONE RECOMMENDED

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO Health Hazards Acute and Chronic:EYE: IRRIT, TEARING, REDNESS. SKIN: DEFATTING, DRYNESS, DERMATITIS. INHAL: RESPIRATORY TRACT IRRIT, NAUSEA, DIZZY, HEADACHE. INGEST: ACUTE ORAL TOXICITY, NAUSEA, VOMIT, GI IRRIT, ASPIRATION INTO LUNGS .

First Aid:EYE: FLUSH W/WATER FOR 15 MINUTES. SKIN: WASH W/SOAP AND WATER. INHAL: GET FRESH AIR. INGEST: DONT INDUCE VOMIT. PRODUCT CONTAINS HYDROCARBONS. IN ALL CASES, GET MED AID.

Flash Point Method:TCC Flash Point:144F,62C Autoignition Temp:Autoignition Temp Text:410F Lower Limits:1.3 Upper Limits:8.9 Extinguishing Media:CO2, FOAM, DRY CHEMICAL, CLASS B FOR FIRE PROCEDURES. Fire Fighting Procedures:COMBUSTIBLE LIQUID, CAN FORM COMBUSTIBLE MIXTURES AT OR ABOVE FLASH POINT.

Spill Release Procedures:LAND SPILL: REMOVE IGNITS, CONTAIN SPILL, RECOVER FREE PRODUCTS, ABSORB W/SUITABLE CHEMICAL ABSORBENT FOR DISPOSAL. WATER SPILL: REMOVE FROM WATER BY SKIMMING, OR USE SUITABLE ABSORBENT. Handling and Storage Precautions:STORAGE TEMPERATURE AMBIENT KEEP AWAY FROM HEAT AND IGNITS. KEEP PRODUCT CONTAINER CLOSED WHEN NOT IN USE.

====== Exposure Controls/Personal Protection =========

Ventilation:MECHANICAL DILUTION VENTILATION RECOMMENDED IN CONFINED AREAS, HEATED >AMBIENT TEMPERATURES OR IS AGITATED. Protective Gloves:SOLVENT RESISTANT Eye Protection:SAFETY GLASSES Supplemental Safety and Health NK

Boiling Pt:B.P. Text:380 TO 430F Vapor Pres:<1 @ 20C Vapor Density:>1 AIR=1 Spec Gravity:0.76 VOC Pounds/Gallon:756 pH:NA Evaporation Rate & Reference:3.2 N BUAC = 100 Solubility in Water:NON-MISCIBLE Appearance and Odor:COLORLESS LIQUID, W/CHARACTERISTIC ODOR. Percent Volatiles by Volume:100

Stability Indicator/Materials to Avoid:YES STRONG OXIDIZING AGENTS Hazardous Decomposition Products:CARBON DIOXIDE, CARBON MONOXIDE, SMOKE.

Waste Disposal Methods: INCINERATE OR BURY IN APPROVED LANDFILL IN ACCORDANCE W/STATE, FEDERAL AND LOCAL REGULATIONS.

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10.1.5 Tetrachloroethylene

Tetrachloroethylene

ACC# 22900

Section 1 - Chemical Product and Company Identification

MSDS Name: Tetrachloroethylene Catalog Numbers: C182 20, C182 4, C182-20, C182-4, C18220, C1824, O4586 4, O4586-4, O45864 Synonyms: Ethylene tetrachloride; Tetrachlorethylene; Perchloroethylene; Perchlorethylene Company Identification: Fisher Scientific 1 Reagent Lane Fair Lawn, NJ 07410 For information, call: 201-796-7100 Emergency Number: 201-796-7100 For CHEMTREC assistance, call: 800-424-9300 For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
127-18-4	Tetrachloroethylene	99.0+	204-825-9

Hazard Symbols: XN N Risk Phrases: 40 51/53

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Irritant. May cause severe eye and skin irritation with possible burns. May cause central nervous system depression. May cause liver and kidney damage. May cause reproductive and fetal effects. May cause cancer based on animal studies. **Caution!** May cause respiratory tract irritation. **Target Organs:** Kidneys, central nervous system, liver.

Potential Health Effects

Eye: Contact with eyes may cause severe irritation, and possible eye burns.

Skin: May cause severe irritation and possible burns.

Ingestion: May cause central nervous system depression, kidney damage, and liver damage. Symptoms may include: headache, excitement, fatigue, nausea, vomiting, stupor, and coma. May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Inhalation: Inhalation of vapor may cause respiratory tract irritation. May cause central nervous system effects including vertigo, anxiety, depression, muscle incoordination, and emotional instability.

Chronic: Possible cancer hazard based on tests with laboratory animals. Prolonged or repeated skin contact may cause defatting and dermatitis. May cause respiratory tract cancer. May cause adverse nervous system effects

including muscle tremors and incoordination. May cause liver and kidney damage. May cause reproductive and fetal effects.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Get medical aid if irritation develops or persists. Wash clothing before reuse. Flush skin with plenty of soap and water.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Containers may explode in the heat of a fire. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

Extinguishing Media: Substance is noncombustible; use agent most appropriate to extinguish surrounding fire. For small fires, use dry chemical, carbon dioxide, or water spray. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. Cool containers with flooding quantities of water until well after fire is out. **Flash Point:** Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8. **Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Flush down the spill with a large amount of water. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Do not reuse this container. Avoid breathing vapors from heated material. Avoid contact with skin and eyes. Keep container tightly closed. Keep away from flames and other sources of high temperatures

that may cause material to form vapors or mists.

Storage: Keep away from heat and flame. Store in a cool, dry place. Keep containers tightly closed.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Exposure I	Limits
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Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Tetrachloroethylene	25 ppm TWA; 100 ppm STEL	150 ppm IDLH	100 ppm TWA; 200 ppm Ceiling

OSHA Vacated PELs: Tetrachloroethylene: 25 ppm TWA; 170 mg/m3 TWA

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid Appearance: clear, colorless Odor: sweetish odor pH: Not available. Vapor Pressure: 15.8 mm Hg Vapor Density: 5.2 Evaporation Rate:9 (ether=100) Viscosity: 0.89 mPa s 20 deg C Boiling Point: 121 deg C Freezing/Melting Point:-22.3 deg C Decomposition Temperature:150 deg C Solubility: Nearly insoluble in water. Specific Gravity/Density:1.623 Molecular Formula:C2Cl4 Molecular Weight:165.812

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. Conditions to Avoid: Incompatible materials, excess heat. Incompatibilities with Other Materials: Strong bases, metals, liquid oxygen, dinitrogen tetroxide. Hazardous Decomposition Products: Hydrogen chloride, phosgene, carbon monoxide, carbon dioxide. Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 127-18-4: KX3850000 LD50/LC50: CAS# 127-18-4: Draize test, rabbit, eye: 162 mg Mild; Draize test, rabbit, eye: 500 mg/24H Mild; Draize test, rabbit, skin: 810 mg/24H Severe; Draize test, rabbit, skin: 500 mg/24H Mild; Inhalation, mouse: LC50 = 5200 ppm/4H; Inhalation, rat: LC50 = 34200 mg/m3/8H; Oral, mouse: LD50 = 8100 mg/kg; Oral, rat: LD50 = 2629 mg/kg;<BR.

Carcinogenicity:

CAS# 127-18-4:

ACGIH: A3 - Animal Carcinogen

California: carcinogen; initial date 4/1/88

NIOSH: potential occupational carcinogen

NTP: Suspect carcinogen

OSHA: Possible Select carcinogen

IARC: Group 2A carcinogen

Epidemiology: Epidemiologic studies have given inconsistent results. Studi es have shown that tetrachloroethylene has not caused canc er in exposed workers. The studies have serious weakne sses such as mixed exposures. In tests with rats and mice, it appeared that tissue destruction or peroxisome prolifera tion rather than genetic mechanisms were the cause of the observed increases in normally occurring cancers. The oral mouse TDLo that was tumorigenic was 195 gm/kg/50W-I.

Teratogenicity: Has caused musculoskeletal abnormalities. Has caused morphological transformation at a dose of 97mol/L in a study using rat embryos.

Reproductive Effects: Has caused behavioral, biochemical, and metabolic effects on newborn rats when the mother was exposed to the TCLo of 900 ppm/7H at 7-13 days after conception. A dose of 300 ppm/7H 6-15 days after conception caused post-implantation mortality.

Neurotoxicity: No information available.

Mutagenicity: Not mutagenic in Escherichia coli. No mutagenic effects were seen in rat liver after exposure at 200 ppm for 10 weeks. No chromosome changes were seen in the bone marrow cells of exposed mice. **Other Studies:** A case of 'obstructive jaundice' in a 6-week old infant has been attributed to tetrachloroethylene in

breast milk.

Section 12 - Ecological Information

Ecotoxicity: Fish: Rainbow trout: LC50 = 5.28 mg/L; 96 Hr.; Static Condition, 12 degrees C Fathead Minnow: LC50 = 18.4 mg/L; 96 Hr.; Flow-through condition Bluegill/Sunfish: LC50 = 12.9 mg/L; 96 Hr.; Static Condition ria: Phytobacterium phosphoreum: EC50 = 120.0 mg/L; 30 minutes; Microtox test No data available.

Environmental: In soil, substance will rapidly evaporate. In water, it will evaporate. In air, it can be expected to exist in the vapor phase.Physical: No information available.Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification. **RCRA P-Series:** None listed.

RCRA U-Series: CAS# 127-18-4: waste number U210.

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	TETRACHLOROETHYLENE				TETRACHLOROETHYLENE
Hazard Class:	6.1				6.1
UN Number:	UN1897				UN1897
Packing Group:	111				III

Section 15 - Regulatory Information

US FEDERAL

TSCA CAS# 127-18-4 is listed on the TSCA inventory. Health & Safety Reporting List CAS# 127-18-4: Effective Date: 6/1/87; Sunset Date: 6/1/97 Chemical Test Rules None of the chemicals in this product are under a Chemical Test Rule. Section 12b None of the chemicals are listed under TSCA Section 12b. TSCA Significant New Use Rule None of the chemicals in this material have a SNUR under TSCA. SARA

CERCLA Hazardous Substances and corresponding RQs CAS# 127-18-4: 100 lb final RQ; 45.4 kg final RQ SARA Section 302 Extremely Hazardous Substances None of the chemicals in this product have a TPQ. SARA Codes CAS # 127-18-4: acute. Section 313 This material contains Tetrachloroethylene (CAS# 127-18-4, 99 0%),which is subject to the reporting requirements
of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 127-18-4 is listed as a hazardous air pollutant (HAP). This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA. CAS# 127-18-4 is listed as a Priority Pollutant under the Clean Water Act. CAS# 127-18-4 is listed as a Toxic Pollutant under the Clean Water Act.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 127-18-4 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

The following statement(s) is(are) made in order to comply with the California Safe Drinking Water Act:

WARNING: This product contains Tetrachloroethylene, a chemical known to the state of California to cause cancer. California No Significant Risk Level: CAS# 127-18-4: 14 ug/day NSRL

European/International Regulations

European Labeling in Accordance with EC Directives Hazard Symbols:

XN N

Risk Phrases:

R 40 Limited evidence of a carcinogenic effect. R 51/53 Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 23 Do not inhale gas/fumes/vapour/spray. S 36/37 Wear suitable protective clothing and gloves.

S 61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

WGK (Water Danger/Protection)

CAS# 127-18-4: 3

Canada - DSL/NDSL

CAS# 127-18-4 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1B, D2A.

Canadian Ingredient Disclosure List

CAS# 127-18-4 is listed on the Canadian Ingredient Disclosure List.

Exposure Limits

CAS# 127-18-4: OEL-ARAB Republic of Egypt:TWA 5 ppm (35 mg/m3);Skin OEL-AUSTRALIA:TWA 50 ppm (335 mg/m3);STEL 150 ppm;CAR OEL-BELGIUM:TW A 50 ppm (339 mg/m3);STEL 200 ppm (1368 mg/m3) OEL-CZECHOSLOVAKIA:TWA 250 mg/m3;STEL 1250 mg/m3 OEL-DENMARK:TWA 30 ppm (200 mg/m3);Skin O EL-FINLAND:TWA 50 ppm (335 mg/m3);STEL 75 ppm (520 mg/m3);Skin OEL-FR ANCE:TWA 50 ppm (335 mg/m3) OEL-GERMANY:TWA 50 ppm (345 mg/m3);Carcin ogen OEL-HUNGARY:STEL 50 mg/m3;Skin;Carcinogen OEL-JAPAN:TWA 50 ppm (340 mg/m3) OEL-THE NETHERLANDS:TWA 35 ppm (240 mg/m3);Skin OEL-THE PHILIPPINES:TWA 100 ppm (670 mg/m3) OEL-POLAND:TWA 60 mg/m3 OEL-RUSS IA:TWA 50 ppm;STEL 10 mg/m3 OEL-SWEDEN:TWA 10 ppm (70 mg/m3);STEL 25 ppm (170 mg/m3) OEL-SWITZERLAND:TWA 50 ppm (345 mg/m3);STEL 100 ppm;S kin OEL-THAILAND:TWA 100 ppm;STEL 200 ppm OEL-UNITED KINGDOM:TWA 50 ppm (335 mg/m3);STEL 15 ppm OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

Section 16 - Additional Information

MSDS Creation Date: 6/17/1999 Revision #3 Date: 3/18/2003

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.

10.1.6 Zinc Material Safety Data Sheet

Section 1 Identification		
Product Number:	C2980	Health: 1
Product Name:	Zinc Metal Reagent Grade, Powder (dust)	Flammability 2
T 1 (0) 1 10		Reactivity 1
Trade/Chemical Synonyms		Hazard Rating:
Formula:	Zn	Least Slight Moderate High Extreme
RTECS:	ZG8600000	0 1 2 3 4
C.A.S	CAS# 7740-66-6	NA = Not Applicable NE = Not Established

Section 2 Component Mixture

Sara 313	Component	CAS Number	%	Dim	Exposure Limits:
	7		1000/		
	Zinc Metal	CAS# 7740-66-6	100%	W/W	OSHA I WA 5 mg/mf

Section 3 Hazard Identification (Also see section 11)

Keep away from heat and ignition sources. Harmful if swallowed. Avoid breathing vapors. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

Section 4 First Aid Measures

Keep away from heat and ignition sources. Harmful if swallowed. Avoid breathing vapors. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

FIRST AID: CALL A PHYSICIAN. SKIN: Wash exposed area with soap and water.

EYES: Wash eyes with plenty of water for at least 15 minutes, lifting lids occasionally. Seek Medical Aid. INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen

INGESTION: If swallowed, induce vomiting immediately after giving two glasses of water. Never give anything by mouth to an unconcious person.

Section 5 Fire Fighting Measures

Fire Extinguisher Type: Smother with dry powder (i.e.: sand, sodium chloride, magnesium oxide).

Fire/Explosion Hazards: Dust, in moist air can generate sufficient heat to ignite the hydrogen gas released. Metal burns at high tempuratures.

Fire Fighting Procedure	e: Avoid water. Wear self-contained b	reathing apparatus and prote	ective clothing to prevent contact with skin and clothing.		
Section 6 Acciden	tal Release Measures				
Avoid water. Remove a tools to pick up and pla	ll sources of ignition. Ventilate area of ce in closed dry container.	leak or spill. Wear respirator	y protection. Do not disperse dust into air. Use non-sparking		
Section 7 Handlin	g and Storage				
Store in a cool, dry, wel	I-ventilated place away from incompa-	tible materials. Wash thorou	ghly after handling.		
Section 8 Exposur	e Controls & Personal Protect	tion			
Respiratory Protection:	NIOSH/MSHA-approved respirator				
Ventilation:	Mechanical:	н	and Protection: NIOSH Approved Gloves		
	Local Exhaust:		Eye Protection: Safety Glasses		
Other Protective	Equipment: Use safe laborate	ory handling procedur	es.		
Section 9 Physical	and Chemical Properties				
Melting Point:	419° C	Specific Gravity	7.14		
Boiling Point:	907° C	Percent Volatile by Volume:	N/A		
Vapor Pressure:	N/A	Evaporation Rate:	N/A		
Vapor Density:	N/A	Evaporation Standard:			
Solubility in Water:	Not soluble	Auto ignition Temperature:	460° C		
Appearance and Odor:	Gray, blue matallic powder / no odor	Lower Flamm. Limit in Air:	N/E		
Flash Point:	information not available	Upper Flamm. Limit in Air:	N/E		
Section 10 Stabilit	ty and Reactivity Information	I			
Stability: Stable	Conditions to Av	oid: Heat and moisture			
Materials to Avoid:					
Hazardous Decomposi	tion Products:				
Hydrogen gas, Zinc oxi	de fumes				
Hazardous Polymerizat	tion: Will Not Occur				
Section 11 Addition	onal Information				
Conditions aggravated/ eyes, lungs, mucous me	Target organs: Persons with preexistin embranes, and GI tract. If heated fume	g skin or respiratory disorder s may cause "zinc fume fever	rs may be more susceptible. Acute: Irritation possible to skin, ". Chronic: None known.		
DOT Classification: Zinc	Dust, 4.3, UN1436, PG II				
DOT regulations may ch	nange from time to time. Please consu	It the most recent version of	the relevant regulations.		
Revision No:0	Date Entered: 9/1/200	5	Approved by: WPF		

10.1.7 Magnesium Material Safety Data Sheet

Section 1 Identification						
Product Number:	C2009	Health:	1			
		Flammability	2			
Product Name:	Magnesium Laboratory Grade, Turnings	Reactivity	2			
Trade/Chemical Synonyms		Hazard Rating:				
Formula:	Mg					

RTECS:		OM2100000			Least Slight Moderate High Extreme	
C.A.S		CAS# 7439-95-4			0 1 2 3 4	
Section 2 Component Mixture		1				
Section 2 Compo		ire	i			
Sara 313 Component	CAS Numbe	r % Dim	Exposure Limits:			
Magnesium	CAS# 7439-	95-4 100% W/V	V None established			
Section 3 Hazard	Identificat	ion (Also see	section 11)	-		
Keep away from heat a and clothes. Wash thor	nd ignition so roughly after h	urces. Harmful if s handling. Keep con	wallowed. Avoid breat tainer closed.	hing vapors. Us	e with adequate ventilation. Avoid contact v	vith eyes, skin,
Section 4 First Aid	d Measure	S				
Keep away from heat a and clothes. Wash thor	nd ignition so oughly after h	urces. Harmful if s nandling. Keep con	wallowed. Avoid breat tainer closed.	hing vapors. Us	e with adequate ventilation. Avoid contact v	vith eyes, skin,
FIRST AID: SKIN: Wash	exposed area	with soap and wat	er. If irritation persists	, seek medical a	attention.	
EYES: Wash eyes with p breathing, give artificia	olenty of wate	r for at least 15 m If breathing is diffi	inutes, lifting lids occas cult, give oxygen	ionally. Seek M	edical Aid. INHALATION: Remove to fresh ai	r. If not
INGESTION: If swallowe	ed, induce vor	niting immediately	v after giving two glasse	es of water. Nev	ver give anything by mouth to an unconsciou	us person.
Section 5 Fire Fig	hting Mea	sures				
Fire Extinguisher Type	: Melting flu	x/dry sand &/or m	etal exting pwdr. DO N	IOT USE WATER	!!	
Fire/Explosion Hazards	s: Dangerous	in the form of dus	t or flakes. When heat	ed in air to neai	melting point, may ignite and burn.	
Fire Fighting Procedure	e: Wear self-o	contained breathir	g apparatus and prote	ctive clothing to	p prevent contact with skin and clothing.	
Section 6 Accident	tal Release	Measures				
Remove all sources of ig later reclaimation.	nition wear p	rotective equipme	nt. Clean up in a mann	er that doen't d	lisperse dust. Sweep up and containerize for	
Section 7 Handling	g and Stora	ige				
Store in a cool, dry, well	-ventilated pla	ace away from inc	ompatible materials. W	ash thoroughly	after handling.	
Section 8 Exposure	e Controls	& Personal Pr	otection			
Respiratory Protection:	NIOSH/MSHA-	approved respirat	or			
Ventilation:	Mechanical:		Hand Protectio	n: Wear approj	priate gloves to prevent skin exposure	
	Local Exhaust		Eye Protectio	n: Face Shield a	and chem worker goggles	
Other Protective E	quipment	: Wear approp	oriate clothing to	prevent ski	n exposure	
Section 9 Physical	and Chem	ical Propertie	S			
Melting Point:	649 ° C	Speci	fic Gravity	1.74		
Boiling Point:	1110° C	Perce	ent Volatile by Volume:	N/A		
Vapor Pressure:	1mm@621°	Evap	oration Rate:	N/A		
Vapor Density:	information r	ot available Evap	oration Standard:			
Solubility in Water:	Not soluble	Auto	ignition Temperature:	Not applicable	2	
Appearance and Odor:	Silver solid, o	dorless Lowe	r Flamm. Limit in Air:	Not applicable	2	
	NOT KIIUWII	ohbe				

Section 10 Stability and Reactivity Information

Stability: Stable

Conditions to Avoid: Moisture, Incompatible substances

Materials to Avoid: Oxides, carbonates, cyanides, chlorinated hydrocarbons

Hazardous Decomposition Products:

Fire produces toxic fumes and vapors

Hazardous Polymerization:Will Not Occur

Condition to Avoid:None known

Section 11 Additional Information

Inhalation of dust may irritate respiratory tract and may cause coughing, chest pain, and fever. Ingestion may cause stomach pain and diarrhea. Particles imbedded in the skin may cause eruptions. Molten magnesium may cause serious burns. Conditions aggravated/target organs: Persons with pre-existing eye, skin, or respiratory conditions may be more susceptible.

