

Interim Remedial Measure Work Plan

For

148-28 Hillside Avenue

QUEENS, NEW YORK

Block 9694, Lot 417

NYSDEC BCP No. C241199

Prepared for:

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CERTIFICATION

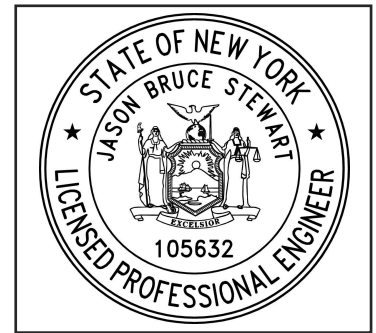
I, Jason Stewart of Jason B Stewart Engineering, P.C.(JBS). certify that I am currently a NYS registered professional engineer as defined in 6 NYCRR Part 375 and that this Interim Remedial Measure Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

Dated: April 17, 2023

Jason Stewart

By: Jason B Stewart, P.E.

NYS PE License Number: 105632



1.0 INTRODUCTION

JBS and Advanced Cleanup Technologies Inc. (ACT) have prepared the following Interim Remedial Measure Work Plan for the Brownfield Program Clean-up Site located at 148-28 Hillside Ave in Jamaica, New York. This plan is to be implemented to address Chlorinated Volatile Organic Compound (CVOC) soil contamination. The proposed scope of work is based upon the findings of the New York State Department of Environment Conservation(NYSDEC) Brownfields Cleanup Program(BCP) Remedial Investigation performed in October 2022, New York City Office of Environmental Remediation (NYCOER) Remedial Investigation Report (OER RIR) prepared in October 2016, and NYCOER Remedial Action Work Plan (OER RAWP) prepared June 2017.

1.1 Site Background

The Site is located at 148-28 Hillside Avenue in the central portion of the borough of Queens in New York City and is identified as Block 9694 and Lot 17 on the New York City Tax Map. The Site is 17,450 square feet in area. The Site was recently operated as an auto repair facility in a former 1,920 square foot building. Currently the site is vacant. The redevelopment plans for the property propose a 9-story mixed-use building with 51 parking spaces.

Subsurface investigations were performed by ACT in June and November 2015, which culminated in the OER RIR that was submitted to NYCOER in October 2016. A PCE Delineation Investigation was also performed in the vicinity of a hot spot of shallow Tetrachloroethene (PCE) soil contamination pursuant to NYCOER protocols in February and April 2017.

The Applicant signed an Order on Consent with the NYSDEC to conduct an additional site characterization on April 24, 2020 and was subsequently enrolled in the New York State Brownfield Cleanup Program (NYSDEC BCP) on June 10, 2022. A Remedial Investigation pursuant to the NYSDEC BCP was performed in October 2022 and the results were submitted to the NYSDEC on November 15, 2022.

The proposed future redevelopment of the Site consists of a 9-story mixed-use building. A one-story cellar will accommodate 37 parking spaces, utility rooms, a refuse room and two elevators in the northern portion of the building. The first floor will contain two commercial units, 14 parking spaces at grade and a ramp to access the 37 parking spaces in the cellar. Floors 2

through 9 will consist of 52 one-bedroom, 24 two-bedroom and 4 two-bedroom duplex units. The proposed building will consist of a full build out of the lot, which will be approximately 17,450 square feet in the cellar. To meet a track 2 remedy for the site, the top 2 feet of soil, which is indicative of urban fill with exceedances of restricted residential soil cleanup objectives, will be excavated and disposed offsite. In addition, soil in the two localized hot spot will be excavated until clean endpoints are reached or 15 feet below ground surface, whichever is shallower. The extent of additional soil excavation for the development is planned to accommodate a fully built out cellar to approximately 13 feet bgs. with additional excavation along the northern and eastern property boundaries for the building foundation to depths of approximately 22 and 18 feet below ground surface respectively. The excavation depths are shown in the Figures 1A and 1B and the SOE shoring plan is attached as Appendix C.

During the BCP Remedial Investigation groundwater at the site was encountered in three onsite monitoring wells at a depth of approximately 47 feet below ground surface. As such, groundwater is not expected to be encountered and dewatering activities are not anticipated.

1.2 Previous Investigations

1.2.1 Phase I Environmental Site Assessment

ACT completed a Phase I Environmental Site Assessment (ESA) dated July 14, 2015. The assessment revealed the following recognized environmental conditions:

- Historical industrial use of the subject property
- A vapor encroachment condition at the subject property

1.2.2 NYCOER Remedial Investigation Report

In October 2016, ACT issued a RIR to the NYCOER, which indicated that the Site was formerly occupied by a filling station and auto repair shop. The Remedial Investigation included a site inspection, geophysical investigation, and the installation, screening, and sampling of 10 soil borings, 3 groundwater monitoring wells, and 7 soil vapor probes throughout the Site. A Sampling Diagram is attached as Figure 2.

The results of the Remedial Investigation indicated the following:

Soil:

- PCE was detected above its Unrestricted Use Soil Cleanup Objectives (UUSCOs) in one shallow soil sample (SB-9, 11 mg/Kg at 0-2 ft) beneath the eastern portion of the former building. A soil sample collected from SB-9 at the 10-12 foot depth did not contain PCE above its laboratory method detection limit. No other VOCs except Acetone were detected in soil above their UUSCOs during the Remedial Investigation;
- Shallow soil also contained two SVOCs (Benzo(a)anthracene at 1.55 mg/kg and Chrysene at 1.56 mg/kg), one pesticide (4,4'-DDT at 5.06 mg/kg), and four metals (Lead at max. 1,100 mg/Kg, Selenium at max. 7.18 mg/Kg, Chromium at max. 31.2 mg/Kg, and Mercury at max. 0.217 mg/Kg) above SCO;
- Except for PCE, shallow soil chemistry beneath the Site is consistent with historical urban fill material in New York City.

Groundwater:

- One VOC, Chloroform was detected in two groundwater samples (max. 14 µg/L) above its GQS of 7 µg/L;
- One SVOC, Bis(2-ethylhexyl)phthalate was detected in one groundwater sample (11 µg/L) above its GQS of 5 µg/L. PCBs were detected in the three groundwater samples (max. 0.135 µg/L) above its GQS of 0.09 µg/L.

Soil Vapor:

- PCE was detected in all six soil vapor samples with a maximum concentration of 2,700 µg/m³ in SS-3 beneath the eastern portion of the Site. Trichloroethylene was also detected with a maximum concentration of 55 µg/m³ in SS-3.

1.2.3 NYCOER PCE Delineation Investigation

In February and April 2017, ACT conducted a PCE Delineation Investigation at the Site, which included the installation, screening, and sampling of a total of 4 step-out soil borings spaced 5 feet from soil boring SB-9 in each cardinal direction. Two soil samples (4-6ft and 6-8ft) were collected from each soil boring. Only soil boring SB-4 contained PCE (0.0093 mg/Kg at 4-6ft) well below its UUSCO of 1.3 mg/Kg. None of the remaining seven soil samples contained PCE

above its laboratory method detection limit. A diagram of CVOCs detected in subsurface soil during the Remedial Investigation and Delineation Investigation is included in Figure 3.

1.2.4 NYSDEC BCP Remedial Investigation

In October 2022, ACT performed a BCP Remedial Investigation, which included a site inspection, geophysical investigation, and the installation, screening, and sampling of 16 soil borings, 6 groundwater monitoring wells, and 5 soil vapor probes throughout the Site. Sampling Diagrams are attached as Figures 4 and 5. Soil, groundwater, and soil vapor exceedance diagrams are attached as Figures 6 through 8. Laboratory tables are attached as tables 1 through 11.

Soil:

- Shallow onsite soil quality is generally indicative of urban fill to approximately 5 ft bgs. Shallow soil contained exceedances of Restricted Residential Soil Cleanup Objectives (RRSCOs) for SVOCs (Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, and Indeno(1,2,3-cd)pyrene) and metals (mercury, arsenic, and lead). Soil deeper than 5ft bgs is generally indicative of native soil with no exceedances of RRSCOs.
- During the remedial investigation, two onsite hotspots were identified in the vicinity of soil borings RISB-8 and RISB-16. Soil contamination identified in the vicinity of RISB-8 is indicative of gasoline contamination related to the historically abandoned gasoline USTs. There were exceedances of RRSCOs for BTEX compounds to a depth of approximately 22ft bgs. No liquid petroleum product was found in the soil boring. No exceedances of TOGS were identified for any BTEX compounds in any of the onsite monitoring wells.
- During the installation of an onsite test pit, a spill was identified along the western property boundary (NYSDEC Spill No. 22-03747). During the remedial investigation, a supplemental soil sample was collected from saturated source material at the base of a test pit(RISB-16). The test pit had been excavated to a depth of 6ft bgs and the soil sample was collected from 6-7ft bgs. The soil sample contained contamination indicative of automotive waste from a floor drain inside the historic onsite auto shop. The source area appears to be very small in size and limited to only to a shallow depth. The soil boring RISB-5 and

monitoring well RIMW-5 were installed directly adjacent to the spill. RISB-5 had no soil exceedances above RRSCOs.

- The soil from the source material at the base of the hotspot contained compounds above commercial soil cleanup objectives including:
 - arsenic at 42.7 mg/kg
 - cadmium at 11 mg/kg
 - lead at 5,700 mg/kg
 - PCB-1260 at 13 mg/kg
 - cis-1,2-Dichloroethene at 3,200 mg/kg
 - Tetrachloroethene at 7,800 mg/kg
 - Trichloroethene at 430 mg/kg
 - Vinyl chloride at 45 mg/kg
 - SVOC Benzo(a)pyrene at 2.1 mg/kg

Groundwater:

- Onsite groundwater quality is not indicative of an onsite source of groundwater contamination.
- Groundwater contained low levels of metals manganese and sodium above TOGS.
- PFOA was found above NYSDEC PFAS guidance values in all monitoring wells onsite between 18.6 and 26.5 ng/L. No soil contamination of PFOA above protection of groundwater soil cleanup objectives was found onsite.
- In RISB/RIMW-5, SVOCS Benz(a)anthracene at 0.03 mg/L and Chrysene at 0.02 mg/L were identified above TOGS.

Soil Vapor:

- Soil vapor quality contained the CVOCs Tetrachloroethylene and Trichloroethene above NYSDOH indoor air guidelines. Tetrachloroethylene was identified above NYSDOH indoor air guidelines throughout the site, with the highest level found in the front of the

property in SV-2 at 1,760 ug/m³. Trichloroethene was identified above NYSDOH indoor air guidelines in soil vapor samples SV-4 and SV-5, with the highest level found in the center of the site in SV-5 at 11 ug/m³

2.0 DESCRIPTION OF REMEDIAL ACTION

Based on the findings of the previous subsurface investigations, Metal, VOC, and SVOC, impacted soils are present beneath the site. ACT recommends that soil impacts be addressed by an IRM consisting of:

- Remediation of impacted soils in the vicinity of the former auto repair facility.

2.1 Remediation of VOC Impacted Soil

Prior investigations identified Metals, VOCs, and SVOCs, impacting subsurface soil beneath the historic building slab. Impacted soils from this portion of the site will be excavated, removed from the site, and properly disposed of.

2.1.1 Waste Characterization Sampling

Prior to implementation of the Interim Remedial Measure, waste characterization samples will be collected from the site. The specific sample depths, sample frequency, and laboratory analyses will be determined based upon the requirements of the selected disposal facilities. Waste characterization sample results will be used to obtain a waste approval from a properly permitted disposal facility prior to the start of excavation activities. A copy of the waste disposal facility permits, and waste approvals will be provided to NYSDEC prior to wastes being transported off-site.

2.1.2 Soil Excavation and Disposal

To meet a track 2 remedy for the site, the top 2 feet of soil, which is indicative of urban fill with exceedances of restricted residential soil cleanup objectives, will be excavated and disposed offsite. In addition, soil in the two localized hot spot will be excavated until clean endpoints are reached or 15 feet below ground surface, whichever is shallower. Horizontal delineation of the hotspots will be determined based upon the requirements of the selected disposal facilities. The total quantity of soil expected to be excavated and disposed off-site for the remedial excavation to

meet a track 2 cleanup is approximately 3,060 tons. The excavation depths to meet a track 2 remedy are shown Figure 1A.

The extent of additional soil excavation for the development is planned to accommodate a fully built out cellar to approximately 13 feet bgs. with additional excavation along the northern and eastern property boundaries for the building foundation to depths of approximately 22 and 18 feet below ground surface respectively. Following installation of the foundation, the areas with additional excavation will be backfilled to 13 feet bgs in accordance with Section 3.1.5. The excavation depths are shown in the Figure 1B, and the SOE shoring plan is attached as Appendix C. The total quantity of soil/fill expected to be excavated and disposed off-Site is approximately 15,000 tons.

To allow for an excavation of this depth adjacent to the property boundary, without undercutting the neighboring grade, a sheeting/shoring plan has been prepared by the redevelopment team (see Section 3.1.2).

Soils will be excavated from the proposed excavation area utilizing a back-hoe, excavator, or equivalent. Soils will be screened during excavation and stockpiled on the eastern portion of the site. Soils will be screened utilizing a photoionization detector (PID) capable of detecting the presence of VOCs. Soils exhibiting significantly elevated PID responses or odors may be segregated and stockpiled from other soils being excavated. Soil stockpile will be constructed and maintained in accordance with Section 3.1.3. The final limit of the excavation will be determined in the field based upon soil screening, analytical results from the remedial investigation sampling, end point sampling results, and in consultation with NYSDEC. Additional source material identified on-site beyond the final limit of the excavation will be remediated as part of the remedial action work plan (RAWP). The IRM will not interfere with the future removal of source material.

UST's that are encountered during soil removal actions will be removed by a licensed contractor. Registration of tanks and reporting of any petroleum spills associated closure of these petroleum spills will be done in compliance with applicable local, state, and federal laws and regulations.

3.0 ENGINEERING SPECIFICATIONS AND CONTROLS

3.1 Engineering Specifications

3.1.1 Mobilization, Site Security

Mobilization will include the delivery of construction equipment and materials to the site. Site workers will receive site orientation and training in accordance with the site-specific Health and Safety Plan (HASP), Community Air Monitoring Plan (CAMP) and established policies and procedures to be followed during the implementation of the IRM. The remediation contractor and all associated subcontractors will each receive a copy of the IRM Work Plan, HASP and CAMP and will be briefed on their contents.

Site security will be maintained by utilizing and maintaining the existing eight-foot-high plywood construction fence surrounding the property. The fence will be maintained throughout the project and the vehicle access gate on the north side leading to Hillside Avenue will be kept closed during daily operations and closed and locked at all other times.

3.1.2 Sheeting/Shoring Plan

Sheeting/shoring will be installed and maintained in accordance with the site-specific sheeting plan. Piles will be installed along the northern property boundary to a depth of approximately 40 feet and south-western property boundary to a depth of 24 feet. The piles will be installed through the process of drilled piles, which employs the strategy of drilling the caissons (round metal tubing) directly into the soil to the prescribed depth, while water is constantly mixed in to reduce friction and minimize disturbance of soil. The proposed showing plan is attached in Appendix C. Modifications or additions to the sheeting/shoring plan will be made by a professional engineer and approved by NYC DOB and NYSDEC.

3.1.3 Soil Stockpile Area Construction and Maintenance

Excavated soils stockpiled on-site prior to disposal will be confined to within the fence line. If necessary to segregate soils for multiple disposal facilities, stockpile areas will be lined with 20-mil polyethylene sheeting to prevent cross contamination. Stockpiled material will be covered with 20-mil polyethylene sheeting, secured, and maintained until removed from the site.

3.1.4 Soil Disposal

Excavated soil stockpiles will be sampled in accordance with the procedures described under Section 4.3 of this document to meet the waste acceptance criteria of the disposal facility. Impacted soil to be removed from the site will be loaded into roll-off containers and/or dump trucks provided by a licensed waste transport company.

Loading will be performed with a back-hoe, excavator, or equivalent. Loaded containers and/or trucks will be covered with a tarp. As necessary, waste disposal will be coordinated with NYSDEC Division of Solid and Hazardous Materials and USEPA, to allow for wastes to be disposed of as hazardous or non-hazardous waste based upon their characteristic qualities. Non-hazardous waste streams will be approved by NYSDEC in advance through the “Request to Import/Reuse Fill or Soil” form attached in appendix D.

3.1.5 Backfill and Site Restoration

Following removal of impacted soils, excavated areas will be partially backfilled with clean fill for future construction needs. Clean fill, as defined by 6NYCRR Part 360, may be brought in from off-site to backfill the excavations and will be in compliance with Section 5.4(e) of the Division of Environmental Remediation’s Draft DER-10 – Technical Guidance for Site investigation and Remediation (December 2002). The NYSDEC will be consulted, and must approve in advance, the return of excavated soil and the use of off-site fill.

3.1.6 Truck Inspection & Wash Station:

An outbound-truck inspection and wash station will be set up on the northeastern corner of the Site along Hillside Avenue and close to the Site exit. The truck inspection and wash station will consist of a portable Ultimate Containment Berm with a capacity of 5,610 gallons, manufactured by UltraTech International, Inc., or a station that is similar. Before exiting the Site, trucks will be required to stop at the truck inspection and wash station and will be examined for evidence of contaminated soil on the undercarriage, body, and wheels. Soil and debris will be removed. Brooms, shovels and clean water will be utilized for the removal of soil from vehicles and equipment, as necessary. All equipment used for cleanup work will be inspected and washed, if needed, before it leaves the Site. Accumulated wash water will be pumped out of the containment

berm into a temporary storage tank and later disposed of in accordance with applicable laws and regulations.

Loaded trucks leaving the Site will be covered in compliance with applicable laws and regulations to prevent dust and odor. Trucks will be properly recorded in logs and records and placarded in compliance with applicable City, State and Federal laws, including those of the New York State Department of Transportation. If loads contain wet material that can leak, truck liners will be used. All transport of materials will be performed by licensed truckers and in compliance with applicable laws and regulations.

3.1.7 Demobilization

Following the completion of interim remedial activities at the site, equipment and remedial structures will be dismantled and removed from the site. Solid wastes generated during IRM activities (i.e., polyethylene sheeting) will be properly disposed of.

4.0 MONITORING AND MAINTENANCE

4.1 Construction Phase Monitoring

Monitoring during soil excavation will be performed to protect the health of site workers and the surrounding community. A Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) have been developed for this project. These plans specify the monitoring procedures, action levels, and contingency measures that are required to protect public health and site workers. Air monitoring will include real-time measurement of volatile emissions and dust levels.

4.2 Post-Excavation Monitoring and Verification

As specified in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, verification sampling will consist of collecting endpoint soil samples from within each excavation area. Samples will be collected from the base of the remedial excavation at the locations and depths specified in figure 9. If verification soil samples have exceedances above RRSCOs, additional soil will be excavated in two-foot intervals until the SCOs are attained or excavation reaches 15 feet bgs, whichever is shallower. As the excavation will extend to the site

boundary, sidewall samples will only be collected in areas of over-excavation. Verification endpoint soil sample results will be submitted to NYSDEC for review prior to proceeding with construction within each excavation area.

Verification soil samples will be submitted to a NYSDOH ELAP certified laboratory (specific laboratory to be determined).

Samples will be analyzed for:

- Volatile Organic Compounds by EPA Method 8260;
- Semi-volatile organic compounds by EPA Method 8270;
- 1,4-Dioxane by EPA Method 8270 in “selective ion monitoring” (SIM) mode;
- Pesticides/PCBs by EPA Method 8081/8082;
- Target Analyte List metals and cyanide by EPA Method 6010/7473;
- PFAS by EPA Method 1633

Sample analytical results will be compared to NYSDEC soil cleanup objectives.

Soil sampling and equipment decontamination will be performed in accordance with USEPA SOP # 2001 General Field Sampling Guidelines, SOP# 2012 Soil Sampling, and SOP# 2006 Sampling Equipment decontamination.

4.3 Reporting and Record Keeping

4.3.1 Daily reports

Daily reports providing a general summary of activities for each day of active remedial work will be emailed to the NYSDEC and NYSDOH Project Managers by noon of the following business day. Those reports will include:

- Project number and statement of the activities and an update of progress made and locations of excavation and other remedial work performed;
- Quantities of material imported and exported from the Site;

- Status of on-Site soil/fill stockpiles;
- A summary of all citizen complaints, with relevant details (basis of complaint; actions taken; etc.);
- A summary of CAMP results noting all excursions. CAMP data may be reported;
- Photograph of notable Site conditions and activities.

The frequency of the reporting period may be revised in consultation with NYSDEC and NYSDOH project managers based on planned project tasks. Daily email reports are not intended to be the primary mode of communication for notification to NYSDEC and NYSDOH of emergencies (accidents, spills), requests for changes to the IRMWP or other sensitive or time critical information. However, such information will be included in the daily reports. Emergency conditions and changes to the IRMWP will be communicated directly to the NYSDEC and NYSDOH project managers by personal communication. Daily reports will be included as an Appendix in the IRM Construction Completion Report (IRM CCR).

4.3.2 Record Keeping and Photo Documentation

Job-site record keeping for all remedial work will be performed. These records will be maintained on-Site during the project and will be available for inspection by NYSDEC staff. Representative photographs will be taken of the Site prior to any remedial activities and during major remedial activities to illustrate remedial program elements and contaminant source areas. Photographs will be submitted at the completion of the project in the IRM CCR in digital format (i.e. jpeg files).

4.4 Complaint Management

All complaints from citizens will be promptly reported to NYSDEC. Complaints will be addressed, and outcomes will also be reported to NYSDEC in daily reports. Notices to NYSDEC will include the nature of the complaint, the party providing the complaint, and the actions taken to resolve any problems.

4.5 Deviations From the Interim Remedial Measure Work Plan

All changes to the IRMWP will be reported to, and approved by, the NYSDEC Project Manager and will be documented in daily reports and reported in the IRM CCR. The process to

be followed if there are any deviations from the IRMWP will include a request for approval for the change from NYSDEC noting the following:

- Reasons for deviating from the approved IRMWP;
- Effect of the deviations on overall remedy; and
- Determination with basis that the remedial action with the deviation(s) is protective of public health and the environment.

5.0 INTERIM REMEDIAL MEASURE CONSTRUCTION COMPLETION REPORT

An IRM Construction Completion Report (IRM CCR) will incorporate the details and findings of the IRM activities performed as outlined in this work plan. The report will detail analytical data, soil disposal volumes, and manifests, site restoration details, and results of CAMP monitoring.

Electronic copies of the IRM CCR will be submitted to the NYSDEC. Analytical results of the investigation will be submitted in the electronic data delivery (EDD) format through the Department's environmental information management system (EIMS).

6.0 QUALITY ASSURANCE/QUALITY CONTROL

6.1 Quality Assurance/Quality Control Procedures

QA/QC procedures will be used to provide performance information with regard to accuracy, precision, sensitivity, representation, completeness, and comparability associated with the sampling and analysis for this investigation. Field QA/QC procedures will be used (1) to document that samples are representative of actual conditions at the Site and (2) identify possible cross-contamination from field activities or sample transit. Laboratory QA/QC procedures and analyses will be used to demonstrate whether analytical results have been biased either by interfering compounds in the sample matrix, or by laboratory techniques that may have introduced systematic or random errors to the analytical process. A summary of the field and laboratory QA/QC procedures is provided below.

6.1.1 Field QA/QC

Field QA/QC will include the following procedures:

- Calibration of field equipment, including PID, on a daily basis;
- Analysis of trip blank (VOCs only) and duplicate samples;
- Use of dedicated and/or disposable field sampling equipment;
- Proper sample handling and preservation;
- Proper sample chain of custody documentation; and
- Completion of report logs.

The above procedures will be executed as follows:

- Disposable sampling equipment, including acetate sleeves, latex gloves, and disposable bailers (or sample tubing), will be used to minimize cross-contamination between samples;
- For each of the parameters analyzed, a sufficient sample volume will be collected to adhere to the specific analytical protocol, and provide sufficient sample for reanalysis if necessary;
- Because plasticizers and other organic compounds inherent in plastic containers may contaminate samples requiring organic analysis, samples will be collected in glass containers, with the exception of the nitrate-preserved groundwater sample for metals analysis;
- Appropriate sample preservation techniques, including cold temperature storage at 4° C, will be utilized to ensure that the analytical parameters concentrations do not change between the time of sample collection and analysis; and
- Samples will be analyzed prior to the expiration of the respective holding time for each analytical parameter to ensure the integrity of the analytical results.

6.1.2 Sample Custody

Sample handling in the field will conform to appropriate sample custody procedures. Field custody procedures include proper sample identification, chain-of-custody forms, and packaging and shipping procedures. Sample labels will be attached to all sampling bottles before field activities begin to ensure proper sample identification. Each label will identify the site and sample location. Styrofoam or bubble wrap will be used to absorb shock and prevent breakage of sample containers. Ice or ice packs will be placed in between the plastic bags for sample preservation purposes.

After each sample is collected and appropriately identified, the following information will be entered into the chain-of-custody form:

- Site name;
- Sampler(s)' name(s) and signature(s);
- Names and signatures of persons involved in the chain of possession of samples;
- Sample number;
- Number of containers;
- Sample location;
- Date and time of collection;
- Type of sample, sample matrix and analyses requested;
- Preservation used (if any); and
- Any pertinent field data collected (pH, temperature, conductivity, DO).

The sampler will sign and date the "Relinquished" blank space prior to removing one copy of the custody form and sealing the remaining copies of the form in a Ziploc plastic bag taped to the underside of the sample cooler lid. The sample cooler will be sealed with tape prior to delivery or shipment to the laboratory.

6.1.3 Report Logs

Field logs and borings logs will be completed during the course of this investigation. A field log will be completed on a daily basis which will describe all field activities including:

- Project number, name, manager, and address;
- The date and time;
- The weather conditions;
- On-site personnel and associated affiliations;
- Description of field activities; and
- Pertinent sample collection information including sample identification numbers, description of samples, location of sampling points, number of samples taken, method of sample collection and any factors that may affect its quality, time of sample collection, name of collector, and field screening results.

A boring log will be completed for each boring and will include the following information:

- Project number, name, manager, and location;
- The date and time;
- Drilling company and method used;
- Boring number;
- Total boring depth and water table depths; and
- Pertinent soil sample information including sample number, interval, depth, amount recovered, color, composition, percent moisture, visual and olfactory observations of contamination, and PID readings.

6.1.4 Laboratory QA/QC

An ELAP-certified laboratory will be used for all sample analyses. The laboratory will follow the following QA/QC protocols. All samples will be delivered to the laboratory within 24 hours of sample collection. Samples will be received by laboratory personnel, who will inspect the sample cooler(s) to check the integrity of the custody seals. The cooler(s) will then be opened,

the samples unpackaged, and the information on the chain-of-custody form examined. If the shipped samples match those described on the chain-of-custody form, the laboratory sample custodian will sign and date the form on the next “Received” blank and assume responsibility for the samples. If problems are noted with the sample shipment, the laboratory custodian will sign the form and record problems in the “Remarks” box. The custodian will then immediately notify the Project Manager so appropriate follow-up steps can be implemented on a timely basis.

A record of the information detailing the handling of a particular sample through each stage of analysis will be maintained by the laboratory. The record will include:

- Job reference, sample matrix, sample number, and date sampled;
- Date and time received by laboratory, holding conditions, and analytical parameters;
- Extraction date, time and extractor’s initials (if applicable), analysis date, time, and analyst’s initials; and
- QA batch number, date reviewed, and reviewer’s initials.

7.0 CONSTRUCTION HEALTH AND SAFETY PLAN

The Construction HASP is included in Appendix A. The Site Safety Coordinator will be Yisong Yang. Remedial work performed under this RAWP will be in full compliance with applicable health and safety laws and regulations, including Site and OSHA worker safety requirements and HAZWOPER requirements. Confined space entry, if any, will comply with OSHA requirements and industry standards and will address potential risks. The parties performing the remedial construction work will ensure that performance of work is in compliance with the HASP and applicable laws and regulations. The HASP pertains to remedial and invasive work performed at the Site until the issuance of the Notice of Completion.

All field personnel involved in remedial activities will participate in training required under 29 CFR 1910.120, such as 40-hour hazardous waste operator training and annual 8-hour refresher training. Site Safety Officer will be responsible for maintaining workers training records.

Personnel entering any exclusion zone will be trained in the provisions of the HASP and will comply with all requirements of 29 CFR 1910.120. Site-specific training will be provided to field personnel. Additional safety training may be added depending on the tasks performed. Emergency telephone numbers will be posted at the site location before any remedial work begins. A safety meeting will be conducted before each shift begins. Topics to be discussed include task hazards and protective measures (physical, chemical, environmental); emergency procedures; PPE levels and other relevant safety topics. Meetings will be documented in a logbook or specific form.

An emergency contact sheet with names and phone numbers is included in the CHASP. That document will define the specific project contacts for use in case of emergency.

8.0 COMMUNITY AIR MONITORING PLAN

A site-specific CAMP developed for the remedial work plan is included in Appendix B. The CAMP has been designed to prevent public access to the Site during and after work hours and to identify appropriate measures that will be taken to prevent the off-site migration of dust and/or soil, if necessary. Real-time air monitoring for volatile organic compounds (VOCs) and particulate levels at the perimeter of the exclusion zone or work area will be performed. Continuous monitoring will be performed for all ground intrusive activities and during the handling of contaminated or potentially contaminated media. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pit excavation or trenching, and the installation of soil borings or monitoring wells. Exceedences of action levels observed during performance of the Community Air Monitoring Plan (CAMP) will be reported to the NYSDEC Project Manager and included in the Daily Report.

Table 1
Volatile Organic Compounds in Soil (mg/Kg)
EPA Method: 8260
148-28 Hillside Avenue, Jamaica, NY11435