DOT Classification: Magnesium Turnings, 4.1, UN1869, PG III

DOT regulations may change from time to time. Please consult the most recent version of the relevant regulations.				
Revision No:1	Date Entered: 9/1/2005	Approved by: WPF		

10.1.8 Copper Material Safety Data Sheet

Section 1 Identification		
Product Number:	C1610	Health: 1
Product Name:	Copper Reagent A.C.S., Granular	Flammability 0
		Reactivity 0
Trade/Chemical Synonyms		Hazard Rating:
Formula:	Cu	Least Slight Moderate High Extreme
RTECS:	GL5325000	0 1 2 3 4
C.A.S	CAS# 7440-50-8	NA = Not Applicable NE = Not Established

Section 2 Component Mixture

Sara 313 Component	CAS Number	%	Dim	Exposure Limits:	
Copper	CAS# 7440-50-8	100%	\\/\\/	OSHA TWA 1 mg (Cu)/mf (dust_mist)	
	CA3# 7440-30-8	100%			

Section 3 Hazard Identification (Also see section 11)

Generally not hazardous in normal handling, however good laboratory practices should always be used. Avoid long term exposure to skin or by inhalation.

Section 4 First Aid Measures

Generally not hazardous in normal handling, however good laboratory practices should always be used. Avoid long term exposure to skin or by inhalation.

FIRST AID: SKIN: Wash exposed area with soap and water. If irritation persists, seek medical attention.

EYES: Wash eyes with plenty of water for at least 15 minutes, lifting lids occasionally. Seek Medical Aid. INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen

INGESTION: Give several glasses of milk or water. Vomiting may occur spontaneously, but it is not necessary to induce. Never give anything by mouth to an unconscious person.

Section 5 Fire Fighting Measures

Fire Extinguisher Type: Any means suitable for extinguishing surrounding fire

Fire/Explosion Hazards: None Known.

Fire Fighting Procedure: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and clothing.

Section 6 Accidental Release Measures

Sweep up and place in suitable (fiberboard) containers for reclamation or later disposal.

Section 7 Handling and Storage

Store in a cool dry place. This Material is not considered hazardous. Handle using safe laboratory practices.

Section 8 Exposure Controls & Personal Protection

Respiratory Protection:None required

Mechanical:	

Ventilation:

Local Exhaust:

Eye Protection: Splash Goggles

Hand Protection: Wear appropriate gloves to prevent skin exposure

Other Protective Equipment: Wear appropriate clothing to prevent skin exposure

Section 9 Physical and Chemical Properties

Melting Point:	1083°C	Specific Gravity	8.94
Boiling Point:	2595°C	Percent Volatile by Volume:	N/A
Vapor Pressure:	1 mm Hg @1628°C	Evaporation Rate:	N/A
Vapor Density:	N/A	Evaporation Standard:	
Solubility in Water:	Insoluble	Auto ignition Temperature:	Not applicable
Appearance and Odor:	Reddish, lusterous metal	Lower Flamm. Limit in Air:	Not applicable
Flash Point:	N/A	Upper Flamm. Limit in Air:	Not applicable

Section 10 Stability and Reactivity Information

Conditions to Avoid: Avoid contact with incompatible materials.

Materials to Avoid: Acetylene, magnesium metal (as copper dust)

Hazardous Decomposition Products:

None

Stability: Stable

Hazardous Polymerization:Will Not Occur

Condition to Avoid:None known

Section 11 Additional Information

Can irritate eyes, mucous membranes, and pharynx. Can cause nausea, ulcer perforation, metal taste and dermatitis. Conditions aggravated/target organs: Persons with pre-existing eye, skin, or respiratory conditions may be more susceptible

DOT Classification: Not Regulated

OOT regulations may change from time to time. Please consult the most recent version of the relevant regulations.				
Revision No:0.1	Date Entered: 9/1/2005	Approved by: WPF		

10.1.9 Cadmium Material Safety Data Sheet

Section 1 Identification			
Product Number:	C1407	Health:	2

Product Name:	Cadmium Chloride Reagent A.C.S., Crystal	Flammability 0
Trade/Chemical Synonyms		Reactivity 0
Formula:	CdCl'½2 1/2 H'O	Hazaru Kaling.
RTECS:	EV0178000	0 1 2 3 4
C.A.S	CAS# 7790-78-5	NA = Not Applicable NE = Not Established

Section 2 Component Mixture

Sara 313	Component	CAS Number	%	Dim	Exposure Limits:
	Cadmium Chloride	CAS# 7790-78-5	100%	w/w	OSHA TWA 0.2 mg/mf (Cd)

Section 3 Hazard Identification (Also see section 11)

May be fatal if inhaled, swallowed or absorbed thru the skin Avoid all contact. Use with adequate ventilation. Wash thoroughly after use. Keep container closed.

Section 4 First Aid Measures

May be fatal if inhaled, swallowed or absorbed thru the skin Avoid all contact. Use with adequate ventilation. Wash thoroughly after use. Keep container closed.

FIRST AID: SKIN: Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention

EYES: Wash eyes with plenty of water for at least 15 minutes, lifting lids occasionally. Seek Medical Aid. INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen

INGESTION: If swallowed, induce vomiting immediately after giving two glasses of water. Never give anything by mouth to an unconscious person.

Section 5 Fire Fighting Measures

Fire Extinguisher Type: Any means suitable for extinguishing surrounding fire

Fire/Explosion Hazards: Thermal decomposition produces highly toxic fumes.

Fire Fighting Procedure: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and clothing.

Section 6 Accidental Release Measures

Evacuate area. Wear self-contained breathing apparatus and protective clothing. Eliminate all sources of ignition.

Section 7 Handling and Storage

Ventilation:

Store in a cool, dry, well-ventilated place away from incompatible materials. Wash thoroughly after handling.

Section 8 Exposure Controls & Personal Protection

Respiratory Protection:NIOSH/MSHA-approved respirator

Mechanical:

Hand Protection: NIOSH Approved Gloves

Local Exhaust:

Eye Protection: Splash Goggles

Other Protective Equipment: Wear appropriate clothing to prevent skin exposure

Section 9 Physica	al and Chemical Prope	erties	
Melting Point:	568° C	Specific Gravity	Informaiton not available
Boiling Point:	960° C	Percent Volatile by Volume	: 0
Vapor Pressure:	10mm @ 656°C	Evaporation Rate:	0

Vapor Density:	Information not available	Evaporation Standard:				
Solubility in Water:	Soluble	Auto ignition Temperature:	Not applicable			
Appearance and Odor:	Colorless crystals , odorless	Lower Flamm. Limit in Air:	Not applicable			
Flash Point:	N/A	Upper Flamm. Limit in Air:	Not applicable			
Section 10 Stabili	ty and Reactivity Info	rmation				
Stability: Stable	C	onditions to Avoid: None kno	wn			
Materials to Avoid: Oxidizing agents						
Hazardous Decomposi None	tion Products:					
Hazardous Polymerizat	tion:Will Not Occur					
Condition to Avoid:No	ne known					
Section 11 Addition	onal Information					
Effects of overexposure. Acute: Material is irritating to mucous membranes and upper respiratory tract. Chronic: Carcinogen. May cause congenital malformation in the fetus. Exposure can cause damage to the kidneys and lungs.						
DOT Classification: Cad	mium Compound, 6.1, UN25	70, PG II Marine Pollutant				
DOT regulations may ch	nange from time to time. Ple	ase consult the most recent v	ersion of the relevant	regulations.		
Revision No:0	Date Entered	l: 9/1/2005		Approved by: WPF		

10.1.10 Diesel Engine Oil Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: N9000 DIESEL ENGINE OIL SUPPLIER: EXXON MOBIL CORPORATION 3225 GALLOWS RD. FAIRFAX, VA 22037 24 - Hour Health and Safety Emergency (call collect): 609-737-4411 24 - Hour Transportation Emergency (Primary) CHEMTREC: 800-424-9300 (Secondary) 281-834-3296 Product and Technical Information: 800-443-9966 MSDS Fax on Demand: 613-228-1467, other MSDS information: 856-224-4644

2. COMPOSITION/INFORMATION ON INGREDIENTS

(OVERBASED) (122384-87-6) CALCIUM LONG-CHAIN ALKARYL 1-5 SULFONATES (LOW OVERBASED) (156619-82-8)

3. HAZARDS IDENTIFICATION

Under normal conditions of use, this product is not considered hazardous according to regulatory guidelines (See section 15). EMERGENCY OVERVIEW: Clear Dark Amber Liquid. DOT ERG No. : NA POTENTIAL HEALTH EFFECTS: Under normal conditions of intended use, this product does not pose a risk to health. Excessive exposure may result in eye, skin or respiratory irritation.

For further health effects/toxicological data, see Section 11.

4. FIRST AID MEASURES

EYE CONTACT: Flush thoroughly with water. If irritation occurs, call a physician.

SKIN CONTACT: Wash contact areas with soap and water. Remove and clean oil soaked clothing daily and wash affected area. (See Section 16 - Injection Injury)

INHALATION: Not expected to be a problem. However, if respiratory irritation, dizziness, nausea, or unconsciousness occurs due to excessive vapor or mist exposure, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or mouth-to-mouth resuscitation.

INGESTION: Not expected to be a problem. Seek medical attention if discomfort occurs. Do not induce vomiting.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: Carbon dioxide, foam, dry chemical and water fog.

SPECIAL FIRE FIGHTING PROCEDURES: Water or foam may cause frothing. Use water to keep fire exposed containers cool. Water spray may be used to flush spills away from exposure. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

SPECIAL PROTECTIVE EQUIPMENT: For fires in enclosed areas, fire fighters must use self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None.

COMBUSTION PRODUCTS: Fumes, smoke, carbon monoxide, sulfur oxides, aldehydes and other decomposition products, in the case of incomplete combustion.

Flash Point C(F): 204(400) (ASTM D-92).

Flammable Limits (approx.% vol.in air) - LEL: 0.9%, UEL: 7.0% NFPA HAZARD ID: Health: 0, Flammability: 1, Reactivity: 0

6. ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES: Report spills/releases as required to appropriate authorities. U.S. Coast Guard and EPA regulations require immediate reporting of spills/releases that could reach any waterway including intermittent dry creeks. Report spill/release to Coast Guard National Response Center toll free number (800)424-8802. In case of accident or road spill notify CHEMTREC (800) 424-9300.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: LAND SPILL: Shut off source taking normal safety precautions. Take measures to minimize the effects on ground water. Recover by pumping or contain spilled material with sand or other suitable absorbent and remove mechanically into containers. If necessary, dispose of adsorbed residues as directed in Section 13. WATER SPILL: Confine the spill immediately with booms. Warn other ships in the vicinity. Notify port and other relevant authorities. Remove from the surface by skimming or with suitable absorbents. If permitted by regulatory authorities the use of suitable dispersants should be considered where recommended in local oil spill procedures.

ENVIRONMENTAL PRECAUTIONS: Prevent material from entering sewers, water sources or low lying areas; advise the relevant authorities if it has, or if it contaminates soil/vegetation.

PERSONAL PRECAUTIONS: See Section 8

7. HANDLING AND STORAGE

HANDLING: No special precautions are necessary beyond normal good hygiene practices. See Section 8 for additional personal protection advice when handling this product.

STORAGE: Keep containers closed when not in use. Do not store in open or unlabelled containers. Store away from strong oxidizing agents and combustible materials. Do not store near heat, sparks, flame or strong oxidants.

SPECIAL PRECAUTIONS: Prevent small spills and leakages to avoid slip hazard.

EMPTY CONTAINER WARNING: Empty containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS:

When mists/aerosols can occur, the following are recommended: 5 mg/m3 (as oil mist)- ACGIH Threshold Limit Value (TLV), 10 mg/m3 (as oil mist) - ACGIH Short Term Exposure Limit (STEL), 5 mg/m3 (as oil mist) - OSHA

Permissible Exposure Limit (PEL)

VENTILATION: If mists are generated, use adequate ventilation, local exhaust or enclosures to control below exposure limits.

RESPIRATORY PROTECTION: If mists are generated, and/or when ventilation is not adequate, wear approved respirator.

EYE PROTECTION: If eye contact is likely, safety glasses with side shields or chemical type goggles should be worn.

SKIN PROTECTION: Not normally required. When splashing or liquid contact can occur frequently, wear oil resistant gloves and/or other protective clothing. Good personal hygiene practices should always be followed.

9. PHYSICAL AND CHEMICAL PROPERTIES

Typical physical properties are given below. Consult Product Data Sheet for specific details. **APPEARANCE: Liquid** COLOR: Clear Dark Amber ODOR: Mild ODOR THRESHOLD-ppm: NE pH: NA BOILING POINT C(F): > 391(735) MELTING POINT C(F): NA FLASH POINT C(F): 204(400) (ASTM D-92) FLAMMABILITY (solids): NE AUTO FLAMMABILITY C(F): NA **EXPLOSIVE PROPERTIES: NA OXIDIZING PROPERTIES: NA** VAPOR PRESSURE-mmHg 20 C: NE VAPOR DENSITY: NE **EVAPORATION RATE: NE** RELATIVE DENSITY, 15/4 C: 0.89 SOLUBILITY IN WATER: Negligible PARTITION COEFFICIENT: > 3.5 VISCOSITY AT 40 C, cSt: > 100.0 VISCOSITY AT 100 C, cSt: > 10.0 POUR POINT C(F): -12(10) FREEZING POINT C(F): NE VOLATILE ORGANIC COMPOUND: NE DMSO EXTRACT, IP-346 (WT.%): <3, for mineral oil only NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES FOR FURTHER TECHNICAL INFORMATION, CONTACT YOUR MARKETING REPRESENTATIVE

10. STABILITY AND REACTIVITY

STABILITY (THERMAL, LIGHT, ETC.): Stable. CONDITIONS TO AVOID: Extreme heat and high energy sources of ignition. INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizers. HAZARDOUS DECOMPOSITION PRODUCTS: Product does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL DATA

---ACUTE TOXICOLOGY---

ORAL TOXICITY (RATS): Practically non-toxic (LD50: greater than 2000 mg/kg). ---Based on testing of similar products and/or the components.

- DERMAL TOXICITY (RABBITS): Practically non-toxic (LD50: greater than 2000 mg/kg). ---Based on testing of similar products and/or the components.
- INHALATION TOXICITY (RATS): Practically non-toxic (LC50: greater than 5 mg/l). ---Based on testing of similar products and/or the components.
- EYE IRRITATION (RABBITS): Practically non-irritating. (Draize score: greater than 6 but 15 or less). ---Based on testing of similar products and/or the components.

SKIN IRRITATION (RABBITS): Practically non-irritating. (Primary Irritation Index: greater than 0.5 but less than 3). ---Based on testing of similar products and/or the components.

OTHER ACUTE TOXICITY DATA: Although an acute inhalation study was not performed with this product, a variety of mineral and synthetic oils, such as those in this product, have been tested. These samples had virtually no effect other than a nonspecific inflammatory response in the lung to the aerosolized mineral oil. The presence of additives in other tested formulations (in approximately the same amounts as in the present formulation) did not alter the observed effects.

---SUBCHRONIC TOXICOLOGY (SUMMARY)---No significant adverse effects were found in studies using repeated dermal applications of similar formulations to the skin of laboratory animals for 13 weeks at doses significantly higher than those expected during normal industrial exposure. The animals were evaluated extensively for effects of exposure (hematology, serum chemistry, urinalysis, organ weights, microscopic examination of tissues etc.).

---REPRODUCTIVE TOXICOLOGY (SUMMARY)---No teratogenic effects would be expected from dermal exposure, based on laboratory developmental toxicity studies of major components in this formulation and/or materials of similar composition. ---CHRONIC TOXICOLOGY (SUMMARY)---

Repeated and/or prolonged exposure may cause irritation to the skin, eyes or respiratory tract. Overexposure to oil mist may result in oil droplet deposition and/or granuloma formation. For mineral base oils: Base oils in this product are severely solvent refined and/or severely hydrotreated. Chronic mouse skin painting studies of severely treated oils showed no evidence of carcinogenic effects. These results are confirmed on a continuing basis using various screening methods such as Modified Ames Test, IP-346, and/or other analytical methods. For synthetic base oils: The base oils in this product have been tested in the Ames assay and other tests of mutagenicity with negative results. These base oils are not expected to be carcinogenic with chronic dermal exposures.

---SENSITIZATION (SUMMARY)---Not expected to be sensitizing based on tests of this product, components, or similar products.

---OTHER TOXICOLOGY DATA---

Used gasoline engine oils have shown evidence of skin carcinogenic activity in laboratory tests when no effort was made to wash the oil off between applications. Used oil from diesel engines did not produce this effect.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE AND EFFECTS: This product is expected to be inherently biodegradable. Bioaccumulation is unlikely due to the very low water solubility of this product, therefore bioavailability to aquatic organisms is minimal. Available ectoxicity data (LL50 >1000 mg/L) indicates that adverse effects to aquatic organisms are not expected from this product. When released into the environment, adsorption to sediment and soil will be the predominant behavior.

13. DISPOSAL CONSIDERATIONS

- WASTE DISPOSAL: Product is suitable for burning in an enclosed, controlled burner for fuel value. Such burning may be limited pursuant to the Resource Conservation and Recovery Act. In addition, the product is suitable for processing by an approved recycling facility or can be disposed of at an appropriate government waste disposal facility. Use of these methods is subject to user compliance with applicable laws and regulations and consideration of product characteristics at time of disposal.
- RCRA INFORMATION: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity, or reactivity. The unused product is not formulated with substances covered by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

14. TRANSPORT INFORMATION

USA DOT: NOT REGULATED BY USA DOT. RID/ADR: NOT REGULATED BY RID/ADR. IMO: NOT REGULATED BY IMO. IATA: NOT REGULATED BY IATA. STATIC ACCUMULATOR (50 picosiemens or less): YES

15. REGULATORY INFORMATION

US OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this product is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

EU Labeling: Product is not dangerous as defined by the European Union Dangerous Substances/Preparations Directives. EU labeling not required.

Governmental Inventory Status: All components comply with TSCA.

- U.S. Superfund Amendments and Reauthorization Act (SARA) Title III: This product contains no "EXTREMELY HAZARDOUS SUBSTANCES".
- SADA (211/212) DEDODTADIE HAZARD CATECODIES: None
- SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

16. OTHER INFORMATION

USE: COMMERCIAL ENGINE OIL

NOTE: PRODUCTS OF EXXON MOBIL CORPORATION AND ITS AFFILIATED COMPANIES ARE NOT FORMULATED TO CONTAIN PCBS.

Health studies have shown that many hydrocarbons pose potential human health risks which may vary from person to person. Information provided on this MSDS reflects intended use. This product should not be used for other applications. In any case, the following advice should be considered: INJECTION INJURY WARNING: If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury. INDUSTRIAL LABEL Under normal conditions of intended use, this product does not pose a risk to health. Excessive exposure may result in eye, skin or respiratory irritation. Always observe good hygiene measures. First Aid: Wash skin with soap and water. Flush eyes with water. If overcome by fumes or vapor, remove to fresh air. If ingested do not induce vomiting. If symptoms persist seek medical assistance. Read and understand the MSDS before using this product. ***** For Internal Use Only: MHC: 1* 1* 1* 1* 1*, MPPEC: A, TRN: 7312229-00, CMCS97: 97P835, REQ: PS+C, SAFE USE: L EHS Approval Date: 30SEP2001 ***** *****

10.1.11 Lead-Free Gasoline; No-lead Gasoline – Gasoline, Unleaded Material Safety Data Sheet

NSN: 9130012084172 Manufacturer's CAGE: 8P539 Part No. Indicator: A Part Number/Trade Name: LEAD-FREE GASOLINE; NO-LEAD GASOLINE General Information

Item Name: GASOLINE, UNLEADED

Date MSDS Prepared: 23FEB90 Safety Data Review Date: 21OCT94 Supply Item Manager: KY MSDS Serial Number: BVHJT Specification Number: VV-G-1690 Spec Type, Grade, Class: CIVGAS Hazard Characteristic Code: F2 Unit Of Issue: DR Unit Of Issue Container Qty: 55 GALLONS Type Of Container: DRUM, 18 GAGE Net Unit Weight: 325.2 LBS

Ingredients/Identity Information

Proprietary: NO Ingredient: HYDROCARBONS, AROMATIC Ingredient Sequence Number: 01 Percent: 15-35 NIOSH (RTECS) Number: 1008732HA OSHA PEL: NOT ESTABLISHED ACGIH TLV: NOT ESTABLISHED

Other Recommended Limit: NONE RECOMMENDED

Proprietary: NO Ingredient: SATURATED HYDROCARBONS Ingredient Sequence Number: 02 Percent: 60-75 NIOSH (RTECS) Number: 1006886SH **OSHA PEL: NOT ESTABLISHED** ACGIH TLV: NOT ESTABLISHED Other Recommended Limit: NONE RECOMMENDED _____ **Proprietary: NO** Ingredient: UNSATURATED HYDROCARBONS **Ingredient Sequence Number: 03** Percent: 1-15 NIOSH (RTECS) Number: 1006887UH **OSHA PEL: NOT ESTABLISHED** ACGIH TLV: NOT ESTABLISHED Other Recommended Limit: NONE RECOMMENDED _____ **Proprietary: NO** Ingredient: DYE AND OTHER ADDITIVES **Ingredient Sequence Number: 04** Percent: 0.02 NIOSH (RTECS) Number: 1003746AD **OSHA PEL: NOT ESTABLISHED** ACGIH TLV: NOT ESTABLISHED Other Recommended Limit: NONE RECOMMENDED -----Physical/Chemical Characteristics ______ Appearance And Odor: BLUE OR CLEAR, TYPICAL HYDROCARBON ODOR. Boiling Point: 90.0F, 32.2C Vapor Pressure (MM Hg/70 F): 414 @100C Vapor Density (Air=1): 3-4 Specific Gravity: 0.71-0.77 Solubility In Water: NEGLIGIBLE. ------Fire and Explosion Hazard Data _____ Flash Point: -50F,-46C Flash Point Method: TCC Lower Explosive Limit: 1.3 Upper Explosive Limit: 6 Extinguishing Media: ANY UL APPROVED CLASS B MEDIA SUCH AS FOAM, CARBON DIOXIDE, DRY CHEMICAL. Special Fire Fighting Proc: NONE SPECIFIED BY MFG; HOWEVER USE APPROPRIATE PROTECTIVE EQPMT INCLUDING SELF-CONTAINED BREATHING APPARATUS. Unusual Fire And Expl Hazrds: NONE SPECIFIED BY MFG; HOWEVER MATL IS HEAVIER THAN AIR AND WILL TRAVEL LONG DISTANCES & FLASHBACK. EXPLOSIVE MIXTURE FORMS W/GASOLINE & AIR.

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Reactivity Data Stability: YES Cond To Avoid (Stability): NONE SPECIFIED BY MFG; HOWEVER AVOID OPEN FLAMES/HEAT/SPARKS/OTHER IGNITION SOURCES. Materials To Avoid: OXIDIZERS. Hazardous Decomp Products: NONE SPECIFIED BY MFG. Hazardous Poly Occur: NO Conditions To Avoid (Poly): NOT RELEVANT. Health Hazard Data _____ LD50-LC50 Mixture: UNKNOWN Route Of Entry - Inhalation: YES Route Of Entry - Skin: YES Route Of Entry - Ingestion: YES Health Haz Acute And Chronic: ACUTE:EYE:IRRIT @ HIGH VAP LEVELS OR DIRECT CONTACT W/FLUID. SKIN: IRRIT ON PROLONG CONTACT W/LIQ, DERM RESULTING FROM DEFATTING NATURE OF LIQ. SYSTEMATIC:CNS EFFECTS (NARCOSIS) @ HIGH VAP LEVELS; MUC MEMBRANE IRRIT, PNEUMONIA. INGEST: GASTROINTESTINAL DISTRUBANCES. CHRONIC: PERIPERAL NERVOUS SY EFFECTS, BLOOD ALTERATIONS Carcinogenicity - NTP: NO Carcinogenicity - IARC: YES Carcinogenicity - OSHA: NO Explanation Carcinogenicity: PER MSDS:NONE STATED; HOWEVER CONTAINS GASOLINE WHICH IS CONSIDERED BY IARC TO BE POTENTIAL CARCINOGEN. Signs/Symptoms Of Overexp: EYE & SKIN IRRITATION. DERMATITIS. NARCOSIS. GI DISTURBANCES:NAUSEA, DIARRHEA, STOMACH PAINS. Med Cond Aggravated By Exp: NONE SPECIFIED BY MFG. THOROUGHLY WASH AREA W/SOAP & WATER. INHAL:REMOVE FROM CONTAMINATED AREA. ADMINISTER ARTIFICIAL RESP IF NECESSARY. CALL PHYSICIAN. INGEST: GIVE A VEGETABLE OIL TO RETARD ABSORPTION. DO NOT INDUCE VOMITING. CALL PHYSICIAN. FATAL DOSE ADULT HUMAN APPROX 350G, CHILD APPROX 10-13G. _____ Precautions for Safe Handling and Use _____ Steps If Matl Released/Spill: KEEP PUBLIC AWAY. SHUT OFF SOURCE W/O RISK. ADVISE POLICE & NAT RESP CENTER 800-424-8802 IF SUBSTANCE HAS ENTERED A WATER COURSE OR SEWER. CONTAIN LIQ W/EARTH, SAND. RECOVER FREE LIQ BY PPUMPING OR W/SUITABLE ABSORBENT. Neutralizing Agent: NONE SPECIFIED BY MFG. Waste Disposal Method: UNDER MANY SPILL SITUATIONS LIQ CAN BE RECOVERED & RECLAIMED. WHERE SOLID ABSORBENTS ARE USED THEY SHOULD BE INCINERATED PER APPLICABLE STATE & LOCAL REGULATIONS. Precautions-Handling/Storing: USE APPROPRIATE GROUNDING-DISPENSING PROCEDURES. STORE IN RELATIVELY COOL PLACE. DO NOT EXPOSE TO HEAT, OPEN FLAME OR OXIDANTS. Other Precautions: NONE SPECIFIED BY MFG. _____ Control Measures _____ Respiratory Protection: FOR EXPOSURES IN EXCESS OF EXPOSURE LIMITS

CHEMICAL CARTRIDGE RESPIRATOR OR AIR SUPPLIED EQUIPMENT.

Ventilation: LOCAL EXHAUST REQUIRED & EXPLOSION PROOF EQUIPMENT. Protective Gloves: IMPERMEABLE GLOVES. Eye Protection: NONE SPECIFIED HOWEVER SAF GLASSES/GOGG Other Protective Equipment: NONE SPEICFIED BY MFG. Work Hygienic Practices: WASH HANDS AFTER HANDLING & PRIOR TO EAT/DRINK/ SMOKE/USE OF TOILET FACILITIES. FOLLOW GOOD WORK HYGIENE PRACTICES.

Transportation Data

______ Trans Data Review Date: 94294 DOT PSN Code: GTN DOT Proper Shipping Name: GASOLINE DOT Class: 3 DOT ID Number: UN1203 DOT Pack Group: II DOT Label: FLAMMABLE LIQUID IMO PSN Code: HRV IMO Proper Shipping Name: GASOLINE IMO Regulations Page Number: 3141 IMO UN Number: 1203 IMO UN Class: 3.1 IMO Subsidiary Risk Label: -IATA PSN Code: MUC IATA UN ID Number: 1203 IATA Proper Shipping Name: GASOLINE IATA UN Class: 3 IATA Label: FLAMMABLE LIQUID AFI PSN Code: MUC ==== Label Required: YES Technical Review Date: 210CT94 Label Status: F Common Name: LEAD-FREE GASOLINE; NO-LEAD GASOLINE Signal Word: DANGER! Acute Health Hazard-Moderate: X Contact Hazard-Moderate: X Fire Hazard-Severe: X Reactivity Hazard-None: X Special Hazard Precautions: ACUTE:EYE:IRRIT @ HIGH VAP LEVELS OR DIRECT CONTACT W/FLUID. SKIN: IRRIT ON PROLONG CONTACT W/LIQ, DERM RESULTING FROM DEFATTING NATURE OF LIQ. SYSTEMATIC:CNS EFFECTS (NARCOSIS) @ HIGH VAP LEVELS; MUC MEMBRANE IRRIT, PNEUMONIA. INGEST: GASTROINTESTINAL DISTRUBANCES. CHRONIC: PERIPERAL NERVOUS SYS EFFECTS, BLOOD ALTERATIONS. 1STAID:EYE:FLUSH FOR @ LEAST 15MINS W/WATER. SKIN:THOROUGHLY WASH AREA W/ SOAP & WATER. INHAL:REMOVE FROM CONTAMINATED AREA. ADMINISTER ARTIFICIAL RESP IF NECESSARY. CALL PHYSICIAN. INGEST: GIVE A VEGETABLE OIL TO RETARD ABSORPTION. DO NOT INDUCE VOMITING. CALL PHYSICIAN. FATAL DOSE ADULT HUMAN APPROX 350G, CHILD APPROX 10-13G. Protect Eye: Y Protect Skin: Y Protect Respiratory: Y Label Name: BELL FUELS, INC Label Street: 4116 WEST PATERSON AVE

Label City: CHICAGO Label State: IL Label Zip Code: 60646 Label Country: US Label Emergency Number: 312-286-0200

SECTION 1. GENERAL INFORMATION

FREE ELMENTAL LEAD; LEAD SALTS

SECTION 2. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous	Approximate	C.A.S.	Occupational Exposure I	Limits LD ₅₀ /LC ₅₀
Ingredient	Percent by Weight	Number	(OELs)	Species and Route
Lead	99+%	7439-92-1	OSHA PEL 0.05mg/m ACGIH TLV 0.05mg/m NIOSH REL <0.10mg/r	3 NoData n ³

NOTE: OELs for individual jurisdictions may differ from OSHA PELs. Check with local authorities for the applicable OELs in your jurisdiction. OSHA - Occupational Safety and Health Administration; ACGIH - American Conference of Governmental Industrial Hygienists; NIOSH -National Institute for Occupational Safety and Health. OEL – Occupational Exposure Limit, PEL – Permissible Exposure Limit, TLV – Threshold Limit Value, REL – Recommended Exposure Limit.

Trade Names and Synonyms: Lead; Pb; Plumbum; Metallic Lead; Inorganic Lead; ASTM B29; TADANAC Lead, Low-Alpha Lead.

SECTION 3. HAZARDS IDENTIFICATION

Emergency Overview: A bluish-white to silvery-grey heavy, soft metal that does not burn in bulk. Finely-divided lead dust clouds are a moderate fire hazard and moderate explosion hazard, however. When heated in air highly toxic lead oxide fumes can be generated. Inhalation or ingestion of lead may produce both acute and chronic health effects. Possible cancer and reproductive hazard. SCBA and full protective clothing required for fire emergency response personnel.

Potential Health Effects: Inhalation or ingestion of lead dust or fumes may result in headache, nausea, vomiting, abdominal spasms, fatigue, sleep disturbances, weight loss, anemia and leg, arm, and joint pain. Prolonged exposure may also cause central nervous system damage (e.g., fatigue, headaches, tremors, hypertension), gastrointestinal disturbances, anemia, kidney dysfunction and possible reproductive effects. Pregnant women should be protected from excessive exposure to prevent lead crossing the placental barrier and causing infant neurological disorders. Lead is classified as an A3 Carcinogen by the ACGIH and as a 2B Carcinogen by IARC. (see Toxicological Information, Section 11)

Potential Environmental Effects: Lead metal has low bioavailability but its compounds can be hazardous in the environment at low concentrations. They can be particularly toxic in the aquatic environment. Lead bioaccumulates in plants and animals in both the aquatic and terrestrial environments. (see Ecological Information, Section 12)

EU Risk Phrase(s): R61 - May cause harm to unborn child; R62 - Possible risk of impaired fertility; R20/22 - Harmful by inhalation and if swallowed; R33 - Danger of cumulative effects.

SECTION 4. FIRST AID MEASURES

Eye Contact: Flush with warm, running water, including under the eyelids, to remove dust particle(s). If irritation persists seek medical attention.

Skin Contact: *Dust:* Remove contaminated clothing and wash affected area with soap and warm water. Launder contaminated clothing before reuse. Seek medical attention if irritation develops or persists. *Molten Metal:* Flush contact area to solidify and cool but do not attempt to remove encrusted material or clothing. Cover burns and seek medical attention immediately.

Inhalation: Remove victim from exposure area to fresh air immediately. If breathing has stopped, give artificial respiration. Keep affected person warm and at rest. Medical oxygen may be administered, if available, where breathing is difficult. Seek immediate medical attention.

Ingestion: If victim is conscious and can swallow, dilute stomach contents with 2-4 cupfuls of water or milk. Do not induce vomiting. Seek medical attention and bring a copy of this MSDS. Never give anything by mouth to an unconscious person.

SECTION 5. FIRE FIGHTING MEASURES

Fire and Explosion Hazards: Massive metal is not flammable or combustible. Finely-divided lead dust or powder is a moderate fire hazard and moderate explosion hazard when dispersed in the air at high concentrations and exposed to heat, flame, or incandescents. Explosions may also occur upon contact with certain incompatible materials (see Stability and Reactivity, Section 10).

Extinguishing Media: Use any means of extinction appropriate for surrounding fire conditions such as water spray, carbon dioxide, dry chemical, or foam.

Fire Fighting: If possible, move material from fire area and cool material exposed to flame. Highly toxic lead oxide fumes may evolve in fires. Fire fighters must be fully trained and wear full protective clothing including an approved, self-contained breathing apparatus which supplies a positive air pressure within a full face-piece mask.

Flashpoint and Method: Not Applicable.

Upper and Lower Flammable Limit: Not Applicable.

Autoignition Temperature: Not Applicable.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Procedures for Cleanup: Control source of spillage if possible to do so safely. Restrict access to the area until completion of clean-up. Clean up spilled material immediately, observing precautions in Section 8, Personal Protection. Molten metal should be allowed to solidify before cleanup. If solid metal, wear gloves, pick up and return to process. If dust, wear recommended personal protective equipment (see Section 8) and use methods which will minimize dust generation (e.g., vacuum solids). Return uncontaminated spilled material to the process if possible. Place contaminated material in suitable labeled containers for recovery or disposal. Treat or dispose of waste material in accordance with all local, regional, and national requirements.

Personal Precautions: Persons responding to an accidental release should wear protective clothing, gloves and a respirator (see also Section 8). Close-fitting safety goggles may be necessary in some circumstances to prevent eye contact with dust and fume. Where molten metal is involved, wear heat-resistant gloves and suitable clothing for protection from hot-metal splash as well as a respirator to protect against inhalation of lead fume. Workers should wash and change clothing following cleanup of a lead spill to prevent personal contamination with lead dust.

Environmental Precautions: Lead metal has limited bioavailability but its compounds can pose a severe threat to the aquatic and terrestrial environments. Contamination of water and soil should be prevented.

SECTION 7. HANDLING AND STORAGE

Store in a dry, covered area away from incompatible materials, strong acids and food or feedstuffs. Solid metal suspected of containing moisture should be THOROUGHLY DRIED before being added to a molten bath. Otherwise, entrained moisture

could expand explosively and spatter molten metal out of the bath. Always practice good personal hygiene. Refrain from eating, drinking, or smoking in work areas. Thoroughly wash hands before eating, drinking, or smoking in appropriate, designated areas as well as at the end of the workday. No special packaging materials are required.

EU Safety Phrase(s): S53 - Avoid exposure - obtain special instructions before use; S45 - In case of accident, or if you feel unwell, seek medical advice immediately (show label where possible).

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Protective Clothing: Gloves and coveralls or other work clothing are recommended to prevent prolonged or repeated direct skin contact when lead is processed. Appropriate eye protection should be worn where fume or dust is generated. Where hot or molten metal is handled, heat resistant gloves, goggles or face shield, and clothing to protect from hot metal splash should be worn. Safety type boots are recommended.

Do not eat, drink or smoke in work areas. Thoroughly wash hands before eating, drinking, or smoking in appropriate, designated areas as well as at the end of the workday. A double locker-shower system with separate clean and dirty sides is usually required for lead handling operations. Remove contaminated clothing promptly and discard or launder before reuse. Inform laundry personnel of contaminants' hazards.

Ventilation: Use adequate local or general ventilation to maintain the concentration of lead fumes in the working environment well below recommended occupational exposure limits. Supply sufficient replacement air to make up for air removed by the exhaust system. Local exhaust is recommended for melting, casting, grinding, burning, and use of powders.

Respirators: Where lead dust or fumes are generated and cannot be controlled to within acceptable levels by engineering means, use appropriate NIOSH-approved respiratory protection equipment (a 42CFR84 Class N, R or P-100 particulate filter cartridge). When exposure levels are unknown, a self-contained breathing apparatus which supplies a positive air pressure within a full face-piece mask should be worn.

Solid

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Odour:

None

Appearance: Malleable, bluish-white or silvery-grey metal

> Vapour Density: Not Applicable

> > Evaporation Rate:

Not Applicable

Vapour Pressure: 1.3 mm Hg at 970°C (negligible @ 20°C)

Specific Gravity: 11.34

Solubility: Insoluble in water

SECTION 10. STABILITY AND REACTIVITY

Stability & Reactivity: Massive metal is stable under normal temperatures and pressures. Fresh cut or cast lead surfaces tarnish rapidly due to the formation of an insoluble protective layer of basic lead carbonate.

Incompatibilities: Lead reacts vigorously with strong oxidizers, such as hydrogen peroxide and chlorine trifluoride, and active metals, such as sodium and potassium. Powdered lead metal in contact with disodium acetylide, chlorine trifluoride, sodium carbide or fused ammonium nitrate poses a risk of explosion. Solutions of sodium azide in contact with lead metal can form lead azide, which is a detonating compound. A lead-zirconium alloy (10-70% Zr) will ignite when struck with a hammer.

Hazardous Decomposition Products: High temperature operations such as oxy-acetylene cutting, electric arc welding or overheating a molten bath will generate highly toxic lead oxide fume. Lead oxide is highly soluble in body fluids and the particle size of the metal fumes is largely within the respirable size range, which increases the likelihood of inhalation and deposition of the fume within the body.

SECTION 11. TOXICOLOGICAL INFORMATION

General: Lead accumulates in bone and body organs once it enters the body. Elimination from the body is slow. Initial and periodic medical examinations are advised for persons repeatedly exposed to levels above the exposure limits of lead dust or

Physical State:

Boiling Point/Range: 1.740°C

Coefficient of Water/Oil Distribution: Not Applicable

Freezina/Meltina Point/Range:

328°C Odour Threshold:

None

pH: Not Applicable

fumes. Once lead enters the body, it can affect a variety of organ systems, including the nervous system, kidneys, reproductive system, blood formation, and gastrointestinal system. The primary routes of exposure to lead are inhalation or ingestion of dust and fumes.