Phenol ID Sampling Date Client Matrix	Compound	CAS Number	NYSDC Part 375 Protection of Groundwater Soil Cleanup Objectives	Restricted Use Soil Cleanup Objectives- Residential	Restricted Use Soil Cleanup Objectives- Commercial	RISB-1 (D-1)		RISB-1 (D-2)		RISB-1 (D-3)		RISB-1 (D-4)		RISB-1 (D-5)		RISB-1 (D-6)		RISB-1 (D-7)		RISB-1 (D-8)		RISB-1 (D-9)		RISB-1 (D-10)		RISB-1 (D-11)		RISB-1 (D-12)		RISB-1 (D-13)		RISB-1 (D-14)		RISB-1 (D-15)		RISB-1 (D-16)		RISB-1 (D-17)		RISB-1 (D-18)		RISB-1 (D-19)		RISB-1 (D-20)		RISB-1 (D-21)		RISB-1 (D-22)		RISB-1 (D-23)		RISB-1 (D-24)		RISB-1 (D-25)		RISB-1 (D-26)		RISB-1 (D-27)		RISB-1 (D-28)		RISB-1 (D-29)		RISB-1 (D-30)		RISB-1 (D-31)		RISB-1 (D-32)		RISB-1 (D-33)		RISB-1 (D-34)		RISB-1 (D-35)		RISB-1 (D-36)		RISB-1 (D-37)		RISB-1 (D-38)		RISB-1 (D-39)		RISB-1 (D-40)		RISB-1 (D-41)		RISB-1 (D-42)		RISB-1 (D-43)		RISB-1 (D-44)		RISB-1 (D-45)		RISB-1 (D-46)		RISB-1 (D-47)		RISB-1 (D-48)		RISB-1 (D-49)		RISB-1 (D-50)		RISB-1 (D-51)		RISB-1 (D-52)		RISB-1 (D-53)		RISB-1 (D-54)		RISB-1 (D-55)		RISB-1 (D-56)		RISB-1 (D-57)		RISB-1 (D-58)		RISB-1 (D-59)		RISB-1 (D-60)		RISB-1 (D-61)		RISB-1 (D-62)		RISB-1 (D-63)		RISB-1 (D-64)		RISB-1 (D-65)		RISB-1 (D-66)		RISB-1 (D-67)		RISB-1 (D-68)		RISB-1 (D-69)		RISB-1 (D-70)		RISB-1 (D-71)		RISB-1 (D-72)		RISB-1 (D-73)		RISB-1 (D-74)		RISB-1 (D-75)		RISB-1 (D-76)		RISB-1 (D-77)		RISB-1 (D-78)		RISB-1 (D-79)		RISB-1 (D-80)		RISB-1 (D-81)		RISB-1 (D-82)		RISB-1 (D-83)		RISB-1 (D-84)		RISB-1 (D-85)		RISB-1 (D-86)		RISB-1 (D-87)		RISB-1 (D-88)		RISB-1 (D-89)		RISB-1 (D-90)		RISB-1 (D-91)		RISB-1 (D-92)		RISB-1 (D-93)		RISB-1 (D-94)		RISB-1 (D-95)		RISB-1 (D-96)		RISB-1 (D-97)		RISB-1 (D-98)		RISB-1 (D-99)		RISB-1 (D-100)		RISB-1 (D-101)		RISB-1 (D-102)		RISB-1 (D-103)		RISB-1 (D-104)		RISB-1 (D-105)		RISB-1 (D-106)		RISB-1 (D-107)		RISB-1 (D-108)		RISB-1 (D-109)		RISB-1 (D-110)		RISB-1 (D-111)		RISB-1 (D-112)		RISB-1 (D-113)		RISB-1 (D-114)		RISB-1 (D-115)		RISB-1 (D-116)		RISB-1 (D-117)		RISB-1 (D-118)		RISB-1 (D-119)		RISB-1 (D-120)		RISB-1 (D-121)		RISB-1 (D-122)		RISB-1 (D-123)		RISB-1 (D-124)		RISB-1 (D-125)		RISB-1 (D-126)		RISB-1 (D-127)		RISB-1 (D-128)		RISB-1 (D-129)		RISB-1 (D-130)		RISB-1 (D-131)		RISB-1 (D-132)		RISB-1 (D-133)		RISB-1 (D-134)		RISB-1 (D-135)		RISB-1 (D-136)		RISB-1 (D-137)		RISB-1 (D-138)		RISB-1 (D-139)		RISB-1 (D-140)		RISB-1 (D-141)		RISB-1 (D-142)		RISB-1 (D-143)		RISB-1 (D-144)		RISB-1 (D-145)		RISB-1 (D-146)		RISB-1 (D-147)		RISB-1 (D-148)		RISB-1 (D-149)		RISB-1 (D-150)		RISB-1 (D-151)		RISB-1 (D-152)		RISB-1 (D-153)		RISB-1 (D-154)		RISB-1 (D-155)		RISB-1 (D-156)		RISB-1 (D-157)		RISB-1 (D-158)		RISB-1 (D-159)		RISB-1 (D-160)		RISB-1 (D-161)		RISB-1 (D-162)		RISB-1 (D-163)		RISB-1 (D-164)		RISB-1 (D-165)		RISB-1 (D-166)		RISB-1 (D-167)		RISB-1 (D-168)		RISB-1 (D-169)		RISB-1 (D-170)		RISB-1 (D-171)		RISB-1 (D-172)		RISB-1 (D-173)		RISB-1 (D-174)		RISB-1 (D-175)		RISB-1 (D-176)		RISB-1 (D-177)		RISB-1 (D-178)		RISB-1 (D-179)		RISB-1 (D-180)		RISB-1 (D-181)		RISB-1 (D-182)		RISB-1 (D-183)		RISB-1 (D-184)		RISB-1 (D-185)		RISB-1 (D-186)		RISB-1 (D-187)		RISB-1 (D-188)		RISB-1 (D-189)		RISB-1 (D-190)		RISB-1 (D-191)		RISB-1 (D-192)		RISB-1 (D-193)		RISB-1 (D-194)		RISB-1 (D-195)		RISB-1 (D-196)		RISB-1 (D-197)		RISB-1 (D-198)		RISB-1 (D-199)		RISB-1 (D-200)		RISB-1 (D-201)		RISB-1 (D-202)		RISB-1 (D-203)		RISB-1 (D-204)		RISB-1 (D-205)		RISB-1 (D-206)		RISB-1 (D-207)		RISB-1 (D-208)		RISB-1 (D-209)		RISB-1 (D-210)		RISB-1 (D-211)		RISB-1 (D-212)		RISB-1 (D-213)		RISB-1 (D-214)		RISB-1 (D-215)		RISB-1 (D-216)		RISB-1 (D-217)		RISB-1 (D-218)		RISB-1 (D-219)		RISB-1 (D-220)		RISB-1 (D-221)		RISB-1 (D-222)		RISB-1 (D-223)		RISB-1 (D-224)		RISB-1 (D-225)		RISB-1 (D-226)		RISB-1 (D-227)		RISB-1 (D-228)		RISB-1 (D-229)		RISB-1 (D-230)		RISB-1 (D-231)		RISB-1 (D-232)		RISB-1 (D-233)		RISB-1 (D-234)		RISB-1 (D-235)		RISB-1 (D-236)		RISB-1 (D-237)		RISB-1 (D-238)		RISB-1 (D-239)		RISB-1 (D-240)		RISB-1 (D-241)		RISB-1 (D-242)		RISB-1 (D-243)		RISB-1 (D-244)		RISB-1 (D-245)		RISB-1 (D-246)		RISB-1 (D-247)		RISB-1 (D-248)		RISB-1 (D-249)		RISB-1 (D-250)		RISB-1 (D-251)		RISB-1 (D-252)		RISB-1 (D-253)		RISB-1 (D-254)		RISB-1 (D-255)		RISB-1 (D-256)		RISB-1 (D-257)		RISB-1 (D-258)		RISB-1 (D-259)		RISB-1 (D-260)		RISB-1 (D-261)		RISB-1 (D-262)		RISB-1 (D-263)		RISB-1 (D-264)		RISB-1 (D-265)		RISB-1 (D-266)		RISB-1 (D-267)		RISB-1 (D-268)		RISB-1 (D-269)		RISB-1 (D-270)		RISB-1 (D-271)		RISB-1 (D-272)		RISB-1 (D-273)		RISB-1 (D-274)		RISB-1 (D-275)		RISB-1 (D-276)		RISB-1 (D-277)		RISB-1 (D-278)		RISB-1 (D-279)		RISB-1 (D-280)		RISB-1 (D-281)		RISB-1 (D-282)		RISB-1 (D-283)		RISB-1 (D-284)		RISB-1 (D-285)		RISB-1 (D-286)		RISB-1 (D-287)		RISB-1 (D-288)		RISB-1 (D-289)		RISB-1 (D-290)		RISB-1 (D-291)		RISB-1 (D-292)		RISB-1 (D-293)		RISB-1 (D-294)		RISB-1 (D-295)		RISB-1 (D-296)		RISB-1 (D-297)		RISB-1 (D-298)		RISB-1 (D-299)		RISB-1 (D-300)		RISB-1 (D-301)		RISB-1 (D-302)		RISB-1 (D-303)		RISB-1 (D-304)		RISB-1 (D-305)		RISB-1 (D-306)		RISB-1 (D-307)		RISB-1 (D-308)		RISB-1 (D-309)		RISB-1 (D-310)		RISB-1 (D-311)		RISB-1 (D-312)		RISB-1 (D-313)		RISB-1 (D-314)		RISB-1 (D-315)		RISB-1 (D-316)		RISB-1 (D-317)		RISB-1 (D-318)		RISB-1 (D-319)		RISB-1 (D-320)		RISB-1 (D-321)		RISB-1 (D-322)		RISB-1 (D-323)		RISB-1 (D-324)		RISB-1 (D-325)		RISB-1 (D-326)		RISB-1 (D-327)		RISB-1 (D-328)		RISB-1 (D-329)		RISB-1 (D-330)		RISB-1 (D-331)		RISB-1 (D-332)		RISB-1 (D-333)		RISB-1 (D-334)		RISB-1 (D-335)		RISB-1 (D-336)		RISB-1 (D-337)		RISB-1 (D-338)		RISB-1 (D-339)		RISB-1 (D-340)		RISB-1 (D-341)		RISB-1 (D-342)		RISB-1 (D-343)		RISB-1 (D-344)		RISB-1 (D-345)		RISB-1 (D-346)		RISB-1 (D-347)		RISB-1 (D-348)		RISB-1 (D-349)		RISB-1 (D-350)		RISB-1 (D-351)		RISB-1 (D-352)		RISB-1 (D-353)		RISB-1 (D-354)		RISB-1 (D-355)		RISB-1 (D-356)		RISB-1 (D-357)		RISB-1 (D-358)		RISB-1 (D-359)		RISB-1 (D-360)		RISB-1 (D-361)		RISB-1 (D-362)		RISB-1 (D-363)		RISB-1 (D-364)		RISB-1 (D-365)		RISB-1 (D-366)		RISB-1 (D-367)		RISB-1 (D-368)		RISB-1 (D-369)		RISB-1 (D-370)		RISB-1 (D-371)		RISB-1 (D-372)		RISB-1 (D-373)		RISB-1 (D-374)		RISB-1 (D-375)		RISB-1 (D-376)		RISB-1 (D-377)		RISB-1 (D-378)		RISB-1 (D-379)		RISB-1 (D-380)		RISB-1 (D-381)		RISB-1 (D-382)		RISB-1 (D-383)		RISB-1 (D-384)		RISB-1 (D-385)		RISB-1 (D-386)		RISB-1 (D-387)		RISB-1 (D-388)		RISB-1 (D-389)		RISB-1 (D-390)		RISB-1 (D-391)		RISB-1 (D-392)		RISB-1 (D-393)		RISB-1 (D-394)		RISB-1 (D-395)		RISB-1 (D-396)		RISB-1 (D-397)		RISB-1 (D-398)		RISB-1 (D-399)		RISB-1 (D-400)		RISB-1 (D-401)		RISB-1 (D-402)		RISB-1 (D-403)		RISB-1 (D-404)		RISB-1 (D-405)		RISB-1 (D-406)		RISB-1 (D-407)		RISB-1 (D-408)		RISB-1 (D-409)		RISB-1 (D-410)		RISB-1 (D-411)		RISB-1 (D-412)		RISB-1 (D-413)		RISB-1 (D-414)		RISB-1 (D-415)		RISB-1 (D-416)		RISB-1 (D-417)		RISB-1 (D-418)		RISB-1 (D-419)		RISB-1 (D-420)		RISB-1 (D-421)		RISB-1 (D-422)		RISB-1 (D-423)		RISB-1 (D-424)		RISB-1 (D-425)		RISB-1 (D-426)		RISB-1 (D-427)		RISB-1 (D-428)		RISB-1 (D-429)		RISB-1 (D-430)		RISB-1 (D-431)		RISB-1 (D-432)		RISB-1 (D-433)		RISB-1 (D-434)		RISB-1 (D-435)		RISB-1 (D-436)		RISB-1 (D-437)		RISB-1 (D-438)		RISB-1 (D-439)		RISB-1 (D-440)		RISB-1 (D-441)		RISB-1 (D-442)		RISB-1 (D-443)		RISB-1 (D-444)		RISB-1 (D-445)		RISB-1 (D-446)		RISB-1 (D-447)		RISB-1 (D-448)		RISB-1 (D-449)		RISB-1 (D-450)		RISB-1 (D-451)		RISB-1 (D-452)		RISB-1 (D-453)		RISB-1 (D-454)		RISB-1 (D-455)		RISB-1 (D-456)		RISB-1 (D-457)		RISB-1 (D-458)		RISB-1 (D-459)		RISB-1 (D-460)		RISB-1 (D-461)		RISB-1 (D-462)		RISB-1 (D-463)		RISB-1 (D-464)		RISB-1 (D-465)		RISB-1 (D-466)		RISB-1 (D-467)		RISB-1 (D-468)		RISB-1 (D-469)		RISB-1 (D-470)		RISB-1 (D-471)		RISB-1 (D-472)		RISB-1 (D-473)		RISB-1 (D-474)		RISB-1 (D-475)		RISB-1 (D-476)		RISB-1 (D-477)		RISB-1 (D-478)		RISB-1 (D-479)		RISB-1 (D-480)		RISB-1 (D-481)		RISB-1 (D-482)		RISB-1 (D-483)		RISB-1 (D-484)		RISB-1 (D-485)		RISB-1 (D-486)		RISB-1 (D-487)		RISB-1 (D-488)		RISB-1 (D-489)		RISB-1 (D-490)		RISB-1 (D-491)		RISB-1 (D-492)		RISB-1 (D-493)		RISB-1 (D-494)		RISB-1 (D-495)		RISB-1 (D-496)		RISB-1 (D-497)		RISB-1 (D-498)		RISB-1 (D-499)		RISB-1 (D-500)		RISB-1 (D-501)		RISB-1 (D-502)		RISB-1 (D-503)		RISB-1 (D-504)		RISB-1 (D-505)		RISB-1 (D-506)		RISB-1 (D-507)		RISB-1 (D-508)		RISB-1 (D-509)		RISB-1 (D-510)		RISB-1 (D-511)		RISB-1 (D-512)		RISB-1 (D-513)		RISB-1 (D-514)		RISB-1 (D-515)		RISB-1 (D-516)		RISB-1 (D-517)		RISB-1 (D-518)		RISB-1 (D-519)		RISB-1 (D-520)		RISB-1 (D-521)		RISB-1 (D-522)		RISB-1 (D-523)		RISB-1 (D-524)		RISB-1 (D-525)		RISB-1 (D-526)		RISB-1 (D-527)		RISB-1 (D-528)		RISB-1 (D-529)		RISB-1 (D-530)		RISB-1 (D-531)		RISB-1 (D-532)		RISB-1 (D-533)		RISB-1 (D-534)		RISB-1 (D-535)		RISB-1 (D-536)		RISB-1 (D-537)		RISB-1 (D-538)		RISB-1 (D-539)		RISB-1 (D-540)		RISB-1 (D-541)		RISB-1 (D-542)		RISB-1 (D-543)		RISB-1 (D-544)		RISB-1 (D-545)		RISB-1 (D-546)		RISB-1 (D-547)		RISB-1 (D-548)		RISB-1 (D-549)		RISB-1 (D-550)		RISB-1 (D-551)		RISB-1 (D-552)		RISB-1 (D-553)		RISB-1 (D-554)		RISB-1 (D-555)		RISB-1 (D-556)		RISB-1 (D-557)		RISB-1 (D-558)		RISB-1 (D-559)		RISB-1 (D-560)		RISB-1 (D-561)		RISB-1 (D-562)		RISB-1 (D-563)		RISB-1 (D-564)		RISB-1 (D-565)		RISB-1 (D-566)		RISB-1 (D-567)		RISB-1 (D-568)		RISB-1 (D-569)		RISB-1 (D-570)		RISB-1 (D-571)		RISB-1 (D-572)		RISB-1 (D-573)		RISB-1 (D-574)		RISB-1 (D-575)		RISB-1 (D-576)		RISB-1 (D-577)		RISB-1 (D-578)		RISB-1 (D-579)		RISB-1 (D-580)		RISB-1 (D-581)		RISB-1 (D-582)		RISB-1 (D-583)		RISB-1 (D-584)		RISB-1 (D-585)		RISB-1 (D-586)		RISB-1 (D-587)		RISB-1 (D-588)		RISB-1 (D-589)		RISB-1 (D-590)		RISB-1 (D-591)		RISB-1 (D-592)		RISB-1 (D-593)		RISB-1 (D-594)		RISB-1 (D-595)		RISB-1 (D-596)		RISB-1 (D-597)		RISB-1 (D-598)		RISB-1 (D-599)		RISB-1 (D-600)		RISB-1 (D-601)		RISB-1 (D-602)		RISB-1 (D-603)		RISB-1 (D-604)		RISB-1 (D-605)		RISB-1 (D-606)		RISB-1 (D-607)		RISB-1 (D-608)		RISB-1 (D-609)		RISB-1 (D-610)		RISB-1 (D-611)		RISB-1 (D-612)		RISB-1 (D-613)		RISB-1 (D-614)		RISB-1 (D-615)		RISB-1 (D-616)		RISB-1 (D-617)		RISB-1 (D-618)		RISB-1 (D-619)		RISB-1 (D-620)		RISB-1 (D-621)		RISB-1 (D-622)		RISB-1 (D-623)		RISB-1 (D-624)		RISB-1 (D-625)		RISB-1 (D-626)		RISB-1 (D-627)		RISB-1 (D-628)		RISB-1 (D-629)		RISB-1 (D-630)		RISB-1 (D-631)		RISB-1 (D-632)		RISB-1 (D-633)		RISB-1 (D-634)		RISB-1 (D-635)		RISB-1 (D-636)		RISB-1 (D-637)		RISB-1 (D-638)		RISB-1 (D-639)		RISB-1 (D-640)		RISB-1 (D-641)		RISB-1 (D-642)		RISB-1 (D-643)		RISB-1 (D-644)		RISB-1 (D-645)		RISB-1 (D-646)		RISB-1 (D-647)		RISB-1 (D-648)		RISB-1 (D-649)		RISB-1 (D-650)		RISB-1 (D-651)	
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Table 1
Volatile Organic Compounds in Soil (mg/Kg)
EPA Method: 8260
148-28 Hillside Avenue, Jamaica, NY11435

Sample ID	CAS Number	NYSDC Part 375 Protection of Groundwater Soil Cleanup Objectives	NYSDC Part 375 Restricted Use Soil Cleanup Objectives- Residential	NYSDC Part 375 Restricted Use Soil Cleanup Objectives- Commercial	RISB-5 (1-2)		RISB-5 (40-43)		RISB-5 (43-45)		RISB-5 DUPLICATE		RISB-6 (9-1)		RISB-6 (1-2)		RISB-6 (15-17)		RISB-6 (17-38)		RISB-6 (38-40)		RISB-6 (50-52)		RISB-7 (0-1)		RISB-7 (1-2)		RISB-7 (38-40)		RISB-8 (0-3)	
					Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Compound					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		mg/Kg	
Volatiles 4260																																
Dilution Factor																																
1,1,1,2-Tetrachloroethane	630-20-6				<0.0051	0.0051	<0.0048	0.0048	<0.0052	0.0052	<0.005	0.005	<0.0048	0.0048	<0.0051	0.0051	<0.0051	0.0051	<0.0049	0.0049	<0.0055	0.0055	<0.005	0.005	<0.0042	0.0042	<0.27	0.27	<0.0046	0.0046	<0.0034	0.0034
1,1,1-Trichloroethane	71-55-5	0.68	100	500	<0.0051	0.0051	<0.0048	0.0048	<0.0052	0.0052	<0.005	0.005	<0.0048	0.0048	<0.0051	0.0051	<0.0051	0.0051	<0.0049	0.0049	<0.0055	0.0055	<0.005	0.005	<0.0042	0.0042	<0.27	0.27	<0.0046	0.0046	<0.0034	0.0034
1,1,2,2-Tetrachloroethane	79-34-5				<0.0051	0.0051	<0.0048	0.0048	<0.0052	0.0052	<0.005	0.005	<0.0048	0.0048	<0.0051	0.0051	<0.0051	0.0051	<0.0049	0.0049	<0.0055	0.0055	<0.005	0.005	<0.0042	0.0042	<0.27	0.27	<0.0046	0.0046	<0.0034	0.0034
1,1,2-Trichloroethane	79-00-5				<0.0051	0.0051	<0.0048	0.0048	<0.0052	0.0052	<0.005	0.005	<0.0048	0.0048	<0.0051	0.0051	<0.0051	0.0051	<0.0049	0.0049	<0.0055	0.0055	<0.005	0.005	<0.0042	0.0042	<0.27	0.27	<0.0046	0.0046	<0.0034	0.0034
1,1-Dichloroethane	75-34-3	0.27	26	240	<0.0051	0.0051	<0.0048	0.0048	<0.0052	0.0052	<0.005	0.005	<0.0048	0.0048	<0.0051	0.0051	<0.0051	0.0051	<0.0049	0.0049	<0.0055	0.0055	<0.005	0.005	<0.0042	0.0042	<0.27	0.27	<0.0046	0.0046	<0.0034	0.0034
1,2-Dichloroethane	75-35-4	0.33	100	500	<0.0051	0.0051	<0.0048	0.0048	<0.0052	0.0052	<0.005	0.005	<0.0048	0.0048	<0.0051	0.0051	<0.0051	0.0051	<0.0049	0.0049	<0.0055	0.0055	<0.005	0.005	<0.0042	0.0042	<0.27	0.27	<0.0046	0.0046	<0.0034	0.0034
1,3-Dichloropropane	563-86-6				<0.0051	0.0051	<0.0048	0.0048	<0.0052	0.0052	<0.005	0.005	<0.0048	0.0048	<0.0051	0.0051	<0.0051	0.0051	<0.0049	0.0049	<0.0055	0.0055	<0.005	0.005	<0.0042	0.0042	<0.27	0.27	<0.0046	0.0046	<0.0034	0.0034
1,1,3-Trichlorobenzene	87-61-6				<0.0051	0.0051	<0.0048	0.0048	<0.0052	0.0052	<0.005	0.005	<0.0048	0.0048	<0.0051	0.0051	<0.0051	0.0051	<0.0049	0.0049	<0.0055	0.0055	<0.005	0.005	<0.0042	0.0042	<0.27	0.27	<0.0046	0.0046	<0.0034	0.0034
1,2,3-Trichloropropane	96-12-8				<0.0051	0.0051	<0.0048	0.0048	<0.0052	0.0052	<0.005	0.005	<0.0048	0.0048	<0.0051	0.0051	<0.0051	0.0051	<0.0049	0.0049	<0.0055	0.0055	<0.005	0.005	<0.0042	0.0042	<0.27	0.27	<0.0046	0.0046	<0.0034	0.0034
1,2,4-Trichlorobenzene	120-82-1				<0.0051	0.0051	<0.0048	0.0048	<0.0052	0.0052	<0.005	0.005	<0.0048	0.0048	<0.0051	0.0051	<0.0051	0.0051	<0.0049	0.0049	<0.0055	0.0055	<0.005	0.005	<0.0042	0.0042	<0.27	0.27	<0.0046	0.0046	<0.0034	0.0034
1,3,4-Trimethylbenzene	95-63-6	3.6	52	190	<0.0051	0.0051	<0.0048	0.0048	<0.0052	0.0052	<0.005	0.005	<0.0048	0.0048	<0.0051	0.0051	<0.0051	0.0051	<0.0049	0.0049	<0.0055	0.0055	<0.005	0.005	<0.0042	0.0042	<0.27	0.27	<0.0046	0.0046	<0.0034	0.0034
1,2-Dibromo-3-chloropropane	96-12-8				<0.0051	0.0051	<0.0048	0.0048	<0.0052	0.0052	<0.005	0.005	<0.0048	0.0048	<0.0051	0.0051	<0.0051	0.0051	<0.0049	0.0049	<0.0055	0.0055	<0.005	0.005	<0.0042	0.0042	<0.27	0.27	<0.0046	0.0046	<0.0034	0.0034
1,2-Dibromobenzene	106-93-4				<0.0051	0.0051	<0.0048	0.0048	<0.0052	0.0052	<0.005	0.005	<0.0048	0.0048	<0.0051	0.0051	<0.0051	0.0051	<0.0049	0.0049	<0.0055	0.0055	<0.005	0.005	<0.0042	0.0042	<0.27	0.27	<0.0046	0.0046	<0.0034	0.0034
1,2-Dichlorobenzene	95-01-1	1.1	100	500	<0.0051	0.0051	<0.0048	0.0048	<0.0052	0.0052	<0.005	0.005	<0.0048	0.0048	<0.0051	0.0051	<0.0051	0.0051	<0.0049	0.0049	<0.0055	0.0055	<0.005	0.005	<0.0042	0.0042	<0.27	0.27	<0.0046	0.0046	<0.0034	0.0034
1,2-Dichloropropane	78-07-5				<0.0051	0.0051	<0.0048	0.0048	<0.0052	0.0052	<0.005	0.005	<0.0048	0.0048	<0.0051	0.0051	<0.0051	0.0051	<0.0049	0.0049	<0.0055	0.0055	<0.005	0.005	<0.0042	0.0042	<0.27	0.27	<0.0046	0.0046	<0.0034	0.0034
1,3,5-Trimethylbenzene	108-67-8	8.4	52	190	<0.0051	0.0051	<0.0048	0.0048	<0.0052	0.0052	<0.005	0.005	<0.0048	0.0048	<0.0051	0.0051	<0.0051	0.0051	<0.0049	0.0049	<0.0055	0.0055	<0.005	0.005	<0.0042	0.0042	<0.27	0.27	<0.0046	0.0046	<0.0034	0.0034
1,3-Dichlorobenzene	541-73-1	2.4	49	280	<0.0051	0.0051	<0.0048	0.0048	<0.0052	0.0052	<0.005	0.005	<0.0048	0.0048	<0.0051	0.0051	<0.0051	0.0051	<0.0049	0.0049	<0.0055	0.0055	<0.005	0.005	<0.0042	0.0042	<0.27	0.27	<0.0046	0.0046	<0.0034	0.0034
1,3-Dichloropropane	142-28-9				<0.0051	0.0051	<0.0048	0.0048	<0.0052	0.0052	<0.005	0.005	<0.0048	0.0048	<0.0051	0.0051	<0.0051	0.0051	<0.0049	0.0049	<0.0055	0.0055	<0.005	0.005	<0.0042	0.0042	<0.27	0.27	<0.0046	0.0046	<0.0034	0.0034
1,4-Dichlorobenzene	106-46-7	1.8	13	130	<0.0051	0.0051	<0.0048	0.0048	<0.0052	0.0052	<0.005	0.005	<0.0048	0.0048	<0.0051	0.0051	<0.0051	0.0051	<0.0049	0.0049	<0.0055	0.0055	<0.005	0.005	<0.0042	0.0042	<0.27	0.27	<0.0046	0.0046	<0.0034	0.0034
1,4-Dichloropropane	594-30-7				<0.0051	0.0051	<0.0048	0.0048	<0.0052	0.0052	<0.005	0.005	<0.0048	0.0048	<0.0051	0.0051	<0.0051	0.0051	<0.0049	0.0049	<0.0055	0.0055	<0.005	0.005	<0.0042	0.0042	<0.27	0.27	<0.0046	0.0046	<0.0034	0.0034
2-Chlorotoluene	95-49-8				<0.0051	0.0051	<0.0048	0.0048	<0.0052	0.0052	<0.005	0.005	<0.0048	0.0048	<0.0051	0.0051	<0.0051	0.0051	<0.0049	0.0049	<0.0055	0.0055	<0.005	0.005	<0.0042	0.0042	<0.27	0.27	<0.0046	0.0046	<0.0034	0.0034
2-Hexanone	591-78-6				<0.026	0.026	<0.024	0.024	<0.026	0.026	<0.025	0.025	<0.024	0.024	<0.026	0.026	<0.025	0.025	<0.024	0.024	<0.028	0.028	<0.025	0.025	<0.021	0.021	<1.4	1.4	<0.023	0.023	<0.017	0.017
2-Isopropyltoluene	527-64-4				<0.0051	0.0051	<0.0048	0.0048	<0.0052	0.0052	<0.005	0.005	<0.0048	0.0048	<0.0051	0.0051	<0.0051	0.0051	<0.0049	0.0049	<0.0055	0.0055	<0.005	0.005	<0.0042	0.0042	<0.27	0.27	<0.0046	0.0046	<0.0034	0.0034
4-Chlorotoluene	106-43-4				<0.0051	0.0051	<0.0048	0.0048	<0.0052	0.0052	<0.005	0.005	<0.0048	0.0048	<0.0051	0.0051	<0.0051	0.0051	<0.0049	0.0049	<0.0055	0.0055	<0.005	0.005	<0.0042	0.0042	<0.27	0.27	<0.0046	0.0046	<0.0034	0.0034
4-Methyl-2-pentanone	108-10-1				<0.026	0.026	<0.024	0.024	<0.026	0.026	<0.025	0.025	<0.024	0.024	<0.026	0.026	<0.025	0.025	<0.024	0.024	<0.028	0.028	<0.025	0.025	<0.021	0.021	<1.4	1.4	<0.023	0.023	<0.017	0.017
Acetone	67-64-1	0.05	100	500	<0.026	0.026	<0.024	0.024	<0.026	0.026	<0.025	0.025	<0.024	0.024	<0.026	0.026	<0.025	0.025	<0.024	0.024	<0.028	0.028	<0.025	0.025	<0.021	0.021	<1.4	1.4	<0.023	0.023	<0.017	0.017
Acrylonitrile	107-13-1				<0.01	0.01	<0.0096	0.0096	<0.01	0.01	<0.01	0.01	<0.0097	0.0097	<0.01	0.01	<0.01	0.01	<0.0098	0.0098	<0.011	0.011	<0.01	0.01	<0.0083	0.0083	<0.55	0.55	<0.0093	0.0093	<	

Table 1
Volatile Organic Compounds in Soil (mg/Kg)
EPA Method: 8260
148-28 Hillside Avenue, Jamaica, NY11435

Phenix ID Sampling Date Client Name	Compound	CAS Number	NYSDC Part 375 Protection of Groundwater Soil Cleanup Objectives	NYSDC Part 375 Restricted Use Soil Cleanup Objectives- Residential	NYSDC Part 375 Restricted Use Soil Cleanup Objectives- Commercial	RISB-8 (3-3)		RISB-8 (7-7)		RISB-8 (10-12)		RISB-8 (10-12)		RISB-8 (12-15)		RISB-8 (20-22)		RISB-8 (22-25)		RISB-8 (25-28)		RISB-8 (28-30)		RISB-8 (30-33)		RISB-8 (33-35)		RISB-8 (40-43)		RISB-8 DUPLICATE		RISB-8 (9-1)		
						Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result
Volatiles 4260						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		mg/Kg		mg/Kg
Dilution Factor																																		
1,1,1,2-Tetrachloroethane	630-20-6		~	~	~	<0.0051	0.0051	<0.71	0.71	<0.0045	0.0045	<0.29	0.29	<0.0056	0.0056	<0.4	0.4	<0.0051	0.0051	<0.36	0.36	<0.0058	0.0058	<0.0048	0.0048	<0.0048	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041	
1,1,1-Trichloroethane	71-55-6	0.68	100	500	<0.0051	0.0051	<0.68	0.68	<0.0045	0.0045	<0.29	0.29	<0.0056	0.0056	<0.4	0.4	<0.0051	0.0051	<0.36	0.36	<0.0058	0.0058	<0.0048	0.0048	<0.0048	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
1,1,2,2-Tetrachloroethane	79-34-5		~	~	<0.0051	0.0051	<0.71	0.71	<0.0045	0.0045	<0.29	0.29	<0.0056	0.0056	<0.4	0.4	<0.0051	0.0051	<0.36	0.36	<0.0058	0.0058	<0.0048	0.0048	<0.0048	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
1,1,2-Trichloroethane	79-00-5		~	~	<0.0051	0.0051	<0.71	0.71	<0.0045	0.0045	<0.29	0.29	<0.0056	0.0056	<0.4	0.4	<0.0051	0.0051	<0.36	0.36	<0.0058	0.0058	<0.0048	0.0048	<0.0048	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
1,1-Dichloroethane	75-34-3	0.27	26	240	<0.0051	0.0051	<0.27	0.27	<0.0045	0.0045	<0.27	0.27	<0.0056	0.0056	<0.27	0.27	<0.0051	0.0051	<0.27	0.27	<0.0058	0.0058	<0.0048	0.0048	<0.0048	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
1,1-Dichloroethene	75-35-4	0.33	100	500	<0.0051	0.0051	<0.33	0.33	<0.0045	0.0045	<0.29	0.29	<0.0056	0.0056	<0.33	0.33	<0.0051	0.0051	<0.33	0.33	<0.0058	0.0058	<0.0048	0.0048	<0.0048	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
1,1-Dichloropropane	563-86-6		~	~	<0.0051	0.0051	<0.71	0.71	<0.0045	0.0045	<0.29	0.29	<0.0056	0.0056	<0.4	0.4	<0.0051	0.0051	<0.36	0.36	<0.0058	0.0058	<0.0048	0.0048	<0.0048	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
1,2,3-Trichloroethane	87-61-6		~	~	<0.0051	0.0051	<0.71	0.71	<0.0045	0.0045	<0.29	0.29	<0.0056	0.0056	<0.4	0.4	<0.0051	0.0051	<0.36	0.36	<0.0058	0.0058	<0.0048	0.0048	<0.0048	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
1,2,3-Trichloropropane	96-18-4		~	~	<0.0051	0.0051	<0.71	0.71	<0.0045	0.0045	<0.29	0.29	<0.0056	0.0056	<0.4	0.4	<0.0051	0.0051	<0.36	0.36	<0.0058	0.0058	<0.0048	0.0048	<0.0048	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
1,2,4-Trichloroethane	120-82-1		~	~	<0.0051	0.0051	<0.71	0.71	<0.0045	0.0045	<0.29	0.29	<0.0056	0.0056	<0.4	0.4	<0.0051	0.0051	<0.36	0.36	<0.0058	0.0058	<0.0048	0.0048	<0.0048	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
1,2,4-Trimethylbenzene	95-63-6	3.6	52	190	0.37	0.27	8.5	0.71	0.0023	0.0045	8.5	2.9	0.035	0.0056	29	4	0.0012	0.0051	1	0.36	<0.0058	0.0058	1.3	0.25	0.057	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
1,2-Dibromo-3-chloropropane	96-12-8		~	~	<0.0051	0.0051	<0.71	0.71	<0.0045	0.0045	<0.29	0.29	<0.0056	0.0056	<0.4	0.4	<0.0051	0.0051	<0.36	0.36	<0.0058	0.0058	<0.0048	0.0048	<0.0048	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
1,2-Dibromomethane	106-93-4		~	~	<0.0051	0.0051	<0.71	0.71	<0.0045	0.0045	<0.29	0.29	<0.0056	0.0056	<0.4	0.4	<0.0051	0.0051	<0.36	0.36	<0.0058	0.0058	<0.0048	0.0048	<0.0048	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
1,2-Dichlorobenzene	95-00-1	1.1	100	500	<0.0051	0.0051	<0.71	0.71	<0.0045	0.0045	<0.29	0.29	<0.0056	0.0056	<0.4	0.4	<0.0051	0.0051	<0.36	0.36	<0.0058	0.0058	<0.0048	0.0048	<0.0048	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
1,2-Dichloroethane	107-06-2	0.02	3.1	30	<0.0051	0.0051	<0.071	0.071	<0.0045	0.0045	<0.029	0.029	<0.0056	0.0056	<0.04	0.04	<0.0051	0.0051	<0.036	0.036	<0.0058	0.0058	<0.0048	0.0048	<0.0048	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
1,2-Dichloropropane	78-07-5		~	~	<0.0051	0.0051	<0.71	0.71	<0.0045	0.0045	<0.29	0.29	<0.0056	0.0056	<0.4	0.4	<0.0051	0.0051	<0.36	0.36	<0.0058	0.0058	<0.0048	0.0048	<0.0048	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
1,3,5-Trimethylbenzene	108-67-8	8.4	52	190	0.16	0.13	2.7	0.71	0.00075	0.0045	19	2.9	0.012	0.0056	9.2	0.4	<0.0051	0.0051	0.33	0.32	<0.0058	0.0058	0.39	0.25	0.018	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
1,3-Dichlorobenzene	541-73-1	2.4	49	280	<0.0051	0.0051	<0.71	0.71	<0.0045	0.0045	<0.29	0.29	<0.0056	0.0056	<0.4	0.4	<0.0051	0.0051	<0.36	0.36	<0.0058	0.0058	<0.0048	0.0048	<0.0048	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
1,3-Dichloropropane	142-28-9		~	~	<0.0051	0.0051	<0.71	0.71	<0.0045	0.0045	<0.29	0.29	<0.0056	0.0056	<0.4	0.4	<0.0051	0.0051	<0.36	0.36	<0.0058	0.0058	<0.0048	0.0048	<0.0048	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
1,4-Dichlorobenzene	106-46-7	1.8	13	130	<0.0051	0.0051	<0.71	0.71	<0.0045	0.0045	<0.29	0.29	<0.0056	0.0056	<0.4	0.4	<0.0051	0.0051	<0.36	0.36	<0.0058	0.0058	<0.0048	0.0048	<0.0048	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
1,4-Dichloropropane	594-30-7		~	~	<0.0051	0.0051	<0.71	0.71	<0.0045	0.0045	<0.29	0.29	<0.0056	0.0056	<0.4	0.4	<0.0051	0.0051	<0.36	0.36	<0.0058	0.0058	<0.0048	0.0048	<0.0048	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
2-Chlorotoluene	95-49-8		~	~	<0.0051	0.0051	<0.71	0.71	<0.0045	0.0045	<0.29	0.29	<0.0056	0.0056	<0.4	0.4	<0.0051	0.0051	<0.36	0.36	<0.0058	0.0058	<0.0048	0.0048	<0.0048	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
2-Heptanone	98-11-9		~	~	<0.026	0.026	<3.5	3.5	<0.023	0.023	<1.5	1.5	<0.028	0.028	<2	2	<0.026	0.026	<1.8	1.8	<0.029	0.029	<0.024	0.024	<0.024	0.024	<0.028	0.028	<0.025	0.025	<0.021	0.021		
2-Isopropyltoluene	527-64-4		~	~	<0.0051	0.0051	<0.71	0.71	<0.0045	0.0045	<0.29	0.29	<0.0056	0.0056	<0.4	0.4	<0.0051	0.0051	<0.36	0.36	<0.0058	0.0058	<0.0048	0.0048	<0.0048	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
4-Chlorotoluene	106-43-4		~	~	<0.0051	0.0051	<0.71	0.71	<0.0045	0.0045	<0.29	0.29	<0.0056	0.0056	<0.4	0.4	<0.0051	0.0051	<0.36	0.36	<0.0058	0.0058	<0.0048	0.0048	<0.0048	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
4-Methyl-2-pentanone	108-10-1		~	~	<0.026	0.026	<3.5	3.5	<0.023	0.023	<1.5	1.5	<0.028	0.028	<2	2	<0.026	0.026	<1.8	1.8	<0.029	0.029	<0.024	0.024	<0.024	0.024	<0.028	0.028	<0.025	0.025	<0.021	0.021		
6-Isone	67-61-3	0.05	100	500	<0.006	0.006	<0.71	0.71	<0.0045	0.0045	<0.29	0.29	<0.0056	0.0056	<0.4	0.4	<0.0051	0.0051	<0.36	0.36	<0.0058	0.0058	<0.0048	0.0048	<0.0048	0.0048	<0.0055	0.0055	<0.005	0.005	<0.0041	0.0041		
Acrylonitrile	107-13-1		~	~	<0.01	0.01	<1.4	1.4	<0.0091	0.0091	<0.58	0.58	<0.011	0.011	<0.81	0.81	<0.01	0.01	<0.72	0.72	<0.012	0.012	<0.0097	0.0097	<0.0096	0.0096	<0.011	0.011	<0.01	0.0				

Table 1
Volatile Organic Compounds in Soil (mg/Kg)
EPA Method: 8260
148-28 Hillside Avenue, Jamaica, NY11435

Phenex ID Sampling Date Client Matrix	NYSDC Part 375 Protection of Groundwater Soil Cleanup Objectives	NYSDC Part 375 Restricted Use Soil Cleanup Objectives- Residential	NYSDC Part 375 Restricted Use Soil Cleanup Objectives- Commercial	RISB-9 (1-2)		RISB-9 (3-35)		RISB-9 (40-50)		RISB-10 (0-1)		RISB-10 (1-2)		RISB-10 (40-43)		RISB-11 (2-3)		RISB-11 (3-4)		RISB-11 (40-50)		RISB-12 (0-1)		RISB-12 (1-3)		RISB-12 (31-33)		RISB-12 (33-35)		RISB-12 (50-52)		
				CM48127		CM48127		CM48127		CM48127		CM48127		CM48127		CM48127		CM48127		CM48127		CM48127		CM48127		CM48127		CM48127		CM48127		
				10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	10/5/22 Result RL	
Compound	CAS Number			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	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	mg/kg		
Volatiles 4260																																
Dilution Factor																																
1,1,1,2-Tetrachloroethane	630-20-6	~	~	~	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
1,1,1-Trichloroethane	71-55-6	0.68	100	500	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
1,1,2,2-Tetrachloroethane	79-34-5	~	~	~	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
1,1,2-Trichloroethane	79-00-5	~	~	~	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
1,1-Dichloroethane	75-34-3	0.27	26	240	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
1,1-Dichloroethane	75-34-3	0.33	100	500	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
1,1-Dichloropropane	563-86-6	~	~	~	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
1,2,3-Trichlorobenzene	87-61-6	~	~	~	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
1,2,4-Trichlorobenzene	96-18-4	~	~	~	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
1,2,4-Trichloropropane	120-82-1	~	~	~	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
1,3,5-Trimethylbenzene	95-63-6	3.6	52	190	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
1,2-Dibromo-3-chloropropane	96-12-8	~	~	~	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
1,2-Dibromobenzene	106-93-4	~	~	~	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
1,2-Dichlorobenzene	95-01-1	1.1	100	500	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
1,2-Dichloroethane	107-06-2	0.02	3.1	30	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
1,2-Dichloropropane	78-87-5	~	~	~	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
1,3,5-Trimethylbenzene	108-67-8	8.4	52	190	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
1,3-Dichlorobenzene	541-73-1	2.4	49	280	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
1,3-Dichloropropane	142-28-9	~	~	~	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
1,4-Dichlorobenzene	106-46-7	1.8	13	130	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
1,4-Dichloroethane	594-20-7	~	~	~	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
2-Chlorobenzene	95-49-8	~	~	~	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
2-Hexanone	591-78-6	~	~	~	<0.021	0.021	<0.022	0.022	<0.061	0.061	<0.022	0.022	<0.022	0.022	<0.03	0.03	<0.025	0.025	<0.02	0.02	<0.024	0.024	<0.027	0.027	<0.026	0.026	<0.022	0.022	<0.022	0.022	<0.025	0.025
2-Isopropyltoluene	527-64-4	~	~	~	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
4-Chlorobenzene	106-43-4	~	~	~	<0.0042	0.0042	<0.0045	0.0045	<0.0041	0.0041	<0.0045	0.0045	<0.0043	0.0043	<0.0059	0.0059	<0.0051	0.0051	<0.0041	0.0041	<0.0048	0.0048	<0.0054	0.0054	<0.0052	0.0052	<0.0045	0.0045	<0.0044	0.0044	<0.0049	0.0049
4-Methyl-2-pentanone	108-10-1	~	~	~	<0.021	0.021	<0.022	0.022	<0.02	0.02	<0.022	0.022	<0.022	0.022	<0.03	0.03	<0.025	0.025	<0.02	0.02	<0.024	0.024	<0.027	0.027	<0.026	0.026	<0.022	0.022	<0.022	0.022	<0.025	0.025
Acetone	67-64-1	0.05	100	500	<0.021	0.021	<0.022	0.022	<0.02	0.02	<0.022	0.022	<0.022	0.022	<0.03	0.03	<0.025	0.025	<0.02	0.02	<0.024	0.024	<0									

Table 1
Volatile Organic Compounds in Soil (mg/Kg)
EPA Method: 8260
148-28 Hillside Avenue, Jamaica, NY11435

Phenolic ID Sampling Date Client Matrix	Compound	CAS Number	NYSDC Part 375 Protection of Groundwater Soil Cleanup Objectives	NYSDC Part 375 Restricted Use Soil Cleanup Objectives- Residential	NYSDC Part 375 Restricted Use Soil Cleanup Objectives- Commercial	R5B-13 (B-1)		R5B-13 (B-2)		R5B-13 (B-50)		R5B-14 (B-1)		R5B-14 (B-2)		R5B-14 (B-42)		R5B-15 (B-1)		R5B-15 (B-2)		R5B-15 (B-45)		R5B-15 (B-52)		SB-16 (B-7)	
						Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Volatiles 4240																											
Dilution Factor																											
1,1,1,2-Tetrachloroethane	630-20-6	-	-	-	-	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
1,1,1-Trichloroethane	71-55-6	0.68	100	500	500	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<0.68	0.68
1,1,2,2-Tetrachloroethane	79-34-5	-	-	-	-	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
1,1,2-Trichloroethane	79-00-5	-	-	-	-	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
1,1-Dichloroethane	75-34-3	0.27	26	240	500	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<0.27	0.27
1,1-Dichloropropane	75-35-4	0.33	100	500	500	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
1,1-Dichloropropane	563-85-6	-	-	-	-	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
1,2,3-Trichlorobenzene	87-61-6	-	-	-	-	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
1,2,3-Trichloropropane	96-18-4	-	-	-	-	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
1,2,4-Trimethylbenzene	120-82-1	-	-	-	-	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
1,2,4-Trimethylbenzene	95-63-6	3.6	52	190	500	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
1,2-Dibromo-3-chloropropane	96-12-8	-	-	-	-	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
1,2-Dibromothane	106-93-4	-	-	-	-	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
1,2-Dichlorobenzene	95-50-1	1.1	100	500	500	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
1,2-Dichloroethane	107-06-2	0.02	3.1	30	30	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<0.02	0.02
1,2-Dichloropropane	78-67-5	-	-	-	-	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
1,3,5-Trimethylbenzene	108-67-8	8.4	52	190	500	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
1,3-Dichlorobenzene	541-73-1	2.4	49	280	500	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
1,3-Dichloropropane	142-28-9	-	-	-	-	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
1,4-Dichlorobenzene	106-46-7	1.8	13	130	500	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
2-Chlorobenzene	98-02-7	-	-	-	-	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
2-Chlorotoluene	95-49-8	-	-	-	-	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
2-Hexanone	591-78-6	-	-	-	-	<0.024	0.024	<0.021	0.021	<0.024	0.024	<0.028	0.028	<0.027	0.027	<0.025	0.025	<0.024	0.024	<0.024	0.024	0.055	0.025	<0.027	0.027	<5.5	5.5
2-Isopropyltoluene	527-84-4	-	-	-	-	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
4-Chlorotoluene	106-43-4	-	-	-	-	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
4-Methyl-2-pentanone	108-10-1	-	-	-	-	<0.024	0.024	<0.021	0.021	<0.024	0.024	<0.028	0.028	<0.027	0.027	<0.025	0.025	<0.024	0.024	<0.024	0.024	0.055	0.025	<0.027	0.027	<5.5	5.5
Acetone	67-64-3	0.05	100	500	500	<0.024	0.024	<0.021	0.021	<0.024	0.024	<0.028	0.028	<0.027	0.027	<0.025	0.025	<0.024	0.024	<0.024	0.024	0.055	0.025	<0.027	0.027	<0.05	0.05
Acyronitrile	107-13-1	-	-	-	-	<0.0096	0.0096	<0.0083	0.0083	<0.0096	0.0096	<0.011	0.011	<0.011	0.011	<0.01	0.01	<0.0094	0.0094	<0.0096	0.0096	<0.0099	0.0099	<0.011	0.011	<2.2	2.2
Benzene	71-43-2	0.06	4.8	44	500	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
o-Dichlorobenzene	106-86-4	-	-	-	-	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
Bromochloromethane	74-97-5	-	-	-	-	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
Bromodichloromethane	75-27-4	-	-	-	-	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
Bromotoluene	75-25-2	-	-	-	-	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
Bromomethane	74-83-9	-	-	-	-	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
Carbon Disulfide	75-15-0	-	-	-	-	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<1.1	1.1
Carbon tetrachloride	56-23-5	0.76	2.4	22	500	<0.0048	0.0048	<0.0041	0.0041	<0.0048	0.0048	<0.0055	0.0055	<0.0053	0.0053	<0.0051	0.0051	<0.0047	0.0047	<0.0048	0.0048	<0.0049	0.0049	<0.0053	0.0053	<0.76	0.76
Chlorobenzene	106-90-7																										

Table 2
Semi-Volatile Organic Compounds in Soil (mg/Kg)
EPA Method: 8270

148-28 Hillside Avenue, Jamaica, NY 11435

Sample ID Phenol ID Sampling Date Client Matrix	Compound	CAS Number	NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives	NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Residential	NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Commercial	RISB-1 (0-1) CM61842 10/7/22 SOIL		RISB-1 (1-2) CM61843 10/7/22 SOIL		RISB-1 (30-35) CM61844 10/7/22 SOIL		RISB-1 (40-42) CM61845 10/7/22 SOIL		RISB-2 (0-1) CM61836 10/7/22 SOIL		RISB-2 (1-2) CM61837 10/7/22 SOIL		RISB-2 (35-40) CM61838 10/7/22 SOIL		RISB-3 (0-1) CM52568 10/5/2022 SOIL		RISB-3 (2-4) CM52569 10/5/2022 SOIL	
						Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
						mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
SemiVolatiles 8270																							
Dilution Factor																							
1,2,4,5-Tetrachlorobenzene	95-94-3	~	~	~	~	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
1,2,4-Trichlorobenzene	120-82-1	~	~	~	~	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
1,2-Dichlorobenzene	95-50-1	1.1	100	500	500	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
1,2-Diphenylhydrazine	122-66-7	~	~	~	~	<0.39	0.39	<0.39	0.39	<0.36	0.36	<0.36	0.36	<0.37	0.37	<0.37	0.37	<0.35	0.35	<0.37	0.37	<0.34	0.34
1,3-Dichlorobenzene	54-131-1	2.4	49	280	280	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
1,4-Dichlorobenzene	106-46-7	1.8	13	130	130	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
2,2'-Oxybis(1-Chloropropane)	108-60-1	~	~	~	~	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
2,4,5-Trichlorophenol	95-95-4	~	~	~	~	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
2,4,6-Trichlorophenol	88-06-2	~	~	~	~	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
2,4-Dichlorophenol	120-83-2	~	~	~	~	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
2,4-Dimethylphenol	105-67-9	~	~	~	~	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
2,4-Dinitrophenol	51-28-5	~	~	~	~	<0.39	0.39	<0.39	0.39	<0.36	0.36	<0.36	0.36	<0.37	0.37	<0.37	0.37	<0.35	0.35	<0.37	0.37	<0.34	0.34
2,4-Dinitrotoluene	121-14-2	~	~	~	~	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
2,6-Dinitrotoluene	606-20-2	~	~	~	~	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
2-Chloronaphthalene	91-58-7	~	~	~	~	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
2-Chlorophenol	95-57-8	~	~	~	~	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
2-Methylnaphthalene	91-57-1	~	~	~	~	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
2-Methylphenol (o-cresol)	95-48-7	0.33	100	500	500	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
2-Nitroaniline	88-74-4	~	~	~	~	<0.39	0.39	<0.39	0.39	<0.36	0.36	<0.36	0.36	<0.37	0.37	<0.37	0.37	<0.35	0.35	<0.37	0.37	<0.34	0.34
2-Nitrophenol	88-75-5	~	~	~	~	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
3&4-Methylphenol (m&p-cresol)	PHMX - M&P CRESOL	~	~	~	~	<0.39	0.39	<0.39	0.39	<0.36	0.36	<0.36	0.36	<0.37	0.37	<0.37	0.37	<0.35	0.35	<0.37	0.37	<0.34	0.34
3,3'-Dichlorobenzidine	91-94-1	~	~	~	~	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
3-Nitroaniline	99-09-2	~	~	~	~	<0.39	0.39	<0.39	0.39	<0.36	0.36	<0.36	0.36	<0.37	0.37	<0.37	0.37	<0.35	0.35	<0.37	0.37	<0.34	0.34
4,6-Dinitro-2-methylphenol	534-52-1	~	~	~	~	<0.39	0.39	<0.39	0.39	<0.36	0.36	<0.36	0.36	<0.37	0.37	<0.37	0.37	<0.35	0.35	<0.37	0.37	<0.34	0.34
4-Bromophenyl phenyl ether	101-55-3	~	~	~	~	<0.39	0.39	<0.39	0.39	<0.36	0.36	<0.36	0.36	<0.37	0.37	<0.37	0.37	<0.35	0.35	<0.37	0.37	<0.34	0.34
4-Chloro-3-methylphenol	59-50-7	~	~	~	~	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
4-Chloroaniline	106-47-8	~	~	~	~	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
4-Chlorophenyl phenyl ether	7005-72-3	~	~	~	~	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
4-Nitroaniline	100-01-6	~	~	~	~	<0.62	0.62	<0.62	0.62	<0.58	0.58	<0.57	0.57	<0.6	0.6	<0.6	0.6	<0.57	0.57	<0.6	0.6	<0.54	0.54
4-Nitrophenol	100-02-7	~	~	~	~	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
Acenaphthene	83-32-9	98	100	500	500	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
Acenaphthylene	208-96-8	107	100	500	500	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
Acetophenone	98-86-2	~	~	~	~	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
Aniline	62-53-3	~	~	~	~	<0.39	0.39	<0.39	0.39	<0.36	0.36	<0.36	0.36	<0.37	0.37	<0.37	0.37	<0.35	0.35	<0.37	0.37	<0.34	0.34
Anthracene	120-12-7	1000	100	500	500	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
Benzo(a)anthracene	56-55-3	1	1	5.6	5.6	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
Benzidine	92-87-5	~	~	~	~	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
Benzo(a)pyrene	50-32-8	22	1	1	1	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
Benzo(b)fluoranthene	205-99-2	1.7	1	5.6	5.6	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
Benzo(g,h,i)perylene	191-24-2	1000	100	500	500	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
Benzo(k)fluoranthene	207-08-9	1.7	3.9	56	56	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
Benzocyclopentadiene	65-85-0	~	~	~	~	<0.77	0.77	<0.78	0.78	<0.73	0.73	<0.72	0.72	<0.75	0.75	<0.75	0.75	<0.71	0.71	<0.75	0.75	<0.68	0.68
Benzyl butyl phthalate	85-68-7	~	~	~	~	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24
Bis(2-chloroethoxy)methane	111-91-1	~	~	~	~	<0.27	0.27	<0.27	0.27	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.26							

Table 2
Semi-Volatile Organic Compounds in Soil (mg/Kg)
EPA Method: 8270

148-28 Hillside Avenue, Jamaica, NY11435

148-28 Hillside Avenue, Jamaica, NY 11435																								
Sample ID	NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives		NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Residential		NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Commercial		RISB-3 (43-45) CM53570 10/5/2022		RISB-4 (1-2) CM49176 10/03/2022		RISB-4 (2-3) CM49177 10/03/2022		RISB-4 (40-42) CM49178 10/03/2022		RISB-5 (0-1) CM48193 09/30/2022		RISB-5 (1-2) CM48194 09/30/2022		RISB-5 (40-43) CM48195 09/30/2022		RISB-5 (43-45) CM48196 09/30/2022		RISB-5 DUPLICATE CM48197 09/30/2022	
Phenolic ID	Compound	CAS Number	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Semivolatiles 8270																								
Dilution Factor																								
	1,2,4,5-Tetrachlorobenzene	95-94-3	~	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	1,2,4-Trichlorobenzene	120-82-1	~	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	1,2-Dichlorobenzene	95-50-1	1.1	100	500	500	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	1,2-Diphenylhydrazine	122-66-7	~	~	~	~	<0.34	0.34	<0.38	0.38	<0.38	0.38	<0.41	0.41	<0.37	0.37	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.36	0.36
	1,3-Dichlorobenzene	541-73-1	2.4	49	280	280	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	1,4-Dichlorobenzene	106-46-7	1.8	13	130	130	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	2,2'-Oxybis(1-Chloropropane)	108-60-1	~	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	2,4,5-Trichlorophenol	95-95-4	~	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	2,4,6-Trichlorophenol	88-06-2	~	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	2,4-Dichlorophenol	120-83-2	~	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	2,4-Dimethylphenol	105-67-9	~	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	2,4-Dinitrophenol	51-28-5	~	~	~	~	<0.34	0.34	<0.38	0.38	<0.38	0.38	<0.41	0.41	<0.37	0.37	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.36	0.36
	2,4-Dinitrotoluene	121-14-2	~	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	2,6-Dinitrotoluene	606-20-2	~	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	2-Chloronaphthalene	91-58-7	~	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	2-Chlorophenol	95-57-8	~	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	2-Methylnaphthalene	91-57-6	~	~	~	~	<0.24	0.24	<0.26	0.26	0.42	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	2-Methylphenol (o-cresol)	95-48-7	0.33	100	500	500	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	2-Nitroaniline	88-74-4	~	~	~	~	<0.34	0.34	<0.38	0.38	<0.38	0.38	<0.41	0.41	<0.37	0.37	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.36	0.36
	2-Nitrophenol	88-75-5	~	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	3&4-Methylphenol (m&p-cresol)	PHNX - M&P CRESOL	~	~	~	~	<0.34	0.34	<0.38	0.38	<0.38	0.38	<0.41	0.41	<0.37	0.37	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.36	0.36
	3,3'-Dichlorobenzidine	91-94-1	~	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	3-Nitroaniline	99-09-2	~	~	~	~	<0.34	0.34	<0.38	0.38	<0.38	0.38	<0.41	0.41	<0.37	0.37	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.36	0.36
	4,6-Dinitro-2-methylphenol	534-52-1	~	~	~	~	<0.34	0.34	<0.38	0.38	<0.38	0.38	<0.41	0.41	<0.37	0.37	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.36	0.36
	4-Bromophenyl phenyl ether	101-55-3	~	~	~	~	<0.34	0.34	<0.38	0.38	<0.38	0.38	<0.41	0.41	<0.37	0.37	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.36	0.36
	4-Chloro-3-methylphenol	59-50-7	~	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	4-Chloroaniline	106-47-8	~	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	4-Chlorophenyl phenyl ether	7005-72-3	~	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	4-Nitroaniline	100-01-6	~	~	~	~	<0.54	0.54	<0.6	0.6	<0.6	0.6	<0.65	0.65	<0.58	0.58	<0.57	0.57	<0.57	0.57	<0.58	0.58	<0.58	0.58
	4-Nitrophenol	100-02-7	~	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	Acenaphthene	83-32-9	98	100	500	500	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	Acenaphthylene	208-96-8	107	100	500	500	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	Acetophenone	98-86-2	~	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	Aniline	62-53-3	~	~	~	~	<0.34	0.34	<0.38	0.38	<0.38	0.38	<0.41	0.41	<0.37	0.37	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.36	0.36
	Anthracene	120-12-7	1000	100	500	500	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	Benzo(a)anthracene	56-55-3	1	1	5.6	5.6	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	0.36	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	Benzidine	92-87-5	~	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	Benzo(a)pyrene	50-32-8	22	1	1	1	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	0.38	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	Benzo(b)fluoranthene	205-99-2	1.7	1	5.6	5.6	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	0.34	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	Benzo(k)fluoranthene	191-24-2	1000	100	500	500	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	Benzo(k)fluoranthene	207-08-9	1.7	3.9	56	56	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	0.3	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	Benzoic acid	65-85-0	~	~	~	~	<0.68	0.68	<0.75	0.75	<0.76	0.76	<0.81	0.81	<0.73	0.73	<0.72	0.72	<0.71	0.71	<0.72	0.72	<0.72	0.72
	Benzyl butyl phthalate	85-68-7	~	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.28	0.28	<0.26	0.26	0.38	0.25	<0.25	0.25	<0.25	0.25	<0.25	0.25
	Bis(2-chloroethoxy)methane	111-91-11-																						

Table 2
Semi-Volatile Organic Compounds in Soil (mg/Kg)
EPA Method: 8270

148-28 Hillside Avenue, Jamaica, NY11435

148-28 Hillside Avenue, Jamaica, NY 11435																							
Phenol ID Sampling Date Client Matrix	NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives	NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Residential	NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Commercial	RISB-6 (0-1) CM48185 09/29/2022 SOIL		RISB-6 (1-2) CM48186 09/29/2022 SOIL		RISB-6 (15-17) CM48187 09/29/2022 SOIL		RISB-6 (37-38) CM48188 09/29/2022 SOIL		RISB-6 (38-40) CM48189 09/29/2022 SOIL		RISB-6 (50-52) CM48190 09/29/2022 SOIL		RISB-7 (0-1) CM49173 10/03/2022 SOIL		RISB-7 (1-2) CM49174 10/03/2022 SOIL		RISB-7 (38-40) CM49175 10/03/2022 SOIL			
				Result mg/Kg	RL	Result mg/Kg	RL	Result mg/Kg	RL	Result mg/Kg	RL	Result mg/Kg	RL	Result mg/Kg	RL	Result mg/Kg	RL	Result mg/Kg	RL	Result mg/Kg	RL	Result mg/Kg	RL
Semivolatiles 8270																							
Dilution Factor																							
1,2,4,5-Tetrachlorobenzene	95-94-3	~	~	~	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
1,2,4-Trichlorobenzene	120-82-1	~	~	~	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
1,2-Dichlorobenzene	95-50-1	1.1	100	500	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
1,2-Diphenylhydrazine	122-66-7	~	~	~	<0.35	0.35	<0.35	0.35	<0.34	0.34	<0.35	0.35	<0.34	0.34	<0.36	0.36	<0.36	0.36	<0.35	0.35	<0.34	0.34	
1,3-Dichlorobenzene	541-73-1	2.4	49	280	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
1,4-Dichlorobenzene	106-46-7	1.8	13	130	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
2,2'-Oxybis(1-Chloropropane)	108-60-1	~	~	~	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
2,4,5-Trichlorophenol	95-95-4	~	~	~	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
2,4,6-Trichlorophenol	88-06-2	~	~	~	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
2,4-Dichlorophenol	120-83-2	~	~	~	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
2,4-Dimethylphenol	105-67-9	~	~	~	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
2,4-Dinitrophenol	51-28-5	~	~	~	<0.35	0.35	<0.35	0.35	<0.34	0.34	<0.35	0.35	<0.34	0.34	<0.36	0.36	<0.36	0.36	<0.35	0.35	<0.34	0.34	
2,4-Dinitrotoluene	121-14-2	~	~	~	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
2,6-Dinitrotoluene	606-20-2	~	~	~	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
2-Chloronaphthalene	91-58-7	~	~	~	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
2-Chlorophenol	95-57-8	~	~	~	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
2-Methylnaphthalene	91-57-6	~	~	~	0.31	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	0.45	0.25	<0.24	0.24	
2-Methylphenol (o-cresol)	95-48-7	0.33	100	500	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
2-Nitroaniline	88-74-4	~	~	~	<0.35	0.35	<0.35	0.35	<0.34	0.34	<0.35	0.35	<0.34	0.34	<0.36	0.36	<0.36	0.36	<0.35	0.35	<0.34	0.34	
2-Nitrophenol	88-75-5	~	~	~	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
3&4-Methylphenol (m&p-cresol)	PHNX - M&P CRESOL	~	~	~	<0.35	0.35	<0.35	0.35	<0.34	0.34	<0.35	0.35	<0.34	0.34	<0.36	0.36	<0.36	0.36	<0.35	0.35	<0.34	0.34	
3,3'-Dichlorobenzidine	91-94-1	~	~	~	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
3-Nitroaniline	99-09-2	~	~	~	<0.35	0.35	<0.35	0.35	<0.34	0.34	<0.35	0.35	<0.34	0.34	<0.36	0.36	<0.36	0.36	<0.35	0.35	<0.34	0.34	
4,6-Dinitro-2-methylphenol	534-52-1	~	~	~	<0.35	0.35	<0.35	0.35	<0.34	0.34	<0.35	0.35	<0.34	0.34	<0.36	0.36	<0.36	0.36	<0.35	0.35	<0.34	0.34	
4-Bromophenyl phenyl ether	101-55-3	~	~	~	<0.35	0.35	<0.35	0.35	<0.34	0.34	<0.35	0.35	<0.34	0.34	<0.36	0.36	<0.36	0.36	<0.35	0.35	<0.34	0.34	
4-Chloro-3-methylphenol	59-50-7	~	~	~	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
4-Chloroaniline	106-47-8	~	~	~	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
4-Chlorophenyl phenyl ether	7005-72-3	~	~	~	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
4-Nitroaniline	100-01-6	~	~	~	<0.56	0.56	<0.56	0.56	<0.54	0.54	<0.55	0.55	<0.54	0.54	<0.58	0.58	<0.58	0.58	<0.56	0.56	<0.54	0.54	
4-Nitrophenol	100-02-7	~	~	~	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
Acenaphthene	83-32-9	98	100	500	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
Acenaphthylene	208-96-8	107	100	500	3.6	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
Acetophenone	98-86-2	~	~	~	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
Aniline	62-53-3	~	~	~	<0.35	0.35	<0.35	0.35	<0.34	0.34	<0.35	0.35	<0.34	0.34	<0.36	0.36	<0.36	0.36	<0.35	0.35	<0.34	0.34	
Anthracene	120-12-7	1000	100	500	1.9	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
Benzo(a)anthracene	56-55-3	1	1	5.6	5.6	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	0.17	0.25	<0.25	0.25	<0.24	0.24	
Benzidine	92-87-5	~	~	~	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
Benzo(a)pyrene	50-32-8	22	1	1	8.9	2.5	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	0.19	0.25	<0.25	0.25	<0.24	0.24	
Benzo(b)fluoranthene	205-99-2	1.7	1	5.6	5.6	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	0.17	0.25	<0.25	0.25	<0.24	0.24	
Benzo(g,h)perylene	191-24-2	1000	100	500	4.6	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
Benzo(k)fluoranthene	207-08-9	1.7	3.9	56	5	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	0.16	0.25	<0.25	0.25	<0.24	0.24	
Benzoic acid	65-85-0	~	~	~	<0.7	0.7	<0.7	0.7	<0.67	0.67	<0.69	0.69	<0.67	0.67	<0.73	0.73	<0.73	0.73	<0.7	0.7	<0.67	0.67	
Benzyl butyl phthalate	85-68-7	~	~	~	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
Bis(2-chloroethoxy)methane	111-91-1	~	~	~	<0.25	0.25	<0.24	0.24	<0.23	0.23	<0.24	0.24	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.25	0.25	<0.24	0.24	
Bis(2-chloroethyl)ether	111-44-4	~	~	~	<0.35	0.35	<0.35	0.35	<0.34	0.34	<0.35	0.35	<0.34	0.34	<0.36	0.36	<0.36	0.36	<0.				

Table 2
Semi-Volatile Organic Compounds in Soil (mg/Kg)
EPA Method: 8270

148-28 Hillside Avenue, Jamaica, NY11435

Sample ID Phenol ID Sampling Date Client Matrix	Compound	CAS Number	NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives	NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Residential	NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Commercial	RISB-8 (0-3) CM50474 10/4/22 SOIL		RISB-8 (3-5) CM50475 10/4/22 SOIL		RISB-8 (5-7) CM50476 10/4/22 SOIL		RISB-8 (9-10) CM50477 10/4/22 SOIL		RISB-8 (10-12) CM50478 10/4/22 SOIL		RISB-8 (12-15) CM50479 10/4/22 SOIL		RISB-8 (20-22) CM50480 10/4/22 SOIL		RISB-8 (22-25) CM50481 10/4/22 SOIL		RISB-8 (25-28) CM50482 10/4/22 SOIL			
						Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
						mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Semivolatiles 8270																									
Dilution Factor																									
1,2,4,5-Tetrachlorobenzene	95-94-3	~	~	~	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
1,2,4-Trichlorobenzene	120-82-1	~	~	~	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
1,2-Dichlorobenzene	95-50-1	1.1	~	100	500	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24		
1,2-Diphenylhydrazine	122-66-7	~	~	~	<0.38	0.38	<0.38	0.38	<0.36	0.36	<0.35	0.35	<0.38	0.38	<0.34	0.34	<0.37	0.37	<0.34	0.34	<0.34	0.34	<0.34	0.34	
1,3-Dichlorobenzene	541-73-1	2.4	49	280	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
1,4-Dichlorobenzene	106-46-7	1.8	13	130	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
2,2'-Oxybis(1-Chloropropane)	108-60-1	~	~	~	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
2,4,5-Trichlorophenol	95-95-4	~	~	~	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
2,4,6-Trichlorophenol	88-06-2	~	~	~	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
2,4-Dichlorophenol	120-83-2	~	~	~	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
2,4-Dimethylphenol	105-67-9	~	~	~	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
2,4-Dinitrophenol	51-28-5	~	~	~	<0.38	0.38	<0.38	0.38	<0.36	0.36	<0.35	0.35	<0.38	0.38	<0.34	0.34	<0.37	0.37	<0.34	0.34	<0.34	0.34	<0.34	0.34	
2,4-Dinitrotoluene	121-14-2	~	~	~	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
2,6-Dinitrotoluene	606-20-2	~	~	~	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
2-Chloronaphthalene	91-58-7	~	~	~	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
2-Chlorophenol	95-57-8	~	~	~	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
2-Methylnaphthalene	91-57-5	~	~	~	<0.26	0.26	<0.26	0.26	2.8	0.25	<0.24	0.24	4.7	0.26	<0.24	0.24	1.9	0.26	<0.24	0.24	1.9	0.26	<0.24	0.24	
2-Methylphenol (o-cresol)	95-48-7	0.33	100	500	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
2-Nitroaniline	88-74-4	~	~	~	<0.38	0.38	<0.38	0.38	<0.36	0.36	<0.35	0.35	<0.38	0.38	<0.34	0.34	<0.37	0.37	<0.34	0.34	<0.34	0.34	<0.34	0.34	
2-Nitrophenol	88-75-5	~	~	~	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
3&4-Methylphenol (m&p-cresol)	PHMX - M&P CRESOL	~	~	~	<0.38	0.38	<0.38	0.38	0.24	0.36	<0.35	0.35	<0.38	0.38	<0.34	0.34	<0.37	0.37	<0.34	0.34	<0.34	0.34	<0.34	0.34	
3,3'-Dichlorobenzidine	91-94-1	~	~	~	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
3-Nitroaniline	99-09-2	~	~	~	<0.38	0.38	<0.38	0.38	<0.36	0.36	<0.35	0.35	<0.38	0.38	<0.34	0.34	<0.37	0.37	<0.34	0.34	<0.34	0.34	<0.34	0.34	
4,6-Dinitro-2-methylphenol	534-52-1	~	~	~	<0.38	0.38	<0.38	0.38	<0.36	0.36	<0.35	0.35	<0.38	0.38	<0.34	0.34	<0.37	0.37	<0.34	0.34	<0.34	0.34	<0.34	0.34	
4-Bromophenyl phenyl ether	101-55-3	~	~	~	<0.38	0.38	<0.38	0.38	<0.36	0.36	<0.35	0.35	<0.38	0.38	<0.34	0.34	<0.37	0.37	<0.34	0.34	<0.34	0.34	<0.34	0.34	
4-Chloro-3-methylphenol	59-50-7	~	~	~	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
4-Chloroaniline	106-47-8	~	~	~	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
4-Chlorophenyl phenyl ether	7005-72-3	~	~	~	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
4-Nitroaniline	100-01-6	~	~	~	<0.6	0.6	<0.6	0.6	<0.57	0.57	<0.56	0.56	<0.6	0.6	<0.55	0.55	<0.59	0.59	<0.54	0.54	<0.55	0.55	<0.55	0.55	
4-Nitrophenol	100-02-7	~	~	~	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
Acenaphthene	83-32-9	98	100	500	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
Acenaphthylene	208-96-8	107	100	500	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
Acetophenone	98-86-2	~	~	~	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
Aniline	62-53-3	~	~	~	<0.38	0.38	<0.38	0.38	0.34	0.36	<0.35	0.35	0.29	0.38	<0.34	0.34	<0.37	0.37	<0.34	0.34	<0.34	0.34	<0.34	0.34	
Anthracene	120-12-7	1000	100	500	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
Benzo(a)anthracene	56-55-3	1	1	5.6	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
Benzidine	92-87-5	~	~	~	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
Benzo(a)pyrene	50-32-8	22	1	1	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
Benzo(b)fluoranthene	205-99-2	1	1	5.6	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
Benzo(g,h,i)perylene	191-24-2	1000	100	500	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
Benzo(k)fluoranthene	207-08-9	1.7	3.9	56	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.24	0.24	
Benzoic acid	65-85-0	~	~	~	<0.75	0.75																			