Acute:

Skin/Eye: Contact with dust or fume may cause local irritation but would not cause tissue damage.

Inhalation: Exposure to lead dust or fume may cause headache, nausea, vomiting, abdominal spasms, fatigue, sleep disturbances, weight loss, anemia, and pain in legs, arms, and joints. An acute, short-term dose of lead could cause acute encephalopathy with seizures, coma, and death. However, short-term exposure of this magnitude is rare. Kidney damage, as well as anemia, can occur from acute exposure.

Ingestion: Symptoms due to ingestion of lead dust or fume would be similar to those from inhalation. Other health effects such as metallic taste in the mouth and constipation or bloody diarrhea might also be expected to occur.

Chronic:

Prolonged exposure to lead dust and fume may produce many of the symptoms of short-term exposure and may also cause central nervous system damage, gastrointestinal disturbances, anemia, and, rarely, wrist drop. Reduced hemoglobin production has been associated with low lead exposures. Symptoms of central nervous system damage due to moderate lead exposure include fatigue, headaches, tremors and hypertension. Very high lead exposure can result in lead encephalopathy with symptoms of hallucinations, convulsions, and delirium. Kidney dysfunction and possible injury has also been associated with orici lead poisoning. Chronic over-exposure to lead has been implicated as a causative agency for the impairment of male and female reproductive capacity. Pregnant women should be protected from excessive exposure as lead can cross the placental barrier and unborn children may suffer neurological damage or developmental problems due to excessive lead exposure in orthers. The literature is inconsistent and no firm conclusions can be drawn at this time. Lead and lead compounds are listed as an A3 Carcinogen (Confirmed Animal Carcinogen with Unknown Relevance to Humans) by the ACGIH and as a Group 2B Carcinogen (possibly carcinogenic to humans) by IARC. The NTP, OSHA and the EU do not currently list lead as a human carcinogen.

SECTION 12. ECOLOGICAL INFORMATION

While lead metal is insoluble, its processing or extended exposure in the aquatic and terrestrial environments may lead to the release of lead in bioavailable forms. Lead compounds are not particularly mobile in the aquatic environment but can be toxic to organisms, especially fish, at low concentrations. Water hardness, pH and dissolved organic carbon content are factors which regulate the degree of toxicity. In soil, lead is generally not very mobile or bioavailable as it can become strongly sorbed on soil particles, increasingly so over time, to a degree dependent on soil properties. Lead bioaccumulates in plants and animals in both the terrestrial and aquatic environments.

SECTION 13. DISPOSAL CONSIDERATIONS

If material cannot be returned to process or salvage, dispose of in accordance with applicable regulations.

SECTION 14. TRANSPORT INFORMATION

PROPER SHIPPING NAME	Not a regulated product in ingot form .
TRANSPORT CANADA AND U.S. DOT CLASSIFICATION	Not Applicable
TRANSPORT CANADA AND U.S. DOT PIN	Not Applicable
MARINE POLLUTANT	No
IMO CLASSIFICATION	Not Regulated
	•

SECTION 15. REGULATORY INFORMATION

U.S. Ingredient Listed on TSCA Inventory	Yes	
Hazardous Under Hazard Communication Standard	Yes	
CERCLA Section 103 Hazardous Substances *reporting not required when diameter of the pieces of solid metal released is e	Lead qual to or exceeds 10	RQ: 10 lbs. (4.54 kg.)* 00 micrometers (0.004 inches).
EDCDA Section 200 Extremely Upgendave Sylectory a	No	

EPCRA Section 302 Extremely Hazardous Substance.......No

Disclaimer:

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10.1.13 Arsenic Material Safety Data Sheet

I. GENERAL INFORMATION

Trade Name: Arsenic Formula: As Chemical Family: Metallic element CAS #: 7440-38-2

2. HAZARDOUS INGREDIENTS

Hazardous Components % OSHA/PEL ACGIH/TLV Sec. 313 Arsenic 0-100 10 ug/m³ 0.01 mg/m³ Yes

.....

3. PHYSICAL DATA

Boiling Point: 613 °C (Sublimes) Melting Point: 817 °C Vapor Density (Air=1): N/A Vapor Pressure: 1mm @ 372 °C Solubility in H₂O: Insoluble % Volatiles: 0 Appearance and Odor: Steel-grey brittle solid, no odor. Specific gravity (H₂O=1): 5.72gm/cc

4. FIRE AND EXPLOSION HAZARD DATA

Flash Point: N/A Autoignition Temp: N/A Flammability: Lower: N/A Upper: N/A

Extinguishing Media: Do not use water. Use carbon dioxide, dry chemical extinguishing agents, dry sand, dry ground dolomite.

Special Firefighting Procedures: Use NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing if involved in fire.

Unusual Fire and Explosion Hazard: Slight explosion hazard in the form of a dust when exposed to flame. Moderate fire hazard in the form of dust when exposed to heat or flame or by chemical reaction.

5. HEALTH HAZARD INFORMATION

Effects of Exposure:

Acute arsenic poisoning (from ingestion) results in marked irritation of the stomach and intestines with nausea, vomiting and diarrhea. In severe cases the vomitus and stools are bloody and the patient goes into collapse and shock with weak, rapid pulse, cold sweats, coma and death. Chronic arsenic poisoning, whether through ingestion or inhalation, may manifest itself in many different ways. There may be disturbances of the digestive system such as loss of appetite, cramps, nausea, constipation or diarrhea. Liver damage may occur, resulting in jaundice. Disturbances of the blood, kidneys and nervous system are not infrequent. Arsenic can cause a variety of skin abnormalities including itching, pigmentation and even cancerous changes. A characteristic of arsenic poisoning is the great variety of

symptoms that can be produced. A recognized carcinogen of the skin, lungs, liver. An experimental carcinogen of the mouth, esophagus, larynx, bladder and para nasal sinus. (Sax, Dangerous Properties of Industrial Materials)

Acute Effects:

Inhalation: Causes irritation of mucous membranes and respiratory tract, metallic taste, pharyngitis, bloody nose, perforation of the nasal septum.
Ingestion: May cause vomiting, diarrhea and nausea.
Skin: Causes moderate irritation, skin sensitization.
Eye: Causes moderate irritation.

Chronic Effects:

Inhalation: May cause cancer (skin and lung).
Ingestion: May cause cancer (skin and lung).
Skin: Can cause eczematous dermatitis, pigmentation, hyperkeratosis.
Eye: None known

Other Health Hazards: There is evidence that arsenic may cross the placental barrier. Arsenic is a neurotoxin. Poisoning may affect the heart, GI system, kidneys and liver.

Routes of Entry: Inhalation, ingestion. Medical Conditions Generally Aggravated by Exposure: No data Carcinogenicity: NTP: Yes IARC: Yes OSHA: Yes

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: No specific information available, one should obtain medical attention.
INGESTION: No data available but one should obtain medical attention.
SKIN: Remove contaminated clothing, flood skin with large amounts of water. If irritation persists seek medical attention.
EYE: Immediately flush eyes, including under eyelids, with large amounts of water for at least 15 minutes. Call a physician.

6. REACTIVITY DATA

Stability: Stable

Conditions to Avoid: Incompatibles, exposure to air.

Incompatibility (Materials to Avoid): Acids, acid fumes, oxidizing agents, halogens, heat, palladium, zinc, platinum, nitrogen trichloride, silver nitrate, acetylenes, chlorosylamine, chromium (VI) oxide, sodium peroxide, dirubidium acetylide.

Hazardous Decomposition Products: At temperatures above the melting point, metal oxide fumes may be evolved. Under reducing conditions (i.e. any strong acid or base plus an active metal) or in the presence of nascent hydrogen, highly toxic arsine gas may be

evolved.

Hazardous Polymerization: Will not occur.

7. SPILL OR LEAK PROCEDURES

Steps to Be Taken in Case Material Is Released or Spilled: Any method which keeps dust to a minimum is acceptable. Vacuuming is preferred for dust. Use approved respiratory protection if possibility of dust/fume exposure exists. Do not use compressed air for cleaning.

Waste Disposal Method: Dispose of in accordance with all State, Federal and Local regulations.

8. SPECIAL PROTECTION INFORMATION

Respiratory Protection: Where airborne exposures may exceed OSHA/ACGIH permissible air concentrations, the minimum respiratory protection recommended is a negative pressure air purifying respirator with cartridges that are NIOSH/MSHA approved against dust, fumes and mists having a TWA less than 0.05 mg/m³.

Ventilation: Glove bag or box preferred.

Protective Gloves: Rubber Eye/Face Protection: ANSI approved safety goggles with a full face shield.

Other Protective Equipment: Full protective clothing, lab coat and apron, flame and chemical resistant coveralls, is recommended for exposures that exceed permissible air concentrations. All contaminated clothing should be removed before leaving plant premises.

9. SPECIAL PRECAUTIONS

Precautions to Be Taken in Handling and Storage: Use of approved respirators is required for applications where adequate ventilation cannot be provided. Activities which generate dust or fume should be avoided. When melted, the temperature should be kept as low as possible. Keep container tightly closed. Store in a cool, dry, well-ventilated area. Wash thoroughly after use.

Work Practices: Avoid inhalation or ingestion. Practice good housekeeping and personal hygiene procedures. No tobacco or food in the work area. Wash thoroughly before eating or smoking. Shower and change clothes at end of work shift. Do not wear contaminated clothing home. Do not blow dust off clothing with compressed air. Maintain eyewash capable of sustained flushing, safety drench shower and hygienic facilities for washing.

Danger: Poison, causes skin and lung cancer.

The above information is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. ESPI shall not be held liable for any damage resulting from handling or from contact with the above product.

10.1.14 Selenium Material Safety Data Sheet

Section 1 Identification			
Product Number:	C2450	Health:	2
Product Name:	Selenium Metal 99.5% Powder	Flammability	1
		Reactivity	0
Trade/Chemical Synonyms		Hazard Rating:	
Formula:	Se		
RTECS:	VS7700000	Least Slight Moderate High Extrem 0 1 2 3 4	ne
C.A.S	CAS# 7782-49-2	NA = Not Applicable NE = Not Estab	lished

Section 2 Component Mixture

Sara 313	Component	CAS Number	%	Dim	Exposure Limits:
	Selenium Metal 99.5%	CAS# 7782-49-2	100%	w/w	OSHA TWA 0.2 mg/mf

Section 3 Hazard Identification (Also see section 11)

May be fatal if inhaled, swallowed or absorbed thru the skin Avoid all contact. Use with adequate ventilation. Wash thoroughly after use. Keep container closed.

Section 4 First Aid Measures

May be fatal if inhaled, swallowed or absorbed thru the skin Avoid all contact. Use with adequate ventilation. Wash thoroughly after use. Keep container closed.

FIRST AID: SKIN: Wash exposed area with soap and water. If irritation persists, seek medical attention.

EYES: Wash eyes with plenty of water for at least 15 minutes, lifting lids occasionally. Seek Medical Aid. INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen

INGESTION: If swallowed, induce vomiting immediately after giving two glasses of water. Never give anything by mouth to an unconscious person.

Section 5 Fire Fighting Measures

Fire Extinguisher Type: Dry chemical powder or appropriate foam. Do not use water jet.

Fire/Explosion Hazards: May be combustible at high temperature. Emits TOXIC fumes under fire conditions.

Fire Fighting Procedure: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and clothing.

Section 6 Accidental Release Measures

Evacuate area. Wear self-contained breathing apparatus and protective clothing. Eliminate all sources of ignition.

Section 7 Handling and Storage

Store in a cool dry well ventilated area. Keep away from heat and flame. Do not get in eyes, on skin, or on clothing. Keep tightly closed.

Section 8 Exposure Controls & Personal Protection

Respiratory Protection:NIOSH/MSHA-approved respirator

Ventilation: Mechanical:

Hand Protection: Wear appropriate gloves to prevent skin exposure

1							
Local I	Exhaust:	Eye Protection: Splash Go	ggles				
Other Protective Equip	Other Protective Equipment: Wear appropriate clothing to prevent skin exposure. Impervious clothing to prevent exposure.						
Section 9 Physical and 0	Section 9 Physical and Chemical Properties						
Melting Point:	217°C	Specific Gravity	4.810				
Boiling Point:	690°C	Percent Volatile by Volume:	0				
Vapor Pressure:	Not available	Evaporation Rate:	Not available				
Vapor Density:	Not available	Evaporation Standard:	Not available				
Solubility in Water:	insoluble	Auto ignition Temperature:	Not applicable				
Appearance and Odor:	odorless metallic powder	Lower Flamm. Limit in Air:	Not available				
Flash Point:	Not available	Upper Flamm. Limit in Air:	Not available				
Section 10 Stability and	Reactivity Information						
Stability: yes	Conditions to	Avoid: vapors and heat.					
Materials to Avoid: Oxidizing materials,and	d acids						
Hazardous Decomposit TOXIC fumes.	tion Products:						
Hazardous Polymerizat	tion:Will Not Occur						
Condition to Avoid:Nor	ne known						
Section 11 Additional Ir	formation						
DANGER!! Vapors if inhaled or absorbed through the skin can be POISONIOUS!! Effects of over exposure:lung irritation and dermatitis. Acute: Dust is TOXIC . HARMFUL if swallowed. Stomach pains,vomiting, diarrhea, coughing and chest pains, diffuculty in breathing. Chronic: none are specified by manufacturer. Target organs: upper respiratory tract and eyes. Conditions aggravated/target organs. Persons with pre-existing eye,skin or respiratory conditions may be more susceptible.							
DOT Classification: Selenium compounds n.o.s. (Selenium powder), 6.1, UN3283, PG III							
DOT regulations may ch	nange from time to time. P	lease consult the most recen	t version of the relevant regulations.				
Revision No:0.1	Date Entered	d: 9/1/2006	Approved by: WPF				

10.1.15 Nickel Material Safety Data Sheet

Section 1 Identification		
Product Number:	C2156	Health: 3
Product Name: Nickel Metal Laboratory Grade, Shot		Flammability 0
	Reactivity	
Trade/Chemical Synonyms		Hazard Rating:
Formula:	Ni	
RTECS:	QR5950000	0 1 2 3 4
C.A.S	CAS# 7440-02-0	NA = Not Applicable NE = Not Established

Section 2 Component Mixture

Sara 313	Component	CAS Number	%	Dim	Exposure Limits:
	Nickel Metal	CAS# 7440-02-0	100	w/w	OSHA TWA 1 mg/mf

Section 3 Hazard Identification (Also see section 11)

May be fatal if inhaled, swallowed or absorbed thru the skin Avoid all contact. Use with adequate ventilation. Wash thoroughly after use. Keep container closed.

Section 4 First Aid Measures

May be fatal if inhaled, swallowed or absorbed thru the skin Avoid all contact. Use with adequate ventilation. Wash thoroughly after use. Keep container closed.

FIRST AID: CALL A PHYSICIAN. SKIN: Remove contaminated clothing. Wash exposed area with soap and water.

EYES: Wash eyes with plenty of water for at least 15 minutes, lifting lids occasionally. Seek Medical Aid. INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen

INGESTION: If swallowed, induce vomiting immediately after giving two glasses of water. Never give anything by mouth to an unconscious person.

Section 5 Fire Fighting Measures

Fire Extinguisher Type: Use agents for metal, such as graphite

Fire/Explosion Hazards: Dust at sufficient concentrations can form explosive mixtures with air.

Fire Fighting Procedure: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and clothing.

Section 6 Accidental Release Measures

Evacuate area. Wear self-contained breathing apparatus and protective clothing. Eliminate all sources of ignition.

Section 7 Handling and Storage

Ventilation:

Store in a cool, dry, well-ventilated place away from incompatible materials. Wash thoroughly after handling.

Section 8 Exposure Controls & Personal Protection

Respiratory Protection:NIOSH/MSHA-approved respirator

Mechanical:

Hand Protection: NIOSH Approved Gloves

Eye Protection: Splash Goggles

Local Exhaust: Kerror Eye Pr Other Protective Equipment: Wear appropriate clothing to prevent skin exposure

Section 9 Physical and Chemical Properties

Melting Point:	1455° C	Specific Gravity	8.9
Boiling Point:	2732° C	Percent Volatile by Volume:	N/A
Vapor Pressure:	1 @ 1810° C	Evaporation Rate:	N/A
Vapor Density:	N/A	Evaporation Standard:	
Solubility in Water:	Insoluble	Auto ignition Temperature:	Not applicable
Appearance and Odor:	Silvery white metallic powder	Lower Flamm. Limit in Air:	Not applicable
Flash Point:	N/A	Upper Flamm. Limit in Air:	Not applicable

Section 10 Stability and Reactivity Information

Stability: Stable Conditions to Avoid: Avoid contact with incompatible materials.

Materials to Avoid:

mineral acids, strong oxidizers

Hazardous Decomposition Products:

Hydrogen gas

Hazardous Polymerization:Will Not Occur

Condition to Avoid:None known

Section 11 Additional Information

Dust may irritate eyes skin and respiratory tract. Conditions aggravated: Athsma, emphysema, etc. Persons with pre-existing eye, skin or respiratory conditions may be more susceptible.

DOT Classification: Not Regulated

DOT regulations may change from time to time. Please consult the most recent version of the relevant regulations.Revision No:0Date Entered: 9/1/2006Approved by: WPF

10.1.16 Chromium Material Safety Data Sheet

Section 1 Identification			
Product Number:	C1503	Health:	2
Product Name:	Chromium	Flammability	1
		Reactivity	0
Trade/Chemical Synonyms		Hazard Rating:	
Formula:	Cr		
RTECS:	GB4200000	Least Slight Moderate High Extrem	me
C.A.S	CAS# 7440-47-3	NA = Not Applicable NE = Not Estab	lished

Section 2 Component Mixture

Sara 313	Component	CAS Number	%	Dim	Exposure Limits:
	Chromium	CAS# 7440-47-3	100%	w/w	OSHA TWA 1 mg/mf

Section 3 Hazard Identification (Also see section 11)

May be harmful if swallowed. May cause irritation. Avoid breathing vapors, or dusts. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

Section 4 First Aid Measures

May be harmful if swallowed. May cause irritation. Avoid breathing vapors, or dusts. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

FIRST AID: SKIN: Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention

EYES: Wash eyes with plenty of water for at least 15 minutes, lifting lids occasionally. Seek Medical Aid. INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen

INGESTION: If swallowed, induce vomiting immediately after giving two glasses of water. Never give anything by mouth to an unconscious person.

Section 5 Fire Fighting Measures

Fire Extinguisher Type: Carbon Dioxide, dry chemical or sand. Do not disturb burning metal while extinguishing the fire.

Fire/Explosion Hazards: Dust at sufficient concentrations can form explosive mixtures with air.

Fire Fighting Procedure: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and clothing.

Section 6 Accidental Release Measures

Sweep up and place in suitable (fiberboard) containers for reclamation or later disposal.