Table 2
Semi-Volatile Organic Compounds in Soil (mg/Kg)
EPA Method: 8270

148-28 Hillside Avenue, Jamaica, NY11435

148-28 Hillside Avenue, Jamaica, NY 11435																									
Sample ID		NYSDEC Part 375		NYSDEC Part 375		NYSDEC Part 375		RISB-8 (28-30)		RISB-8 (30-33)		RISB-8 (33-35)		RISB-8 (40-43)		RISB-8 DUPLICATE		RISB-9 (0-1)		RISB-9 (1-2)		RISB-9 (33-35)		RISB-9 (48-50)	
Phenol ID	Sampling Date	Protection of Groundwater Soil Cleanup Objectives	Restricted Use Soil Cleanup Objectives-Residential	Restricted Use Soil Cleanup Objectives-Commercial	CM50483	CM50484	CM50485	CM50486	10/4/22	10/4/22	10/4/22	10/4/22	10/4/22	10/4/22	10/4/22	10/5/22	10/5/22	10/5/22	10/5/22	10/5/22	10/5/22	10/5/22	10/5/22	10/5/22	
Client Matrix	Compound	CAS Number	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	
	Semivolatiles 8270																								
	Dilution Factor																								
	1,2,4,5-Tetrachlorobenzene	95-94-3	~	~	~	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	1,2,4-Trichlorobenzene	120-82-1	~	~	~	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	1,2-Dichlorobenzene	95-50-1	1.1	100	500	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	1,2-Diphenylhydrazine	122-66-7	~	~	~	<0.34	0.34	<0.35	0.35	<0.35	0.35	<0.35	0.35	<0.36	0.36	<0.37	0.37	<0.36	0.36	<0.35	0.35	<0.4	0.4		
	1,3-Dichlorobenzene	541-73-1	2.4	49	280	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	1,4-Dichlorobenzene	106-46-7	1.8	13	130	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	2,2'-Oxybis(1-Chloropropane)	108-60-1	~	~	~	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	2,4,5-Trichlorophenol	95-95-4	~	~	~	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	2,4,6-Trichlorophenol	88-06-2	~	~	~	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	2-Dichlorophenol	120-83-2	~	~	~	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	2,4-Dimethylphenol	105-67-9	~	~	~	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	2,4-Dinitrophenol	51-28-5	~	~	~	<0.34	0.34	<0.35	0.35	<0.35	0.35	<0.35	0.35	<0.36	0.36	<0.37	0.37	<0.36	0.36	<0.35	0.35	<0.4	0.4		
	2,4-Dinitrotoluene	121-14-2	~	~	~	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	2,6-Dinitrotoluene	606-20-2	~	~	~	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	2-Chloronaphthalene	91-58-7	~	~	~	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	2-Chlorophenol	95-57-8	~	~	~	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	2-Methylnaphthalene	91-57-6	~	~	~	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	2-Methylphenol (o-cresol)	95-48-7	0.33	100	500	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	2-Nitroaniline	88-74-4	~	~	~	<0.34	0.34	<0.35	0.35	<0.35	0.35	<0.35	0.35	<0.36	0.36	<0.37	0.37	<0.36	0.36	<0.35	0.35	<0.4	0.4		
	2-Nitrophenol	88-75-5	~	~	~	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	3&4-Methylphenol (m&p-cresol)	PHNX - M&P CRESOL	~	~	~	<0.34	0.34	<0.35	0.35	<0.35	0.35	<0.35	0.35	<0.36	0.36	<0.37	0.37	<0.36	0.36	<0.35	0.35	<0.4	0.4		
	3,3'-Dichlorobenzidine	91-94-1	~	~	~	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	3-Nitroaniline	99-09-2	~	~	~	<0.34	0.34	<0.35	0.35	<0.35	0.35	<0.35	0.35	<0.36	0.36	<0.37	0.37	<0.36	0.36	<0.35	0.35	<0.4	0.4		
	4,6-Dinitro-2-methylphenol	534-52-1	~	~	~	<0.34	0.34	<0.35	0.35	<0.35	0.35	<0.35	0.35	<0.36	0.36	<0.37	0.37	<0.36	0.36	<0.35	0.35	<0.4	0.4		
	4-Bromophenyl phenyl ether	101-55-3	~	~	~	<0.34	0.34	<0.35	0.35	<0.35	0.35	<0.35	0.35	<0.36	0.36	<0.37	0.37	<0.36	0.36	<0.35	0.35	<0.4	0.4		
	4-Chloro-3-methylphenol	59-50-7	~	~	~	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	4-Chloroaniline	106-47-8	~	~	~	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	4-Chlorophenyl phenyl ether	7005-72-3	~	~	~	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	4-Nitroaniline	100-01-6	~	~	~	<0.54	0.54	<0.57	0.57	<0.55	0.55	<0.56	0.56	<0.57	0.57	<0.59	0.59	<0.58	0.58	<0.55	0.55	<0.65	0.65		
	4-Nitrophenol	100-02-7	~	~	~	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	Acenaphthene	83-32-9	98	100	500	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	Acenaphthylene	208-96-8	107	100	500	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	Acetophenone	98-86-2	~	~	~	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	Aniline	62-53-3	~	~	~	<0.34	0.34	<0.35	0.35	<0.35	0.35	<0.35	0.35	<0.36	0.36	<0.37	0.37	<0.36	0.36	<0.35	0.35	<0.4	0.4		
	Anthracene	120-12-7	1000	100	500	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	Benzo(a)anthracene	56-55-3	1	1	5.6	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	Benzidine	92-87-5	~	~	~	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	Benzo(a)pyrene	50-32-8	22	1	1	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	Benzo(b)fluoranthene	205-99-2	1.7	1	5.6	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	Benzo(g)hperylene	191-24-2	1000	100	500	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	Benzo(k)fluoranthene	207-08-9	1.7	3.9	56	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	Benzoic acid	65-85-0	~	~	~	<0.68	0.68	<0.71	0.71	<0.69	0.69	<0.7	0.7	<0.71	0.71	<0.74	0.74	<0.73	0.73	<0.69	0.69	<0.81	0.81		
	Benzyl butyl phthalate	85-68-7	~	~	~	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	Bis(2-chloroethoxy)methane	111-91-1	~	~	~	<0.24	0.24	<0.25	0.25	<0.24	0.24	<0.25	0.25	<0.25	0.25	<0.26	0.26	<0.25	0.25	<0.24	0.24	<0.28	0.28		
	Bis(2-chloroethyl)ether	111-44-4	~	~	~																				

Table 2
Semi-Volatile Organic Compounds in Soil (mg/Kg)
EPA Method: 8270

148-28 Hillside Avenue, Jamaica, NY11435

Sample ID Phenol ID Sampling Date Client Matrix	Compound	CAS Number	NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives	NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Residential	NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Commercial	RISB-10 (0-1) CM52565 10/5/22 SOIL		RISB-10 (1-2) CM52566 10/5/22 SOIL		RISB-10 (40-43) CM52567 10/5/22 SOIL		RISB-11 (2-3) CM48201 09/30/2022 SOIL		RISB-11 (3-4) CM48202 09/30/2022 SOIL		RISB-11 (48-50) CM48203 09/30/2022 SOIL		RISB-12 (0-1) CM48180 09/29/2022 SOIL		RISB-12 (1-2) CM48181 09/29/2022 SOIL		RISB-12 (31-33) CM48182 09/29/2022 SOIL			
						Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
						mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Semivolatiles 8270																									
Dilution Factor																									
1,2,4,5-Tetrachlorobenzene		95-94-3	~	~	~	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
1,2,4-Trichlorobenzene		120-82-1	~	~	~	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
1,2-Dichlorobenzene		95-50-1	1.1	100	500	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
1,2-Diphenylhydrazine		122-66-7	~	~	~	<0.36	0.36	<0.35	0.35	<0.37	0.37	<0.36	0.36	<0.37	0.37	<0.34	0.34	<0.35	0.35	<0.36	0.36	<0.35	0.35		
1,3-Dichlorobenzene		54-173-1	2.4	49	280	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
1,4-Dichlorobenzene		106-46-7	1.8	13	130	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
2,2'-Oxybis(1-Chloropropane)		108-60-1	~	~	~	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
2,4,5-Trichlorophenol		95-95-4	~	~	~	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
2,4,6-Trichlorophenol		88-06-2	~	~	~	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
2,4-Dichlorophenol		120-83-2	~	~	~	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
2,4-Dimethylphenol		105-67-9	~	~	~	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
2,4-Dinitrophenol		51-28-5	~	~	~	<0.36	0.36	<0.35	0.35	<0.37	0.37	<0.36	0.36	<0.37	0.37	<0.34	0.34	<0.35	0.35	<0.36	0.36	<0.35	0.35		
2,4-Dinitrotoluene		121-14-2	~	~	~	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
2,6-Dinitrotoluene		606-20-2	~	~	~	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
2-Chloronaphthalene		91-58-7	~	~	~	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
2-Chlorophenol		95-57-8	~	~	~	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
2-Methylnaphthalene		91-57-5	~	~	~	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
2-Methylphenol (o-cresol)		95-48-7	0.33	100	500	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
2-Nitroaniline		88-74-4	~	~	~	<0.36	0.36	<0.35	0.35	<0.37	0.37	<0.36	0.36	<0.37	0.37	<0.34	0.34	<0.35	0.35	<0.36	0.36	<0.35	0.35		
2-Nitrophenol		88-75-5	~	~	~	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
3&4-Methylphenol (m&p-cresol)	PHMX - M&P CRESOL		~	~	~	<0.36	0.36	<0.35	0.35	<0.37	0.37	<0.36	0.36	<0.37	0.37	<0.34	0.34	<0.35	0.35	<0.36	0.36	<0.35	0.35		
3,3'-Dichlorobenzidine		91-94-1	~	~	~	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
3-Nitroaniline		99-09-2	~	~	~	<0.36	0.36	<0.35	0.35	<0.37	0.37	<0.36	0.36	<0.37	0.37	<0.34	0.34	<0.35	0.35	<0.36	0.36	<0.35	0.35		
4,6-Dinitro-2-methylphenol		534-52-1	~	~	~	<0.36	0.36	<0.35	0.35	<0.37	0.37	<0.36	0.36	<0.37	0.37	<0.34	0.34	<0.35	0.35	<0.36	0.36	<0.35	0.35		
4-Bromophenyl phenyl ether		101-55-3	~	~	~	<0.36	0.36	<0.35	0.35	<0.37	0.37	<0.36	0.36	<0.37	0.37	<0.34	0.34	<0.35	0.35	<0.36	0.36	<0.35	0.35		
4-Chloro-3-methylphenol		59-50-7	~	~	~	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
4-Chloroaniline		106-47-8	~	~	~	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
4-Chlorophenyl phenyl ether		7005-72-3	~	~	~	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
4-Nitroaniline		100-01-6	~	~	~	<0.58	0.58	<0.55	0.55	<0.6	0.6	<0.57	0.57	<0.59	0.59	<0.54	0.54	<0.55	0.55	<0.57	0.57	<0.55	0.55		
4-Nitrophenol		100-02-7	~	~	~	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
Acenaphthene		83-32-9	98	100	500	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
Acenaphthylene		208-96-8	107	100	500	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
Acetophenone		98-86-2	~	~	~	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
Aniline		62-53-3	~	~	~	<0.36	0.36	<0.35	0.35	<0.37	0.37	<0.36	0.36	<0.37	0.37	<0.34	0.34	<0.35	0.35	<0.36	0.36	<0.35	0.35		
Anthracene		120-12-7	1000	100	500	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
Benzo(a)anthracene		56-55-3	1	1	5.6	<0.25	0.25	0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
Benidine		92-87-5	~	~	~	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
Benzo(a)pyrene		50-32-8	22	1	1	<0.25	0.25	0.32	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
Benzo(b)fluoranthene		205-99-2	1.7	1	5.6	<0.25	0.25	0.27	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
Benzo(g,h,i)perylene		191-24-2	1000	100	500	<0.25	0.25	0.21	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
Benzo(k)fluoranthene		207-08-9	1.7	3.9	56	<0.25	0.25	0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
Benzoic acid		65-85-0	~	~	~	<0.72	0.72	<0.69	0.69	<0.75	0.75	<0.71	0.71	<0.74	0.74	<0.67	0.67	<0.69	0.69	<0.72	0.72	<0.69	0.69		
Butyl phenyl phthalate		85-68-7	~	~	~	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<0.24	0.24		
Bis(2-chloroethoxy)methane		111-91-1	~	~	~	<0.25	0.25	<0.24	0.24	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.24	0.24	<0.24	0.24	<0.25	0.25	<			

Table 2
Semi-Volatile Organic Compounds in Soil (mg/Kg)
EPA Method: 8270

148-28 Hillside Avenue, Jamaica, NY11435

148-28 Hillside Avenue, Jamaica, NY 11435																								
Sample ID	NYSDEC Part 375		NYSDEC Part 375		NYSDEC Part 375		RISB-12 (33-35)		RISB-12 (50-52)		RISB-13 (0-1)		RISB-13 (1-2)		RISB-13 (48-50)		RISB-14 (0-1)		RISB-14 (1-2)		RISB-14 (40-42)		RISB-15 (0-1)	
Phenol ID	Restricted Use	Groundwater Soil	Soil Cleanup	Objectives-Residential	Objectives-Commercial	CM48183	09/29/2022	CM48184	09/29/2022	CM48189	09/30/2022	CM48199	09/30/2022	CM48200	09/30/2022	CM61839	10/7/22	CM61840	10/7/22	CM61841	10/7/22	CM61842	09/29/2022	
Sampling Date	Objectives	Objectives	Objectives	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	
Client Matrix	Compound	CAS Number		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		
	Semi-volatiles 8270																							
	Dilution Factor																							
	1,2,4,5-Tetrachlorobenzene	95-94-3	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	1,2,4-Trichlorobenzene	120-82-1	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	1,2-Dichlorobenzene	95-50-1	1.1	100	500	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	1,2-Diphenylhydrazine	122-66-7	~	~	~	<0.34	0.34	<0.38	0.38	<0.37	0.37	<0.37	0.37	<0.36	0.36	<0.37	0.37	<0.39	0.39	<0.37	0.37	<0.37	0.37	
	1,3-Dichlorobenzene	541-73-1	2.4	49	280	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	1,4-Dichlorobenzene	106-46-7	1.8	13	130	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	2,2'-Oxybis(1-Chloropropane)	108-60-1	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	2,4,5-Trichlorophenol	95-95-4	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	2,4,6-Trichlorophenol	88-06-2	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	2,4-Dichlorophenol	120-83-2	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	2,4-Dimethylphenol	105-67-9	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	2,4-Dinitrophenol	51-28-5	~	~	~	<0.34	0.34	<0.38	0.38	<0.37	0.37	<0.37	0.37	<0.36	0.36	<0.37	0.37	<0.39	0.39	<0.37	0.37	<0.37	0.37	
	2,4-Dinitrotoluene	121-14-2	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	2,6-Dinitrotoluene	606-20-2	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	2-Chloronaphthalene	91-58-7	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	2-Chlorophenol	95-57-8	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	2-Methylnaphthalene	91-57-6	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	2-Methylphenol (o-cresol)	95-48-7	0.33	100	500	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	2-Nitroaniline	88-74-4	~	~	~	<0.34	0.34	<0.38	0.38	<0.37	0.37	<0.37	0.37	<0.36	0.36	<0.37	0.37	<0.39	0.39	<0.37	0.37	<0.37	0.37	
	2-Nitrophenol	88-75-5	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	3,4-Methylphenol (m&p-cresol)	PHNX - M&P CRESOL	~	~	~	<0.34	0.34	<0.38	0.38	<0.37	0.37	<0.37	0.37	<0.36	0.36	<0.37	0.37	<0.39	0.39	<0.37	0.37	<0.37	0.37	
	3,3'-Dichlorobenzidine	91-94-1	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	3-Nitroaniline	99-09-2	~	~	~	<0.34	0.34	<0.38	0.38	<0.37	0.37	<0.37	0.37	<0.36	0.36	<0.37	0.37	<0.39	0.39	<0.37	0.37	<0.37	0.37	
	4,6-Dinitro-2-methylphenol	534-52-1	~	~	~	<0.34	0.34	<0.38	0.38	<0.37	0.37	<0.37	0.37	<0.36	0.36	<0.37	0.37	<0.39	0.39	<0.37	0.37	<0.37	0.37	
	4-Bromophenyl phenyl ether	101-55-3	~	~	~	<0.34	0.34	<0.38	0.38	<0.37	0.37	<0.37	0.37	<0.36	0.36	<0.37	0.37	<0.39	0.39	<0.37	0.37	<0.37	0.37	
	4-Chloro-3-methylphenol	59-50-7	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	4-Chloroaniline	106-47-8	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	4-Chlorophenyl phenyl ether	7005-72-3	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	4-Nitroaniline	100-01-6	~	~	~	<0.55	0.55	<0.6	0.6	<0.58	0.58	<0.6	0.6	<0.58	0.58	<0.59	0.59	<0.63	0.63	<0.6	0.6	<0.59	0.59	
	4-Nitrophenol	100-02-7	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	Acenaphthene	83-32-9	98	100	500	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	Acenaphthylene	208-96-8	107	100	500	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	Acetophenone	98-86-2	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	Aniline	62-53-3	~	~	~	<0.34	0.34	<0.38	0.38	<0.37	0.37	<0.37	0.37	<0.36	0.36	<0.37	0.37	<0.39	0.39	<0.37	0.37	<0.37	0.37	
	Anthracene	120-12-7	1000	100	500	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	Benzo(a)anthracene	56-55-3	1	1	5.6	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.27	0.27	0.35	0.28	<0.26	0.26	<0.26	0.26	
	Benzidine	92-87-5	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	Benzo(a)pyrene	50-32-8	22	1	1	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	0.39	0.28	<0.26	0.26	<0.26	0.26	
	Benzo(b)fluoranthene	205-99-2	1.7	1	5.6	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	0.35	0.28	<0.26	0.26	<0.26	0.26	
	Benzo(k)perylene	191-24-2	1000	100	500	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	0.28	0.28	<0.26	0.26	<0.26	0.26	
	Benzo(k)fluoranthene	207-08-9	1.7	3.9	56	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	0.31	0.28	<0.26	0.26	<0.26	0.26	
	Benzoic acid	65-85-0	~	~	~	<0.69	0.69	<0.75	0.75	<0.73	0.73	<0.75	0.75	<0.72	0.72	<0.74	0.74	<0.79	0.79	<0.75	0.75	<0.74	0.74	
	Benzyl butyl phthalate	85-68-7	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25	0.25	<0.26	0.26	<0.28	0.28	<0.26	0.26	<0.26	0.26	
	Bis(2-chloroethoxy)methane	111-91-1	~	~	~	<0.24	0.24	<0.26	0.26	<0.26	0.26	<0.26	0.26	<0.25										

Table 2
Semi-Volatile Organic Compounds in Soil (mg/Kg)
EPA Method: 8270

148-28 Hillside Avenue, Jamaica, NY11435

Sample ID Phenolix ID Sampling Date Client Matrix		NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives		NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Residential		NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Commercial		RISB-15 (1-2) CM48177 09/29/2022 SOIL		RISB-15 (44-45) CM48178 09/29/2022 SOIL		RISB-15 (50-52) CM48179 09/29/2022 SOIL		SB-16 (6-7) CM77059 11/2/22 SOIL	
Compound		CAS Number						Result	RL	Result	RL	Result	RL	Result	RL
Semivolatiles 8270								mg/Kg		mg/Kg		mg/Kg			
Dilution Factor															
1,2,4,5-Tetrachlorobenzene		95-94-3	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
1,2,4-Trichlorobenzene		120-82-1	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
1,2-Dichlorobenzene		95-50-1	1.1	100	500	500	500	<0.26	0.26	<0.23	0.23	<0.26	0.26	<1	1
1,2-Diphenylhydrazine		122-66-7	~	~	~	~	~	<0.37	0.37	<0.33	0.33	<0.37	0.37	<13	13
1,3-Dichlorobenzene		541-73-1	2.4	49	280	280	280	<0.26	0.26	<0.23	0.23	<0.26	0.26	<2.4	2.4
1,4-Dichlorobenzene		106-46-7	1.8	13	130	130	130	<0.26	0.26	<0.23	0.23	<0.26	0.26	<1.8	1.8
2,2'-Oxybis(1-Chloropropane)		108-60-1	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
2,4,5-Trichlorophenol		95-95-4	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
2,4,6-Trichlorophenol		88-06-2	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
2,4-Dichlorophenol		120-83-2	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
2,4-Dimethylphenol		105-67-9	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
2,4-Dinitrophenol		51-28-5	~	~	~	~	~	<0.37	0.37	<0.33	0.33	<0.37	0.37	<13	13
2,4-Dinitrotoluene		121-14-2	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
2,6-Dinitrotoluene		606-20-2	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
2-Chloronaphthalene		91-58-7	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
2-Chlorophenol		95-57-8	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
2-Methylnaphthalene		91-57-6	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	43	8.8
2-Methylphenol (o-cresol)		95-48-7	0.33	100	500	500	500	<0.26	0.26	<0.23	0.23	<0.26	0.26	<0.33	0.33
2-Nitroaniline		88-74-4	~	~	~	~	~	<0.37	0.37	<0.33	0.33	<0.37	0.37	<13	13
2-Nitrophenol		88-75-5	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
3&4-Methylphenol (m&p-cresol)		PHNX - M&P CRESOL	~	~	~	~	~	<0.37	0.37	<0.33	0.33	<0.37	0.37	<13	13
3,3'-Dichlorobenzidine		91-94-1	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
3-Nitroaniline		99-09-2	~	~	~	~	~	<0.37	0.37	<0.33	0.33	<0.37	0.37	<13	13
4,6-Dinitro-2-methylphenol		534-52-1	~	~	~	~	~	<0.37	0.37	<0.33	0.33	<0.37	0.37	<13	13
4-Bromophenyl phenyl ether		101-55-3	~	~	~	~	~	<0.37	0.37	<0.33	0.33	<0.37	0.37	<13	13
4-Chloro-3-methylphenol		59-50-7	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
4-Chloroaniline		106-47-8	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
4-Chlorophenyl phenyl ether		7005-72-3	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
4-Nitroaniline		100-01-6	~	~	~	~	~	<0.59	0.59	<0.53	0.53	<0.59	0.59	<20	20
4-Nitrophenol		100-02-7	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
Acenaphthene		83-32-9	98	100	500	500	500	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
Acenaphthylene		208-96-8	107	100	500	500	500	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
Acetophenone		98-86-2	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
Aniline		62-53-3	~	~	~	~	~	<0.37	0.37	<0.33	0.33	<0.37	0.37	<13	13
Anthracene		120-12-7	1000	100	500	500	500	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
Benzo[a]anthracene		56-55-3	1	1	5.6	5.6	5.6	<0.26	0.26	<0.23	0.23	<0.26	0.26	<1	1
Benzidine		92-87-5	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
Benzo[a]pyrene		50-32-8	22	1	1	1	1	<0.26	0.26	<0.23	0.23	<0.26	0.26	2.1	1
Benzo[b]fluoranthene		205-99-2	1.7	1	5.6	5.6	5.6	<0.26	0.26	<0.23	0.23	<0.26	0.26	<1	1
Benzo[ghi]perylene		191-24-2	1000	100	500	500	500	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
Benzo[k]fluoranthene		207-08-9	1.7	3.9	56	56	56	<0.26	0.26	<0.23	0.23	<0.26	0.26	<0.8	0.8
Benzoic acid		65-85-0	~	~	~	~	~	<0.73	0.73	<0.66	0.66	<0.74	0.74	<25	25
Benzyl butyl phthalate		85-68-7	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
Bis(2-chloroethoxy)methane		111-91-1	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
Bis(2-chloroethyl)ether		111-44-4	~	~	~	~	~	<0.37	0.37	<0.33	0.33	<0.37	0.37	<13	13
Bis(2-ethylhexyl)phthalate		117-81-7	~	~	~	~	~	<0.37	0.37	<0.33	0.33	<0.37	0.37	<13	13
Carbazole		86-74-8	~	~	~	~	~	<0.37	0.37	<0.33	0.33	<0.37	0.37	<13	13
Chrysene		218-01-9	1	3.9	56	56	56	<0.26	0.26	<0.23	0.23	<0.26	0.26	2.5	2.5
Di-n-butylphthalate		84-74-2	~	~	~	~	~	<0.37	0.37	<0.33	0.33	<0.37	0.37	<13	13
Di-n-octylphthalate		117-84-0	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
Dibenz[a,h]anthracene		53-70-3	1000	0.33	0.56	0.56	0.56	<0.26	0.26	<0.23	0.23	<0.26	0.26	<0.33	0.33
Dibenzofuran		132-64-9	210	59	350	350	350	<0.26	0.26	<0.23	0.23	<0.26	0.26	<7	7
Diethyl phthalate		84-66-2	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
Dimethylphthalate		131-11-3	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
Fluoranthene		206-44-0	1000	100	500	500	500	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
Fluorene		86-73-7	386	100	500	500	500	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
Hexachlorobenzene		118-74-1	3.2	1.2	6	6	6	<0.26	0.26	<0.23	0.23	<0.26	0.26	<0.33	0.33
Hexachlorobutadiene		87-68-3	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
Hexachlorocyclopentadiene		77-47-4	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
Hexachloroethane		67-72-1	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
Indeno(1,2,3-cd)pyrene		193-39-5	8.2	0.5	5.6	5.6	5.6	<0.26	0.26	<0.23	0.23	<0.26	0.26	<0.5	0.5
Isophorone		78-59-1	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
N-Nitrosodi-n-propylamine		621-64-7	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
N-Nitrosodimethylamine		62-75-9	~	~	~	~	~	<0.37	0.37	<0.33	0.33	<0.37	0.37	<13	13
N-Nitrosodiphenylamine		86-30-6	~	~	~	~	~	<0.37	0.37	<0.33	0.33	<0.37	0.37	<13	13
Naphthalene		91-20-3	12	100	500	500	500	<0.26	0.26	<0.23	0.23	<0.26	0.26	24	8.8
Nitrobenzene		98-95-3	~	~	~	~	~	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
Pentachloronitrobenzene		82-68-8	~	~	~	~	~	<0.37	0.37	<0.33	0.33	<0.37	0.37	<13	13
Pentachlorophenol		87-86-5	0.8	6.7	6.7	6.7	6.7	<0.37	0.37	<0.33	0.33	<0.37	0.37	<0.8	0.8
Phenanthrene		85-01-8	1000	100	500	500	500	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
Phenol		108-95-2	0.33	100	500	500	500	<0.26	0.26	<0.23	0.23	<0.26	0.26	<0.33	0.33
Pyrene		129-00-0	1000	100	500	500	500	<0.26	0.26	<0.23	0.23	<0.26	0.26	<8.8	8.8
Pyridine		110-86-1	~	~	~	~	~	<0.37	0.37	<0.33	0.33	<0.37	0.37	<13	13
1,4-Dioxane - SW8270D (SIM)								mg/Kg		mg/Kg		mg/Kg		mg/Kg	
1,4-dioxane		123-91-1	0.1	13	130	130	130	<0.067	0.067	<0.073	0.073	<0.073	0.073	<0.1	0.1
NOTES:															
Bold Value = Laboratory Detection															
Yellow Highlight = Exceedance of NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives															
Orange Highlight = Exceedance of NYSDEC Part 375 Restricted Use Soil Cleanup Objectives-Residential															
Red Highlight = NYSDEC Part 375 Restricted Use Soil Cleanup Objectives-Commercial															
RL is the Laboratory Reporting Limit															
~ = this indicates that no regulatory limit has been established for this analyte															

Table 3
PCBs Pesticides in Soil (mg/Kg)
EPA Method: 8082 8081
148-28 Hillside Avenue, Jamaica, NY11435

Sample ID Preliminary Sampling Date Client Matrix	Compound	CAS Number	NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives	NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Residential	NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Commercial	RISB-1 (D-1) CMW1842 10/7/22 SOIL		RISB-1 (D-2) CMW1843 10/7/22 SOIL		RISB-1 (D-3) CMW1844 10/7/22 SOIL		RISB-1 (D-4) CMW1837 10/7/22 SOIL		RISB-2 (D-1) CMW1838 10/7/22 SOIL		RISB-2 (D-2) CMW1838 10/7/22 SOIL		RISB-2 (D-3) CMW1838 10/7/22 SOIL		RISB-3 (D-1) CMW2568 10/5/2022 SOIL		RISB-3 (D-2) CMW2569 10/5/2022 SOIL		RISB-3 (D-3) CMW2570 10/5/2022 SOIL		RISB-4 (D-1) CMW4576 10/03/2022 SOIL		RISB-4 (D-2) CMW4577 10/03/2022 SOIL		RISB-4 (D-3) CMW4578 10/03/2022 SOIL		RISB-5 (D-1) CMW4579 09/30/2022 SOIL	
						Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Polychlorinated Biphenyls 8082																																	
Dilution Factor																																	
PCB-1016	12674-11-2	~	~	~	1	<0.079	0.079	<0.076	0.076	<0.073	0.073	<0.071	0.071	<0.076	0.076	<0.074	0.074	<0.069	0.069	<0.074	0.074	<0.067	0.067	<0.069	0.069	<0.37	0.37	<0.38	0.38	<0.41	0.41	<0.36	0.36
PCB-1221	11104-28-2	~	~	~	1	<0.079	0.079	<0.076	0.076	<0.073	0.073	<0.071	0.071	<0.076	0.076	<0.074	0.074	<0.069	0.069	<0.074	0.074	<0.067	0.067	<0.069	0.069	<0.37	0.37	<0.38	0.38	<0.41	0.41	<0.36	0.36
PCB-1232	11141-16-5	~	~	~	1	<0.079	0.079	<0.076	0.076	<0.073	0.073	<0.071	0.071	<0.076	0.076	<0.074	0.074	<0.069	0.069	<0.074	0.074	<0.067	0.067	<0.069	0.069	<0.37	0.37	<0.38	0.38	<0.41	0.41	<0.36	0.36
PCB-1242	53469-21-9	~	~	~	1	<0.079	0.079	<0.076	0.076	<0.073	0.073	<0.071	0.071	<0.076	0.076	<0.074	0.074	<0.069	0.069	<0.074	0.074	<0.067	0.067	<0.069	0.069	<0.37	0.37	<0.38	0.38	<0.41	0.41	<0.36	0.36
PCB-1248	12672-29-6	~	~	~	1	<0.079	0.079	<0.076	0.076	<0.073	0.073	<0.071	0.071	<0.076	0.076	<0.074	0.074	<0.069	0.069	<0.074	0.074	<0.067	0.067	<0.069	0.069	<0.37	0.37	<0.38	0.38	<0.41	0.41	<0.36	0.36
PCB-1254	11097-69-1	~	~	~	1	<0.079	0.079	<0.076	0.076	<0.073	0.073	<0.071	0.071	<0.076	0.076	<0.074	0.074	<0.069	0.069	<0.074	0.074	<0.067	0.067	<0.069	0.069	<0.37	0.37	<0.38	0.38	<0.41	0.41	<0.36	0.36
PCB-1260	11096-82-5	~	~	~	1	<0.079	0.079	<0.076	0.076	<0.073	0.073	<0.071	0.071	<0.076	0.076	<0.074	0.074	<0.069	0.069	<0.074	0.074	<0.067	0.067	<0.069	0.069	<0.37	0.37	<0.38	0.38	<0.41	0.41	<0.36	0.36
PCB-1262	37324-23-5	~	~	~	~	<0.079	0.079	<0.076	0.076	<0.073	0.073	<0.071	0.071	<0.076	0.076	<0.074	0.074	<0.069	0.069	<0.074	0.074	<0.067	0.067	<0.069	0.069	<0.37	0.37	<0.38	0.38	<0.41	0.41	<0.36	0.36
PCB-1268	11100-14-4	~	~	~	~	<0.079	0.079	<0.076	0.076	<0.073	0.073	<0.071	0.071	<0.076	0.076	<0.074	0.074	<0.069	0.069	<0.074	0.074	<0.067	0.067	<0.069	0.069	<0.37	0.37	<0.38	0.38	<0.41	0.41	<0.36	0.36
Pesticides - Soil - SW8081B																																	
Dilution Factor																																	
4,4'-DDD	72-54-8	14	13	92	<0.0024	0.0024	<0.0023	0.0023	<0.0022	0.0022	<0.0021	0.0021	<0.0023	0.0023	<0.0022	0.0022	<0.0021	0.0021	<0.0022	0.0022	<0.002	0.002	<0.0021	0.0021	<0.0022	0.0022	<0.0023	0.0023	<0.0025	0.0025	<0.0022	0.0022	
4,4'-DDE	72-55-9	17	8.9	62	0.0083	0.0024	0.0038	0.0023	<0.0022	0.0022	<0.0021	0.0021	<0.0023	0.0023	<0.0022	0.0022	<0.0021	0.0021	<0.0022	0.0022	<0.002	0.002	<0.0021	0.0021	<0.0022	0.0022	<0.0023	0.0023	<0.0025	0.0025	<0.0022	0.0022	
4,4'-DDT	50-29-3	136	7.9	47	0.014	0.0024	<0.0023	0.0023	<0.0022	0.0022	<0.0021	0.0021	<0.0023	0.0023	<0.0022	0.0022	<0.0021	0.0021	<0.0022	0.0022	<0.002	0.002	<0.0021	0.0021	<0.0022	0.0022	<0.0023	0.0023	<0.0025	0.0025	<0.0022	0.0022	
p-BHC	319-84-6	0.02	0.48	3.4	<0.0079	0.0079	<0.0076	0.0076	<0.0073	0.0073	<0.0071	0.0071	<0.0076	0.0076	<0.0074	0.0074	<0.0069	0.0069	<0.0074	0.0074	<0.0067	0.0067	<0.0069	0.0069	<0.0074	0.0074	<0.0076	0.0076	<0.0083	0.0083	<0.0072	0.0072	
a-Chlordane	5103-71-9	2.9	4.2	0.24	0.024	0.0039	<0.005	0.005	<0.0036	0.0036	<0.0036	0.0036	<0.0038	0.0038	<0.0037	0.0037	<0.0034	0.0034	<0.01	0.01	<0.0034	0.0034	<0.0035	0.0035	<0.0037	0.0037	<0.0038	0.0038	<0.0041	0.0041	0.017	0.0036	
Altrin	309-00-2	0.19	0.097	0.68	<0.0039	0.0039	<0.0038	0.0038	<0.0036	0.0036	<0.0036	0.0036	<0.0037	0.0037	<0.0034	0.0034	<0.0037	0.0037	<0.0034	0.0034	<0.0037	0.0037	<0.0035	0.0035	<0.0037	0.0037	<0.0038	0.0038	<0.0041	0.0041	<0.0036	0.0036	
b-BHC	319-85-7	0.09	0.36	3	<0.0079	0.0079	<0.0076	0.0076	<0.0073	0.0073	<0.0071	0.0071	<0.0076	0.0076	<0.0074	0.0074	<0.0069	0.0069	<0.0074	0.0074	<0.0067	0.0067	<0.0069	0.0069	<0.0074	0.0074	<0.0076	0.0076	<0.0083	0.0083	<0.0072	0.0072	
Chlordane	57-74-9	~	~	~	0.12	0.039	0.038	<0.036	0.036	<0.036	0.036	<0.038	0.038	<0.037	0.037	<0.034	0.034	<0.037	0.037	<0.034	0.034	<0.035	0.035	<0.037	0.037	<0.038	0.038	<0.041	0.041	0.076	0.036		
d-BHC	319-86-8	0.25	100	500	<0.0079	0.0079	<0.0076	0.0076	<0.0073	0.0073	<0.0071	0.0071	<0.0076	0.0076	<0.0074	0.0074	<0.0069	0.0069	<0.0074	0.0074	<0.0067	0.0067	<0.0069	0.0069	<0.0074	0.0074	<0.0076	0.0076	<0.0083	0.0083	<0.0072	0.0072	
Dieldrin	60-57-1	0.1	0.2	1.4	0.062	0.0039	<0.0038	0.0038	<0.0036	0.0036	<0.0036	0.0036	<0.0038	0.0038	<0.0037	0.0037	<0.0034	0.0034	<0.0037	0.0037	<0.0034	0.0034	<0.0035	0.0035	<0.0037	0.0037	<0.0038	0.0038	<0.0041	0.0041	<0.0036	0.0036	
Endosulfan I	959-88-8	102	24	200	<0.0079	0.0079	<0.0076	0.0076	<0.0073	0.0073	<0.0071	0.0071	<0.0076	0.0076	<0.0074	0.0074	<0.0069	0.0069	<0.0074	0.0074	<0.0067	0.0067	<0.0069	0.0069	<0.0074	0.0074	<0.0076	0.0076	<0.0083	0.0083	<0.0072	0.0072	
Endosulfan II	31211-65-9	102	24	200	<0.0079	0.0079	<0.0076	0.0076	<0.0073	0.0073	<0.0071	0.0071	<0.0076	0.0076	<0.0074	0.0074	<0.0069	0.0069	<0.0074	0.0074	<0.0067	0.0067	<0.0069	0.0069	<0.0074	0.0074	<0.0076	0.0076	<0.0083	0.0083	<0.0072	0.0072	
Endosulfan sulfate	1031-07-8	1000	24	200	<0.0079	0.0079	<0.0076	0.0076	<0.0073	0.0073	<0.0071	0.0071	<0.0076	0.0076	<0.0074	0.0074	<0.0069	0.0069	<0.0074	0.0074	<0.0067	0.0067	<0.0069	0.0069	<0.0074	0.0074	<0.0076	0.0076	<0.0083	0.0083	<0.0072	0.0072	
Endrin	72-20-8	0.06	11	89	<0.0079	0.0079	<0.0076	0.0076	<0.0073	0.0073	<0.0071	0.0071	<0.0076	0.0076	<0.0074	0.0074	<0.0069	0.0069	<0.0074	0.0074	<0.0067	0.0067	<0.0069	0.0069	<0.0074	0.0074	<0.0076	0.0076	<0.0083	0.0083	<0.0072	0.0072	
Endrin aldehyde	7421-93-4	~	~	~	<0.0079	0.0079	<0.0076	0.0076	<0.0073	0.0073	<0.0071	0.0071	<0.0076	0.0076	<0.0074	0.0074	<0.0069	0.0069	<0.0074	0.0074	<0.0067	0.0067	<0.0069	0.0069	<0.0074	0.0074	<0.0076	0.0076	<0.0083	0.0083	<0.0072	0.0072	
Endrin ketone	53494-70-5	~	~	~	<0.0079	0.0079	<0.0076	0.0076	<0.0073	0.0073	<0.0071	0.0071	<0.0076	0.0076	<0.0074	0.0074	<0.0069	0.0069	<0.0074	0.0074	<0.0067	0.0067	<0.0069	0.0069	<0.0074	0.0074	<0.0076	0.0076	<0.0083	0.0083	<0.0072	0.0072	
g-BHC	58-89-9	0.1	1.3	9.2	<0.0016	0.0016	<0.0015	0.0015	<0.0015	0.0015	<0.0014	0.0014	<0.0015	0.0015	<0.0015	0.0015	<0.0014	0.0014	<0.0015	0.0015	<0.0013	0.0013	<0.0014	0.0014	<0.0015	0.0015	<0.0015	0.0015	<0.0017	0.0017	<0.0014	0.0014	
h-Chlordane	5103-74-2	~	~	~	0.014	0.0039	<0.005	0.005	<0.0036	0.0036	<0.0036	0.0036	<0.0038	0.0038	<0.0037	0.0037	<0.0034	0.0034	<0.01	0.01	<0.0034	0.0034	<0.0035	0.0035	<0.0037	0.0037	<0.0038	0.0038	<0.0041	0.0041	<0.0036	0.0036	
Heptachlor	76-44-4	0.38	2.1	1.9	<0.0079	0.0079	<0.0076	0.0076	<0.0073	0.0073	<0.0071	0.0071	<0.0076	0.0076	<0.0074	0.0074	<0.0069	0.0069	<0.0074	0.0074	<0.0067	0.0067	<0.0069	0.0069	<0.0074	0.0074	<0.0076	0.0076	<0.0083	0.0083	<0.0072	0.0072	
Heptachlor epoxide	1024-53-5	~	~	~	<0.0079	0.0079	<0.0076	0.0076	<0.0073	0.0073	<0.0071	0.0071	<0.0076	0.0076	<0.0074	0.0074	<0.0069	0.0069	<0.0074	0.0074	<0.0067	0.0067	<0.0069	0.0069	<0.0074	0.0074	<0.0076	0.0076	<0.0083	0.0083	<0.0072	0.0072	
Heptachlorol	72-47-3	~	~	~	<0.039	0.039	<0.038	0.038	<0.036	0.036	<0.036	0.036	<0.038	0.038	<0.037	0.037	<0.034	0.034	<0.037	0.037	<0.034	0.034	<0.035	0.035	<0.037	0.037	<0.038	0.038	<0.041	0.041	<0.036	0.036	
Endrinol	8001-35-2	~	~	~	<0.14	0.14	<0.14	0.14	<0.14	0.14	<0.14	0.14	<0.14	0.14	<0.14	0.14	<0.14	0.14	<0.15	0.15													

Table 3
PCBs Pesticides in Soil (mg/Kg)
EPA Method: 8082 8081
148-28 Hillside Avenue, Jamaica, NY11435

Sample ID Preliminary Sampling Date Client Matrix	Compound	CAS Number	NYSDC Part 375 Protection of Groundwater Soil Cleanup Objectives	NYSDC Part 375 Restricted Use Soil Cleanup Objectives- Residential	NYSDC Part 375 Restricted Use Soil Cleanup Objectives- Commercial	R5B-5 (L-2) CMA48194 09/30/2022 SOIL		R5B-5 (40-43) CMA48195 09/30/2022 SOIL		R5B-5 (43-45) CMA48197 09/30/2022 SOIL		R5B-5 DUPLICATE CMA48197 09/30/2022 SOIL		R5B-6 (P-1) CMA48195 09/29/2022 SOIL		R5B-6 (L-2) CMA48196 09/29/2022 SOIL		R5B-6 (L5-17) CMA48197 09/29/2022 SOIL		R5B-6 (P7-18) CMA48198 09/29/2022 SOIL		R5B-6 (P8-40) CMA48199 09/29/2022 SOIL		R5B-6 (P9-52) CMA48196 09/29/2022 SOIL		R5B-7 (P-1) CMA48195 10/03/2022 SOIL		R5B-7 (L-2) CMA48194 10/03/2022 SOIL		R5B-7 (P8-40) CMA48195 10/03/2022 SOIL		R5B-8 (P-3) CMA48194 10/03/2022 SOIL					
						Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
						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		mg/kg		mg/kg		mg/kg	
Polychlorinated Biphenyls 8082																																					
Dilution Factor																																					
PCB-1016	12674-11-2	~	~	~	1	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.35	0.35	<0.36	0.36	<0.34	0.34	<0.35	0.35	<0.34	0.34	<0.37	0.37	<0.36	0.36	<0.35	0.35	<0.34	0.34	<0.076	0.076				
PCB-1221	11104-28-2	~	~	~	1	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.35	0.35	<0.36	0.36	<0.34	0.34	<0.35	0.35	<0.34	0.34	<0.37	0.37	<0.36	0.36	<0.35	0.35	<0.34	0.34	<0.076	0.076				
PCB-1232	11141-16-5	~	~	~	1	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.35	0.35	<0.36	0.36	<0.34	0.34	<0.35	0.35	<0.34	0.34	<0.37	0.37	<0.36	0.36	<0.35	0.35	<0.34	0.34	<0.076	0.076				
PCB-1242	53469-21-9	~	~	~	1	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.35	0.35	<0.36	0.36	<0.34	0.34	<0.35	0.35	<0.34	0.34	<0.37	0.37	<0.36	0.36	<0.35	0.35	<0.34	0.34	<0.076	0.076				
PCB-1248	12672-29-6	~	~	~	1	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.35	0.35	<0.36	0.36	<0.34	0.34	<0.35	0.35	<0.34	0.34	<0.37	0.37	<0.36	0.36	<0.35	0.35	<0.34	0.34	<0.076	0.076				
PCB-1254	11097-69-1	~	~	~	1	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.35	0.35	<0.36	0.36	<0.34	0.34	<0.35	0.35	<0.34	0.34	<0.37	0.37	<0.36	0.36	<0.35	0.35	<0.34	0.34	<0.076	0.076				
PCB-1260	11096-82-5	~	~	~	1	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.35	0.35	<0.36	0.36	<0.34	0.34	<0.35	0.35	<0.34	0.34	<0.37	0.37	<0.36	0.36	<0.35	0.35	<0.34	0.34	<0.076	0.076				
PCB-1262	37324-23-5	~	~	~	~	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.35	0.35	<0.36	0.36	<0.34	0.34	<0.35	0.35	<0.34	0.34	<0.37	0.37	<0.36	0.36	<0.35	0.35	<0.34	0.34	<0.076	0.076				
PCB-1268	11100-14-4	~	~	~	~	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.36	0.36	<0.35	0.35	<0.36	0.36	<0.34	0.34	<0.35	0.35	<0.34	0.34	<0.37	0.37	<0.36	0.36	<0.35	0.35	<0.34	0.34	<0.076	0.076				
Pesticides - Soil - SWB081B																																					
Dilution Factor																																					
4,4'-DDD	72-54-8	14	13	92	<0.0022	0.0022	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	0.0036	0.0021	0.02	0.02	<0.0022	0.0022	<0.0022	0.0022	<0.0022	0.0022	<0.0021	0.0021	<0.002	0.002	<0.0023	0.0023			
4,4'-DDE	72-55-9	17	8.9	62	<0.0022	0.0022	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	0.006	0.006	<0.0022	0.0022	<0.0022	0.0022	<0.0022	0.0022	<0.0021	0.0021	<0.002	0.002	<0.0023	0.0023			
4,4'-DDT	50-29-9	136	7.9	47	<0.0022	0.0022	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	0.006	0.006	<0.0022	0.0022	<0.0022	0.0022	<0.0022	0.0022	<0.0021	0.0021	<0.002	0.002	<0.0023	0.0023			
p-BHC	319-84-6	0.02	0.48	3.4	<0.0072	0.0072	<0.0071	0.0071	<0.0071	0.0071	<0.0071	0.0071	<0.0071	0.0071	<0.0071	0.0071	<0.0068	0.0068	<0.0069	0.0069	0.0067	0.0067	<0.0069	0.0069	<0.0067	0.0067	<0.0067	0.0067	<0.0068	0.0068	<0.0076	0.0076					
a-Chlordane	5103-71-9	2.9	4.2	24	0.014	0.0036	<0.0036	0.0036	<0.0036	0.0036	<0.0036	0.0036	<0.0035	0.0035	<0.0035	0.0035	<0.0034	0.0034	<0.0035	0.0035	<0.0034	0.0034	<0.0037	0.0037	0.58	0.036	0.04	0.0035	<0.0034	0.0034	0.024	0.0038					
Alarin	309-00-2	0.19	0.097	0.68	<0.0036	0.0036	<0.0036	0.0036	<0.0036	0.0036	<0.0036	0.0036	<0.0035	0.0035	<0.0035	0.0035	<0.0034	0.0034	<0.0035	0.0035	<0.0034	0.0034	<0.0037	0.0037	<0.0036	0.0036	<0.0035	0.0035	<0.0034	0.0034	<0.0038	0.0038					
β-BHC	319-85-7	0.09	0.36	3	<0.0072	0.0072	<0.0071	0.0071	<0.0071	0.0071	<0.0071	0.0071	<0.0071	0.0071	<0.0068	0.0068	<0.0069	0.0069	<0.0067	0.0067	<0.0067	0.0067	<0.0069	0.0069	<0.0073	0.0073	<0.0071	0.0071	<0.0068	0.0068	<0.0076	0.0076					
Chlordane	57-74-9	~	~	~	0.062	0.036	<0.036	0.036	<0.036	0.036	<0.036	0.036	<0.035	0.035	<0.035	0.035	<0.034	0.034	<0.035	0.035	<0.034	0.034	<0.037	0.037	2.3	0.36	0.15	0.035	<0.034	0.034	0.1	0.038					
δ-BHC	319-86-8	0.25	100	500	<0.0072	0.0072	<0.0071	0.0071	<0.0071	0.0071	<0.0071	0.0071	<0.0071	0.0071	<0.0067	0.0067	<0.0068	0.0068	<0.0069	0.0069	<0.0067	0.0067	<0.0074	0.0074	<0.0073	0.0073	<0.0071	0.0071	<0.0068	0.0068	<0.0076	0.0076					
Dieldrin	60-57-1	0.1	0.2	1.4	<0.0036	0.0036	<0.0036	0.0036	<0.0036	0.0036	<0.0036	0.0036	<0.0035	0.0035	<0.0035	0.0035	<0.0034	0.0034	<0.0035	0.0035	<0.0034	0.0034	<0.0037	0.0037	<0.0036	0.0036	<0.0035	0.0035	<0.0034	0.0034	<0.0038	0.0038					
Endosulfan I	959-98-8	102	24	200	<0.0072	0.0072	<0.0071	0.0071	<0.0071	0.0071	<0.0071	0.0071	<0.0071	0.0071	<0.0067	0.0067	<0.0068	0.0068	<0.0069	0.0069	<0.0067	0.0067	<0.0074	0.0074	<0.0073	0.0073	<0.0071	0.0071	<0.0068	0.0068	<0.0076	0.0076					
Endosulfan II	31211-65-9	102	24	200	<0.0072	0.0072	<0.0071	0.0071	<0.0071	0.0071	<0.0071	0.0071	<0.0071	0.0071	<0.0067	0.0067	<0.0068	0.0068	<0.0069	0.0069	<0.0067	0.0067	<0.0074	0.0074	<0.0073	0.0073	<0.0071	0.0071	<0.0068	0.0068	<0.0076	0.0076					
Endosulfan sulfate	1031-07-8	1000	24	200	<0.0072	0.0072	<0.0071	0.0071	<0.0071	0.0071	<0.0071	0.0071	<0.0071	0.0071	<0.0068	0.0068	<0.0069	0.0069	<0.0067	0.0067	<0.0067	0.0067	<0.0074	0.0074	<0.0073	0.0073	<0.0071	0.0071	<0.0068	0.0068	<0.0076	0.0076					
Endrin	72-20-8	0.06	11	89	<0.0072	0.0072	<0.0071	0.0071	<0.0071	0.0071	<0.0071	0.0071	<0.0071	0.0071	<0.0067	0.0067	<0.0068	0.0068	<0.0069	0.0069	<0.0067	0.0067	<0.0074	0.0074	<0.0073	0.0073	<0.0071	0.0071	<0.0068	0.0068	<0.0076	0.0076					
Endrin aldehyde	7421-93-4	~	~	~	<0.0072	0.0072	<0.0071	0.0071	<0.0071	0.0071	<0.0071	0.0071	<0.0071	0.0071	<0.0067	0.0067	<0.0068	0.0068	<0.0069	0.0069	<0.0067	0.0067	<0.0074	0.0074	<0.0073	0.0073	<0.0071	0.0071	<0.0068	0.0068	<0.0076	0.0076					
Endrin ketone	53494-70-5	~	~	~	<0.0072	0.0072	<0.0071	0.0071	<0.0071	0.0071	<0.0071	0.0071	<0.0071	0.0071	<0.0068	0.0068	<0.0069	0.0069	<0.0067	0.0067	<0.0067	0.0067	<0.0074	0.0074	<0.0073	0.0073	<0.0071	0.0071	<0.0068	0.0068	<0.0076	0.0076					
γ-BHC	58-89-9	0.1	1.3	9.2	<0.0014	0.0014	<0.0014	0.0014	<0.0014	0.0014	<0.0014	0.0014	<0.0014	0.0014	<0.0014	0.0014	<0.0014	0.0014	<0.0014	0.0014	<0.0014	0.0014	<0.0015	0.0015	<0.0015	0.0015	<0.0015	0.0015	<0.0014	0.0014	<0.0015	0.0015					
γ-Chlordane	5103-74-2	~	~	~	0.0077	0.0036	<0.0036	0.0036	<0.0036	0.0036	<0.0036	0.0036	<0.0035	0.0035	<0.0035	0.0035	<0.0034	0.0034	<0.0035	0.0035	<0.0034	0.0034	<0.0037	0.0037	0.42	0.036	0.024	0.0035	<0.0034	0.0034	0.011	0.0038					
Hepachlor	76-44-8	0.38	2.1	15	<0.0072	0.0072	<0.0071	0.0071	<0.0071	0.0071	<0.0072	0.0072	<0.0071	0.0071	<0.0067	0.0067	<0.0068	0.0068	<0.0069	0.0069	<0.0067	0.0067	<0.0074	0.0074	<0.0073	0.0073	<0.0071	0.0071	<0.0068	0.0068	<0.0076	0.0076					
Hepachlor epoxide	1020-57-3	~	~	~	<0.0072	0.0072	<0.0071	0.0071	<0.0071	0.0071	<0.0072	0.0072	<0.0071	0.0071	<0.0067	0.0067	<0.0068	0.0068	<0.0069	0.0069	<0.0067	0.0067	<0.0074	0.0074	<0.0073	0.0073	<0.0071	0.0071	<0.0068	0.0068	<0.0076	0.0076					
Heptachlor	72-43-5	~	~	~	<0.036	0.036	<0.036	0.036	<0.036	0.036	<0.036	0.036	<0.035	0.035	<0.035	0.035	<0.034	0.034	<0.035	0.035	<0.034	0.034	<0.037	0.037	<0.036	0.036	<0.035	0.035	<0.034	0.034	<0.038	0.038					
Heptachlor epoxide	8001-35-2	~	~	~	<0.14	0.14	<0.14	0.14	<0.14	0.14																											

Table 3
PCBs Pesticides in Soil (mg/Kg)
EPA Method: 8082 8081
148-28 Hillside Avenue, Jamaica, NY11435

Sample ID Previous ID Sampling Date Client Matrix	Compound	CAS Number	NYSDC Part 375 Protection of Groundwater Soil Cleanup Objectives	NYSDC Part 375 Restricted Use Soil Cleanup Objectives- Residential	NYSDC Part 375 Restricted Use Soil Cleanup Objectives- Commercial	RISR-8 (B-5) CMS0475 10/4/22 SOIL		RISR-8 (B-7) CMS0476 10/4/22 SOIL		RISR-8 (B-10) CMS0477 10/4/22 SOIL		RISR-8 (B-12) CMS0478 10/4/22 SOIL		RISR-8 (B-15) CMS0479 10/4/22 SOIL		RISR-8 (B-22) CMS0480 10/4/22 SOIL		RISR-8 (B-25) CMS0481 10/4/22 SOIL		RISR-8 (B-28) CMS0482 10/4/22 SOIL		RISR-8 (B-30) CMS0483 10/4/22 SOIL		RISR-8 (B-33) CMS0484 10/4/22 SOIL		RISR-8 (B-35) CMS0485 10/4/22 SOIL		RISR-8 (B-43) CMS0486 10/4/22 SOIL		RISR-8 DUPLICATE CMS0487 10/4/22 SOIL		RISR-9 (B-1) CMS1571 10/4/22 SOIL			
						Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Polychlorinated Biphenyls 8082																																			
Dilution Factor																																			
4,4'-DDD	72-54-8	14	13	92	~	<0.0023	0.0023	<0.0022	0.0022	<0.0021	0.0021	<0.0023	0.0023	<0.002	0.002	<0.0022	0.0022	<0.002	0.002	<0.0021	0.0021	<0.002	0.002	<0.0022	0.0022	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	<0.0022	0.0022
4,4'-DDE	72-55-9	17	8.9	62	~	<0.0023	0.0023	<0.0022	0.0022	<0.0021	0.0021	<0.0023	0.0023	<0.002	0.002	<0.0022	0.0022	<0.002	0.002	<0.0021	0.0021	<0.002	0.002	<0.0022	0.0022	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	<0.0022	0.0022
4,4'-DDT	50-29-9	136	7.9	47	~	<0.0023	0.0023	<0.0022	0.0022	<0.0021	0.0021	<0.0023	0.0023	<0.002	0.002	<0.0022	0.0022	<0.002	0.002	<0.0021	0.0021	<0.002	0.002	<0.0022	0.0022	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	<0.0022	0.0022
p-BHC	319-84-6	0.02	0.48	3.4	~	<0.0076	0.0076	<0.0072	0.0072	<0.0068	0.0068	<0.0077	0.0077	<0.0068	0.0068	<0.0073	0.0073	<0.0068	0.0068	<0.0069	0.0069	<0.0067	0.0067	<0.0072	0.0072	<0.0071	0.0071	<0.007	0.007	<0.007	0.007	<0.0074	0.0074		
a-Chlordane	5103-71-9	2.9	4.2	24	~	<0.0038	0.0038	<0.0036	0.0036	<0.0034	0.0034	<0.0039	0.0039	<0.0034	0.0034	<0.0036	0.0036	<0.0034	0.0034	<0.0034	0.0034	<0.0033	0.0033	<0.0036	0.0036	<0.0035	0.0035	<0.0035	0.0035	<0.0035	0.0035	<0.0037	0.0037		
Alarin	309-00-2	0.19	0.097	0.68	~	<0.0058	0.0058	<0.0036	0.0036	<0.0034	0.0034	<0.0039	0.0039	<0.0034	0.0034	<0.0036	0.0036	<0.0034	0.0034	<0.0034	0.0034	<0.0033	0.0033	<0.0036	0.0036	<0.0035	0.0035	<0.0035	0.0035	<0.0035	0.0035	<0.0037	0.0037		
b-BHC	319-85-7	0.09	0.36	3	~	<0.0076	0.0076	<0.0072	0.0072	<0.0068	0.0068	<0.0077	0.0077	<0.0068	0.0068	<0.0073	0.0073	<0.0068	0.0068	<0.0069	0.0069	<0.0067	0.0067	<0.0072	0.0072	<0.0071	0.0071	<0.007	0.007	<0.007	0.007	<0.0074	0.0074		
Chlordane	57-74-9	~	~	~	~	<0.038	0.038	<0.036	0.036	<0.034	0.034	<0.039	0.039	<0.034	0.034	<0.036	0.036	<0.034	0.034	<0.034	0.034	<0.033	0.033	<0.036	0.036	<0.035	0.035	<0.035	0.035	<0.035	0.035	<0.037	0.037		
d-BHC	319-86-8	0.25	100	500	~	<0.0076	0.0076	<0.0072	0.0072	<0.0068	0.0068	<0.0077	0.0077	<0.0068	0.0068	<0.0073	0.0073	<0.0068	0.0068	<0.0069	0.0069	<0.0067	0.0067	<0.0072	0.0072	<0.0071	0.0071	<0.007	0.007	<0.007	0.007	<0.0074	0.0074		
Dieldrin	60-57-1	0.1	0.2	1.4	~	<0.0038	0.0038	<0.0036	0.0036	<0.0034	0.0034	<0.0039	0.0039	<0.0034	0.0034	<0.0036	0.0036	<0.0034	0.0034	<0.0034	0.0034	<0.0033	0.0033	<0.0036	0.0036	<0.0035	0.0035	<0.0035	0.0035	<0.0035	0.0035	<0.0037	0.0037		
Endosulfan I	959-98-8	102	24	200	~	<0.0076	0.0076	<0.0072	0.0072	<0.0068	0.0068	<0.0077	0.0077	<0.0068	0.0068	<0.0073	0.0073	<0.0068	0.0068	<0.0069	0.0069	<0.0067	0.0067	<0.0072	0.0072	<0.0071	0.0071	<0.007	0.007	<0.007	0.007	<0.0074	0.0074		
Endosulfan II	31211-65-9	102	24	200	~	<0.0076	0.0076	<0.0072	0.0072	<0.0068	0.0068	<0.0077	0.0077	<0.0068	0.0068	<0.0073	0.0073	<0.0068	0.0068	<0.0069	0.0069	<0.0067	0.0067	<0.0072	0.0072	<0.0071	0.0071	<0.007	0.007	<0.007	0.007	<0.0074	0.0074		
Endosulfen sulfate	1031-07-8	1000	24	200	~	<0.0076	0.0076	<0.0072	0.0072	<0.0068	0.0068	<0.0077	0.0077	<0.0068	0.0068	<0.0073	0.0073	<0.0068	0.0068	<0.0069	0.0069	<0.0067	0.0067	<0.0072	0.0072	<0.0071	0.0071	<0.007	0.007	<0.007	0.007	<0.0074	0.0074		
Endrin	72-20-8	0.06	11	89	~	<0.0076	0.0076	<0.0072	0.0072	<0.0068	0.0068	<0.0077	0.0077	<0.0068	0.0068	<0.0073	0.0073	<0.0068	0.0068	<0.0069	0.0069	<0.0067	0.0067	<0.0072	0.0072	<0.0071	0.0071	<0.007	0.007	<0.007	0.007	<0.0074	0.0074		
Endrin aldehyde	7421-93-4	~	~	~	~	<0.0076	0.0076	<0.0072	0.0072	<0.0068	0.0068	<0.0077	0.0077	<0.0068	0.0068	<0.0073	0.0073	<0.0068	0.0068	<0.0069	0.0069	<0.0067	0.0067	<0.0072	0.0072	<0.0071	0.0071	<0.007	0.007	<0.007	0.007	<0.0074	0.0074		
Endrin ketone	53494-70-5	~	~	~	~	<0.0076	0.0076	<0.0072	0.0072	<0.0068	0.0068	<0.0077	0.0077	<0.0068	0.0068	<0.0073	0.0073	<0.0068	0.0068	<0.0069	0.0069	<0.0067	0.0067	<0.0072	0.0072	<0.0071	0.0071	<0.007	0.007	<0.007	0.007	<0.0074	0.0074		
g-BHC	58-89-9	0.1	1.3	9.2	~	<0.0015	0.0015	<0.0014	0.0014	<0.0014	0.0014	<0.0015	0.0015	<0.0014	0.0014	<0.0015	0.0015	<0.0014	0.0014	<0.0014	0.0014	<0.0013	0.0013	<0.0014	0.0014	<0.0014	0.0014	<0.0014	0.0014	<0.0015	0.0015	<0.0015	0.0015		
g-Chlordane	5103-74-2	~	~	~	~	<0.0038	0.0038	<0.0036	0.0036	<0.0034	0.0034	<0.0039	0.0039	<0.0034	0.0034	<0.0036	0.0036	<0.0034	0.0034	<0.0034	0.0034	<0.0033	0.0033	<0.0036	0.0036	<0.0035	0.0035	<0.0035	0.0035	<0.0035	0.0035	<0.0037	0.0037		
Heptachlor	76-44-4	0.38	2.1	15	~	<0.0076	0.0076	<0.0072	0.0072	<0.0068	0.0068	<0.0077	0.0077	<0.0068	0.0068	<0.0073	0.0073	<0.0068	0.0068	<0.0069	0.0069	<0.0067	0.0067	<0.0072	0.0072	<0.0071	0.0071	<0.007	0.007	<0.007	0.007	<0.0074	0.0074		
Heptachlor epoxide	72-73-3	~	~	~	~	<0.0076	0.0076	<0.0072	0.0072	<0.0068	0.0068	<0.0077	0.0077	<0.0068	0.0068	<0.0073	0.0073	<0.0068	0.0068	<0.0069	0.0069	<0.0067	0.0067	<0.0072	0.0072	<0.0071	0.0071	<0.007	0.007	<0.007	0.007	<0.0074	0.0074		
Heptachloroheptyl	72-45-3	~	~	~	~	<0.036	0.036	<0.034	0.034	<0.034	0.034	<0.039	0.039	<0.034	0.034	<0.036	0.036	<0.034	0.034	<0.034	0.034	<0.033	0.033	<0.036	0.036	<0.035	0.035	<0.035	0.035	<0.035	0.035	<0.037	0.037		
Toxaphene	8001-22-7	~	~	~	~	<0.15	0.15	<0.14	0.14	<0.14	0.14	<0.15	0.15	<0.14	0.14	<0.14	0.14	<0.14	0.14	<0.14	0.14	<0.13	0.13	<0.14	0.14	<0.14	0.14	<0.14	0.14	<0.14	0.14	<0.15	0.15		

Table 3
PCBs Pesticides in Soil (mg/Kg)
EPA Method: 8082 8081
148-28 Hillside Avenue, Jamaica, NY11435