Section 7 Handling and Storage

Precautions such as the use of inert atmosphere are advisable when sizing material to minus 100 mesh and when 50% is minus 200 mesh					
Section 8 Exposure Con	trols & Perso	onal Protection			
Respiratory Protection:	NIOSH/MSH/	A-approved respirator			
Ventilation:	Mechanical:		Hand Protection: NIOSH Approved Gloves		
l	ocal Exhaust		Eye Protection: Splash Goggles		
Other Protective Equip	ment: Wear a	appropriate clothing to preve	nt skin exposure		
Section 9 Physical and (Chemical Pro	perties			
Melting Point:	3326 Deg. F	Specific Gravity	7.14		
Boiling Point:	3992 Deg. F	Percent Volatile by Volume:	N/A		
Vapor Pressure:	N/A	Evaporation Rate:	N/A		
Vapor Density:	N/A	Evaporation Standard:			
Solubility in Water:	Not soluble	Auto ignition Temperature:	Not applicable		
Appearance and Odor:		Lower Flamm. Limit in Air:	Not applicable		
Flash Point:	N/A	Upper Flamm. Limit in Air:	Not applicable		
Section 10 Stability and	Reactivity In	formation			
Stability: Stable	Conditio	ons to Avoid: Avoid contact w	ith incompatible materials.		
Materials to Avoid: Acidic conditions					
Hazardous Decomposi Not known to occur	tion Products	5:			
Hazardous Polymerizat	Hazardous Polymerization: Will Not Occur				
Condition to Avoid:None known					
Section 11 Additional Information					
Overexposure to dust may irritate eyes, nose or throat. Conditions aggravated/target organs. Persons with pre-existing eye, skin or respiratory conditions may be more susceptible.					
DOT Classification: Not Regulated					
DOT regulations may change from time to time. Please consult the most recent version of the relevant regulations.					
Revision No:0	Da	ate Entered: 9/1/2006	Approved by: WPF		

10.1.17 Calcium Material Safety Data Sheet

Section 1 Identification		
Product Number:	C1411	Health: 3
Product Name:	Calcium Metal Beagent Grade	Flammability 3
		Reactivity 2
Trade/Chemical Synonyms		Hazard Rating:
Formula:	Са	
RTECS: EV8040000		Least Slight Moderate High Extreme
C.A.S CAS# 7440-70-2		NA = Not Applicable NE = Not Establishe
Section 2 Component Mixture		

Sara 313	Component	CAS Number	%	Dim	Exposure Limits:
	Calcium Metal	CAS# 7440-70-2	100 %	w/w	None established

Section 3 Hazard Identification (Also see section 11)

Keep away from heat and ignition sources. Harmful if swallowed. Avoid breathing vapors. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

Section 4 First Aid Measures

Keep away from heat and ignition sources. Harmful if swallowed. Avoid breathing vapors. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

FIRST AID: CALL A PHYSICIAN. SKIN: In case of contact, immediately flush skin with water for at least 15 minutes while removing contaminated clothing and shoes. Thoroughly clean clothing and shoes before reuse.

EYES: Wash eyes with plenty of water for at least 15 minutes, lifting lids occasionally. Seek Medical Aid. INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen

INGESTION: Give several glasses of milk or water. Vomiting may occur spontaneously, but DO NOT INDUCE! Never give anything by mouth to an unconscious person.

Section 5 Fire Fighting Measures

Fire Extinguisher Type:	G-1 powder, Pyrene, Dry lime(not limestone)
Fire/Explosion Hazards:	Evolves hydrogen gas when heated or in contact with acids, moisture. Finely divided calcium is considered pyrophoric and will explode if ignited.
Fire Fighting Procedure:	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and clothing.

Section 6 Accidental Release Measures

Collect spilled material for reclamaion or disposal in sealed containers.

Section 7 Handling and Storage

Store in a cool dry well ventilated area. Keep away from heat and flame. Do not get in eyes, on skin, or on clothing.

Section 8 Exposure Controls & Personal Protection

Respiratory Protection:NIOSH/MSHA-approved respirator

Ventilation:	Mechanical:	Hand Protection: Wear appropriate gloves to prevent skin exposure
	Local Exhaust:	Eye Protection: Goggles and Face Shield

Other Protective Equipment: Wear appropriate clothing to prevent skin exposure

Section 9 Physical and Chemical Properties

Melting Point:	Information not available	Specific Gravity	1.55
Boiling Point:	2817 Deg F	Percent Volatile by Volume:	0
Vapor Pressure:	0	Evaporation Rate:	0
Vapor Density:	Information not available	Evaporation Standard:	
Solubility in Water:	Reacts with water	Auto ignition Temperature:	Not applicable
Appearance and Odor:	Gray metallic solid, no odor	Lower Flamm. Limit in Air:	Not applicable
Flash Point:	None	Upper Flamm. Limit in Air:	Not applicable

Section 10 Stability and Reactivity Information

Stability: Stable Conditions to Avoid: Product is unstable when exposed to water. Moisture, water, high temperatures, sparks, and open flames

Materials to Avoid:

Water, Alali metal hydroxides and carbonates, acids.

Hazardous Decomposition Products:

Hydrogen and calcium hydroxide.

Hazardous Polymerization:Will Not Occur

Condition to Avoid:None known

Section 11 Additional Information

Contact with skin while moist or perspired may cause burns due to reactions. Eye contact can cause irritaiton. If inhaled can cause irritation to mucous membranes. If ingested can cause burns of mouth and esophogus. If comes in contact with skin or eyes wash with water. If inhaled rlemove to fresh air . If ingested, Do not induce vomiting . For all above situation get medical assistance immediately. Persons with pre-existing disorders may be more susceptible

DOT regulations may change from	n time to time. Please consult the most recent version o	f the relevant regulations.
Revision No:0	Date Entered: 9/1/2006	Approved by: WPF

10.1.18 Beryllium Material Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION **Beryllia Ceramic** SYNONYMS MANUFACTURER Bervllium Oxide Bervllia Thermalox Brush Ceramic Products, Inc. 6100 S. Tucson Boulevard Tucson, Arizona 85706 Phone: (520) 746-0699 Fax: (520) 573-9077 CHEMICAL FAMILY Beryllium Compound **Transportation Emergency** Call Chemtrec at: CUSTOMER SERVICE Domestic: (800) 424-9300 Brush Wellman Inc. International: (703) 527-3887 Product Stewardship Department Other Emergency 17876 St. Clair Avenue Call Brush Wellman at: (800) 862-4118 Cleveland, Ohio 44110 Phone: (800) 862-4118 Revised: 01-12-06 Fax: (216) 383-4091 Replaces: MSDS C10 (01-13-03) Websites www.brushwellman.com 2. COMPOSITION/INFORMATION ON INGREDIENTS CHEMICAL COMPOSITION (Percent by Weight) **BRUSH WELLMAN PRODUCT CONSTITUENTS CAS Numbers Beryllia Ceramic** Beryllium Oxide 1304-56-9 100 Hazard Communication regulations of the U.S. Occupational Safety and Health Administration apply to this product. NOTE: As used in this Material Safety Data Sheet, the term "particulate" refers to dust, mist, fume, fragments, particles and/or powder. **3. HAZARD IDENTIFICATION 3.1 EMERGENCY OVERVIEW** White solid, which poses little or no immediate hazard in solid form. See label in Section 16. If the material is involved in a fire; pressure-demand self-contained breathing apparatus and protective

clothing must be worn by persons potentially exposed to the airborne particulate during or after a fire.

3.2 POTENTIAL HEALTH EFFECTS

Exposure to the elements listed in Section 2 by inhalation, ingestion, and skin contact can occur when sintering, machining, grinding, sanding, abrasive cutting, polishing, laser scribing and trimming, chemical etching, crushing, or otherwise abrading the surface of this material in a manner which generates particulate. Volatile beryllium hydroxide can be formed when firing solid BeO parts at temperatures greater than 900°C in a moist atmosphere such as in a hydrogen atmosphere sintering furnace. Exposure may also occur during repair or maintenance activities on contaminated equipment such as: furnace rebuilding, maintenance or repair of air cleaning equipment, structural renovation, etc. Particulate depositing on hands, gloves, and clothing, can be transferred to the breathing zone and inhaled during normal hand to face motions such as rubbing of the nose or eyes, sneezing, coughing, etc.

3.2.1. Inhalation

Beryllium Oxide: The beryllium in this product is not known to cause acute health effects. Inhaling particulate containing beryllium may cause a serious, chronic lung disease called Chronic Beryllium Disease (CBD) in some individuals. See section 3.2.5 Chronic (long-term health effects).

3.2.2. Ingestion

Ingestion can occur from hand, clothing, food and drink contact with particulate during hand to mouth activities such as eating, drinking, smoking, nail biting, etc. Beryllium Oxide: The health effect of ingestion of beryllium in the form found in this product is unknown.

3.2.3. Skin

Skin contact with this material may cause, in some sensitive individuals, an allergic dermal response. Skin contact may cause irritation. Symptoms include redness, itching and pain. Beryllium Oxide: Particulate that becomes lodged under the skin has the potential to induce sensitization and skin lesions.

3.2.4. Eyes

Exposure may result from direct contact with airborne particulate or contact to the eye with contaminated hands or clothing. Damage can result from irritation or mechanical injury to the eyes by particulate.

3.2.5. Chronic (long-term health effects)

Beryllium Oxide: Inhaling particulate containing beryllium may cause a serious, chronic lung disease called chronic beryllium disease (CBD) in some individuals. Over time lung disease can be fatal. Chronic beryllium disease is a hypersensitivity or allergic condition in which the tissues of the lungs become inflamed. This inflammation, sometimes with accompanying fibrosis (scarring), may restrict the exchange of oxygen between the lungs and the bloodstream. Medical science suggests that CBD may be related to genetic factors.

3.2.6. Carcinogenic References

Beryllium Oxide: The International Agency for Research on Cancer (IARC) lists beryllium as a Group 1 – Known Human Carcinogen. The National Toxicology Program (NTP) lists beryllium as known to be human carcinogens. The ACGIH lists beryllium as an A1 – Confirmed Human Carcinogen. IARC lists beryllium as a known human carcinogen (Group1) and notes that the work environment of workers involved in refining, machining and producing beryllium metal was associated with an increased risk of lung cancer, "the greater excess was in workers hired before 1950 when exposures to beryllium in the work place were relatively uncontrolled and much higher than in subsequent decades"; and "the highest risk for lung cancer being observed among individuals diagnosed with acute beryllium-induced pneumonitis, who represent a group that had the most intense exposure to beryllium." IARC further noted that "Prior to 1950, exposure to beryllium in working environments was usually very high, and concentrations exceeding 1 mg/m3 [1000 micrograms per cubic meter] were not unusual." **3.2.7. Medical Conditions Aggravated by Exposure**

Persons with impaired pulmonary function, airway diseases, or conditions such as asthma, emphysema, chronic bronchitis, etc. may incur further impairment if particulate is inhaled. If prior damage or disease to the neurologic (nervous), circulatory, hematologic (blood), or urinary (kidney) systems has occurred, proper screening or examinations should be conducted on individuals who may be exposed to further risk where handling and use of this material may cause exposure. Beryllium Oxide: The effects of chronic beryllium disease on the lungs and heart are additive to the effects of other health conditions.

3.3 POTENTIAL ENVIRONMENTAL EFFECTS

See Ecological Information (Section 12)

4. FIRST AID MEASURES

FIRST AID PROCEDURES

INHALATION: Breathing difficulty caused by inhalation of particulate requires immediate removal to fresh air. If breathing has stopped, perform artificial respiration and obtain medical help.

INGESTION: Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

SKIN: Thoroughly wash skin cuts or wounds to remove all particulate debris from the wound. Seek medical attention for wounds that cannot be thoroughly cleansed. Treat skin cuts and wounds with standard first aid practices such as cleansing, disinfecting and covering to prevent wound infection and contamination before continuing work. Obtain medical help for persistent irritation. Material accidentally implanted or lodged under the skin must be removed.

EYES: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

NOTE TO PHYSICIANS

Treatment of Chronic Beryllium Disease: There is no known treatment which will cure chronic beryllium disease. Prednisone or other corticosteroids are the most specific treatment currently available. They are directed at suppressing the immunological reaction and can be effective in diminishing signs and symptoms of chronic beryllium disease. In cases where steroid therapy has had only partial or minimal effectiveness, other immunosuppressive agents, such as cyclophosphamide, cyclosporine, or methotrexate, have been used. These latter agents remain investigational. Further, in view of the potential side effects of all the immunosuppressive medications, including steroids such as prednisone, they should be used only under the direct care of a physician. In general, these medications should be reserved for cases with significant symptoms and/or significant loss of lung function. Other symptomatic treatment, such as oxygen, inhaled steroids or bronchodilators, may be prescribed by some physicians and can be effective in selected cases. The decision about when and with what medication to treat is a judgment situation for individual physicians. For the most part, treatment is reserved for those persons with symptoms and measurable loss of lung function. The value of starting oral steroid treatment, before signs or symptoms are evident, remains a medically unresolved issue. The effects of continued low exposure to beryllium are unknown for individuals who are sensitized to beryllium or who have a diagnosis of chronic beryllium disease. It is generally recommended that persons who are sensitized to beryllium or who have CBD terminate their occupational exposure to beryllium.

5. FIRE FIGHTING MEASURES

Flash Point Not Applicable Explosive Limits Not Applicable Extinguishing Media Not Applicable Unusual Fire and Explosion Hazards

Not Applicable

Special Fire Fighting Procedures If this material becomes airborne as a respirable particulate during a fire situation, pressuredemand self-contained breathing apparatus must be worn by firefighters or any other persons potentially exposed. 6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

If this material is a particulate, establish a restricted entry zone based on the severity of the spill. Persons entering the restricted zone must wear adequate respiratory protection and protective clothing appropriate for the severity of the spill (see Section 8). Cleanup spills with a vacuum system utilizing a high efficiency particulate air (HEPA) filtration system followed by wet cleaning methods. Special precautions must be taken when changing filters on HEPA vacuum cleaners used to clean up hazardous materials. Be careful to minimize airborne generation of particulate and avoid contamination of air and water. Depending upon the quantity of material released into the environment, the incident may be required to be reported to the National Response Center at (800) 424-8802 as well as the State Emergency Response Commission and Local Emergency Planning Committee.

7. HANDLING AND STORAGE

HANDLING

Particulate may enter the body through cuts, abrasions or other wounds on the surface of the skin. Wear gloves when handling parts with loose surface particulate or sharp edges.

STORAGE

Store in a dry area.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

8.1 VENTILATION AND ENGINEERING CONTROLS

Whenever possible, the use of local exhaust ventilation or other engineering controls is the preferred method of controlling exposure to airborne particulate. Where utilized, exhaust inlets to the ventilation system must be positioned as close as possible to the source of airborne generation. Avoid disruption of the airflow in the area of a local exhaust inlet by equipment such as a man-cooling fan. Check ventilation equipment regularly to ensure it is functioning properly. Provide training on the use and operation of ventilation to all users. Use qualified professionals to design and install ventilation systems. 8.2WORK PRACTICES

Develop work practices and procedures that prevent particulate from coming in contact with worker skin, hair, or personal clothing. If work practices and/or procedures are ineffective in controlling airborne exposure or visual particulate from

deposition on skin, hair, or clothing, provide appropriate cleaning/washing facilities. Procedures should be written that clearly communicate the facility's requirements for protective clothing and personal hygiene. These clothing and personal hygiene requirements help keep particulate from being spread to non-production areas or from being taken home by the worker. Never use compressed air to clean work clothing or other surfaces.

Fabrication processes may leave a residue of particulate on the surface of parts, products or equipment that could result in employee exposure during subsequent material handling activities. As necessary, clean loose particulate from parts between processing steps. As a standard hygiene practice, wash hands before eating or smoking.

To prevent exposure, remove surface scale or oxidation formed on cast or heat treated products in an adequately ventilated process prior to working the surface.

8.3 WET METHODS

Machining operations conducted under a flood of liquid coolant require complete hooded containment and local exhaust ventilation. Openings into the hood must be baffled to prevent release of fast moving particulate. The cycling through a machine of liquid lubricant/coolant containing finely divided beryllium particulate in suspension can result in the concentration building to a point where the particulate may become airborne during use. Prevent coolant from splashing onto floor areas, external structures or operators' clothing. Utilize a coolant filtering system to remove particulate from the coolant.

8.4 RESPIRATORY PROTECTION

When airborne exposures exceed or have the potential to exceed the occupational limits shown in Section 8.13, approved respirators must be used as specified by an Industrial Hygienist or other qualified professional. Respirator users must be medically evaluated to determine if they are physically capable of wearing a respirator. Quantitative and/or qualitative fit testing and respirator training must be satisfactorily completed by all personnel prior to respirator users of tight fitting respirators must be clean shaven on those areas of the face where the respirator seal contacts the face. Exposure to unknown concentrations of particulate requires the wearing of a pressure-demand airline respirator or pressure-demand self-contained breathing apparatus (SCBA). Use pressure-demand airline respirators when performing jobs with high potential exposures such as changing filters in a baghouse air cleaning device.

8.5 OTHER PROTECTIVE EQUIPMENT

Protective overgarments or work clothing must be worn by persons who may become contaminated with particulate during activities such as machining, furnace rebuilding, air cleaning equipment filter changes, maintenance, furnace tending, etc. Contaminated work clothing and overgarments must be managed in a controlled manner to prevent secondary exposure to workers of third parties, to prevent the spread of particulate to other areas, and to prevent particulate from being taken home by workers.

8.6 PROTECTIVE GLOVES

Wear gloves to prevent contact with particulate or solutions. Wear gloves to prevent metal cuts and skin abrasions during handling.

8.7 EYE PROTECTION

Wear safety glasses, goggles, face shield, or welder's helmet when risk of eye injury is present, particularly during melting, casting, machining, grinding, welding, powder handling, etc.

8.8 HOUSEKEEPING

Use vacuum and wet cleaning methods for particulate removal from surfaces. Be certain to de-energize electrical systems, as necessary, before beginning wet cleaning. Use vacuum cleaners with high efficiency particulate air (HEPA). Do not use compressed air, brooms, or conventional vacuum cleaners to remove particulate from surfaces as this activity can result in elevated exposures to airborne particulate. Follow the manufacturer's instructions when performing maintenance on HEPA filtered vacuums used to clean hazardous materials.

8.9 MAINTENANCE

During repair or maintenance activities the potential exists for exposures to particulate in excess of the occupational standards. Under these circumstances, protecting workers can require the use of specific work practices or procedures involving the combined use of ventilation, wet and vacuum cleaning methods, respiratory protection, decontamination, special protective clothing, and when necessary, restricted work zones.

8.10 EXPOSURE CHARACTERIZATION

Determine exposure to airborne particulate by air sampling in the employee breathing zone, work area, and department. Utilize an Industrial Hygienist or other qualified professional to specify the frequency and type of air sampling. Develop and utilize a sampling strategy which identifies the extent of exposure variation and provides statistical confidence in the results. Conduct an exposure risk assessment of processes to determine if conditions or situations exist which dictate the need for additional controls or improved work practices. Make air sample results available to employees.

8.11 MEDICAL SURVEILLANCE

Beryllium Oxide: Medical surveillance for beryllium health effects includes (1) skin examination, (2) respiratory history, (3) examination of the lungs, (4) lung function tests (FVC and FEV1), and (5) periodic chest x-ray. In addition, a specialized, specific, immunological blood test, the beryllium blood lymphocyte proliferation test (BLPT), is available to assist in the diagnosis of beryllium related reactions. Individuals who have an abnormal BLPT are normally referred to a lung specialist for additional
specific tests to determine if chronic beryllium disease is present. Note: Substantial inter- and intra-laboratory disagreement exists among the laboratories that conduct this test. The BLPT does not at this time meet the criteria for a screening test. Despite its limitations however, the BLPT remains a useful disease surveillance tool.

8.12 RISK FACTORS

Specific genetic factors have been identified and have been shown to increase an individual's susceptibility to CBD. Medical testing is available to detect genetic factors in individuals.

8.13 OCCUPATIONAL EXPOSURE LIMITS

CONSTITUENTS	OSHA*			ACGIH*		NIOSH RTECS NUMBER
	PEL	CEILING	PEAK	TLV	TLV-STEL	
Beryllium Oxide (as Be)	0.002	0.005	0.025	0.002	0.01	DS4025000

9. PHYSICAL AND CHEMICAL PROPERTIES PHYSICAL PROPERTIES

Boiling Point (°F):	Not Applicable	Radioactivity:	Not Applicable
Evaporation Rate:	Not Applicable	Solubility:	None
Freezing Point (°F):	Not Applicable	Sublimes At (°F):	Not Applicable
Odor:	None	Vapor Density (Air = 1):	Not Applicable
pH:	Not Applicable	Vapor Pressure (mmHg):	Not Applicable
Physical State:	Solid	% Volatiles By Volume:	None
Color:	White	Melting Point (°F):	4455 (BeO)
Density (lb/in3):	0.103 (BeO)		

10. STABILITY AND REACTIVITY

General Reactivity	This material is stable
Incompatibility (materials to	Not Applicable
avoid)	
Hazardous Decomposition	None under normal conditions of use
Products	
Hazardous Polymerization	Will not occur

11. TOXICOLOGICAL INFORMATION

For questions concerning toxicological information, write to: Medical Director, Brush Wellman Inc., 14710. West Portage River South Road, Elmore, Ohio 43416-9502.