Sample ID Preamble ID Sampling Date Client Matrix	Compound	CAS Number	NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives		NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Residential		NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Commercial		R5B-9 (E1-2) CM52572 10/5/22 SOIL		R5B-9 (E1-35) CM52573 10/5/22 SOIL		R5B-9 (E8-50) CM52574 10/5/22 SOIL		R5B-10 (E1-1) CM52565 10/5/22 SOIL		R5B-10 (E1-2) CM52566 10/5/22 SOIL		R5B-10 (E4-3) CM52567 10/5/22 SOIL		R5B-11 (E1-3) CM48201 09/26/2022 SOIL		R5B-11 (E1-4) CM48202 09/26/2022 SOIL		R5B-11 (E8-50) CM48203 09/26/2022 SOIL		R5B-12 (E1-1) CM48180 09/29/2022 SOIL		R5B-12 (E1-2) CM48181 09/29/2022 SOIL		R5B-12 (E1-3) CM48182 09/29/2022 SOIL		R5B-12 (E3-35) CM48183 09/29/2022 SOIL		R5B-12 (E5-52) CM48184 09/29/2022 SOIL	
			Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Polychlorinated Biphenyls 8082																																				
Dilution Factor																																				
PCB-1016	12674-11-2	~	~	1	<0.072	0.072	<0.069	0.069	<0.079	0.079	<0.073	0.073	<0.069	0.069	<0.076	0.076	<0.35	0.35	<0.37	0.37	<0.34	0.34	<0.35	0.35	<0.36	0.36	<0.34	0.34	<0.34	0.34	<0.38	0.38	<0.38	0.38		
PCB-1221	11104-28-2	~	~	1	<0.072	0.072	<0.069	0.069	<0.079	0.079	<0.073	0.073	<0.069	0.069	<0.076	0.076	<0.35	0.35	<0.37	0.37	<0.34	0.34	<0.35	0.35	<0.36	0.36	<0.34	0.34	<0.34	0.34	<0.38	0.38	<0.38	0.38		
PCB-1232	11141-16-5	~	~	~	<0.072	0.072	<0.069	0.069	<0.079	0.079	<0.073	0.073	<0.069	0.069	<0.076	0.076	<0.35	0.35	<0.37	0.37	<0.34	0.34	<0.35	0.35	<0.36	0.36	<0.34	0.34	<0.34	0.34	<0.38	0.38	<0.38	0.38		
PCB-1242	53469-21-9	~	~	~	<0.072	0.072	<0.069	0.069	<0.079	0.079	<0.073	0.073	<0.069	0.069	<0.076	0.076	<0.35	0.35	<0.37	0.37	<0.34	0.34	<0.35	0.35	<0.36	0.36	<0.34	0.34	<0.34	0.34	<0.38	0.38	<0.38	0.38		
PCB-1248	12672-29-6	~	~	1	<0.072	0.072	<0.069	0.069	<0.079	0.079	<0.073	0.073	<0.069	0.069	<0.076	0.076	<0.35	0.35	<0.37	0.37	<0.34	0.34	<0.35	0.35	<0.36	0.36	<0.34	0.34	<0.34	0.34	<0.38	0.38	<0.38	0.38		
PCB-1254	11097-69-1	~	~	1	<0.072	0.072	<0.069	0.069	<0.079	0.079	<0.073	0.073	<0.069	0.069	<0.076	0.076	<0.35	0.35	<0.37	0.37	<0.34	0.34	<0.35	0.35	<0.36	0.36	<0.34	0.34	<0.34	0.34	<0.38	0.38	<0.38	0.38		
PCB-1260	11098-82-5	~	~	1	<0.072	0.072	<0.069	0.069	<0.079	0.079	<0.073	0.073	<0.069	0.069	<0.076	0.076	<0.35	0.35	<0.37	0.37	<0.34	0.34	<0.35	0.35	<0.36	0.36	<0.34	0.34	<0.34	0.34	<0.38	0.38	<0.38	0.38		
PCB-1262	37324-23-5	~	~	~	<0.072	0.072	<0.069	0.069	<0.079	0.079	<0.073	0.073	<0.069	0.069	<0.076	0.076	<0.35	0.35	<0.37	0.37	<0.34	0.34	<0.35	0.35	<0.36	0.36	<0.34	0.34	<0.34	0.34	<0.38	0.38	<0.38	0.38		
PCB-1268	11100-14-4	~	~	~	<0.072	0.072	<0.069	0.069	<0.079	0.079	<0.073	0.073	<0.069	0.069	<0.076	0.076	<0.35	0.35	<0.37	0.37	<0.34	0.34	<0.35	0.35	<0.36	0.36	<0.34	0.34	<0.34	0.34	<0.38	0.38	<0.38	0.38		
Pesticides - Soil - SWB081B																																				
Dilution Factor																																				
4,4'-DDD	72-54-8	14	13	92	<0.0022	0.0022	<0.0021	0.0021	<0.0024	0.0024	<0.0022	0.0022	<0.0021	0.0021	<0.0023	0.0023	<0.0021	0.0021	<0.0022	0.0022	<0.0021	0.0021	<0.0022	0.0022	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	<0.0023	0.0023		
4,4'-DDE	72-55-9	17	8.9	62	<0.0022	0.0022	<0.0021	0.0021	<0.0024	0.0024	<0.0022	0.0022	<0.0021	0.0021	<0.0023	0.0023	<0.0021	0.0021	<0.0022	0.0022	<0.0021	0.0021	<0.0022	0.0022	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	<0.0023	0.0023		
4,4'-DDT	50-29-3	136	7.9	47	<0.0022	0.0022	<0.0021	0.0021	<0.0024	0.0024	<0.0022	0.0022	<0.0021	0.0021	<0.0023	0.0023	<0.0021	0.0021	<0.0022	0.0022	<0.0021	0.0021	<0.0022	0.0022	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	<0.0021	0.0021	<0.0023	0.0023		
p-BHC	319-84-6	0.02	0.48	3.4	<0.0072	0.0072	<0.0069	0.0069	<0.0079	0.0079	<0.0073	0.0073	<0.0069	0.0069	<0.0076	0.0076	<0.0071	0.0071	<0.0073	0.0073	<0.0068	0.0068	<0.0069	0.0069	<0.0071	0.0071	<0.0068	0.0068	<0.0069	0.0069	<0.0076	0.0076	<0.0076	0.0076		
α-Chlordane	5103-71-9	2.9	4.2	24	<0.0036	0.0036	<0.0035	0.0035	<0.0039	0.0039	<0.0036	0.0036	<0.0034	0.0034	<0.0038	0.0038	<0.0035	0.0035	<0.0037	0.0037	<0.0034	0.0034	0.018	0.0035	0.011	0.0036	<0.0034	0.0034	<0.0034	0.0034	<0.0038	0.0038	<0.0038	0.0038		
Alarin	309-00-2	0.19	0.097	0.68	<0.0056	0.0056	<0.0055	0.0055	<0.0059	0.0059	<0.0056	0.0056	<0.0054	0.0054	<0.0058	0.0058	<0.0055	0.0055	<0.0057	0.0057	<0.0054	0.0054	<0.0055	0.0055	<0.0056	0.0056	<0.0054	0.0054	<0.0054	0.0054	<0.0058	0.0058	<0.0058	0.0058		
β-BHC	319-85-7	0.09	0.36	3	<0.0072	0.0072	<0.0069	0.0069	<0.0079	0.0079	<0.0073	0.0073	<0.0069	0.0069	<0.0076	0.0076	<0.0071	0.0071	<0.0073	0.0073	<0.0068	0.0068	<0.0069	0.0069	<0.0071	0.0071	<0.0068	0.0068	<0.0069	0.0069	<0.0076	0.0076	<0.0076	0.0076		
Chlordane	57-74-9	~	~	~	<0.036	0.036	<0.035	0.035	<0.039	0.039	<0.036	0.036	<0.034	0.034	<0.038	0.038	<0.035	0.035	<0.037	0.037	<0.034	0.034	0.073	0.035	0.049	0.036	<0.034	0.034	<0.034	0.034	<0.038	0.038	<0.038	0.038		
δ-BHC	319-86-8	0.25	100	500	<0.0072	0.0072	<0.0069	0.0069	<0.0079	0.0079	<0.0073	0.0073	<0.0069	0.0069	<0.0076	0.0076	<0.0071	0.0071	<0.0073	0.0073	<0.0068	0.0068	<0.0069	0.0069	<0.0071	0.0071	<0.0068	0.0068	<0.0069	0.0069	<0.0076	0.0076	<0.0076	0.0076		
Dieldrin	60-57-1	0.1	0.2	1.4	<0.0036	0.0036	<0.0035	0.0035	<0.0039	0.0039	<0.0036	0.0036	<0.0034	0.0034	<0.0038	0.0038	<0.0035	0.0035	<0.0037	0.0037	<0.0034	0.0034	<0.0035	0.0035	<0.0036	0.0036	<0.0034	0.0034	<0.0034	0.0034	<0.0038	0.0038	<0.0038	0.0038		
Endosulfan I	959-88-8	102	24	200	<0.0072	0.0072	<0.0069	0.0069	<0.0079	0.0079	<0.0073	0.0073	<0.0069	0.0069	<0.0076	0.0076	<0.0071	0.0071	<0.0073	0.0073	<0.0068	0.0068	<0.0069	0.0069	<0.0071	0.0071	<0.0068	0.0068	<0.0069	0.0069	<0.0076	0.0076	<0.0076	0.0076		
Endosulfan II	31211-65-9	102	24	200	<0.0072	0.0072	<0.0069	0.0069	<0.0079	0.0079	<0.0073	0.0073	<0.0069	0.0069	<0.0076	0.0076	<0.0071	0.0071	<0.0073	0.0073	<0.0068	0.0068	<0.0069	0.0069	<0.0071	0.0071	<0.0068	0.0068	<0.0069	0.0069	<0.0076	0.0076	<0.0076	0.0076		
Endosulfan sulfate	1031-07-8	1000	24	200	<0.0072	0.0072	<0.0069	0.0069	<0.0079	0.0079	<0.0073	0.0073	<0.0069	0.0069	<0.0076	0.0076	<0.0071	0.0071	<0.0073	0.0073	<0.0068	0.0068	<0.0069	0.0069	<0.0071	0.0071	<0.0068	0.0068	<0.0069	0.0069	<0.0076	0.0076	<0.0076	0.0076		
Endrin	72-20-8	0.06	11	89	<0.0072	0.0072	<0.0069	0.0069	<0.0079	0.0079	<0.0073	0.0073	<0.0069	0.0069	<0.0076	0.0076	<0.0071	0.0071	<0.0073	0.0073	<0.0068	0.0068	<0.0069	0.0069	<0.0071	0.0071	<0.0068	0.0068	<0.0069	0.0069	<0.0076	0.0076	<0.0076	0.0076		
Endrin aldehyde	7421-93-4	~	~	~	<0.0072	0.0072	<0.0069	0.0069	<0.0079	0.0079	<0.0073	0.0073	<0.0069	0.0069	<0.0076	0.0076	<0.0071	0.0071	<0.0073	0.0073	<0.0068	0.0068	<0.0069	0.0069	<0.0071	0.0071	<0.0068	0.0068	<0.0069	0.0069	<0.0076	0.0076	<0.0076	0.0076		
Endrin ketone	53494-70-5	~	~	~	<0.0072	0.0072	<0.0069	0.0069	<0.0079	0.0079	<0.0073	0.0073	<0.0069	0.0069	<0.0076	0.0076	<0.0071	0.0071	<0.0073	0.0073	<0.0068	0.0068	<0.0069	0.0069	<0.0071	0.0071	<0.0068	0.0068	<0.0069	0.0069	<0.0076	0.0076	<0.0076	0.0076		
γ-BHC	58-89-9	0.1	1.3	9.2	<0.0014	0.0014	<0.0014	0.0014	<0.0016	0.0016	<0.0015	0.0015	<0.0014	0.0014	<0.0015	0.0015	<0.0014	0.0014	<0.0015	0.0015	<0.0014	0.0014	<0.0014	0.0014	<0.0014	0.0014	<0.0014	0.0014	<0.0014	0.0014	<0.0015	0.0015	<0.0015	0.0015		
γ-Chlordane	10130-24-2	~	~	~	<0.0036	0.0036	<0.0035	0.0035	<0.0039	0.0039	<0.0036	0.0036	<0.0034	0.0034	<0.0038	0.0038	<0.0035	0.0035	<0.0037	0.0037	<0.0034	0.0034	<0.0035	0.0035	<0.0036	0.0036	<0.0034	0.0034	<0.0034	0.0034	<0.0038	0.0038	<0.0038	0.0038		
Heptachlor	76-44-4	0.38	2.1	15	<0.0072	0.0072	<0.0069	0.0069	<0.0079	0.0079	<0.0073	0.0073	<0.0069	0.0069	<0.0076	0.0076	<0.0071	0.0071	<0.0073	0.0073	<0.0068	0.0068	<0.0069	0.0069	<0.0071	0.0071	<0.0068	0.0068	<0.0069	0.0069	<0.0076	0.0076	<0.0076	0.0076		
Heptachlor epoxide	1024-57-3	~	~	~	<0.0069	0.0069	<0.0069	0.0069	<0.0079	0.0079	<0.0073	0.0073	<0.0069	0.0069	<0.0076	0.0076	<0.0071	0.0071	<0.0073	0.0073	<0.0068	0.0068	<0.0069	0.0069	<0.0071	0.0071	<0.0068	0.0068	<0.0069	0.0069						

Table 3
PCBs Pesticides in Soil (mg/Kg)
EPA Method: 8082 8081
148-28 Hillside Avenue, Jamaica, NY11435

Sample ID		NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives		NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Residential		NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Commercial		RSB-13 (0-1) CMA4188 09/30/2022 SOIL		RSB-13 (1-2) CMA4189 09/30/2022 SOIL		RSB-13 (48-50) CMA4200 09/30/2022 SOIL		RSB-14 (0-1) CMA4189 10/7/22 SOIL		RSB-14 (1-2) CMA4180 10/7/22 SOIL		RSB-14 (40-42) CMA4141 10/7/22 SOIL		RSB-15 (0-1) CMA4176 09/29/2022 SOIL		RSB-15 (1-2) CMA4177 09/29/2022 SOIL		RSB-15 (44-45) CMA4178 09/29/2022 SOIL		RSB-15 (50-52) CMA4179 09/29/2022 SOIL		SB-16 (6-7) CMA7059 11/2/22 SOIL			
Compound	CAS Number	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
PolyChlorinated Biphenyls 8082																															
Dilution Factor																															
PCB-1016	12674-11-2	~	~	1	1	<0.36	0.36	<0.37	0.37	<0.35	0.35	<0.074	0.074	<0.079	0.079	<0.074	0.074	<0.37	0.37	<0.36	0.36	<0.33	0.33	<0.37	0.37	<0.33	0.33	<0.37	0.37	<0.1	0.1
PCB-1221	11104-28-2	~	~	1	1	<0.36	0.36	<0.37	0.37	<0.35	0.35	<0.074	0.074	<0.079	0.079	<0.074	0.074	<0.37	0.37	<0.36	0.36	<0.33	0.33	<0.37	0.37	<0.33	0.33	<0.37	0.37	<0.1	0.1
PCB-1232	11141-16-5	~	~	~	~	<0.36	0.36	<0.37	0.37	<0.35	0.35	<0.074	0.074	<0.079	0.079	<0.074	0.074	<0.37	0.37	<0.36	0.36	<0.33	0.33	<0.37	0.37	<0.33	0.33	<0.37	0.37	<0.1	0.1
PCB-1242	53469-21-9	~	~	~	~	<0.36	0.36	<0.37	0.37	<0.35	0.35	<0.074	0.074	<0.079	0.079	<0.074	0.074	<0.37	0.37	<0.36	0.36	<0.33	0.33	<0.37	0.37	<0.33	0.33	<0.37	0.37	<0.1	0.1
PCB-1248	12672-29-6	~	~	1	1	<0.36	0.36	<0.37	0.37	<0.35	0.35	<0.074	0.074	<0.079	0.079	<0.074	0.074	<0.37	0.37	<0.36	0.36	<0.33	0.33	<0.37	0.37	<0.33	0.33	<0.37	0.37	<0.1	0.1
PCB-1254	11097-69-1	~	~	1	1	<0.36	0.36	<0.37	0.37	<0.35	0.35	<0.074	0.074	<0.079	0.079	<0.074	0.074	<0.37	0.37	<0.36	0.36	<0.33	0.33	<0.37	0.37	<0.33	0.33	<0.37	0.37	<0.1	0.1
PCB-1260	11096-82-5	~	~	1	1	<0.36	0.36	<0.37	0.37	<0.35	0.35	<0.074	0.074	<0.079	0.079	<0.074	0.074	<0.37	0.37	<0.36	0.36	<0.33	0.33	<0.37	0.37	<0.33	0.33	<0.37	0.37	<0.1	0.1
PCB-1262	37324-23-5	~	~	~	~	<0.36	0.36	<0.37	0.37	<0.35	0.35	<0.074	0.074	<0.079	0.079	<0.074	0.074	<0.37	0.37	<0.36	0.36	<0.33	0.33	<0.37	0.37	<0.33	0.33	<0.37	0.37	<0.1	0.1
PCB-1268	11100-14-4	~	~	~	~	<0.36	0.36	<0.37	0.37	<0.35	0.35	<0.074	0.074	<0.079	0.079	<0.074	0.074	<0.37	0.37	<0.36	0.36	<0.33	0.33	<0.37	0.37	<0.33	0.33	<0.37	0.37	<0.1	0.1
Pesticides - Soil - SWB081B																															
Dilution Factor																															
4,4'-DDD	72-54-8	14	13	92	92	<0.0022	0.0022	<0.0022	0.0022	<0.0021	0.0021	<0.0022	0.0022	<0.0024	0.0024	<0.0022	0.0022	<0.0022	0.0022	<0.0022	0.0022	<0.0022	0.0022	<0.0022	0.0022	<0.0022	0.0022	<0.0022	0.0022	<0.0033	0.0033
4,4'-DDE	72-55-9	17	8.9	62	62	<0.0022	0.0022	<0.0022	0.0022	<0.0021	0.0021	<0.0022	0.0022	<0.0024	0.0024	<0.0022	0.0022	<0.0022	0.0022	<0.0022	0.0022	<0.0022	0.0022	<0.0022	0.0022	<0.0022	0.0022	<0.0022	0.0022	<0.0033	0.0033
4,4'-DDT	50-29-3	136	7.9	47	47	<0.0022	0.0022	<0.0022	0.0022	<0.0021	0.0021	<0.0022	0.0022	<0.0024	0.0024	<0.0022	0.0022	<0.0022	0.0022	<0.0022	0.0022	<0.0022	0.0022	<0.0022	0.0022	<0.0022	0.0022	<0.0022	0.0022	<0.0033	0.0033
p-BHC	319-84-6	0.02	0.48	3.4	3.4	<0.0073	0.0073	<0.0074	0.0074	<0.0071	0.0071	<0.0074	0.0074	<0.0079	0.0079	<0.0074	0.0074	<0.0073	0.0073	<0.0067	0.0067	<0.0073	0.0073	<0.0067	0.0067	<0.0073	0.0073	<0.0067	0.0067	<0.02	0.02
a-Chlordane	5103-71-9	2.9	4.2	24	24	<0.0036	0.0036	<0.01	0.01	<0.0035	0.0035	<0.0037	0.0037	<0.0039	0.0039	<0.0037	0.0037	<0.0039	0.0039	<0.0037	0.0037	<0.0039	0.0039	<0.0037	0.0037	<0.0039	0.0039	<0.0037	0.0037	<0.022	0.022
Alrin	309-00-2	0.19	0.097	0.68	0.68	<0.0036	0.0036	<0.0037	0.0037	<0.0035	0.0035	<0.0037	0.0037	<0.0039	0.0039	<0.0037	0.0037	<0.0039	0.0039	<0.0037	0.0037	<0.0039	0.0039	<0.0037	0.0037	<0.0039	0.0039	<0.0037	0.0037	<0.005	0.005
b-BHC	319-85-7	0.09	0.36	3	3	<0.0073	0.0073	<0.0074	0.0074	<0.0071	0.0071	<0.0074	0.0074	<0.0079	0.0079	<0.0074	0.0074	<0.0073	0.0073	<0.0067	0.0067	<0.0073	0.0073	<0.0067	0.0067	<0.0073	0.0073	<0.0067	0.0067	<0.004	0.004
Chlordane	57-74-9	~	~	~	~	<0.036	0.036	<0.037	0.037	<0.035	0.035	<0.037	0.037	<0.039	0.039	<0.037	0.037	<0.039	0.039	<0.037	0.037	<0.039	0.039	<0.037	0.037	<0.039	0.039	<0.037	0.037	<0.1	0.1
d-BHC	319-86-8	0.25	100	500	500	<0.0073	0.0073	<0.0074	0.0074	<0.0071	0.0071	<0.0074	0.0074	<0.0079	0.0079	<0.0074	0.0074	<0.0073	0.0073	<0.0067	0.0067	<0.0073	0.0073	<0.0067	0.0067	<0.0073	0.0073	<0.0067	0.0067	<0.005	0.005
Dieldrin	60-57-1	0.1	1.4	1.4	1.4	<0.0036	0.0036	<0.0037	0.0037	<0.0035	0.0035	<0.0037	0.0037	<0.0039	0.0039	<0.0037	0.0037	<0.0039	0.0039	<0.0037	0.0037	<0.0039	0.0039	<0.0037	0.0037	<0.0039	0.0039	<0.0037	0.0037	<0.005	0.005
Endosulfan I	959-98-8	102	24	200	200	<0.0073	0.0073	<0.0074	0.0074	<0.0071	0.0071	<0.0074	0.0074	<0.0079	0.0079	<0.0074	0.0074	<0.0073	0.0073	<0.0067	0.0067	<0.0073	0.0073	<0.0067	0.0067	<0.0073	0.0073	<0.0067	0.0067	<0.025	0.025
Endosulfan II	31211-65-9	102	24	200	200	<0.0073	0.0073	<0.0074	0.0074	<0.0071	0.0071	<0.0074	0.0074	<0.0079	0.0079	<0.0074	0.0074	<0.0073	0.0073	<0.0067	0.0067	<0.0073	0.0073	<0.0067	0.0067	<0.0073	0.0073	<0.0067	0.0067	<0.025	0.025
Endosulfen sulfate	1031-07-8	1000	24	200	200	<0.0073	0.0073	<0.0074	0.0074	<0.0071	0.0071	<0.0074	0.0074	<0.0079	0.0079	<0.0074	0.0074	<0.0073	0.0073	<0.0067	0.0067	<0.0073	0.0073	<0.0067	0.0067	<0.0073	0.0073	<0.0067	0.0067	<0.025	0.025
Endrin	72-20-8	0.06	11	89	89	<0.0073	0.0073	<0.0074	0.0074	<0.0071	0.0071	<0.0074	0.0074	<0.0079	0.0079	<0.0074	0.0074	<0.0073	0.0073	<0.0067	0.0067	<0.0073	0.0073	<0.0067	0.0067	<0.0073	0.0073	<0.0067	0.0067	<0.014	0.014
Endrin aldehyde	7421-93-4	~	~	~	~	<0.0073	0.0073	<0.0074	0.0074	<0.0071	0.0071	<0.0074	0.0074	<0.0079	0.0079	<0.0074	0.0074	<0.0073	0.0073	<0.0067	0.0067	<0.0073	0.0073	<0.0067	0.0067	<0.0073	0.0073	<0.0067	0.0067	<0.013	0.013
Endrin ketone	53494-70-5	~	~	~	~	<0.0073	0.0073	<0.0074	0.0074	<0.0071	0.0071	<0.0074	0.0074	<0.0079	0.0079	<0.0074	0.0074	<0.0073	0.0073	<0.0067	0.0067	<0.0073	0.0073	<0.0067	0.0067	<0.0073	0.0073	<0.0067	0.0067	<0.013	0.013
g-BHC	58-89-9	0.1	1.3	9.2	9.2	<0.0015	0.0015	<0.0015	0.0015	<0.0014	0.0014	<0.0015	0.0015	<0.0016	0.0016	<0.0015	0.0015	<0.0015	0.0015	<0.0015	0.0015	<0.0015	0.0015	<0.0015	0.0015	<0.0015	0.0015	<0.0015	0.0015	<0.005	0.005
h-Chlordane	5103-74-2	~	~	~	~	<0.0036	0.0036	<0.01	0.01	<0.0035	0.0035	<0.0037	0.0037	<0.0039	0.0039	<0.0037	0.0037	<0.0039	0.0039	<0.0037	0.0037	<0.0039	0.0039	<0.0037	0.0037	<0.0039	0.0039	<0.0037	0.0037	<0.013	0.013
Hepachlor	76-44-8	0.38	2.1	15	15	<0.0073	0.0073	<0.0074	0.0074	<0.0071	0.0071	<0.0074	0.0074	<0.0079	0.0079	<0.0074	0.0074	<0.0073	0.0073	<0.0067	0.0067	<0.0073	0.0073	<0.0067	0.0067	<0.0073	0.0073	<0.0067	0.0067	<0.04	0.04
Hepachlor epoxide	1024-57-3	~	~	~	~	<0.0073	0.0073	<0.0074	0.0074	<0.0071	0.0071	<0.0074	0.0074	<0.0079	0.0079	<0.0074	0.0074	<0.0073	0.0073	<0.0067	0.0067	<0.0073	0.0073	<0.0067	0.0067	<0.0073	0.0073	<0.0067	0.0067	<0.04	0.04
Methoxychlor	72-43-5	~	~	~	~	<0.036	0.036	<0.037	0.037	<0.035	0.035	<0.037	0.037	<0.039	0.039	<0.037	0.037	<0.039	0.039	<0.037	0.037	<0.039	0.039	<0.037	0.037	<0.039	0.039	<0.037	0.037	<0.1	0.1
Toxaphene	8001-35-2	~	~	~	~	<0.15	0.15	<0.15	0.15	<0.14	0.14	<0.15	0.15	<0.16	0.16	<0.15	0.15	<0.15	0.15	<0.15	0.15	<0.15	0.15	<0.15	0.15	<0.15	0.15	<0.15	0.15	<0.5	0.5
NOTE:																															
Bold Value = Laboratory Detection																															
Underline Highlight = Exceedance of NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives																															
Green Highlight = Exceedance of NYSDEC Part 375 Restricted Use Soil Cleanup Objectives-Residential																															
Red Highlight = NYSDEC Part 375 Restricted Use Soil Cleanup Objectives-Commercial																															
RL is the Laboratory Reporting Limit																															
~this indicates that no regulatory limit has been established for this analyte																															

NOTES:
Bold Value = Laboratory Detection
Yellow Highlight = Exceedance of NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives
Orange Highlight = Exceedance of NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Residential
Red Highlight = NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Commercial
RL is the Laboratory Reporting Limit
~ = this indicates that no regulatory limit has been established for this analyte

Table 4
Metals in Soil (mg/Kg)
 EPA Method: 6010
 148-28 Hillside Avenue, Jamaica, NY11435

Sample ID	NYSDEC Part 375		NYSDEC Part 375		NYSDEC Part 375		RISB-1 (B-1)		RISB-1 (B-2)		RISB-1 (B0-35)		RISB-1 (B0-42)		RISB-2 (B-1)		RISB-2 (B-2)		RISB-2 (B5-40)		RISB-3 (B-1)		RISB-3 (2-4)		RISB-3 (43-45)		RISB-4 (1-2)		RISB-4 (2-3)		RISB-4 (B0-42)		RISB-5 (B-1)	
Phenolic ID	Protection of		Restricted Use		Restricted Use		CMR1842		CMR1843		CMR1844		CMR1845		CMR1836		CMR1837		CMR1838		CMR1839		CMR1839		CMR1839		CMR1839		CMR1839		CMR1839		CMR1839	
Sampling Date	Groundwater Soil		Soil Cleanup		Soil Cleanup		10/7/22		10/7/22		10/7/22		10/7/22		10/5/2022		10/5/2022		10/5/2022		10/5/2022		10/5/2022		10/5/2022		10/03/2022		10/03/2022		09/30/2022			
Client Matrix	Compound	CAS Number	Objectives	Objectives	Objectives	Objectives	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Metals Total							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		mg/Kg	
Dilution Factor																																		
Aluminum	7429-90-5	-	-	-	-	-	11,900	59	13,300	54	3,410	54	3,260	53	11,000	60	6,460	59	2,950	51	8,130	59	5,930	50	9,070	51	8600	55	8310	58	2760	58	11400	58
Antimony	7440-36-0	-	-	-	-	-	<3.9	3.9	<3.6	3.6	<3.6	3.6	<3.5	3.5	<4.0	4.0	<4.0	4.0	<3.4	3.4	<3.9	3.9	<3.3	3.3	<3.4	3.4	<3.6	3.6	<3.8	3.8	<3.9	3.9	<3.9	3.9
Arsenic	7440-38-2	16	16	16	16	5.02	0.78	4.61	0.72	<0.72	0.72	<0.71	0.71	2.18	0.80	11.4	0.79	6.82	0.68	1.72	0.79	2.49	0.66	3.39	0.68	12.7	0.73	12.8	0.77	<0.77	0.77	6.63	0.77	
Barium	7440-39-3	820	400	400	400	96.4	0.39	108	0.36	21.5	0.36	20.9	0.35	55.1	0.40	264	0.40	21.1	0.34	44.6	0.39	35.3	0.33	58.6	0.34	123	0.36	117	0.38	17.5	0.39	71.1	0.39	
Beryllium	7440-41-7	47	72	590	590	0.7	0.31	0.72	0.29	<0.29	0.29	<0.28	0.28	0.57	0.32	0.56	0.32	<0.27	0.27	0.32	0.31	0.27	0.26	0.31	0.27	0.37	0.29	0.36	0.31	<0.31	0.31	0.49	0.31	
Cadmium	7440-43-9	7.5	4.3	9.3	9.3	0.83	0.39	0.86	0.36	<0.36	0.36	<0.35	0.35	0.56	0.40	3.44	0.40	0.36	0.34	0.62	0.39	0.84	0.33	1.3	0.34	1.59	0.36	1.25	0.38	0.48	0.39	<0.39	0.39	
Calcium	7440-70-2	-	-	-	-	4,130	5.9	7,150	5.4	1,100	5.4	1,020	5.3	1,640	6.0	21,000	59	7,870	5.1	2,720	5.9	33,800	50	3,510	5.1	29000	55	30600	58	2000	5.8	4110	5.8	
Chromium	7440-47-3	-	-	-	-	24.5	0.39	23	0.36	27.2	0.36	12.1	0.35	26.5	0.40	17.8	0.40	29.9	0.34	16.6	0.39	12.2	0.33	20.5	0.34	16	0.36	13.4	0.38	9.36	0.39	39.9	0.39	
Cobalt	7440-48-4	-	-	-	-	8.92	0.39	10.6	0.36	3.88	0.36	3.45	0.35	8.5	0.40	6.39	0.40	11.4	0.34	5.64	0.39	4.32	0.33	10.1	0.34	5.79	0.36	6.27	0.38	3.3	0.39	7.13	0.39	
Copper	7440-50-8	1720	270	270	270	32.5	0.8	57.1	0.7	11.6	0.7	8.9	0.7	20	0.8	145	0.8	12.9	0.7	14.2	0.8	14.6	0.7	80.3	0.7	28.4	0.7	34.6	0.8	9	0.8	22.8	0.8	
Iron	7439-89-6	-	-	-	-	19,500	59	22,600	54	14,700	54	13,700	53	16,800	60	16,500	59	16,900	51	12,600	59	14,100	50	34,100	51	15600	55	15400	58	12300	58	18200	58	
Lead	7439-92-1	450	400	1000	1000	112	0.39	146	0.36	2.54	0.36	2.36	0.35	32.8	0.40	658	4.0	6.02	0.34	30.8	0.39	54.6	0.33	5.37	0.34	145	0.36	147	0.38	6.37	0.39	98.1	0.39	
Magnesium	7439-95-4	-	-	-	-	3,910	5.9	3,480	5.4	1,800	5.4	1,300	5.3	2,690	6.0	8,000	59	4,710	5.1	2,470	5.9	12,500	50	3,090	5.1	8270	55	9930	58	1440	5.8	2910	5.8	
Manganese	7439-96-5	2000	2000	10000	10000	441	1.9	500	1.8	244	1.8	177	1.5	217	4.0	284	4.0	222	1.4	216	1.9	263	1.3	472	1.4	246	1.4	248	1.8	206	1.9	276	1.9	
Mercury	7439-97-6	0.73	0.81	2.8	2.8	0.07	0.03	0.08	0.03	<0.03	0.03	<0.03	0.03	0.06	0.03	0.2	0.03	0.03	0.03	0.04	0.03	0.04	0.03	<0.03	0.03	0.09	0.03	0.06	0.03	<0.03	0.03	0.23	0.03	
Nickel	7440-02-0	130	310	310	310	23.4	0.39	29	0.36	9.3	0.36	7.69	0.35	16	0.40	18.9	0.40	7.82	0.34	11.9	0.39	10.9	0.33	15.7	0.34	11.3	0.36	12.7	0.38	7.03	0.39	15.4	0.39	
Potassium	7440-09-7	-	-	-	-	1,110	5.9	1,010	5.4	571	5.4	683	5.3	1,250	6.0	761	5.9	442	5.1	818	5.9	570	5.0	1,260	5.1	665	5.5	843	5.8	408	5.8	970	5.8	
Selenium	7782-49-2	4	180	1500	1500	<1.6	1.6	<1.4	1.4	<1.4	1.4	<1.4	1.4	<1.6	1.6	<1.6	1.6	<1.4	1.4	<1.6	1.6	<1.3	1.3	<1.4	1.4	<1.5	1.5	<1.5	1.5	<1.5	1.5	<1.5	1.5	
Silver	7440-22-4	8.3	180	1500	1500	<0.39	0.39	<0.36	0.36	<0.35	0.35	<0.40	0.40	<0.40	0.40	<0.40	0.40	<0.34	0.34	<0.33	0.33	<0.34	0.34	<0.36	0.36	<0.38	0.38	<0.39	0.39	<0.39	0.39	<0.39	0.39	
Sodium	7440-23-5	-	-	-	-	92.1	5.9	95	5.4	249	5.4	147	5.3	153	6.0	207	5.9	229	5.1	61.3	5.9	98	5.0	580	5.1	309	5.5	441	5.8	88.4	5.8	90.5	5.8	
Thallium	7440-28-0	-	-	-	-	<3.5	3.5	<3.2	3.2	<3.2	3.2	<3.2	3.2	<3.6	3.6	<3.6	3.6	<3.1	3.1	<3.5	3.5	<3.0	3.0	<3.1	3.1	<3.3	3.3	<3.5	3.5	<3.5	3.5	<3.5	3.5	
Vanadium	7440-62-2	-	-	-	-	35.3	0.39	33.5	0.36	13.9	0.39	19.4	0.35	38.7	0.40	23.3	0.40	14.8	0.34	22.6	0.39	15.7	0.33	43.7	0.34	20.9	0.36	23.5	0.38	17	0.39	28.5	0.39	
Zinc	7440-66-6	2480	10000	10000	10000	195	0.8	119	0.7	13.3	0.7	13.1	0.7	47.4	0.8	356	7.9	12.3	0.7	51.8	0.8	111	0.7	38.9	0.7	557	7.3	670	7.7	81.4	0.8	78	0.8	

NOTES:
 Bold Value = Laboratory Detection
 Yellow Highlight = Exceedance of NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives
 Orange Highlight = Exceedance of NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Residential
 Red Highlight =NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Commercial
 RL is the Laboratory Reporting Limit
 -- indicates that no regulatory limit has been established for this analyte

Table 4
Metals in Soil (mg/Kg)
EPA Method: 6010
148-28 Hillside Avenue, Jamaica, NY11435

Sample ID	NYSDEC Part 375			NYSDEC Part 375			NYSDEC Part 375			RISB-5 (I-2)		RISB-5 (40-43)		RISB-5 (43-45)		RISB-5 DUPLICATE		RISB-6 (B-1)		RISB-6 (B-2)		RISB-6 (15-17)		RISB-6 (17-18)		RISB-6 (18-40)		RISB-6 (50-52)		RISB-7 (B-1)		RISB-7 (1-2)		RISB-7 (18-40)		RISB-8 (B-3)			
Phase ID	Protection of			Restricted Use			Restricted Use			CM40194		CM40195		CM40196		CM40197		CM40185		CM40186		CM40187		CM40188		CM40189		CM40190		CM40191		CM40192		CM40193		CM40194		CM40195	
Sampling Date	Groundwater Soil			Soil Cleanup			Soil Cleanup			09/30/2022		09/30/2022		09/30/2022		09/30/2022		09/29/2022		09/29/2022		09/29/2022		09/29/2022		09/29/2022		09/29/2022		10/03/2022		10/03/2022		10/03/2022		10/03/2022		10/4/22	
Client Matrix	Compound	CAS Number								Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Dilution Factor																																							
Aluminum	7429-90-5	--	--	--						10200	58	2940	47	2040	5.2	1980	4.9	10200	49	10000	51	3400	45	3730	50	5490	50	2030	5.4	10400	59	4290	54	7280	50	8,680	50		
Antimony	7440-36-0	--	--	--																																			
Arsenic	7440-38-2	16	16	16						9.92	0.77	<0.63	0.63	<0.69	0.69	<0.65	0.65	75.7	0.65	77.2	0.68	11.7	0.64	10.3	0.67	1.68	0.67	<0.72	0.72	2.95	0.78	4.87	0.72	1.34	0.67	4.83	0.67		
Barium	7440-39-3	820	400	400						100	0.39	16.5	0.32	13.3	0.34	12.2	0.33	71.3	0.32	71.6	0.34	24.2	0.32	29.5	0.33	38.4	0.33	16.9	0.36	81.9	0.39	79.4	0.36	59.3	0.34	58.5	0.33		
Beryllium	7440-41-7	47	72	590						0.51	0.31	<0.25	0.25	<0.28	0.28	<0.26	0.26	0.52	0.26	0.47	0.27	0.2	0.26	0.29	0.27	0.25	0.27	<0.29	0.29	0.42	0.31	0.25	0.29	0.26	0.27	0.41	0.27		
Cadmium	7440-43-9	7.5	4.3	9.3						1.09	0.39	0.78	0.32	<0.34	0.34	<0.33	0.33	1.91	0.32	1.44	0.34	<0.32	0.32	<0.33	0.33	<0.33	0.33	<0.36	0.36	1.95	0.39	0.7	0.36	0.85	0.34	1.69	0.33		
Calcium	7440-70-2	--	--	--						10800	5.8	845	4.7	477	5.2	464	4.9	15300	49	27600	51	868	4.8	1090	5	2780	5	404	5.4	6640	5.9	82000	54	2290	5	13,100	50		
Chromium	7440-47-3	--	--	--						20.4	0.39	13	0.32	7.84	0.34	7.71	0.33	32.9	0.32	25.1	0.34	17.7	0.32	24.9	0.33	18.7	0.33	5.72	0.36	18.4	0.39	7.1	0.36	21.3	0.34	17.2	0.33		
Cobalt	7440-48-4	--	--	--						6.62	0.39	3.89	0.32	2.27	0.34	2.27	0.33	7.33	0.32	6.46	0.34	3.48	0.32	6.04	0.33	5.84	0.33	2.98	0.36	7.26	0.39	4.07	0.36	7.15	0.34	7.02	0.33		
Copper	7440-50-8	1720	270	270						29	0.8	7.6	0.6	4.6	0.7	4.5	0.7	38	0.6	36.2	0.7	10.8	0.6	13.3	0.7	19	0.7	5.3	0.7	19.8	0.8	32.9	0.7	18.6	0.7	25.4	0.7		
Iron	7439-89-4	--	--	--						20200	58	13500	47	6170	5.2	6390	4.9	19600	49	15900	51	10200	48	23100	50	21900	50	9160	5.4	15800	59	8960	5.4	21700	50	20,700	50		
Lead	7439-92-1	450	400	1000						158	0.39	2.65	0.32	1.75	0.34	1.72	0.33	156	0.34	2.91	0.32	3.67	0.33	6.46	0.33	2.03	0.36	76.2	0.39	135	0.36	4.21	0.34	45.7	0.33				
Magnesium	7439-95-4	--	--	--						4220	5.8	970	4.7	734	5.2	716	4.9	8790	49	6850	51	1160	4.8	1230	5	2140	5	909	5.4	2580	5.9	42700	54	2240	5	3,000	5.0		
Manganese	7439-96-5	2000	2000	10000						305	3.9	174	3.2	77.4	0.34	85.7	0.33	322	0.32	261	0.34	324	0.32	347	0.33	340	0.33	113	0.36	322	0.39	327	0.34	342	0.33				
Mercury	7439-97-6	0.73	0.81	2.8						0.09	0.03	<0.03	0.03	<0.03	0.03	0.1	0.03	<0.03	0.03	<0.03	0.03	<0.03	0.03	<0.03	0.03	<0.03	0.03	0.06	0.03	0.14	<0.02	0.02	<0.03	0.03					
Nickel	7440-02-0	130	310	310						13.5	0.39	8.63	0.32	6.51	0.34	6.47	0.33	19.4	0.32	14	0.34	8.2	0.32	9.79	0.33	13	0.33	7.78	0.36	12.7	0.39	11.8	0.36	14.6	0.34	13.9	0.33		
Potassium	7440-09-7	--	--	--						860	5.8	459	4.7	452	5.2	412	4.9	1170	4.9	972	5.1	558	4.8	649	5	1090	5	825	5.4	667	5.9	583	5.4	868	5	866	5.0		
Selenium	7782-49-2	4	180	1500						<1.5	1.5	<1.3	1.3	<1.4	1.4	<1.3	1.3	<1.3	1.3	<1.4	1.4	<1.3	1.3	<1.3	1.3	<1.3	1.4	<1.6	1.6	<1.4	1.4	<1.3	1.3	<1.3	1.3				
Silver	7440-22-4	8.3	180	1500						<0.39	0.39	<0.32	0.32	<0.34	0.34	<0.33	0.33	<0.32	0.32	<0.34	0.34	<0.32	0.32	<0.33	0.33	<0.33	0.33	<0.36	0.36	<0.39	0.39	<0.36	0.36	<0.34	0.34	0.47	0.33		
Sodium	7440-23-5	--	--	--						112	5.8	132	4.7	99	5.7	91.2	4.9	232	4.9	234	5.1	139	4.8	172	5	355	5	75.5	5.4	107	5.9	218	5.4	540	5	357	5.0		
Thallium	7440-28-0	--	--	--						<3.5	3.5	<2.8	2.8	<3.1	3.1	<2.9	2.9	<2.9	2.9	<3.1	3.1	<2.9	2.9	<3.0	3	<3.0	3	<3.2	3.2	<3.5	3.5	<3.3	3.3	<3.0	3	<3.0	3.0		
Vanadium	7440-62-2	--	--	--						27.1	0.39	26	0.32	7.22	0.34	8.87	0.33	26.6	0.32	26.3	0.34	13.8	0.32	22	0.33	23.5	0.33	7.58	0.36	26.9	0.39	24.8	0.36	44.3	0.34	29.4	0.33		
Zinc	7440-66-6	2480	10000	10000						211	7.7	12.4	0.6	8.1	0.7	8	0.7	86.5	0.6	87.1	0.7	13.8	0.6	19.7	0.7	22.1	0.7	10.5	0.7	126	0.8	108	0.7	23	0.7	953	6.7		

NOTES:
Bold Value = Laboratory Detection
Yellow Highlight = Exceedance of NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives
Orange Highlight = Exceedance of NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Residential
Red Highlight =NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Commercial
RL is the Laboratory Reporting Limit
-- = this indicates that no regulatory limit has been established for this analyte

Table 4
Metals in Soil (mg/Kg)
 EPA Method: 6010
 148-28 Hillside Avenue, Jamaica, NY11435

Sample ID Phenolic ID Sampling Date Client Matrix	CAS#Number	NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives	NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Residential	NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Commercial	RISB-8 (3-5) CMS0475 10/4/22 SOIL		RISB-8 (5-7) CMS0476 10/4/22 SOIL		RISB-8 (9-10) CMS0477 10/4/22 SOIL		RISB-8 (10-12) CMS0478 10/4/22 SOIL		RISB-8 (12-15) CMS0479 10/4/22 SOIL		RISB-8 (20-22) CMS0480 10/4/22 SOIL		RISB-8 (22-25) CMS0481 10/4/22 SOIL		RISB-8 (25-28) CMS0482 10/4/22 SOIL		RISB-8 (28-30) CMS0483 10/4/22 SOIL		RISB-8 (30-33) CMS0484 10/4/22 SOIL		RISB-8 (33-35) CMS0485 10/4/22 SOIL		RISB-8 (40-43) CMS0486 10/4/22 SOIL		RISB-8 DUPLICATE CMS0487 10/4/22 SOIL		RISB-9 (6-1) CMS2571 10/5/22 SOIL	
					Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
					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		mg/Kg	
Metals Total																																
Dilution Factor																																
Aluminum	7429-90-5	-	-	-	9,230	55	6,450	54	3,330	52	2,260	57	2,460	54	4,080	50	6,020	46	2,560	47	2,640	50	3,570	54	3,580	49	3,610	53	3,810	49	6,970	60
Antimony	7440-36-0	-	-	-	<3.7	3.7	<3.6	3.6	<3.5	3.5	<3.8	3.8	<3.6	3.6	<3.3	3.3	<3.1	3.1	<3.1	3.1	<3.3	3.3	<3.6	3.6	<3.2	3.2	<3.5	3.5	<3.3	3.3	<4.0	4.0
Arsenic	7440-38-2	16	16	16	4.86	0.74	3.31	0.71	2.16	0.69	4.84	0.76	<0.72	0.72	2.01	0.67	1.09	0.61	<0.63	0.63	<0.66	0.66	1.02	0.72	0.69	0.65	<0.71	0.71	<0.66	0.66	6.41	0.80
Barium	7440-39-3	820	400	400	63.3	0.37	43.7	0.36	35.2	0.35	63.1	0.38	24.5	0.36	31.1	0.33	20.8	0.31	16.9	0.31	16.1	0.33	31.5	0.36	28.8	0.32	20.5	0.35	31.1	0.33	51.4	0.40
Beryllium	7440-41-7	47	72	590	0.49	0.29	0.28	0.29	0.31	0.28	0.4	0.30	0.18	0.29	0.21	0.27	0.24	0.25	0.21	0.25	0.16	0.26	0.26	0.29	0.21	0.26	0.19	0.28	0.16	0.26	0.33	0.32
Cadmium	7440-43-9	7.5	4.3	9.3	2.74	0.37	1.16	0.36	2.01	0.35	2.24	0.38	0.67	0.36	0.8	0.33	1.09	0.31	0.53	0.31	0.63	0.33	0.81	0.36	0.68	0.32	0.59	0.35	0.52	0.33	2.08	0.40
Calcium	7440-70-2	-	-	-	5,950	5.5	72,200	54	1,720	5.2	48,800	57	604	5.4	26,900	50	1,450	4.6	8,550	4.7	6,990	5.0	2,870	5.4	2,930	4.9	1,320	5.3	1,410	4.9	4,520	6.0
Chromium	7440-47-3	-	-	-	17.8	0.37	17.8	0.36	75.4	0.35	32.4	0.38	12	0.36	16.7	0.33	9.81	0.31	6.73	0.31	9.6	0.33	21.9	0.36	18.5	0.32	13.4	0.35	10.9	0.33	19	0.40
Cobalt	7440-48-4	-	-	-	7.06	0.37	5.12	0.36	7.12	0.35	10.8	0.38	4.56	0.36	4.46	0.33	5.88	0.31	3.32	0.31	3.42	0.33	5.42	0.36	4.64	0.32	4.86	0.35	3.75	0.33	5.13	0.40
Copper	7440-50-8	1720	270	270	24.8	0.7	27.1	0.7	18.5	0.7	46	0.8	8.9	0.7	15.7	0.7	14.1	0.6	7.1	0.6	8.8	0.7	13.8	0.7	11.4	0.6	16.4	0.7	16.6	0.7	44.7	0.8
Iron	7439-89-6	-	-	-	30,400	55	24,100	54	43,800	52	39,500	57	15,200	54	16,000	50	26,400	46	11,700	47	13,500	50	16,500	54	14,900	49	13,900	51	10,600	49	20,600	60
Lead	7439-92-1	450	400	1000	70.7	0.37	24.7	0.36	6.6	0.35	64	0.38	2.88	0.36	13.8	0.33	4.22	0.31	2.14	0.31	2.75	0.33	6.71	0.36	3.69	0.32	2.89	0.35	2.07	0.33	104	0.40
Magnesium	7439-95-4	-	-	-	2,920	5.5	14,300	54	1,400	5.2	13,500	57	1,600	5.4	11,300	50	1,520	4.6	4,190	4.7	3,710	5.0	1,600	5.4	2,290	4.9	1,520	5.3	1,340	4.9	2,100	6.0
Manganese	7439-96-5	2000	2000	10000	488	1.7	334	1.6	643	1.5	1,180	1.8	217	1.6	276	1.3	431	1.1	184	1.1	282	1.3	1,780	36	268	1.2	220	1.5	158	1.3	693	4.0
Mercury	7439-97-6	0.73	0.81	2.8	0.86	0.03	<0.03	0.03	<0.03	0.03	<0.03	0.03	<0.02	0.02	<0.03	0.03	<0.03	0.03	<0.03	0.03	<0.03	0.03	<0.03	0.03	<0.03	0.03	<0.03	0.03	<0.03	0.03	0.07	0.03
Nickel	7440-02-0	130	310	310	15.9	0.37	16.7	0.36	16.5	0.35	22.2	0.38	9.39	0.36	12	0.33	10.9	0.31	6.38	0.31	8.21	0.33	11.5	0.36	11.2	0.32	11.5	0.35	10.8	0.33	13.9	0.40
Potassium	7440-09-7	-	-	-	708	5.5	1,230	5.4	694	5.7	634	5.4	810	5.0	522	4.6	595	4.7	374	5.0	699	5.4	818	4.9	494	5.3	598	4.9	474	6.0	474	6.0
Selenium	7782-49-2	4	180	1500	<1.5	1.5	<1.4	1.4	<1.4	1.4	<1.5	1.5	<1.4	1.4	<1.3	1.3	<1.2	1.2	<1.3	1.3	<1.3	1.3	<1.4	1.4	<1.3	1.3	<1.4	1.4	<1.3	1.3	<1.6	1.6
Silver	7440-22-4	8.3	180	1500	<0.37	0.37	<0.36	0.36	<0.35	0.35	<0.38	0.38	<0.36	0.36	<0.33	0.33	<0.31	0.31	<0.31	0.31	<0.33	0.33	<0.36	0.36	<0.32	0.32	<0.35	0.35	<0.33	0.33	<0.40	0.40
Sodium	7440-23-5	-	-	-	225	5.5	327	5.4	111	5.2	346	5.7	56	5.4	233	5.0	255	4.6	187	4.7	179	5.0	186	5.4	182	4.9	206	5.1	300	4.9	65.4	6.0
Thallium	7440-28-0	-	-	-	<3.3	3.3	<3.2	3.2	<3.1	3.1	<3.4	3.4	<3.3	3.3	<3.0	3.0	<2.8	2.8	<2.8	2.8	<3.0	3.0	<3.3	3.3	<2.9	2.9	<3.2	3.2	<3.0	3.0	<3.6	3.6
Vanadium	7440-62-2	-	-	-	24.8	0.37	15.7	0.36	34.1	0.35	25	0.38	21.5	0.36	15.3	0.33	24.4	0.31	16.4	0.31	11.9	0.33	17.2	0.36	17.7	0.32	24.3	0.35	15.2	0.33	26.1	0.40
Zinc	7440-66-6	2480	10000	10000	3,150	74	52.8	0.7	28.8	0.7	974	7.6	17.6	0.7	88.6	0.7	20.7	0.6	13.2	0.6	12.9	0.7	108	0.7	22.5	0.6	15	0.7	13.2	0.7	247	0.8

NOTES:
 Bold Value = Laboratory Detection
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 Orange Highlight = Exceedance of NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Residential
 Red Highlight = NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Commercial
 RL is the Laboratory Reporting Limit
 - = this indicates that no regulatory limit has been established for this analyte

Table 4
Metals in Soil (mg/Kg)
 EPA Method: 6010
 148-28 Hillside Avenue, Jamaica, NY11435

Sample ID Phase/ID Sampling Date	NYSDEC Part 375 Protection of Groundwater Soil Cleanup		NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Residential		NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Commercial		RISB-9 (1-2) CMS2572 10/5/22 SOIL		RISB-9 (3-35) CMS2573 10/5/22 SOIL		RISB-9 (48-50) CMS2574 10/5/22 SOIL		RISB-10 (0-1) CMS2565 10/5/22 SOIL		RISB-10 (1-2) CMS2566 10/5/22 SOIL		RISB-10 (40-43) CMS2567 10/5/22 SOIL		RISB-11 (2-3) CM48201 09/30/2022 SOIL		RISB-11 (3-4) CM48202 09/30/2022 SOIL		RISB-11 (48-50) CM48203 09/30/2022 SOIL		RISB-12 (0-1) CM48180 09/29/2022 SOIL		RISB-12 (1-33) CM48181 09/29/2022 SOIL		RISB-12 (33-35) CM48182 09/29/2022 SOIL		RISB-12 (50-52) CM48184 09/29/2022 SOIL			
	Compound	CAS Number	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Client Matrix																																		
Dilution Factor																																		
Aluminum	7429-90-5	-	-	-	-	5,350	54	2,440	51	5,180	54	4,980	50	8,220	51	5,350	51	12,300	50	11,200	50	13,400	47	11,000	49	10,700	50	5,990	54	4,760	51	2,450	59	
Antimony	7440-36-0	-	-	-	-	<3.6	3.6	<3.4	3.4	<3.6	3.6	<3.3	3.3	<3.4	3.4	<3.4	3.4	<3.3	3.3	<3.1	3.1	<3.2	3.2	<3.4	3.4	<3.6	3.6	<3.4	3.4	<3.9	3.9	<3.4	3.4	
Arsenic	7440-38-2	16	16	16	16	10.7	0.72	<0.68	0.68	0.78	0.73	1.68	0.66	2.57	0.67	1.12	0.68	5.36	0.67	13.3	0.66	1.05	0.63	2.58	0.65	2.74	0.67	1.5	0.71	1.42	0.68	<0.79	0.79	
Barium	7440-39-3	820	400	400	400	25.8	0.36	16.3	0.34	101	0.36	23.3	0.33	122	0.34	31.2	0.34	106	0.34	81.2	0.33	44.2	0.31	54.7	0.32	51.2	0.34	41.6	0.36	32.6	0.34	19.6	0.39	
Beryllium	7440-41-7	47	72	590	590	0.27	0.29	0.19	0.27	0.16	0.29	0.22	0.26	0.38	0.27	0.31	0.27	0.5	0.27	0.51	0.26	0.24	0.25	0.38	0.26	0.41	0.27	<0.23	0.29	<0.27	0.27	<0.31	0.31	
Cadmium	7440-43-9	7.5	4.3	9.3	9.3	1.35	0.36	0.56	0.34	0.57	0.36	0.47	0.33	0.96	0.34	1.35	0.34	0.65	0.34	0.64	0.33	<0.31	0.31	1.75	0.32	1.29	0.34	1.62	0.36	1.11	0.34	0.58	0.39	
Calcium	7440-70-2	-	-	-	-	1,590	5.4	864	5.1	2,820	5.4	2,850	5.0	6,180	5.1	1,950	5.1	9640	5	22500	50	5840	4.7	5020	4.9	1650	5	3810	5.4	1930	5.1	762	5.9	
Chromium	7440-47-3	-	-	-	-	17.5	0.36	9.37	0.34	18.2	0.36	9.86	0.33	13.2	0.34	16.8	0.34	21.1	0.34	20.7	0.33	14.5	0.31	19.4	0.32	18.1	0.34	48.4	0.36	35.3	0.34	7.83	0.39	
Cobalt	7440-48-4	-	-	-	-	5.22	0.36	4.25	0.34	5.08	0.36	4.45	0.33	6.72	0.34	4.08	0.34	7.18	0.34	7.12	0.33	10.2	0.31	10.2	0.32	6.96	0.34	6.74	0.36	5.2	0.34	3.26	0.39	
Copper	7440-50-8	1720	270	270	270	26.4	0.7	9.4	0.7	18.6	0.7	8.4	0.7	40.7	0.7	26.2	0.7	38.3	0.7	39	0.7	45.3	0.6	83.8	0.6	21.2	0.7	24.8	0.7	17.9	0.7	9.2	0.8	
Iron	7439-89-6	-	-	-	-	16,700	54	13,900	51	12,200	54	8,180	5.0	16,500	51	31,000	51	21,700	50	21600	50	23900	47	22100	49	18800	50	21600	54	15500	51	8100	5.9	
Lead	7439-92-1	450	400	1000	1000	57.4	0.36	2.84	0.34	3	0.36	16.5	0.33	232	0.34	6.17	0.34	771	0.4	191	0.33	3.73	0.31	90.2	0.32	66.2	0.34	10.3	0.36	22	0.34	1.63	0.39	
Magnesium	7439-95-4	-	-	-	-	1,400	5.4	1,060	5.1	1,780	5.4	1,060	5.0	3,290	5.1	1,830	5.1	5870	50	12800	50	3560	4.7	3090	4.9	2000	5	1840	5.4	1720	5.1	1150	5.9	
Manganese	7439-96-5	2000	2000	10000	10000	293	3.6	240	3.4	247	3.6	136	0.33	257	3.4	122	3.4	446	3.4	452	3.3	275	3.1	328	3.2	394	3.4	446	3.6	303	3.4	67.8	0.39	
Mercury	7439-97-6	0.73	0.81	2.8	2.8	0.02	0.03	<0.02	0.03	0.03	0.03	0.03	0.03	0.08	0.02	<0.03	0.03	0.21	0.03	0.15	0.03	<0.02	0.02	0.08	0.03	0.06	0.03	<0.03	0.03	<0.03	0.03	<0.03	0.03	
Nickel	7440-02-0	130	310	310	310	12.4	0.36	7.38	0.34	11.1	0.36	5.77	0.33	12.2	0.34	12.9	0.34	15.6	0.34	13.4	0.33	14.5	0.31	14.7	0.32	12.6	0.34	14	0.36	12.3	0.34	7.15	0.39	
Potassium	7440-09-7	-	-	-	-	429	5.4	356	5.1	696	5.4	367	5.0	759	5.1	754	5.1	892	5	890	5	1570	4.7	1200	4.9	762	5	1010	5.4	710	5.1	659	5.9	
Selenium	7782-49-2	4	180	1500	1500	<1.4	1.4	<1.4	1.4	<1.5	1.5	<1.3	1.3	<1.3	1.3	<1.4	1.4	<1.3	1.3	<1.3	1.3	<1.3	1.3	<1.3	1.3	<1.3	1.3	<1.4	1.4	<1.4	1.4	<1.6	1.6	
Silver	7440-22-4	8.3	180	1500	1500	<0.36	0.36	<0.34	0.34	<0.33	0.33	<0.34	0.34	<0.34	0.34	<0.34	0.34	<0.34	0.34	<0.33	0.33	<0.31	0.31	<0.32	0.32	<0.34	0.34	<0.36	0.36	<0.34	0.34	<0.39	0.39	
Sodium	7440-23-5	-	-	-	-	47.7	5.4	11.7	5.1	585	5.4	48.5	5.0	174	5.1	355	5.1	188	5	151	5	1300	4.7	625	4.9	84.7	5	390	5.4	241	5.1	178	5.9	
Thallium	7440-28-0	-	-	-	-	<3.2	3.2	<3.0	3.0	<3.3	3.3	<3.0	3.0	<3.0	3.0	<3.0	3.0	<3.0	3	<3.0	3	<2.8	2.8	<2.9	2.9	<3.0	3	<3.2	3.2	<3.0	3	<3.5	3.5	
Vanadium	7440-62-2	-	-	-	-	21.9	0.36	19.5	0.34	26.3	0.36	13.4	0.33	30.4	0.34	40.4	0.34	37	0.34	48.5	0.33	34.2	0.31	49.6	0.32	27.7	0.34	26.2	0.36	17.9	0.34	10.9	0.39	
Zinc	7440-66-6	2480	1000	1000	1000	145	0.7	18.5	0.7	16.6	0.7	22.1	0.7	84.9	0.7	30.8	0.7	164	0.7	116	0.7	26.9	0.6	78.4	0.6	53.6	0.7	35.2	0.7	23.5	0.7	11.6	0.8	
NOTES																																		
Bold Value - Laboratory Detection																																		
Yellow Highlight - Exceedance of NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives																																		
Orange Highlight - Exceedance of NYSDEC Part 375 Restricted Use Soil Cleanup Objectives-Residential																																		
Red Highlight - NYSDEC Part 375 Restricted Use Soil Cleanup Objectives-Commercial																																		
- is the Laboratory Reporting Limit																																		
- is indicates that no regulatory limit has been established for this analyte																																		

NOTES:
 Bold Value = Laboratory Detection
 Yellow Highlight = Exceedance of NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives
 Orange Highlight = Exceedance of NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Residential
 Red Highlight =NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Commercial
 RL is the Laboratory Reporting Limit
 - = this indicates that no regulatory limit has been established for this analyte

Table 4
Metals in Soil (mg/Kg)
EPA Method: 6010
148-28 Hillside Avenue, Jamaica, NY11435

Sample ID Phenix ID Sampling Date Client Matrix	Compound CAS Number	NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives	NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Residential	NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Commercial	R5B-13 (0-1) CM481198 09/30/2022 SOIL		R5B-13 (1-2) CM481199 09/30/2022 SOIL		R5B-13 (4B-5G) CM481200 09/30/2022 SOIL		R5B-14 (B-1) CM618359 10/7/22 SOIL		R5B-14 (1-2) CM618400 10/7/22 SOIL		R5B-14 (4A-42) CM618441 10/7/22 SOIL		R5B-15 (0-1) CM481176 09/29/2022 SOIL		R5B-15 (1-2) CM481177 09/29/2022 SOIL		R5B-15 (4A-45) CM481178 09/29/2022 SOIL		R5B-15 (5D-52) CM481179 09/29/2022 SOIL		SB-16 (6-7) CM770593 11/2/22 SOIL					
					Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
					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	
Metals Total																														
Dilution Factor																														
Aluminum	7429-90-5	-	-	-	8880	49	11200	54	2610	45	5,030	59	13,600	60	3,720	61	11600	55	10800	56	11200	46	2360	54	5,470	84				
Antimony	7440-36-0	-	-	-	<3.3	3.3	<3.6	3.6	<3.2	3.2	<4.0	4.0	<4.0	4.0	<4.1	4.1	<3.7	3.7	<3.7	3.7	<3.1	3.1	<3.6	3.6	14.1	5.6				
Arsenic	7440-38-2	16	16	16	2.24	0.65	2.61	0.72	<0.64	0.64	4.65	0.79	7.03	0.80	<0.81	0.81	5.41	0.74	3.66	0.74	1.3	0.62	<0.72	0.72	36.6	1.1				
Barium	7440-39-3	820	400	400	51.3	0.33	58.9	0.36	20.1	0.32	38.3	0.40	101	0.40	25.1	0.41	59.8	0.37	91.7	0.37	65.5	0.31	18.1	0.36	316	0.56				
Beryllium	7440-41-7	47	72	590	0.43	0.26	0.47	0.29	<0.26	0.26	<0.32	0.32	0.76	0.32	<0.32	0.32	0.53	0.3	0.47	0.3	0.32	0.25	<0.29	0.29	<0.45	0.45				
Cadmium	7440-43-9	7.5	4.3	9.3	<0.33	0.33	<0.36	0.36	<0.32	0.32	2.25	0.40	1.33	0.40	<0.41	0.41	1.83	0.37	1.68	0.37	1.49	0.31	0.56	0.36	18.6	0.56				
Calcium	7440-70-2	-	-	-	3130	4.9	2490	5.4	661	4.8	13,600	59	10,600	6.0	1,040	6.1	3160	5.5	6860	5.6	3770	4.6	427	5.4	6,570	8.4				
Chromium	7440-47-3	-	-	-	19	0.33	25.2	0.36	7.88	0.32	12.3	0.40	22	0.40	11.4	0.41	21.5	0.37	21	0.37	50.4	0.31	6.41	0.36	13.2	0.56				
Cobalt	7440-48-4	-	-	-	6.77	0.33	6.99	0.36	3.46	0.32	5.8	0.40	8.7	0.40	4.03	0.41	10.6	0.37	7.15	0.37	8.31	0.31	3.15	0.36	6.04	0.56				
Copper	7440-50-8	1720	270	270	18.8	0.7	19.3	0.7	6.8	0.6	33.9	0.8	32.1	0.8	13.1	0.8	50.2	0.7	38	0.7	27.9	0.6	7.3	0.7	230	11				
Iron	7439-89-6	-	-	-	16700	49	18300	54	11400	48	19,700	59	10,100	60	11,600	61	19400	55	17900	56	25000	46	8940	5.4	8,980	8.4				
Lead	7439-92-1	450	400	1000	36.1	0.33	38.9	0.36	2.3	0.32	123	0.40	901	4.0	2.60	0.41	323	3.7	221	3.7	3.68	0.31	1.47	0.36	7.66	5.6				
Magnesium	7439-95-4	-	-	-	3330	4.9	2450	5.4	1060	4.8	1,600	5.9	2,490	6.0	1,190	6.1	2130	5.5	3060	5.6	3190	4.6	1020	5.4	1,540	8.4				
Manganese	7439-96-5	2000	2000	10000	288	1.3	318	1.6	102	0.32	274	4.0	685	4.0	309	4.1	442	3.7	443	3.7	483	3.1	101	0.36	103	0.56				
Mercury	7439-97-6	0.73	0.81	2.8	0.04	0.03	0.05	0.03	<0.03	0.03	0.07	0.03	0.19	0.03	<0.03	0.03	0.34	0.03	0.43	0.03	<0.02	0.02	<0.03	0.03	0.48	0.05				
Nickel	7440-02-0	130	310	310	12.6	0.33	13.5	0.36	8	0.32	17.6	0.40	16.8	0.40	8.79	0.41	15.3	0.37	14.9	0.37	18.2	0.31	7.76	0.36	22	0.56				
Potassium	7440-09-7	-	-	-	1090	4.9	1190	5.4	850	4.8	539	5.9	764	6.0	522	6.1	1170	5.5	1150	5.6	2610	4.6	852	5.4	710	8.4				
Selenium	7782-49-2	4	180	1500	<1.3	1.3	<1.4	1.4	<1.3	1.3	<1.6	1.6	<1.6	1.6	<1.6	1.6	<1.5	1.5	<1.5	1.5	<1.2	1.2	<1.4	1.4	<2.2	2.2				
Silver	7440-22-4	8.3	180	1500	<0.33	0.33	<0.36	0.36	<0.32	0.32	<0.40	0.40	<0.40	0.40	<0.41	0.41	<0.37	0.37	<0.37	0.37	<0.31	0.31	<0.36	0.36	<0.56	0.56				
Sodium	7440-23-5	-	-	-	104	4.9	109	5.4	116	4.8	93.9	5.9	185	6.0	145	6.1	137	5.5	235	5.6	1230	4.6	51.4	5.4	831	8.4				
Thallium	7440-28-0	-	-	-	<2.9	2.9	<3.2	3.2	<2.9	2.9	<3.6	3.6	<3.6	3.6	<3.7	3.7	<3.3	3.3	<3.3	3.3	<2.8	2.8	<3.2	3.2	<5.0	5.0				
Vanadium	7440-62-2	-	-	-	36.1	0.33	29.5	0.36	10.3	0.32	22.4	0.40	34.3	0.40	17.4	0.41	25.3	0.37	32.7	0.37	45.8	0.31	10.3	0.36	21.7	0.56				
Zinc	7440-66-6	2480	10000	10000	45.3	0.7	43.3	0.7	12.3	0.6	77.5	0.8	115	0.8	13.1	0.8	135	0.7	135	0.7	27.6	0.6	11.4	0.7	303	11				
NOTES:																														
Bold Value = Laboratory Detection																														
Yellow Highlight = Exceedance of NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives																														
Orange Highlight = Exceedance of NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Residential																														
Red Highlight = NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Commercial																														
RL is the Laboratory Reporting Limit																														
- = this indicates that no regulatory limit has been established for this analyte																														

Table 5
Miscellaneous/Inorganics in Soil

[illegible]

Table 5
Miscellaneous/Inorganics in Soil

Sample ID Phenix IV Sampling Date Client Matrix	NYSDEC Part 375 Protection of Groundwater Use Soil Cleanup Objectives	NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Residential	NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Commercial	RISB 5 (D-2) CM48134 09/30/2022		RISB 5 (D-43) CM48135 09/30/2022		RISB 5 (D-45) CM48136 09/30/2022		RISB 5 DUPLICATE CM48137 09/30/2022		RISB 6 (D-1) CM48135 09/29/2022		RISB 6 (D-2) CM48136 09/29/2022		RISB 6 (D-17) CM48137 09/29/2022		RISB 6 (D-38) CM48138 09/29/2022		RISB 6 (D-40) CM48139 09/29/2022		RISB 6 (D-52) CM48139 09/29/2022		RISB 7 (D-1) CM48137 10/03/2022		RISB 7 (D-2) CM48137 10/03/2022		RISB 7 (D-40) CM48137 10/03/2022		RISB 8 (D-3) CM48137 10/03/2022			
				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
				Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Miscellaneous/Inorganics																																	
Percent Solid						90		93		92		92		93		97		96		97		89		92		89		92		89		89	
PHNX - PCTSDILO																																	
1,1,1,1,2,2,2-Perfluorooctanesulfonic acid			39108-34-4	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~		
1,1,1,1,2,2,2-Perfluorooctanesulfonic acid			27619-87-2	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~		
NtFtOSA			2951-50-6	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~		
NtMeFOSA			2355-31-9	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~		
Perfluoro-1-decenesulfonic acid (PFDS)			335-77-3	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~		
Perfluoro-1-heptanesulfonic acid (PFHs)			375-93-8	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~		
Perfluoro-1-octanesulfonamide (PFOSA)			754-91-6	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~		
Perfluoro-n-butanoic acid (PFBA)			375-22-4	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~		
Perfluorobutanesulfonic acid (PFBS)			375-79-5	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~		
Perfluorodecanoic acid (PFDA)			335-76-2	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~		
Perfluorododecanoic acid (PFDoA)			307-55-1	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~		
Perfluoroheptanoic acid (PFHsA)			375-85-9	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~		
Perfluorohexanesulfonic Acid (PFHsS)			355-46-4	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~		
Perfluorooctanoic acid (PFHsA)			307-24-4	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~		
Perfluorononanoic acid (PFNA)			375-95-1	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~		
Perfluorooctanesulfonic Acid (PFOS)			1763-23-1	3.7	440	1.17	0.266	0.252	0.252	0.271	0.271	0.259	0.259	0.244	0.244	0.263	0.263	0.263	0.263	0.241	0.241	0.268	0.268	0.266	0.266	0.256	0.256	0.239	0.239	0.282	0.282		
Perfluorooctanoic acid (PFDA)			335-67-1	1.1	33	500	0.353	0.266	0.252	0.252	0.271	0.271	0.259	0.259	0.244	0.244	0.263	0.263	0.263	0.263	0.241	0.241	0.268	0.268	0.266	0.266	0.256	0.256	0.239	0.239	0.282	0.282	
Perfluoropentanoic acid (PFPA)			2706-80-3	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~		
Perfluorotetradecanoic acid (PFTA)			376-06-7	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~		
Perfluorotridecanoic acid (PFTDA)			7262-94-8	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~		
Perfluorodecanoic acid (PFDA)			2058-84-8	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~		
Miscellaneous/Inorganics						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		mg/kg	
Total Cyanide (BW9101C Distill.)			57-12-5	40	27	27																											
NOTES:																																	
Bold Value = Laboratory Detection																																	
Yellow Highlight = Exceedance of NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives																																	
Orange Highlight = Exceedance of NYSDEC Part 375 Restricted Use Soil Cleanup Objectives-Residential																																	
Red Highlight = NYSDEC Part 375 Restricted Use Soil Cleanup Objectives-Commercial																																	
RL is the Laboratory Reporting Limit																																	
~ This indicates that no regulatory limit has been established for this analyte																																	

Table 5
Miscellaneous/Inorganics in Soil

[illegible]

Table 5
Miscellaneous/Inorganics in Soil

[illegible]