12. ECOLOGICAL INFORMATION

This material can be recycled; contact your Sales Representative.

13. DISPOSAL CONSIDERATIONS

BYPRODUCT RECYCLING

When recycled (used in a process to recover metals), this material is not classified as hazardous waste under federal law. Seal particulate or particulate containing materials inside two plastic bags, place in a DOT approved container, and label appropriately.

SOLID WASTE MANAGEMENT

When recycled (used in a process to recover metals), this material is not classified as hazardous waste under federal law. When spent products are declared solid wastes (no longer recyclable), they must be labeled, managed and disposed of, in accordance with federal, state and local requirements.

14. TRANSPORT INFORMATION

There are no U.S. Department of Transportation hazardous material regulations which apply to the packaging and labeling of this product as shipped by Brush Ceramic Products. Hazard Communication regulations of the U.S. Occupational Safety and Health Administration require this product be labeled.

15. REGULATORY INFORMATION

15.1 UNITED STATES FEDERAL REGULATIONS

15.1.1. Occupational Safety and Health Administration (OSHA)

Air contaminants, 29 CFR 1910.1000

Hazard Communication Standard, 29 CFR 1910.1200

15.1.2. Environmental Protection Agency (EPA)

AMBIENT AIR EMISSIONS: Beryllium-containing materials are subject to the National Emission Standard for Beryllium as promulgated by EPA (40 CFR 61, Subpart C). The National Emission Standard for beryllium is 0.01 micrograms per cubic meter (30 day average) in ambient air for those production facilities which have been qualified to be regulated through ambient air monitoring. Other facilities must meet a 10 gram per 24- hour total site emission limit. Most process air emission sources will require an air permit from a local and/or state air pollution control agency. The use of air cleaning equipment may be necessary to achieve the permissible emission. Tempered makeup air should be provided to prevent excessive negative pressure in a building. Direct recycling of cleaned process exhaust air is not recommended. Plant exhausts should be located so as not to reenter the plant through makeup air or other inlets. Regular maintenance and inspection of air cleaning equipment and monitoring of operating parameters is recommended to ensure adequate efficiency is maintained.

WASTEWATER: Wastewater regulations can vary considerably. Contact your local and state governments to determine their requirements.

TOXIC SUBSTANCES CONTROL ACT: Component(s) of this material is/are listed on the TSCA Chemical Substance Inventory of Existing Chemical Substances

SARA TITLE III REPORTING REQUIREMENTS: On February 16, 1988 the U.S. Environmental Protection Agency (EPA) issued a final rule that implements the requirements of the Superfund Amendments and Reauthorization Act (SARA) Title III, Section 313 (53) Federal Register 4525. Title III is the portion of SARA concerning emergency planning and community right-to-know issues. Section 313 covers annual emission reporting on specific chemicals which are manufactured, processed or used at certain U.S. Industrial facilities.

Brush Ceramic products are reportable under the Section 313 category of Compounds and/or Mixtures. These mixtures contain beryllium a reportable constituent. The specific chemical makeup, concentration by weight and the Chemical Abstracts Services number for each of our products is provided in Sections 2. You may obtain additional information by calling the EPA SARA Title III Hotline at 1-800-535-0202 (or 703 412 9810).

15.2 STATE REGULATIONS

Beryllium Oxide

• Is listed on the following state right to know lists: California, (listed as * * no name **), New Jersey, Florida, Pennsylvania, Minnesota, (listed as * * no name **) and Massachusetts.

• The following statements are made in order to comply with the California State Drinking Water Act - Warning: This product contains Beryllium Oxide, listed as " ** undefined **", a chemical known to the state of California to cause cancer.

• California No Significant Risk Level: CAS# 1304-56-9: No significant risk level = 0.1 ug/day

10.1.19 Mercury Material Safety Data Sheet

1. GENERAL INFORMATION

Synonyms: Quicksilver; hydrargyrum; Liquid Silver CAS No.: 7439-97-6 Molecular Weight: 200.59 Chemical Formula: Hg

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient CAS No Percent Hazardous

Mercury 7439-97-6 90 - 100% Yes

3. HAZARDS IDENTIFICATION

Emergency Overview

DANGER! CORROSIVE. CAUSES BURNS TO SKIN, EYES, AND RESPIRATORY TRACT. MAY BE FATAL IF SWALLOWED OR INHALED. HARMFUL IF ABSORBED THROUGH SKIN. AFFECTS THE KIDNEYS AND CENTRAL NERVOUS SYSTEM. MAY CAUSE ALLERGIC SKIN REACTION.

Health Rating: 4 - Extreme (Poison) Flammability Rating: 0 - None Reactivity Rating: 1 - Slight Contact Rating: 3 - Severe (Life) Lab Protective Equip: GOGGLES; LAB COAT; PROPER GLOVES Storage Color Code: Blue (Health)

Potential Health Effects

Inhalation:

Mercury vapor is highly toxic via this route. Causes severe respiratory tract damage. Symptoms include sore throat, coughing, pain, tightness in chest, breathing difficulties, shortness of breath, headache, muscle weakness, anorexia, gastrointestinal disturbance, ringing in the ear, liver changes, fever, bronchitis and pneumonitis. Can be absorbed through inhalation with symptoms similar to ingestion.

Ingestion:

May cause burning of the mouth and pharynx, abdominal pain, vomiting, corrosive ulceration, bloody diarrhea. May be followed by a rapid and weak pulse, shallow breathing, paleness, exhaustion, tremors and collapse. Delayed death may occur from renal failure. Gastrointenstinal uptake of mercury is less than 5% but its ability to penetrate tissues presents some hazard. Initial symptoms may be thirst, possible abdominal discomfort.

Skin Contact:

Causes irritation and burns to skin. Symptoms include redness and pain. May cause skin allergy and sensitization. Can be absorbed through the skin with symptoms to parallel ingestion.

Eye Contact:

Causes irritation and burns to eyes. Symptoms include redness, pain, blurred vision; may cause serious and permanent eye damage.

Chronic Exposure:

Chronic exposure through any route can produce central nervous system damage. May cause muscle tremors, personality and behavior changes, memory loss, metallic taste, loosening of the teeth, digestive disorders, skin rashes, brain damage and kidney damage. Can cause skin allergies and accumulate in the body. Repeated skin contact can cause the skin to turn gray in color. A suspected reproductive hazard; may damage the developing fetus and decrease fertility in males and females.

Aggravation of Pre-existing Conditions:

Persons with nervous disorders, or impaired kidney or respiratory function, or a history of allergies or a known sensitization to mercury may be more susceptible to the effects of the substance.

4. FIRST AID MEASURES

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion:

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact:

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. FIRE FIGHTING MEASURES

Fire:

Not considered to be a fire hazard.

Explosion:

Not considered to be an explosion hazard.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire. Do not allow water runoff to enter sewers or waterways. **Special Information:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Undergoes hazardous reactions in the presence of heat and sparks or ignition. Smoke may contain toxic mercury or mercuric oxide. Smoke may contain toxic mercury or mercuric oxide.

6. ACCIDENTAL RELEASE MEASURES

Ventilate area of leak or spill. Clean-up personnel require protective clothing and respiratory protection from vapor.

Spills: Pick up and place in a suitable container for reclamation or disposal in a method that does not generate misting. Sprinkle area with sulfur or calcium polysulfide to suppress mercury. Do not flush to sewer. US Regulations

(CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

7. HANDLING AND STORAGE

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from any source of heat or ignition. Do not use or store on porous work surfaces (wood, unsealed concrete, etc.). Follow strict hygiene practices. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

8. EXPOSURE CONTROLS/PERSONAL PROTECTIVE EQUIPMENT

Airborne Exposure Limits:

- OSHA Acceptable Ceiling Concentration:

mercury and mercury compounds: 0.1 mg/m3 (TWA), skin

- ACGIH Threshold Limit Value (TLV):

inorganic and metallic mercury, as Hg: 0.025 mg/m3 (TWA) skin, A4 Not classifiable as a human carcinogen.

- ACGIH Biological Exposure Indices:

total inorganic mercury in urine (preshift): 35 ug/g creatinine;

total inorganic mercury in blood (end of shift): 15 ug/l.

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices,* most recent edition, for details.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded and engineering controls are not feasible, a half-face respirator with a mercury vapor or chlorine gas cartridge may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece respirator with a mercury vapor or chlorine gas cartridge may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, airsupplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. **Skin Protection:**

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Silver-white, heavy, mobile, liquid metal. Odor: Odorless. Solubility: Insoluble in water. Density: 13.55 pH: No information found. % Volatiles by volume @ 21C (70F): 100 Boiling Point: 356.7C (675F) Melting Point: -38.87C (-38F) Vapor Density (Air=1): 7.0 Vapor Pressure (mm Hg): 0.0018 @ 25C (77F) Evaporation Rate (BuAc=1): 4

10. STABILITY AND REACTIVITY

Stability: Stable under ordinary conditions of use and storage.
Hazardous Decomposition Products: At high temperatures, vaporizes to form extremely toxic fumes.
Hazardous Polymerization: Will not occur.
Incompatibilities: Acetylenes, ammonia, ethylene oxide, chlorine dioxide, azides, metal oxides, methyl silane, lithium, rubidium, oxygen, strong oxidants, metal carbonyls.
Conditions to Avoid: Heat, flames, ignition sources, metal surfaces and incompatibles.

11. TOXICOLOGICAL INFORMATION

Toxicological Data: Investigated as a tumorigen, mutagen, reproductive effector. **Reproductive Toxicity:** All forms of mercury can cross the placenta to the fetus, but most of what is known has been learned from experimental animals. See Chronic Health Hazards. **Carcinogenicity:** EPA / IRIS classification: Group D1 - Not classifiable as a human carcinogen.

------\Cancer Lists\------

---NTP Carcinogen----

Ingredient Known Anticipated IARC Category

Mercury (7439-97-6) No No 3

12. ECOLOGICAL INFORMATION

Environmental Fate: This material has an experimentally-determined bioconcentration factor (BCF) of greater than 100. This material is expected to significantly bioaccumulate.

Environmental Toxicity: This material is expected to be toxic to aquatic life. The LC50/96-hour values for fish are less than 1 mg/l.

13. DISPOSAL CONSIDERATIONS

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. TRANSPORTATION INFORMATION

Domestic (Land, D.O.T.)

Proper Shipping Name: RQ, MERCURY Hazard Class: 8 UN/NA: UN2809 Packing Group: III Information reported for product/size: 1LB

International (Water, I.M.O.)

Proper Shipping Name: MERCURY Hazard Class: 8 UN/NA: UN2809 Packing Group: III Information reported for product/size: 1LB

15. OTHER INFORMATION

NFPA Ratings: Health: 3 Flammability: 0 Reactivity: 0

Label Hazard Warning:

DANGER! CORROSIVE. CAUSES BURNS TO SKIN, EYES, AND RESPIRATORY TRACT. MAY BE FATAL IF SWALLOWED OR INHALED. HARMFUL IF ABSORBED THROUGH SKIN. AFFECTS THE KIDNEYS AND CENTRAL NERVOUS SYSTEM. MAY CAUSE ALLERGIC SKIN REACTION.

Label Precautions:

Do not get in eyes, on skin, or on clothing.

Do not breathe vapor.

Keep container closed.

Use only with adequate ventilation.

Wash thoroughly after handling.

Label First Aid:

If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. In all cases get medical attention immediately.

Product Use:

Laboratory Reagent. **Revision Information:** No Changes.

Disclaimer: Follows next page

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10.2 Emergency Contact Information

In the event of an accident or emergency situation, emergency procedures will be executed. Said procedures can and will be executed by the first person to observe an accident or emergency situation. The Project Field Manager will be notified about the situation immediately after emergency procedures are implemented.

10.2.1 Emergency Contacts

Emergency:	911	
Hospital:	(914) 787-1000	New York Presbyterian/Lawrence Hospital
Police:	911	Police
Fire Department:	911	NYFD
Chemtrec:	800-424-9300	
Poison Control Center:	800-336-6997	
National Response Center:	800-424-8802	
US EPA (24-hour hotline):	800-424-9346	

Hospital Route:

27 Kensington Road

Bronxville, NY 10708

Head south on Kensington Rd toward Sagamore Rd t.

0.1 mi _____

Slight right onto Sagamore Rd

75 ft —

Turn left to stay on Sagamore Rd

174 ft

➡ Turn right onto Kraft Ave

69 ft

➡ Turn right onto Pondfield Rd 361 ft

Slight left onto Pondfield Rd W

At the traffic circle, take the 3rd exit onto Palmer Ave

1 Destination will be on the right

259 ft ------



10.2.2 Utility Emergencies / Initiating Subsurface Investigation Work

Where necessary, utility markouts will be called in via the one call center or to the individual entities listed below.

Mark Out One-Call Center	1-800-272-4480	No-Cuts
Gas Company:	718-643-4050	Keyspan/Con Edison
Telephone Company:	516-661-6000	Bell Atlantic / Verizon
Electric Company:	718-643-4050	Keyspan/Con Edison

10.3 Contingency / Evacuation Plan

This Section is not, nor does it purport to be, a comprehensive recitation of safety and health requirements applicable to emergency procedures. Rather, contractors, subcontractors and workers at the site must refer to OSHA's Employee Emergency Action Plan Standard, set forth at 29 C.F.R. § 1910 Part 1926.35(a), as well as all supporting OSHA Compliance Directives and Letters of Interpretation, for complete information on safety and health compliance obligations.

If an unknown substance or substance container is encountered during site activities, the following contingency plan will be triggered.

- The Site Health and Safety Officer, Project Manager and Field Operations Leader will be notified and an Exclusion Zone (the aerial extent of which will be determined by the above safety staff) will be established.
- 2. All staff will be evacuated from the Exclusion Zone.
- 3. Air monitoring will be conducted down-wind of the Exclusion Zone.
- 4. The NYSDEC, as well as any other Government regulatory agency whose need may be prompted by the particular situation, will be notified.
- 5. Upon arrival of the NYSDEC or Government regulatory agency representative(s), site control will transfer to the appropriate Government personnel.

It may be possible that a situation could develop site emergency could necessitate the evacuation of all personnel from the site. If such a situation develops, an audible alarm shall be given for site evacuation (consisting of an air horn). Personnel shall evacuate the site in a calm and controlled fashion and regroup at a predetermined location. The route of evacuation will be dependent on wind direction, severity, type of incident, etc. The site must not be re-entered until back-up help, monitoring equipment, and/or personal protective equipment are on hand and the appropriate regulatory agencies have been notified.

10.4 Emergency Medical Treatment Procedures

This Section is not, nor does it purport to be, a comprehensive recitation of safety and health requirements applicable to medical treatment and first aid. Rather, contractors, subcontractors and workers at the site must refer to OSHA's Medical

Services and First Aid Standard, set forth at 29 C.F.R. § 1910 Part 1926.23 and 1926.50, as well as all supporting OSHA Compliance Directives and Letters of Interpretation, for complete information on safety and health compliance obligations.

All injuries, no matter how slight, will be reported to the site safety supervisor immediately. The safety supervisor will complete an accident report for all incidents (Appendix B).

Some injuries, such as severe lacerations or burns, may require immediate treatment. Unless required due to immediate danger, seriously injured persons should not be moved without direction from attending medical personnel.

10.4.1 Standard Procedures for Injury

- 1. Notify the Site Health and Safety Officer, Project Manager, and the NYCDEP and NYCDHPD of all accidents, incidents, and near emergency situations.
- 2. If the injury is minor, trained personnel should proceed to administer appropriate first aid.
- 3. Telephone for ambulance/medical assistance if necessary. Whenever possible, notify the receiving hospital of the nature of physical injury or chemical overexposure. If no phone is available, transport the person to the nearest hospital. Refer to the map in section 11.2.1.
- 4. When transporting an injured person to a hospital, bring this Health and Safety Plan with the attached MSDS to assist medical personnel with diagnosis and treatment.

10.4.2 Chemical Overexposure

In all cases of chemical overexposure, follow standard procedures as outlined below for poison management, first aid, and, if applicable, cardiopulmonary resuscitation. Different routes of exposure and their respective first aid/poison management procedures are outlined below.

Ingestion	Do not induce vomiting unless prompted by a health professional. Transport person
Inhalation / Confined Space	Do not enter a confined space to rescue someone who has been overcome unless
	properly equipped and a standby person present.
Inhalation / Other	Move the person from the contaminated environment. Initiate CPR if necessary. Call
	or have someone call for medical assistance. Refer to MSDS for additional specific
	information. If necessary, transport the victim to the nearest hospital as soon as
	possible.
Skin Contact / Non-Caustic	Wash off skin with a large amount of water immediately. Remove any affected
Contaminant (Petroleum, Gasoline, etc.)	clothing and rewash skin using soap, if available. Transport person to a medical
	facility if necessary.
Skin Contact / Corrosive	Wash off skin with a large amount of water immediately. Remove any affected
Contaminant (Acids, Hydrogen Peroxide, etc.)	clothing and rewash skin with water. Transport person to a medical facility if

	necessary.
Eyes	Hold eyelids open and rinse the eyes immediately with large amounts of water for 15 minutes. Never permit the eyes to be rubbed. Transport person to a medical facility as soon as possible.

10.4.3 First Aid for Injuries Incurred During Field Work

A first aid kit and an emergency eyewash will be available on-site. Field crews, when performing field operations, will carry portable first aid kits that include emergency eye wash stations.

10.4.4 First Aid Equipment List

The first aid kit(s) kept at the site will consist of a weatherproof container with individually sealed packages for each type of item.

The kit will include at least the following items:

- Gauze roller bandages, 1-inch and 2-inch
- Gauze compress bandages, 4-inch
- Gauze pads, 2-inch
- Adhesive tape, 1-inch
- Bandage, 1-inch
- Butterfly bandages
- Triangular bandages, 40-inch
- Ampules of ammonia inhalants
- Antiseptic applicators or swabs
- Burn dressing and sterilized towels
- Surgical scissors
- Eye dressing
- Portable emergency eye wash
- Emergency oxygen supply
- Alcohol
- Hydrogen peroxide
- Clinical grade thermometer
- Tourniquet

10.4.5 Other Emergency Equipment

One portable fire extinguisher with a rating (ratio) of 20 pound A/B/C and one portable fire extinguisher with a rating of 2A will be conspicuously and centrally located between the restricted and non-restricted zones. In addition, similar extinguishers of the same size and class will be located in the site office trailer so that maximum travel distance to the nearest unit shall not exceed 50 feet. Portable extinguishers will be properly tagged with inspection dates and maintained in accordance with standard maintenance procedures for portable fire extinguishers. Field personnel will be trained in fire extinguisher use before field operations begin.

An emergency at any part of the site, such as fire or chemical release, might require that some appropriately trained site workers direct traffic on or near the site.

The following safety equipment to be used for traffic should be kept readily available on site in the field office:

- reflective/fluorescent vests
- flares
- traffic cones (and flags, or the equivalent, as needed)
- hazard tape (barricades as needed)
- working flashlights

10.5 Record of Injuries Incurred On-Site

10.5.1 Occupational Injuries and Illnesses Form (OSHA 200)

All occupational injuries and illnesses that are required to be recorded under the Occupational Safety and Health Act will be registered on OSHA Form 200 (see Appendix C). The site safety supervisor will record occupational injuries and illnesses within 48 hours of occurrence, as required by statute.

10.5.2 Employer's First Report of Injury

The site safety supervisor for all accidents involving work injury at the site will complete this form (Appendix D). Follow-up procedures will include investigation of each accident or near-miss by the safety supervisor to assure that no similar accidents occur in the future.

APPENDIX A Accident Report Form

Employee Accident Report

		EMPLOYEE					
Name	SS#	Em	p ID#				
Home AddressStreet		city		zip code		phone	
Sex: M F Birth Date	Age:	Employment Statu	s: Full time	Part tim	ie	%	
Job Title		Tim	e in Present Po	osition	Yrs	Months	
Department	Wo	ork Address		1. 11			-
Supervisor				building/rooi	n #	phone	
name		buil	ding/room #			phone	
Accident Date Time What were you doing and using (tools, cl	am/pm Loca nemicals, equipment, etc	tion) when the accide	nt occurred?	Describe what h	appened.		
Was this part of your normal job duty? _ Parts of body affected or injured	Yes <u>No</u>						_
Witnesses:	/						
name Report proposed by (if different from the	phone	nan	ne	pho	one		
Report prepared by (If different from the	injured employee)	name phone					
regarding this accident to the Prime Con EMPLOYEE SIGNATURE:	tractors claim administr	ators.	DATE	:			
	CUDEDVI						
	SUPERVI	ISUK/CHAKGI	PERSON	~ ~			
This accident was reported to me on	(date)	at	Co (time)	st Center/Dept	#		
IS FURTHER INVESTIGATION REQU	JIRED? Yes No	Super	visor/Charge P	erson Signature		Date	
				erson orginature	r	Date	
	HEAL	TH CARE PRO	VIDER				
Treated by:			signatu	·e			
Address	atroat		oite	ata	to		nhana
	street		city	Sta	te zip	Code	phone
Hospitalized overnight as inpatient?	yesno	(if emergency room	n only mark n	0)			
Diagnosis/Assessment							
Parts of body affected							
Reaggravation of previous work injury?	yesno	Date of initial in	ijury				

APPENDIX B OSHA 200 Form

OMB DISCLOSURE STATEMENT

Public reporting burden for this collection of information is estimated to vary from 4 to 30 (time in minutes) per response with an average of 15 (time in minutes) per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments regarding this estimate or any other aspect of this information collection, including suggestions for reducing this burden, please send them to the OSHA Office of Statistics, Room N-3644, 200 Constitution Avenue, N.W. Washington, D.C. 20210

Instructions for OSHA No. 200

I. Log and Summary of Occupational Injuries and Illnesses

Each employer who is subject to the recordkeeping requirements of the Occupational Safety and Health Act of 1970 must maintain for each establishment, a log of all recordable occupational injuries and illnesses. This form (OSHA No. 200) may be used for that purpose. A substitute for the OSHA No. 200 is acceptable if it is as detailed, easily readable, and understandable as the OSHA No. 200.

Enter each recordable case on the log within six (6) workdays after learning of its occurrence. Although other records must be maintained at the establishment to which they refer, it is possible to prepare and maintain the log at another location, using data processing equipment if desired. If the log is prepared elsewhere, a copy updated to within 45 calendar days must be present at all times in the establishment. Logs must be maintained and retained for five (5) years following the end of the calendar year to which they relate. Logs must be available (normally at the establishment) for inspection and copying by representatives of the Department of Labor, or the Department of Health and Human Services, or States accorded jurisdiction under the Act. Access to the log is also provided to employees, former employees and their representatives.

II. Changes in Extent of or Outcome of Injury or Illness

If, during the 5-year period the log must be retained, there is a change in an extent and outcome of an injury or illness which affects entries in columns 1, 2, 6, 8, 9, or 13, the first entry should be lined out and a new entry made. For example, if an injured employee at first required only medical treatment but later lost workdays away from work, the check in column 6 should be lined out and checks entered in columns 2 and 3 and the number of lost workdays entered in column 4.

In another example, if an employee with an occupational illness lost wordays, returned to work, and then died of the illness, any entries in columns 9 through 12 would be lined out and the date of death entered in column 8.

The entire entry for an injury or illness should be lined out if later found to be nonrecordable. For example, an injury which is later determined not to be work related, or which was initially thought to involve medical treatement but later was determined to have involved only first aid. **III. Posting Requirements**

A copy of the totals and information following the total line of the last page for the year, must be posted at each establishment in the place or places where notices to employees are customarily posted. This copy must be posted no later than February 1 and must remain in place until March 1. Even though there were no injuries or illnessed during the year, zeros must be entered on the totals line, and the form posted. The person responsible for the annual summary totals shall certify that the totals are true and complete by signing at the bottom of the form.

IV. Instructions for Completing Log and Summary of Occupational injuries and illnesses

Column A - CASE OR FILE NUMBER. Self Expanatory

Column B - DATE OF INJURY OR ONSET OF ILLNESS

For occupational injuries, enter the date of the work accident which resulted in the injury. For occupational illnesses, enter the date of initial diagnosis of illness, or, if absence from work occurred before diagnosis, enter the first day of the absence attributable to the illness which was later diagnosed or recognized.

Columns C through F - Self Explanatory

Columns 1 and 8 - INJURY OR ILLNESS-RELATED DEATHS - Self Explanatory

Columns 2 and 9 - INJURIES OR ILLNESSES WITH LOST WORKDAYS - Self Explanatory

Any injury which involves days away from work, or days of restricted work activitiy, or both, must be recorded since it always involves one or more of the criteria for recordability.

Columns 3 and 10 - INJURIES OR ILLNESSES INVOLVING DAYS AWAY FROM WORK - Self Explanatory Columns 4 and 11 - LOST WORKDAYS -- DAYS AWAY FROM WORK.

Enter the number of workdays (consecutive or not) on which the employee would have worked but could not because of occupational injury or illness. The number of lost workdays should not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work. NOTE: For employees not having a regularly scheduled shift, such as certain truck drivers, construction workers, farm labor, casual labor, part-time employees, etc., it may be necessary to estimate the number of lost workdays. Estimates of lost workdays shall be based on prior work history of the employee AND days worked by employees, not ill or injured, working in the department and/or occupation of the ill or injured employee.

Columns 5 and 12 - LOST WORKDAYS -- DAYS OF RESTRICTED WORK ACTIVITY.

Enter the number of workdays (consecutive or not) on which because of injury or illness:

(1) the employee was assigned to another job on a temporary basis, or

(2) the employee worked at a permanent job less than full time, or

(3) the employee worked at a permanently assigned job but could not perform all duties normally connected with it.

The number of lost workdays should not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work.

Columns 6 and 13 - INJURIES OR ILLNESSES WITHOUT LOST WORKDAYS - Self Explanatory

Columns 7a through 7g - TYPE OF ILLNESS. Enter a check in only one column for each illness.

TERMINATION OR PERMANENT TRANSFER - Place an asterisk to the right of the entry in columns 7a through 7g (type of illness) which represented a termination of employment or permanent transfer.

V. Totals

Add number of entries in columns 1 and 8.

Add number of checks in columns 2, 3, 6, 7, 9, 10 and 13.

Add number of days in columns 4, 5, 11 and 12.

Yearly totals for each column (1-13) are required for posting. Running or page totals may be generated at the discretion of the employer. In an employee's loss of workdays is continuing at the time the totals are summarized, estimate the number of future workdays the employee will lose and add that estimate to the workdays already lost and include this figure in the annual totals. No further entries are to be made with respect to such cases in the next year's log.

VI. Definitions

OCCUPATIONAL INJURY is any injury such as a cut, fracture, sprain, amputation, etc. which results from a work accident or from an exposure involving a single incident in the work environment. NOTE: Conditions resulting from animal bites, such as insect or snake bites or from one-time exposure to chemicals, are considered to be injuries.

OCCUPATIONAL ILLNESS of an amployee is any abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. It includes acute and chronic illnesses or diseases which may be caused by inhalation, absorption, ingestion, or direct contact.

The following listing gives the categories of occupational illnesses and disorders that will be utilized for the purpose of classifying recordable illnesses. For porposes of information, examples of each category are given. These are typical examples, however, and are not to be considered the complete listing of the types of illnesses and disorders that are to be counted under each category.

7a. Occupational Skin Diseases or Disorders. Examples: Contact dermatitis, eczema, or rash caused by primary irritants and sensitizers or poisonous plants; oil acne; chrome ulcers; chemical burns or inflamation, etc.

7b. Dust Diseases of the Lungs (Pneumaconioses). Examples: Silicosis, asbestosis and other asbestos-related diseases, coal worker's pneumaconioses, byssinosis, siderosis, and other pneumaconioses.

7c. Respiratory Conditions Due to Toxic Agents. Examples: Pneumonitis, pharyngitis, rhinitis or acute congestion due to chemicals, dusts, gases, or fumes; farmer's lung; etc.

7d. Poisoning (Systemic Effects of Toxic Materials). Examples: Poisoning by lead, mercury, cadmium, arsenic, or other metals; poisoning by carbon monoxide, hydrogen sulfide, or other gases; poisoning by benzol, carbon tetrachloride, or other organic solvents; poisoning by

insecticide sprays such as parathion, lead arsenate; poisoning by other chemicals such as formaldehyde, plastics, and resins; etc. 7e. Disorders Due to Physical Agents (Other than Toxic Materials). Examples: Heatstroke, sunstroke, heat exhaustion, and other effects of environmental heat, freezing, frostbite, and effects of exposure to low temperatures; caisson disease; effects of ionizing radiation (isotopes, X-rays, radium); effects of nonionizing radiation (welding flash, ultraviolet rays, microwaves, sunburn); etc.

7f. Disorders Associated with Repeated Trauma. Examples: Noise-induced hearing loss; synovitis, tenosynovitis, and bursitis. Raynaud's phenomena; and other conditions due to repeated motion, vibration, or pressure.

7g. All Other Occupational Illnesses. Examples: Anthrax, brucellosis, infectious hepatitis, malignant and benign tumors, food poisoning, histoplasmosis, coccidioidomycosis, etc.

MEDICAL TREATMENT includes treatment (other than first aid) administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does NOT include first aid treatment (one-time treatment and subsequent observation of minor scratches, cuts, burns, splinters, and so forth, which do not ordinarily require medical care) even though provided by a physician or registered professional personnel.

ESTABLISHMENT: A single physical location where business is conducted or where services or industrial operations are performed (for example: a factory, mill, store, hotel, resturant, movie theater, farm, ranch, bank, sales office, warehouse, or central administrative office). Where distinctly separate activities are performed at a single physicial location, such as construction activities operated from the same physical locations as a lumber yard, each activity shall be treated as a separate establishment.

For firms engaged in activities which may be physically dispersed, such as agriculture; construction; transportation; communications and electric, gas, and sanitary services, records may be maintained at a place to which employees report each day.

Records for personnel who do not primarily report or work at a single establishment, such as traveling salesmen, technicians, engineers, etc., shall be maintained at the location from which they are paid or the base from which personnel operate to carry out their activities.

WORK ENVIRONMENT is comprised of the physical location, equipment, materials processed or used, and the kinds of operations performed in the course of an employee's work, wether on or off the employer's premisis.



DATE	EMPLOYEE NAME	SAFETY OFFICER/SUPERVISOR	ACKNOLEDGEMENT THAT YOU HAVE READ AND UNDERSTSAND THE HASP SUPPLEMENT – TARGET SAFETY TOPIC FOR CONSTRUCTION PERSONNEL

APPENDIX D Vapor Monitoring Sheet

		Air Quality (Thart Data			MAP
Event #	1	2	3	4	5	-
Date/Time	1		5	•	5	-
Location						1
Tester						
Weather						
	_					
Instrument						_
Calibration						-
Ambient/Uni	t					
Des line /I Init	1					-
Reading/Unit	[
NOTES						
FOR						
EVENTS:						

Ionization Detector Response

Photoionization Detector (PID)	
Concentrations (in ppm)	Level of PPE Required
0.0 to 5.0	Level D
5.0 to 250.0	Level C
250.0 to 750.0	Level B
Above 750.0	Immediately withdraw from the area

Combustible Gas Response

Combustible Gas Indicator (CGI)	
Results (% of LEL)	Procedure
0.0 to 20.0	Continue with normal activity
Above 20.0	Immediately withdraw from the area

Oxygen Detector Response

Combustible Gas Indicator (CGI)							
Results (% Oxygen)	Procedure						
0.0 to 19.5	Level B PPE is required						
19.5 to 23.0	Continue with normal activity						
Above 23.0	Immediately withdraw from the area						

APPENDIX G SITE MANAGEMENT FORMS

	ANNUAL INSPECTION FORM										
		VILLA BXV									
		5-27 KENSINGTON ROAD, BRONAVILLE, NEW YORK									
Α.	INTERIO	R COVER SYSTEM INSPECTION									
	i.	Walk and inspect the entire garage level basement slab									
	ii.	Walk and inspect the interior perimeter of the sub-grade garage									
		a. Are there any signs of significant cracks, settlement, or deterioration of the									
		concrete slab or foundation walls?									
		b. Has any of the basement slab or wall construction been removed?									
		c. Have any additional structures or fixtures been installed on or in the building slab or foundation walls?									
		d. Are there any other signs of intrusive activities (drilling, digging, trenching,									
		grading, excavation, etc.?)									
Com	ments:										
В.	EXTERIO	R UNPAVED COVER SYSTEM INSPECTION									
	i.	Walk the entire open uppaved area in the northern portion of the Site									
	ii.	Walk and inspect the perimeter of the open unpaved area									
		a. Are there any signs of settlement or deterioration of the landscaped area?									
		b. Has any of the turf, soil, or vegetation been removed?									
		c Have any additional structures or fixtures been installed on or in the unnaved									
		open area?									
		d. Are there any other signs of intrusive activities (drilling, digging, trenching,									
		grading, excavation, etc.?)									
Com	ments:										
C	RFPΔIR ·	Summarize needed/completed repairs to the aforementioned Engineering Controls:									
с.		commanize needed, completed repuils to the diorementioned Engineering controls.									

APPENDIX H PERMITS AND/OR PERMIT EQUIVALENT

New York State Department of Environmental Conservation Division of Water

Bureau of Water Permits, 4th Floor 625 Broadway, Albany, New York 12233-3505 Phone: (518) 402-8111 • Fax: (518) 402-9029 Website: www.dec.ny.gov



6/5/2014

GATEWAY KENSINGTON, LLC JIM CARNICELLI 2 DEARFIELD DRIVE - SUITE #3 GREENWICH CT 06831-

Re: ACKNOWLEDGMENT of NOTICE of INTENT for Coverage Under SPDES General Permit for Storm Water Discharges from CONSTRUCTION ACTIVITY General Permit No. GP-0-10-001

Dear Prospective Permittee:

This is to acknowledge that the New York State Department of Environmental Conservation (Department) has received a complete Notice of Intent (NOI) for coverage under General Permit No. GP-0-10-001 for the construction activities located at:

KENSINGTON ROAD BRONXVILLE KENSINGTON ROAD BRONXVILLE NY 10708-

County: WESTCHESTER

Pursuant to Environmental Conservation Law (ECL) Article 17, Titles 7 and 8, ECL Article 70, discharges in accordance with GP-0-10-001 from the above construction site will be authorized 6/5/2014, which is the date we received your final NOI, unless notified differently by the Department.

The permit identification number for this site is: NYR **10Y037**. Be sure to include this permit identification number on any forms or correspondence you send us. When coverage under the permit is no longer needed, you must submit a Notice of Termination to the Department.

This authorization is conditioned upon the following:

1. The information submitted in the NOI received by the Department on 6/5/2014 is accurate and complete.

2. You have developed (or obtained from the previous owner) a Storm Water Pollution Prevention Plan (SWPPP) that complies with GP-0-10-001 which must be implemented as the first element of construction at the above-noted construction site.

3. Activities related to the above construction site comply with all other requirements of GP-0-10-001.

4. Payment of the annual \$100 regulatory fee, which is billed separately by the Department in the late fall. The regulatory fee covers a period of one calendar year.

5. When applicable, project review pursuant to the State Environmental Quality Review Act (SEQRA) has been satisfied.

6. You have obtained all necessary Department permits subject to the Uniform Procedures Act (UPA). You should check with your Regional Permit Administrator for further information.

*Note: Construction activities cannot commence until project review pursuant to SEQRA has been satisfied, when SEQRA is applicable; and, where required, all necessary Department permits subject to the UPA have been obtained.

Please be advised that the Department may request a copy of your SWPPP for review.

Should you have any questions regarding any aspect of the requirements specified in GP-0-10-001, please contact Dave Gasper at (518) 402-8114 or the undersigned at (518) 402-8109.

Sincerely,

Toni anth

Toni Cioffi Environmental Program Specialist 1

cc: RWE - 3 SWPPP Preparer

> KELLARD SESSIONS CONSULTING, PC KELLARD, PE, JOHN 500 MAIN STREET ARMONK NY 10504-

APPENDIX I SOIL BORING LOGS

Client: Ga	teway Deve	lopment				Boring No.: EP-1 Impact Environmental 170 Keyland Court			
Project #: 71	50						Sheet 1 of 1	Bohemi	a, NY 11716
Site Location:	5-27 Kens	ington Rd,	Bronxville				Date: 6/2/2015	(631)	269-8800
Drilling Co:	Impact En	vironmenta	1				FORMAT FOR	CHARACTERIZ	ZATION
Method:	Geoprobe-	Direct Pusl	1				Ex.1: brown, loose F SILT	Y-SAND, with	some C Gravel
Personnel:	GW/PS						Ex.2: grey & brown mottled soft CLAY and brown F SAND,		
Total Depth:	12 FT		Depth to V	Vater:	NA		with trace organics		
depth (feet)	PID (ppm)	Blow Counts	Sample ID	Depth (From-To)	Moisture Content	Recovery	y Soil Classification		Remarks
1									
<u> </u>	-		EP-1	0-2					
2							Brown C to M SAND w	vith some M	
	-						Gravel, poorly sorted, r	10 odor, no	
			EP-1	2-4			stanning		
4							-		
┣ —	-								
5			ED 1	1.0					
_ 6 _			EP-1	4-6					
	_						Dark brown C to M SAN		
7							poorly sorted		
	-								
8			ED 1	6.0					
9			E1 -1	0-9			Grav/brown C SAND	with fines	
⊢ —	-						5		
10									
- <u> </u>	-						Gray C SAND, with bedroo	ck fragments in	
			EP-1	9-12			bottom of sho	be -	
12				<i>y</i> 12					
┣ —	-								
13									
15									
⊢	_								
16									
_ 17									
	-								
- 18									
┣ ─	1								
L 19 —							1		
20									
20									

Client: Ga	teway Deve	lopment				Boring No.: EP-2 Impact Environmental 170 Keyland Court				
Project # : 71:	50						Sheet 1 of 1	Bohemia, NY 11716		
Site Location:	5-27 Kens	ington Rd,	Bronxville				Date: 6/2/2015	(631)	269-8800	
Drilling Co:	Impact En	vironmenta	1				FORMAT FOR	CHARACTERI	ZATION	
Method:	Geoprobe-	Direct Pusl	ı				Ex.1: brown, loose F SILTY-SAND, with some C Gravel Ex.2: grey & brown mottled soft CLAY and brown F SAND,			
Personnel:	GW/PS									
Total Depth:	5 FT		Depth to V	Vater:		with trace organics				
depth (feet)	PID (ppm)	Blow Counts	Sample ID	Depth (From-To)	Moisture Content	Recovery	Soil Classificat	ion	Remarks	
							Brown C to M SAND	with metal		
			EP-2	0-2			fragments			
2				-						
┣ —	-									
3							Brown C to M SAND w	vith gray M		
							Gravel, no staining,	no odor		
			EP-2	2-5						
5				20						
┣ —										
6 —										
	-									
8										
┣ —	-									
9 —										
10	-									
11										
┣	-									
12										
12	-									
14										
┣ —	-									
15										
<u> </u>	-									
16										
	-									
- 18							4			
┣ ─	4									
<u> </u>							1			
	<u> </u>									

Client:	Gat	eway Deve	lopment				Boring No.: EP-3	Impact F 170 Ke	Environmental evland Court	
Project # :	715	0						Sheet 1 of 1	Bohemi	ia, NY 11716
Site Locat	ion:	5-27 Kens	ington Rd,	Bronxville				Date: 6/2/2015	(631)	269-8800
Drilling C	o:	Impact En	vironmenta	1				FORMAT FOR	CHARACTERI	ZATION
Method:		Geoprobe-	Direct Pusl	ı				Ex.1: brown, loose F SILTY-SAND, with some C Gravel		
Personnel	:	GW/PS						Ex.2: grey & brown mottled soft CLAY and brown F SAND,		
Total Dep	th:	11 FT		Depth to V	Vater:	NA		with trace organics		
denth		PID	Blow	Sample	Depth	Moisture	Recovery	Soil Classificati	ion	Remarks
(feet)		(ppm)	Counts	ID	(From-To)	Content	icecovery	Son clussificat	ion	Tternurns
				EP-3	0-2					
2									MC	
—								poorly sorted no odor	no staining	
3									no stanning	
				EP-3	2-4					
5										
 _				EP-3	4-6			Darly brown M SAND and	a mias flatras	
<u> </u>								and schist fragme		
				ED_3	6-8					
<u> </u>				L1-5	0-0			Grav/brown C SAND		
9 -										
-								~		
10 -				ED 2	<u> </u>			Gray sand with fragment	s of bedrock	
<u> </u>				LI-3	0-11					
<u> </u>										
-										
13										
14										
15										
<u> </u>										
<u> </u>										
17										
- 18								•		
⊩										
- 19								1		
20										

Client:	Gatew	ay Deve	lopment				Boring No.: EP-4	Impact F 170 Ke	Environmental evland Court		
Project # :	7150							Sheet 1 of 1	Bohemia, NY 11716		
Site Locati	ion: 5-	27 Kens	ington Rd,	Bronxville				Date: 6/2/2015	(631)	269-8800	
Drilling Co	o: In	npact En	vironmenta	1				FORMAT FOR	CHARACTERI	ZATION	
Method:	G	eoprobe-	Direct Pusł	1				Ex.1: brown, loose F SILTY-SAND, with some C Gravel			
Personnel:	G	W/PS						Ex.2: grey & brown mottled soft CLAY and brown F SAND,			
Total Dept	th: 6.	5 FT		Depth to V	Vater:	NA		with trace organics			
depth		PID	Blow	Sample	Depth	Moisture	Recovery	Soil Classification		Remarks	
(feet)		(ppm)	Counts	ID	(From-To)	Content	icecovery	Son chubbinout		Ttermums	
				EP-4	0-2			Brown C to M SAND. S	Some metal		
2								fragments.			
—											
3				ED (
				EP-4	2-4			Brown C SAND Some	M Gravel		
								BIOWII C SAIND. Some			
5											
—				FP-4	4-6 5			Dark Brown C SA	AND		
<u> </u>				L1 -7	0.J						
_ 7	_										
/											
8											
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10											
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Client: Ga	teway Deve	lopment				Boring No.: EP-5	Impact I 170 Ke	Environmental evland Court		
Project #: 71	50						Sheet 1 of 1	Sheet 1 of 1 Bohemia, NY 11716		
Site Location:	5-27 Kens	ington Rd,	Bronxville				Date: 7/14/2015	(631)	269-8800	
Drilling Co:	Impact En	vironmenta	1				FORMAT FOR	CHARACTERI	ZATION	
Method:	Geoprobe-	Direct Pusl	1				Ex.1: brown, loose F SILT	Y-SAND, with	some C Gravel	
Personnel:	GW/PS					Ex.2: grey & brown mottled soft CLAY and brown F SAND,				
Total Depth:	7 FT		Depth to V	Vater:	NA		with trace organics			
depth	PID	Blow	Sample	Depth	Moisture	Recoverv	Soil Classification		Remarks	
(feet)	(ppm)	Counts	ID	(From-To)	Content	j				
	4									
2							I. 1 (D	C		
┣ —	4		EP-5	0-3			Light Brown with some	Gravel, well		
3							. gruded			
	1									
_ 4										
5										
┣ —	-									
6 —							Light Brown fine SAND,	well graded		
┣ ─	4		EP-5	3-7						
<u> </u>										
	4									
9 —										
┣ —	4									
10										
	_									
12										
┣ —	4									
13							•			
15										
┣ —	4									
16										
	1									
1/										
L 10 _	4									
- 19							4			
┣ —	4									
20										

Clie	nt: Ga	teway Deve	lopment				Boring No.: EP-6	Impact F	Environmental evland Court		
Proje	ect # : 71	50						Sheet 1 of 1	of 1 Bohemia, NY 11716		
Site	Location:	5-27 Kens	ington Rd,	Bronxville				Date: 7/14/2015	(631)	269-8800	
Drill	ing Co:	Impact En	vironmenta	1				FORMAT FOR	CHARACTERI	ZATION	
Metł	nod:	Geoprobe	Direct Pus	1				Ex.1: brown, loose F SILT	Y-SAND, with	some C Gravel	
Pers	onnel:	GW/PS						Ex.2: grey & brown mottled soft CLAY and brown F SAND,			
Tota	l Depth:	6 FT		Depth to V	Vater:	NA		with trace organics			
	depth	PID	Blow	Sample	Depth	Moisture	Recovery	Soil Classificat	ion	Remarks	
	(feet)	(ppm)	Counts	ID	(From-To)	Content					
	1 —										
┣─		-						Dark Brown M to F	SAND		
	2 —				0.2						
	3			EP-6	0-3						
		-									
	4 —							Brown C SAND with grav	M Gravel no		
┣╴	_	-						staining, no od	or		
	5			ED 6	3.6						
	6			LI -0	5-0						
		-									
	7 —							-			
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	8 <u> </u>										
	9 —							-			
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	19										
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1											

Client:	Gat	teway Deve	lopment				Boring No.: EP-7	Impact F 170 Ke	Environmental evland Court		
Project	#: 715	50						Sheet 1 of 1	1 Bohemia, NY 11716		
Site Lo	cation:	5-27 Kens	ington Rd,	Bronxville				Date: 7/14/2015	(631)	269-8800	
Drilling	; Co:	- Impact En	vironmenta	1				FORMAT FOR	CHARACTERI	ZATION	
Method	:	Geoprobe-	-Direct Pusl	1				Ex.1: brown, loose F SILTY-SAND, with some C Gravel			
Personr	nel:	GW/PS					Ex.2: grey & brown mottled soft CLAY and brown F SAND,				
Total D	epth:	7 FT		Depth to V	Vater:	NA		with trace organics			
der	oth	PID	Blow	Sample	Depth	Moisture	Recoverv	Soil Classification		Remarks	
(fe	et)	(ppm)	Counts	ID	(From-To)	Content	j				
1											
2									1 . 1		
 		4						Brown C to M SAND, poo	orly sorted, no		
3				EP-7	0-3.5				ng		
		4		21 /	0 0.0						
_ 4											
5											
		-							<u> </u>		
6								Dark brown C to M SANI), some mica		
		ł		EP-7	3.5-7			nakes.			
7											
<u> </u>		-									
°											
9											
┣		4									
10											
-		1									
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Client: Ga	teway Deve	elopment				Boring No.: EP-8	Impact F 170 Ke	Environmental eyland Court		
Project # : 71	50						Sheet 1 of 1	Bohemi	ia, NY 11716	
Site Location:	5-27 Kens	ington Rd,	Bronxville				Date: 7/14/2015	(631)	269-8800	
Drilling Co:	Impact En	vironmenta	1				FORMAT FOR CHARACTERIZATION			
Method:	Geoprobe-	Direct Pusl	ı				Ex.1: brown, loose F SILTY-SAND, with some C Gravel Ex.2: grey & brown mottled soft CLAY and brown F SAND,			
Personnel:	GW/PS									
Total Depth:	2 FT		Depth to V	Vater:	NA		with trace organics			
depth (feet)	PID (ppm)	Blow Counts	Sample ID	Depth (From-To)	Moisture Content	Recovery	Soil Classificat	ion	Remarks	
							Dark Brown M to F	SAND		
	-		EP-8	0-2			Dark Brown Wr to 1	SAND.		
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Client:	Ga	teway Deve	lopment				Boring No.: EP-9	Impact I 170 Ke	Environmental evland Court	
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Project	#: 71	50						Sheet 1 of 1 Bohemia, NY 11716		ia, NY 11716
Site Lo	cation:	5-27 Kens	ington Rd,	Bronxville				Date: 9/10/2015 (631) 269-8800		
Drilling	gCo:	- Impact En	vironmenta	1				FORMAT FOR CHARACTERIZATION		ZATION
Method	:	Geoprobe-	Direct Pusl	1				Ex.1: brown, loose F SILT	Y-SAND, with	some C Gravel
Personr	nel:	GW/PS						Ex.2: grey & brown mottle	ed soft CLAY a	nd brown F SAND,
Total Depth: 8 FT Depth to Water: NA							with trace organics			
dep (fe	oth	PID (nnm)	Blow	Sample	Depth (From To)	Moisture	Recovery	Soil Classificat	ion	Remarks
(10	ci)	(ppiii)	Counts	ID	(11011-10)	Content				
		1								
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2										
		4						Brown C SAND with	M Gravel	
3										
— .		4		EP-9	0-4					
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		-						Dark Brown C to M	SAND.	
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Clie	nt:	Gat	teway Deve	lopment				Boring No.: EP-10	Impact I 170 Ke	Environmental evland Court	
Proj	ect #	: 715	50						Sheet 1 of 1	Bohem	ia, NY 11716
Site	Loca	ation:	5-27 Kens	ington Rd,	Bronxville				Date: 6/14/2016 (631) 269-8800		
Dril	ling (Co:	- Impact En	vironmenta	1				FORMAT FOR CHARACTERIZATION		
Met	hod:		Geoprobe-	Direct Pusl	n				Ex.1: brown, loose F SILT	Y-SAND, with	some C Gravel
Pers	sonne	1:	GW/PS						Ex.2: grey & brown mottle	d soft CLAY a	nd brown F SAND,
Tota	al Dej	pth:	7 FT		Depth to V	Vater:	NA		with trace organics		
	depth PID Blow Same		Sample	Depth	Moisture	Recoverv	Soil Classificat	ion	Remarks		
	(feet	t)	(ppm)	Counts	ID	(From-To)	Content	5		Son Classification	
											PID Log:
	. 1 .										0-1': 0.0 ppm
	1		-		EP-10	0-2					1-2': 0.0 ppm
	2 -								Brown C to M SAND w	ith some M	2-3': 0.0 ppm
┣			ł						Gravel, poorly sorted, n	o odor, no	3-4": 0.0 ppm
	- 3 -								staining		4-5. 0.0 ppm
	4		ſ		EP-10	2-4					
	• 4 •		ND					42"			
	- 5 -		1.2								N T (
┡			+						Dork brown C to M SAN	D abundant	Notes:
	6 -								mica flakes and schist fragments.		7' BG
-	7		ND		EP-10	6-7		28"			,
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Client: Ga	teway Deve	lopment				Boring No.: EP-11	Impact I 170 Ke	Environmental evland Court	
Project # : 71	50						Sheet 1 of 1	Bohem	ia, NY 11716
Site Location:	5-27 Kens	ington Rd,	Bronxville				Date: 6/14/2016	(631)	269-8800
Drilling Co:	Impact En	vironmenta	1				FORMAT FOR	CHARACTERI	ZATION
Method:	Geoprobe-	Direct Pusl	1				Ex.1: brown, loose F SILTY-SAND, with some C Gravel		
Personnel:	GW/PS						Ex.2: grey & brown mottle	d soft CLAY a	nd brown F SAND,
Total Depth:	12 FT		Depth to V	Vater:	NA		with trace organics		
depth	PID	Blow	Sample	Depth	Moisture	Recovery	Soil Classification		Remarks
(feet)	(ppm)	Counts	ID	(From-10)	Content				
	-						Proven C to M SAND a	with motal	PID Log:
1							fragments	with metal	1-2': 0.0 ppm
- <u> </u>	_		EP-11	0-2			8		2-3': 0.0 ppm
2									3-4': 0.0 ppm
									4-5': 0.0 ppm
	-		EP-11	2-4			Brown C to M SAND w	ith gray M	Collected EP-11
4							Gravel, no staining,	no odor	(0-2') @11:15
<u> </u>	ND								Collected EP-11 $(2-4!) @ 11.20$
5									PID Log:
	-		EP-11	4-6					5-6': 0.0 ppm
0							Dark brown C to M SAND with fines, poorly sorted		7-8': 1.0 ppm
7									9-10': 1.8 ppm
	1.0		EP-11	6-8					Collected EP-11
8									(4-6') @ 11:25
	-								collected DUP
9 —							Gray/brown C SAND	with fines	Collected EP-11
10	1.8								(6-8') @ 11:30
			EP-11	8-11		Moist			Notes:
11				0 11		Wioist	Gray C SAND, with bedroc	k fragments in	Collected EP-11
	_						bottom of sho	e	(8-11') @ 11:35
12			<u> </u>						Bedrock refusal @
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Client	Ga	teway Deve	lopment				Boring No.: EP-12	Impact I 170 Ke	Environmental evland Court	
Projec	t # : 715	50						Sheet 1 of 1	Bohem	ia, NY 11716
Site Lo	ocation:	5-27 Kens	ington Rd,	Bronxville				Date: 6/14/2016	(631)	269-8800
Drillin	g Co:	- Impact En	vironmenta	1				FORMAT FOR CHARACTERIZATION		
Metho	d:	Geoprobe-	Direct Pusl	1				Ex.1: brown, loose F SILT	Y-SAND, with	some C Gravel
Person	nel:	GW/PS						Ex.2: grey & brown mottle	d soft CLAY a	nd brown F SAND,
Total I	Depth:	5.5 FT		Depth to V	Vater:	NA		with trace organics		
de	nth	PID	Blow	Sample	Depth	Moisture	Recovery	Sail Classification		Remarks
(f	eet)	(ppm)	Counts	ID	(From-To)	Content	Recovery	Soil Classification		Remarks
· · ·		· · · ·			· · · ·					Notes:
										Collected EP-12
				ED 12	0.2					(0-2') @ 11:55
	,			LF-12	0-2			Brown C SAND, with some	e F Gravel and	Collected EP-12
		-						schist fragmen	ts	(2-5') @ 12:00
3	3							-		Collected DUP $(2,5) \oplus 12,00$
<u> </u>		•								(2-5) @ 12:00
4	1 ——									Bedrock refusal @
	. —	ND		EP-12	2-5			Light brown F SAND,	well graded	5.5' BG
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Clien	ıt: Gat	teway Deve	lopment				Boring No.: EP-13 Impact Environmental 170 Keyland Court			
Proje	ect # : 715	50						Sheet 1 of 1	Bohem	ia, NY 11716
Site I	Location:	5-27 Kens	ington Rd,	Bronxville				Date: 6/14/2016 (631) 269-8800		
Drilli	ing Co:	Impact En	vironmenta	1				FORMAT FOR CHARACTERIZATION		
Meth	od:	Geoprobe	Direct Pus	1				Ex.1: brown, loose F SILT	Y-SAND, with	some C Gravel
Perso	onnel:	GW/PS						Ex.2: grey & brown mottle	d soft CLAY a	nd brown F SAND,
Total	Total Depth: <u>3 FT</u> Depth to Water: <u>NA</u>					with trace organics				
(depth (feet)	PID (ppm)	Blow Counts	Sample ID	Depth (From-To)	Moisture Content	Recovery	Soil Classification		Remarks
-	1 2	292		EP-13	0-3			Dark brown M to F	SAND	Notes: PID: 899 ppm Collected EP-13 (0-3') Bedrock refusal @
	3 4									3' BG
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Clie	nt:	Gat	teway Deve	lopment				Boring No.: EP-14	Impact I 170 Ke	Environmental evland Court	
Proj	ect #	: 715	50						Sheet 1 of 1 Bohemia, NY 11716		
Site	Loca	ation:	5-27 Kens	ington Rd,	Bronxville				Date: 6/14/2016	(631)	269-8800
Dril	ling	Co:	- Impact En	vironmenta	1				FORMAT FOR CHARACTERIZATION		
Met	hod:		Geoprobe-	Direct Pusl	1				Ex.1: brown, loose F SILT	Y-SAND, with	some C Gravel
Pers	onne	el:	GW/PS						Ex.2: grey & brown mottle	d soft CLAY a	nd brown F SAND,
Tota	al De	pth:	3 FT		Depth to V	Vater:	NA	-	with trace organics		
	dent	h	PID	PID Blow Sample Denth Moisture Recovery Soil Classifica		on	Remarks				
	(feet	t)	(ppm)	Counts	ID	(From-To)	Content	icecovery		011	rtemarks
											Notes:
	. 1 .										Collected EP-14
	. 1 .								Dark brown M to F	SAND	(0-3') @ 12:13
	2 -										Bedrock refusal @
			0.8		EP-14	0-3					3' BG
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Client: Ga	teway Deve	lopment				Boring No.: EP-12	Impact I 170 Ke	Environmental evland Court	
Project # : 71:	50						Sheet 1 of 1 Bohemia, NY 11716		
Site Location:	5-27 Kens	ington Rd,	Bronxville				Date: 6/14/2016 (631) 269-8800		
Drilling Co:	Impact En	vironmenta	.1				FORMAT FOR CHARACTERIZATION		
Method:	Geoprobe-	Direct Pusl	1				Ex.1: brown, loose F SILT	Y-SAND, with	some C Gravel
Personnel:	GW/PS						Ex.2: grey & brown mottle	d soft CLAY a	nd brown F SAND,
Total Depth:	4 FT		Depth to V	Vater:	NA		with trace organics		
depth (feet)	PID (ppm)	Blow Counts	Sample ID	Depth (From-To)	Moisture Content	Recovery	Soil Classification		Remarks
									Notes:
							Dark brown M to C SAND,	poorly graded	Collected EP-16
							with M to F Gra	vel	(0-4') @ 12:45
2			L						Bedrock refusal @
L	_								4' BG
3							Brown M to C SAND, pc	orly graded,	
<u> </u>	ND		EP-16	0-4'				.vei	
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Client	: Gat	teway Deve	lopment				Boring No.: EP-15	Impact I	Environmental	
Projec	t # : 715	50						Sheet 1 of 1	Bohem	ia, NY 11716
Site L	ocation:	5-27 Kens	ington Rd,	Bronxville			Ι	Date: 14 VI 2016	(631)) 269-8800
Drillin	ng Co:	Impact En	vironmenta	1				FORMAT FOR CHARACTERIZATION		
Metho	od:	Geoprobe-	Direct Pusl	1				Ex.1: brown, loose F SILT	Y-SAND, with	some C Gravel
Persor	nnel:	GW/PS						Ex.2: grey & brown mottle	ed soft CLAY a	nd brown F SAND,
Total Depth: 2 FT Depth to Water: NA								with trace organics		
de	epth	PID	Blow	Sample	Depth	Moisture	Recovery	Soil Classificat	ion	Remarks
(f	eet)	(ppm)	Counts	ID	(From-To)	Content	·			
										Notes:
	1							Brown-light brown SII	TY SAND	Collected EP-15
	·	ND		EP-15	0-2					(0-2') @ 12:35
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Client: Ga	teway Deve	lopment				Boring No.: EP-17	Impact E 170 Ke	Environmental evland Court	
Project # : 71:	50						Sheet 1 of 1	Bohemi	ia, NY 11716
Site Location:	5-27 Kens	ington Rd,	Bronxville				Date: 8/17/2016 (631) 269-8800		
Drilling Co:	Impact En	vironmenta	1				FORMAT FOR CHARACTERIZATION		
Method:	Hand auge	er					Ex.1: brown, loose F SILT	Y-SAND, with	some C Gravel
Personnel:	Ps/cc						Ex.2: grey & brown mottle	ed soft CLAY as	nd brown F SAND,
Total Depth: 2 FT Depth to Water: NA					with trace organics				
depth (feet)	PID (ppm)	Blow Counts	Sample ID	Depth (From-To)	Moisture Content	Recovery	Soil Classificat	ion	Remarks
	4								
1			ED 17	0.2			Brown-light brown SIL	TY SAND	
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Client: Ga	teway Deve	lopment				Boring No.: EP-18	Impact F 170 Ke	Environmental evland Court	
Project # : 715	50						Sheet 1 of 1	Bohemi	ia, NY 11716
Site Location:	5-27 Kens	ington Rd,	Bronxville				Date: 8/17/2016 (631) 269-8800		
Drilling Co:	Impact En	vironmenta	1				FORMAT FOR CHARACTERIZATION		
Method:	Hand auge	er					Ex.1: brown, loose F SILT	Y-SAND, with	some C Gravel
Personnel:	ps/cc						Ex.2: grey & brown mottle	ed soft CLAY at	nd brown F SAND,
Total Depth:	2 FT		Depth to V	Vater:	NA	-	with trace organics		
depth (feet)	PID (ppm)	Blow Counts	Sample ID	Depth (From-To)	Moisture Content	Recovery	Soil Classificat	ion	Remarks
							Brown-light brown SIL	TY SAND	
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