Table 5
Miscellaneous/Inorganics in Soil

Sample ID Phenix ID Sampling Date Client Matrix	NYSDEC Part 375 Protection of Groundwater Use Soil Cleanup Objectives	NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Residential	NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Commercial	RISB-13 (B-1) CM48336 09/30/2022		RISB-13 (1-2) CM48339 09/30/2022		RISB-13 (A8-50) CM48300 09/30/2022		RISB-14 (B-1) CM48335 10/7/22		RISB-14 (1-2) CM48340 10/7/22		RISB-14 (A0-42) CM48341 10/7/22		RISB-15 (B-1) CM48176 09/29/2022		RISB-15 (1-2) CM48177 09/29/2022		RISB-15 (44-45) CM48178 09/29/2022		RISB-15 (B0-52) CM48179 09/29/2022		SB-16 (6-7) CM77055 11/2/22			
				Result % SOIL	RL	Result % SOIL	RL	Result % SOIL	RL	Result % SOIL	RL	Result % SOIL	RL	Result % SOIL	RL	Result % SOIL	RL	Result % SOIL	RL	Result % SOIL	RL	Result % SOIL	RL	Result % SOIL	RL		
				91		88		92		89		83		88		89		99		94		94		54			
Miscellaneous/Inorganics																											
Percent Solid																											
PHNX - PCT5OLID																											
1H,1H,2H,2H-Perfluorooctanesulfonic acid																											
11H,1H,2H,2H-Perfluorooctanesulfonic acid	39108-34-4	~	~	~	~	ng/8	0.255	ng/8	0.277	ng/8	0.259	ng/8	0.289	ng/8	0.289	ng/8	0.252	0.27	ng/8	0.252	0.267	0.267	0.267	0.267	0.267	0.267	0.381
1H,1H,2H,2H-Perfluorooctanesulfonic acid	27619-97-2	~	~	~	~	<0.255	0.255	<0.277	0.277	<0.259	0.259	<0.289	0.289	<0.263	0.263	<0.270	0.27	<0.252	0.252	<0.267	0.267	<0.381	0.381	<0.381	0.381	<0.381	0.381
NIH/COSA	2901-501-6	~	~	~	~	<0.255	0.255	<0.277	0.277	<0.259	0.259	<0.289	0.289	<0.263	0.263	<0.270	0.27	<0.252	0.252	<0.267	0.267	<0.381	0.381	<0.381	0.381	<0.381	0.381
NIH/COSA	2355-31-9	~	~	~	~	<0.255	0.255	<0.277	0.277	<0.259	0.259	<0.289	0.289	<0.263	0.263	<0.270	0.27	<0.252	0.252	<0.267	0.267	<0.381	0.381	<0.381	0.381	<0.381	0.381
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	~	~	~	~	<0.255	0.255	<0.277	0.277	<0.259	0.259	<0.289	0.289	<0.263	0.263	<0.270	0.27	<0.252	0.252	<0.267	0.267	<0.381	0.381	<0.381	0.381	<0.381	0.381
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	~	~	~	~	<0.255	0.255	<0.277	0.277	<0.259	0.259	<0.289	0.289	<0.263	0.263	<0.270	0.27	<0.252	0.252	<0.267	0.267	<0.381	0.381	<0.381	0.381	<0.381	0.381
Perfluoro-1-octanesulfonamide (FOSA)	754-91-6	~	~	~	~	<0.255	0.255	<0.277	0.277	<0.259	0.259	<0.289	0.289	<0.263	0.263	<0.270	0.27	<0.252	0.252	<0.267	0.267	<0.381	0.381	<0.381	0.381	<0.381	0.381
Perfluoro-n-butanolic acid (PFBA)	375-22-4	~	~	~	~	<0.255	0.255	<0.277	0.277	<0.259	0.259	<0.289	0.289	<0.263	0.263	<0.270	0.27	<0.252	0.252	<0.267	0.267	<0.381	0.381	<0.381	0.381	<0.381	0.381
Perfluorobutanesulfonic acid (PFBS)	375-73-5	~	~	~	~	<0.255	0.255	<0.277	0.277	<0.259	0.259	<0.289	0.289	<0.263	0.263	<0.270	0.27	<0.252	0.252	<0.267	0.267	<0.381	0.381	<0.381	0.381	<0.381	0.381
Perfluorodecanoic acid (PFDA)	335-76-2	~	~	~	~	<0.255	0.255	<0.277	0.277	<0.259	0.259	<0.289	0.289	<0.263	0.263	<0.270	0.27	<0.252	0.252	<0.267	0.267	<0.381	0.381	<0.381	0.381	<0.381	0.381
Perfluorododecanoic acid (PFDoA)	307-55-1	~	~	~	~	<0.255	0.255	<0.277	0.277	<0.259	0.259	<0.289	0.289	<0.263	0.263	<0.270	0.27	<0.252	0.252	<0.267	0.267	<0.381	0.381	<0.381	0.381	<0.381	0.381
Perfluorohexanoic acid (PFHxL)	375-85-9	~	~	~	~	<0.255	0.255	<0.277	0.277	<0.259	0.259	<0.289	0.289	<0.263	0.263	<0.270	0.27	<0.252	0.252	<0.267	0.267	<0.381	0.381	<0.381	0.381	<0.381	0.381
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	~	~	~	~	<0.255	0.255	<0.277	0.277	<0.259	0.259	<0.289	0.289	<0.263	0.263	<0.270	0.27	<0.252	0.252	<0.267	0.267	<0.381	0.381	<0.381	0.381	<0.381	0.381
Perfluorooctanoic acid (PFOA)	307-24-4	~	~	~	~	<0.255	0.255	<0.277	0.277	<0.259	0.259	<0.289	0.289	<0.263	0.263	<0.270	0.27	<0.252	0.252	<0.267	0.267	<0.381	0.381	<0.381	0.381	<0.381	0.381
Perfluorononanoic acid (PFNA)	375-95-1	~	~	~	~	<0.255	0.255	<0.277	0.277	<0.259	0.259	<0.289	0.289	<0.263	0.263	<0.270	0.27	<0.252	0.252	<0.267	0.267	<0.381	0.381	<0.381	0.381	<0.381	0.381
Perfluorooctanesulfonic Acid (PFOS)	1763-23-1	3.7	44	440	440	<0.255	0.255	<0.277	0.277	<0.259	0.259	<0.289	0.289	<0.263	0.263	<0.270	0.27	<0.252	0.252	<0.267	0.267	<0.381	0.381	<0.381	0.381	<0.381	0.381
Perfluorooctanoic acid (PFDA)	335-67-1	1.1	33	500	500	<0.255	0.255	<0.277	0.277	<0.259	0.259	<0.289	0.289	<0.263	0.263	<0.270	0.27	<0.252	0.252	<0.267	0.267	<0.381	0.381	<0.381	0.381	<0.381	0.381
Perfluoropentanoic acid (PFPA)	2706-60-3	~	~	~	~	<0.255	0.255	<0.277	0.277	<0.259	0.259	<0.289	0.289	<0.263	0.263	<0.270	0.27	<0.252	0.252	<0.267	0.267	<0.381	0.381	<0.381	0.381	<0.381	0.381
Perfluorotetradecanoic acid (PFTA)	376-06-7	~	~	~	~	<0.255	0.255	<0.277	0.277	<0.259	0.259	<0.289	0.289	<0.263	0.263	<0.270	0.27	<0.252	0.252	<0.267	0.267	<0.381	0.381	<0.381	0.381	<0.381	0.381
Perfluorotridecanoic acid (PFTGA)	72629-94-8	~	~	~	~	<0.255	0.255	<0.277	0.277	<0.259	0.259	<0.289	0.289	<0.263	0.263	<0.270	0.27	<0.252	0.252	<0.267	0.267	<0.381	0.381	<0.381	0.381	<0.381	0.381
Perfluoroundecanoic acid (PFUdA)	2058-84-8	~	~	~	~	<0.255	0.255	<0.277	0.277	<0.259	0.259	<0.289	0.289	<0.263	0.263	<0.270	0.27	<0.252	0.252	<0.267	0.267	<0.381	0.381	<0.381	0.381	<0.381	0.381
Miscellaneous/Inorganics																											
Total Cyanide (BW90 IIC Distill.)	57-12-5	40	27	27	27	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg										0.97	0.93
NOTES																											
Bold Value = Laboratory Detection																											
Yellow Highlight = Exceedance of NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives																											
Orange Highlight = Exceedance of NYSDEC Part 375 Restricted Use Soil Cleanup Objectives-Residential																											
Red Highlight = NYSDEC Part 375 Restricted Use Soil Cleanup Objectives-Commercial																											
RL is the Laboratory Reporting Limit																											
~ This indicates that no regulatory limit has been established for this analyte																											

Table 6
Volatile Organic Compounds in Groundwater (ug/L)
EPA Method: 8260
148-28 Hillside Avenue, Jamaica, NY 11435

[illegible]

Table 7
Semi-Volatile Organic Compounds in Groundwater (ug/L)
EPA Method: 8270
148-28 Hillside Avenue, Jamaica, NY11435

Element ID	Element Name	CAS Number	HYDRO TOXIC Standard Value	Groundwater Value	RW-1		RW-2		RW-3		RW-4		RW-5		RW-6		DUPPLICATE		EQUIPMENT BLANK		EQUIP BLANK		EQUIP BLANK		EQUIP BLANK		EQUIP BLANK		EQUIP BLANK		EQUIP BLANK		EQUIP BLANK			
					CMT67875		CMT67876		CMT67877		CMT67878		CMT67879		CMT67880		CMT67881		CMT67882		CMT67883		CMT67884		CMT67885		CMT67886		CMT67887		CMT67888		CMT67889		CMT67890	
					Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Chemicals - SW270 (DM)																																				
1,1,1-Trichloroethane	95-63-1	-	<3.3	3.3	<3.3	3.3	<3.3	3.3	<3.3	3.3	<3.3	3.3	<3.3	3.3	<3.3	3.3	<3.3	3.3	<3.3	3.3	<3.3	3.3	<3.3	3.3	<3.3	3.3	<3.3	3.3	<3.3	3.3	<3.3	3.3	<3.3	3.3		
1,2-Dichloroethane	107-18-6	-	<4.8	4.8	<4.7	4.7	<4.7	4.7	<4.7	4.7	<4.7	4.7	<4.7	4.7	<4.7	4.7	<4.7	4.7	<4.7	4.7	<4.7	4.7	<4.7	4.7	<4.7	4.7	<4.7	4.7	<4.7	4.7	<4.7	4.7	<4.7	4.7		
1,2,4-Trichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,3-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,4-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,5-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,6-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,7-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,8-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,9-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,10-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,11-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,12-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,13-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,14-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,15-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,16-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,17-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,18-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,19-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,20-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,21-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,22-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,23-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,24-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,25-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,26-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,27-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,28-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,29-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,30-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,31-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		
1,32-Dichlorobenzene	95-63-1	-	<0.95	0.95	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94	<0.94	0.94		

Table 8
PCBs and Pesticides in Groundwater (ug/L)
EPA Method: 8082 8081
148-28 Hillside Avenue, Jamaica, NY11435

Sample ID Phenols ID Sampling Date Client Matrix	NYSDC TOGS Standards and Guidance Values - GA	RMW-1 CM70875 10/25/22		RMW-2 CM70876 10/24/22		RMW-3 CM70871 10/24/22		RMW-4 CM70868 10/24/22		RMW-5 CM70870 10/24/22		RMW-6 CM70870 10/24/22		DUPLICATE CM70869 10/24/22		EQUIPMENT BLANK CM70872 WATER		EQUIP BLANK CM70877 WATER		EQUIP BLANK CM48212 09/29/2022 WATER		EQUIP BLANK CM48205 09/30/2022 WATER		EQUIP BLANK CM54873 10/4/22 WATER		EQUIP BLANK CM54868 10/4/22 WATER		EQUIP BLANK CM54834 10/6/22 WATER		EQUIP BLANK CM54835 10/7/22 WATER		EQUIP BLANK CM77600 11/2/22 WATER		
		GROUND WATER		GROUND WATER		GROUND WATER		GROUND WATER		GROUND WATER		GROUND WATER		GROUND WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		
		Result ug/L	RL	Result ug/L	RL	Result ug/L	RL	Result ug/L	RL	Result ug/L	RL	Result ug/L	RL	Result ug/L	RL	Result ug/L	RL	Result ug/L	RL	Result ug/L	RL	Result ug/L	RL	Result ug/L	RL	Result ug/L	RL	Result ug/L	RL	Result ug/L	RL	Result ug/L	RL	
		Compound	CAS Number																															
Polychlorinated Biphenyls 8082																																		
Dilution Factor																																		
PCB-1016	12674-11-2	0.09	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.049	0.049	<0.051	0.051	<0.049	0.049	<0.051	0.051	<0.049	0.049	<0.050	0.050	<0.047	0.047	<0.049	0.049	<0.048	0.048
PCB-1221	11102-28-2	0.09	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.049	0.049	<0.051	0.051	<0.049	0.049	<0.051	0.051	<0.049	0.049	<0.050	0.050	<0.047	0.047	<0.049	0.049	<0.048	0.048
PCB-1232	11441-16-5	0.09	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.049	0.049	<0.051	0.051	<0.049	0.049	<0.051	0.051	<0.049	0.049	<0.050	0.050	<0.047	0.047	<0.049	0.049	<0.048	0.048
PCB-1242	53469-21-9	0.09	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.049	0.049	<0.051	0.051	<0.049	0.049	<0.051	0.051	<0.049	0.049	<0.050	0.050	<0.047	0.047	<0.049	0.049	<0.048	0.048
PCB-1248	12672-29-6	0.09	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.049	0.049	<0.051	0.051	<0.049	0.049	<0.051	0.051	<0.049	0.049	<0.050	0.050	<0.047	0.047	<0.049	0.049	<0.048	0.048
PCB-1254	11097-69-1	0.09	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.049	0.049	<0.051	0.051	<0.049	0.049	<0.051	0.051	<0.049	0.049	<0.050	0.050	<0.047	0.047	<0.049	0.049	<0.048	0.048
PCB-1260	11206-83-5	0.09	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.049	0.049	<0.051	0.051	<0.049	0.049	<0.051	0.051	<0.049	0.049	<0.050	0.050	<0.047	0.047	<0.049	0.049	<0.048	0.048
PCB-1262	37224-23-5	~	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.049	0.049	<0.051	0.051	<0.049	0.049	<0.051	0.051	<0.049	0.049	<0.050	0.050	<0.047	0.047	<0.049	0.049	<0.048	0.048
PCB-1268	11100-14-4	~	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.048	0.048	<0.049	0.049	<0.051	0.051	<0.049	0.049	<0.051	0.051	<0.049	0.049	<0.050	0.050	<0.047	0.047	<0.049	0.049	<0.048	0.048
Pesticides - SW 80818																																		
Dilution Factor																																		
4,4'-DDD	72-54-8	0.3	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.002	0.002	<0.010	0.01	<0.010	0.01	<0.010	0.010	<0.010	0.010	<0.009	0.009	<0.010	0.010	<0.048	0.048
4,4'-DDE	72-55-9	0.2	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.002	0.002	<0.010	0.01	<0.010	0.01	<0.010	0.010	<0.010	0.010	<0.009	0.009	<0.010	0.010	<0.048	0.048
4,4'-DDT	50-29-3	0.2	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.002	0.002	<0.010	0.01	<0.010	0.01	<0.010	0.010	<0.010	0.010	<0.009	0.009	<0.010	0.010	<0.048	0.048
o-BHC	315-84-6	0.01	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.024	0.024		
o-Chlordane	5103-71-0	~	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.01	<0.010	0.01	<0.010	0.01	<0.010	0.010	<0.010	0.010	<0.009	0.009	<0.010	0.010	<0.048	0.048		
Alachlor	15972-60-8	0.5	<0.072	0.072	<0.071	0.071	<0.072	0.072	<0.072	0.072	<0.072	0.072	<0.071	0.071	<0.071	0.071	<0.074	0.074	<0.076	0.076	<0.074	0.074	<0.076	0.076	<0.073	0.073	<0.075	0.075	<0.071	0.071	<0.073	0.073	<0.071	0.071
Aldrin	309-00-2	~	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.010	0.010	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.001	0.001	<0.002	0.002	<0.001	0.001
D-BHC	318-80-7	0.04	<0.040	0.040	<0.005	0.005	<0.010	0.010	<0.005	0.005	<0.010	0.010	<0.005	0.005	<0.010	0.010	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005
Chlordane	57-74-9	0.05	<0.019	0.019	<0.019	0.019	<0.019	0.019	<0.019	0.019	<0.019	0.019	<0.019	0.019	<0.019	0.019	<0.020	0.020	<0.020	0.020	<0.098	0.098	<0.10	0.1	<0.097	0.097	<0.10	0.1	<0.094	0.094	<0.097	0.097	<0.29	0.29
o-BHC	315-86-8	0.04	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.024	0.024
Dieldrin	60-51-1	0.004	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.001	0.001	<0.002	0.002	<0.001	0.001
Endosulfan I	959-98-8	~	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.01	<0.010	0.01	<0.010	0.010	<0.010	0.010	<0.009	0.009	<0.010	0.010	<0.048	0.048
Endosulfan II	33213-45-9	~	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.01	<0.010	0.01	<0.010	0.010	<0.010	0.010	<0.009	0.009	<0.010	0.010	<0.048	0.048
Endosulfan Sulfate	1031-07-8	~	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.01	<0.010	0.01	<0.010	0.010	<0.010	0.010	<0.009	0.009	<0.010	0.010	<0.048	0.048
Endrin	72-20-8	~	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.005	0.005	<0.010	0.01	<0.010	0.01	<0.010	0.010	<0.010	0.010	<0.009	0.009	<0.010	0.010	<0.048	0.048
Endrin Aldehyde	7421-91-4	5	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.01	<0.010	0.01	<0.010	0.010	<0.010							
Endrin ketone	53494-70-5	5	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.01	<0.010	0.01	<0.010	0.010	<0.010							
o-BHC	58-89-9	0.05	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.024	0.024
o-Chlordane	5103-71-0	~	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.01	<0.010	0.01	<0.010	0.010	<0.010							
Endrin ketone	53494-70-5	5	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.01	<0.010	0.01	<0.010	0.010	<0.010							
Hepachlor	76-44-8	0.04	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.005	0.005	<0.010	0.01	<0.010	0.01	<0.010	0.010	<0.010	0.01						

Table 9
Metals in groundwater (mg/L)
EPA Method: 6010
148-28 Hillside Avenue,
Jamaica, NY 11435

Sample ID Phenolic ID Sampling Date Client Matrix	NYSDEC TOGS Standards and Guidance Values - GA	RIMW-1 CM710875 10/25/22		RIMW-2 CM710876 10/25/22		RIMW-3 CM710871 10/24/22		RIMW-4 CM710868 10/24/22		RIMW-5 CM710874 10/25/22		RIMW-6 CM710870 10/24/22		DUPLICATE CM710869 10/24/22		EQUIPMENT BLANK CM710872 10/24/22		EQUIP BLANK CM710877 10/25/22		EQUIP BLANK CM48E182 09/29/2022		EQUIP BLANK CM48E185 09/30/2022		EQUIP BLANK CM50473 10/4/22		EQUIP BLANK CM50486 10/4/22		EQUIP BLANK CM61334 10/6/22		EQUIP BLANK CM61335 10/7/22		EQUIP BLANK CM717600 11/2/22					
		GROUND WATER		GROUND WATER		GROUND WATER		GROUND WATER		GROUND WATER		GROUND WATER		GROUND WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER					
		Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL				
Metals, Dissolved	CAS Number	mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L					
Dilution Factor																																					
Aluminum	7429-90-5	0.1	0.016	0.011	0.02	0.011	0.013	0.011	0.02	0.011	0.013	0.011	0.011	0.013	0.011	0.044	0.011	0.044	0.011	<0.011	0.011	<0.011	0.011	<0.010	0.02	0.021	0.020	0.164	0.020	<0.020	0.020	0.099	0.020				
Antimony	7440-36-0	0.003	<0.003	0.003	<0.003	0.003	<0.003	0.003	<0.003	0.003	<0.003	0.003	<0.003	0.003	<0.003	0.003	<0.003	0.003	<0.003	0.003	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005			
Arsenic	7440-38-2	0.025	<0.004	0.004	<0.004	0.004	<0.004	0.004	<0.004	0.004	<0.004	0.004	<0.004	0.004	<0.004	0.004	<0.004	0.004	<0.004	0.004	<0.004	0.004	<0.004	0.004	<0.004	0.004	<0.004	0.004	<0.004	0.004	<0.004	0.004	<0.004	0.004			
Barium	7440-39-3	1	0.156	0.002	0.12	0.002	0.096	0.002	0.081	0.002	0.061	0.002	0.111	0.002	0.081	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	0.001	0.002	<0.002	0.002	<0.002	0.002	0.003	0.002			
Beryllium	7440-41-7	0.003	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001			
Cadmium	7440-43-9	0.005	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001			
Calcium	7440-70-2	-	75	0.01	84.8	0.01	83	0.01	70.7	0.01	86.5	0.01	70.7	0.01	69.7	0.01	69.7	0.01	69.7	0.01	69.7	0.01	69.7	0.01	69.7	0.01	69.7	0.01	69.7	0.01	69.7	0.01	69.7	0.01			
Chromium	7440-47-3	0.05	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	0.002	0.001	0.004	0.001	0.001	0.002	0.001	0.003	0.001		
Cobalt	7440-48-4	0.01	<0.001	0.001	0.003	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002			
Copper	7440-50-8	0.2	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005			
Thallium	7439-89-6	0.0005	<0.0005	0.0005	<0.0005	0.0005	<0.0005	0.0005	<0.0005	0.0005	<0.0005	0.0005	<0.0005	0.0005	<0.0005	0.0005	<0.0005	0.0005	<0.0005	0.0005	<0.0005	0.0005	0.012	0.01	<0.010	0.01	0.15	0.010	0.393	0.010	0.059	0.010	0.018	0.010	0.154	0.010	
Iron	7439-82-1	0.3	0.159	0.011	0.52	0.011	0.011	0.011	0.015	0.011	0.018	0.011	0.018	0.011	0.011	0.011	<0.011	0.011	<0.011	0.011	<0.002	0.002	<0.010	0.01	<0.010	0.01	0.014	0.010	0.089	0.010	0.091	0.010	0.089	0.010	0.161	0.010	
Lead	7439-85-4	0.025	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.010	0.01	<0.010	0.01	0.014	0.010	0.089	0.010	0.091	0.010	0.089	0.010	0.161	0.010			
Magnesium	7439-96-5	35	18.5	0.01	20.6	0.01	24.1	0.01	28.3	0.01	37.8	0.01	25	0.01	28.1	0.01	0.09	0.01	0.16	0.01	<0.001	0.001	<0.001	0.001	<0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.002	0.001	0.006	0.001	
Manganese	7439-97-6	0.3	1.86	0.001	1.83	0.001	0.542	0.001	0.148	0.001	0.53	0.001	0.346	0.001	0.156	0.001	0.003	0.001	0.004	0.001	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	0.002	0.002	
Mercury	7440-02-0	0.0007	<0.0002	0.0002	<0.0002	0.0002	<0.0002	0.0002	<0.0002	0.0002	<0.0002	0.0002	<0.0002	0.0002	<0.0002	0.0002	<0.0002	0.0002	<0.0002	0.0002	<0.001	0.001	0.002	0.001	0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	0.002	0.001			
Nickel	7440-09-7	0.1	0.002	0.001	0.006	0.001	0.003	0.001	0.004	0.001	0.002	0.001	0.007	0.001	0.004	0.001	<0.001	0.001	<0.001	0.001	<0.1	0.1	<0.1	0.1	<0.1	0.1	<0.1	0.1	<0.1	0.1	0.2	0.1	0.1	0.2	0.1		
Potassium	7782-49-2	-	5.8	0.1	5	0.1	7.8	0.1	2.9	0.1	3.5	0.1	5.5	0.1	9	0.1	<0.1	0.1	0.2	0.1	<0.010	0.01	<0.010	0.01	<0.010	0.01	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	
Selenium	7440-22-4	0.01	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	
Sodium	7440-23-5	0.05	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.010	0.01	<0.010	0.01	<0.010	0.01	<0.010	0.01	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	
Silver	7440-25-2	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.010	0.01	<0.010	0.01	<0.010	0.01	0.17	0.010	0.17	0.010	0.17	0.010	<0.010	0.010	0.2	0.010	
Sulfur	7440-28-0	20	135	1.1	126	1.1	131	1.1	137	1.1	172	1.1	172	1.1	120	1.1	120	1.1	120	1.1	0.13	0.11	0.15	0.11	<0.005	0.0005	<0.005	0.0005	<0.005	0.0005	<0.005	0.0005	<0.005	0.0005	<0.005	0.001	0.005
Vanadium	7440-62-2	-	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	0.001	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	0.002	0.002	
Zinc	7440-66-6	5	<0.002	0.002	0.003	0.002	0.003	0.002	0.009	0.002	0.002	0.002	0.002	0.002	<0.002	0.002	0.008	0.002	0.009	0.002	0.012	0.002	<0.004	0.004	<0.004	0.004	0.002	0.004	0.004	0.004	<0.004	0.004	0.004	0.004	0.004	0.004	
NOTES: Bold Value = Laboratory Detection Yellow Highlight = Exceedance of NYSDEC TOGS Guidance Value RL is the Laboratory Reporting Limit - = this indicates that no regulatory limit has been established for this analyte																																					

Table 10
Miscellaneous and Inorganics in groundwater (ng/L)
EPA Method: 537 and 9010 9012
148-28 Hillside Avenue, Jamaica, NY 11435

Sample ID	HYSDC Groundwater Screening Level	RMW-1		RMW-2		RMW-3		RMW-4		RMW-5		RMW-6		RMW-7		RMW-8		RMW-9		RMW-10		RMW-11		RMW-12		RMW-13		RMW-14		RMW-15		RMW-16		RMW-17		RMW-18		RMW-19		RMW-20		RMW-21		RMW-22		RMW-23		RMW-24		RMW-25		RMW-26		RMW-27		RMW-28		RMW-29		RMW-30		RMW-31		RMW-32		RMW-33		RMW-34		RMW-35		RMW-36		RMW-37		RMW-38		RMW-39		RMW-40		RMW-41		RMW-42		RMW-43		RMW-44		RMW-45		RMW-46		RMW-47		RMW-48		RMW-49		RMW-50		RMW-51		RMW-52		RMW-53		RMW-54		RMW-55		RMW-56		RMW-57		RMW-58		RMW-59		RMW-60		RMW-61		RMW-62		RMW-63		RMW-64		RMW-65		RMW-66		RMW-67		RMW-68		RMW-69		RMW-70		RMW-71		RMW-72		RMW-73		RMW-74		RMW-75		RMW-76		RMW-77		RMW-78		RMW-79		RMW-80		RMW-81		RMW-82		RMW-83		RMW-84		RMW-85		RMW-86		RMW-87		RMW-88		RMW-89		RMW-90		RMW-91		RMW-92		RMW-93		RMW-94		RMW-95		RMW-96		RMW-97		RMW-98		RMW-99		RMW-100		RMW-101		RMW-102		RMW-103		RMW-104		RMW-105		RMW-106		RMW-107		RMW-108		RMW-109		RMW-110		RMW-111		RMW-112		RMW-113		RMW-114		RMW-115		RMW-116		RMW-117		RMW-118		RMW-119		RMW-120		RMW-121		RMW-122		RMW-123		RMW-124		RMW-125		RMW-126		RMW-127		RMW-128		RMW-129		RMW-130		RMW-131		RMW-132		RMW-133		RMW-134		RMW-135		RMW-136		RMW-137		RMW-138		RMW-139		RMW-140		RMW-141		RMW-142		RMW-143		RMW-144		RMW-145		RMW-146		RMW-147		RMW-148		RMW-149		RMW-150		RMW-151		RMW-152		RMW-153		RMW-154		RMW-155		RMW-156		RMW-157		RMW-158		RMW-159		RMW-160		RMW-161		RMW-162		RMW-163		RMW-164		RMW-165		RMW-166		RMW-167		RMW-168		RMW-169		RMW-170		RMW-171		RMW-172		RMW-173		RMW-174		RMW-175		RMW-176		RMW-177		RMW-178		RMW-179		RMW-180		RMW-181		RMW-182		RMW-183		RMW-184		RMW-185		RMW-186		RMW-187		RMW-188		RMW-189		RMW-190		RMW-191		RMW-192		RMW-193		RMW-194		RMW-195		RMW-196		RMW-197		RMW-198		RMW-199		RMW-200		RMW-201		RMW-202		RMW-203		RMW-204		RMW-205		RMW-206		RMW-207		RMW-208		RMW-209		RMW-210		RMW-211		RMW-212		RMW-213		RMW-214		RMW-215		RMW-216		RMW-217		RMW-218		RMW-219		RMW-220		RMW-221		RMW-222		RMW-223		RMW-224		RMW-225		RMW-226		RMW-227		RMW-228		RMW-229		RMW-230		RMW-231		RMW-232		RMW-233		RMW-234		RMW-235		RMW-236		RMW-237		RMW-238		RMW-239		RMW-240		RMW-241		RMW-242		RMW-243		RMW-244		RMW-245		RMW-246		RMW-247		RMW-248		RMW-249		RMW-250		RMW-251		RMW-252		RMW-253		RMW-254		RMW-255		RMW-256		RMW-257		RMW-258		RMW-259		RMW-260		RMW-261		RMW-262		RMW-263		RMW-264		RMW-265		RMW-266		RMW-267		RMW-268		RMW-269		RMW-270		RMW-271		RMW-272		RMW-273		RMW-274		RMW-275		RMW-276		RMW-277		RMW-278		RMW-279		RMW-280		RMW-281		RMW-282		RMW-283		RMW-284		RMW-285		RMW-286		RMW-287		RMW-288		RMW-289		RMW-290		RMW-291		RMW-292		RMW-293		RMW-294		RMW-295		RMW-296		RMW-297		RMW-298		RMW-299		RMW-300		RMW-301		RMW-302		RMW-303		RMW-304		RMW-305		RMW-306		RMW-307		RMW-308		RMW-309		RMW-310		RMW-311		RMW-312		RMW-313		RMW-314		RMW-315		RMW-316		RMW-317		RMW-318		RMW-319		RMW-320		RMW-321		RMW-322		RMW-323		RMW-324		RMW-325		RMW-326		RMW-327		RMW-328		RMW-329		RMW-330		RMW-331		RMW-332		RMW-333		RMW-334		RMW-335		RMW-336		RMW-337		RMW-338		RMW-339		RMW-340		RMW-341		RMW-342		RMW-343		RMW-344		RMW-345		RMW-346		RMW-347		RMW-348		RMW-349		RMW-350		RMW-351		RMW-352		RMW-353		RMW-354		RMW-355		RMW-356		RMW-357		RMW-358		RMW-359		RMW-360		RMW-361		RMW-362		RMW-363		RMW-364		RMW-365		RMW-366		RMW-367		RMW-368		RMW-369		RMW-370		RMW-371		RMW-372		RMW-373		RMW-374		RMW-375		RMW-376		RMW-377		RMW-378		RMW-379		RMW-380		RMW-381		RMW-382		RMW-383		RMW-384		RMW-385		RMW-386		RMW-387		RMW-388		RMW-389		RMW-390		RMW-391		RMW-392		RMW-393		RMW-394		RMW-395		RMW-396		RMW-397		RMW-398		RMW-399		RMW-400		RMW-401		RMW-402		RMW-403		RMW-404		RMW-405		RMW-406		RMW-407		RMW-408		RMW-409		RMW-410		RMW-411		RMW-412		RMW-413		RMW-414		RMW-415		RMW-416		RMW-417		RMW-418		RMW-419		RMW-420		RMW-421		RMW-422		RMW-423		RMW-424		RMW-425		RMW-426		RMW-427		RMW-428		RMW-429		RMW-430		RMW-431		RMW-432		RMW-433		RMW-434		RMW-435		RMW-436		RMW-437		RMW-438		RMW-439		RMW-440		RMW-441		RMW-442		RMW-443		RMW-444		RMW-445		RMW-446		RMW-447		RMW-448		RMW-449		RMW-450		RMW-451		RMW-452		RMW-453		RMW-454		RMW-455		RMW-456		RMW-457		RMW-458		RMW-459		RMW-460		RMW-461		RMW-462		RMW-463		RMW-464		RMW-465		RMW-466		RMW-467		RMW-468		RMW-469		RMW-470		RMW-471		RMW-472		RMW-473		RMW-474		RMW-475		RMW-476		RMW-477		RMW-478		RMW-479		RMW-480		RMW-481		RMW-482		RMW-483		RMW-484		RMW-485		RMW-486		RMW-487		RMW-488		RMW-489		RMW-490		RMW-491		RMW-492		RMW-493		RMW-494		RMW-495		RMW-496		RMW-497		RMW-498		RMW-499		RMW-500		RMW-501		RMW-502		RMW-503		RMW-504		RMW-505		RMW-506		RMW-507		RMW-508		RMW-509		RMW-510		RMW-511		RMW-512		RMW-513		RMW-514		RMW-515		RMW-516		RMW-517		RMW-518		RMW-519		RMW-520		RMW-521		RMW-522		RMW-523		RMW-524		RMW-525		RMW-526		RMW-527		RMW-528		RMW-529		RMW-530		RMW-531		RMW-532		RMW-533		RMW-534		RMW-535		RMW-536		RMW-537		RMW-538		RMW-539		RMW-540		RMW-541		RMW-542		RMW-543		RMW-544		RMW-545		RMW-546		RMW-547		RMW-548		RMW-549		RMW-550		RMW-551		RMW-552		RMW-553		RMW-554		RMW-555		RMW-556		RMW-557		RMW-558		RMW-559		RMW-560		RMW-561		RMW-562		RMW-563		RMW-564		RMW-565		RMW-566		RMW-567		RMW-568		RMW-569		RMW-570		RMW-571		RMW-572		RMW-573		RMW-574		RMW-575		RMW-576		RMW-577		RMW-578		RMW-579		RMW-580		RMW-581		RMW-582		RMW-583		RMW-584		RMW-585		RMW-586		RMW-587		RMW-588		RMW-589		RMW-590		RMW-591		RMW-592		RMW-593		RMW-594		RMW-595		RMW-596		RMW-597		RMW-598		RMW-599		RMW-600		RMW-601		RMW-602		RMW-603		RMW-604		RMW-605		RMW-606		RMW-607		RMW-608		RMW-609		RMW-610		RMW-611		RMW-612		RMW-613		RMW-614		RMW-615		RMW-616		RMW-617		RMW-618		RMW-619		RMW-620		RMW-621		RMW-622		RMW-623		RMW-624		RMW-625		RMW-626		RMW-627		RMW-628		RMW-629		RMW-630		RMW-631		RMW-632		RMW-633		RMW-634		RMW-635		RMW-636		RMW-637		RMW-638		RMW-639		RMW-640		RMW-641		RMW-642		RMW-643		RMW-644		RMW-645		RMW-646		RMW-647		RMW-648		RMW-649		RMW-650		RMW-651		RMW-652		RMW-653		RMW-654		RMW-655		RMW-656		RMW-657		RMW-658		RMW-659		RMW-660		RMW-661		RMW-662		RMW-663		RMW-664		RMW-665		RMW-666		RMW-667		RMW-668		RMW-669		RMW-670		RMW-671		RMW-672		RMW-673		RMW-674		RMW-675		RMW-676		RMW-677		RMW-678		RMW-679		RMW-680		RMW-681		RMW-682		RMW-683		RMW-684		RMW-685		RMW-686		RMW-687		RMW-688		RMW-689		RMW-690		RMW-691		RMW-692		RMW-693		RMW-694		RMW-695		RMW-696		RMW-697		RMW-698		RMW-699		RMW-700		RMW-701		RMW-702		RMW-703		RMW-704		RMW-705		RMW-706		RMW-707		RMW-708		RMW-709		RMW-710		RMW-711		RMW-712		RMW-713		RMW-714		RMW-715		RMW-716		RMW-717		RMW-718		RMW-719		RMW-720		RMW-721		RMW-722		RMW-723		RMW-724		RMW-725		RMW-726		RMW-727		RMW-728		RMW-729		RMW-730		RMW-731		RMW-732		RMW-733		RMW-734		RMW-735		RMW-736		RMW-737		RMW-738		RMW-739		RMW-740		RMW-741		RMW-742		RMW-743		RMW-744		RMW-745		RMW-746		RMW-747		RMW-748		RMW-749		RMW-750		RMW-751		RMW-752		RMW-753		RMW-754		RMW-755		RMW-756		RMW-757		RMW-758		RMW-759		RMW-760		RMW-761		RMW-762		RMW-763		RMW-764		RMW-765		RMW-766		RMW-767		RMW-768		RMW-769		RMW-770		RMW-771		RMW-772		RMW-773		RMW-774		RMW-775		RMW-776		RMW-777		RMW-778		RMW-779		RMW-780		RMW-781		RMW-782		RMW-783		RMW-784		RMW-785		RMW-786		RMW-787		RMW-788		RMW-789		RMW-790		RMW-791		RMW-792		RMW-793		RMW-794		RMW-795		RMW-796		RMW-797		RMW-798		RMW-799		RMW-800		RMW-801		RMW-802		RMW-803		RMW-804		RMW-805		RMW-806		RMW-807		RMW-808		RMW-809		RMW-810		RMW-811		RMW-812		RMW-813		RMW-814		RMW-815		RMW-816		RMW-817		RMW-818		RMW-819		RMW-820		RMW-821		RMW-822		RMW-823		RMW-824		RMW-825		RMW-826		RMW-827		RMW-828		RMW-829		RMW-830		RMW-831		RMW-832		RMW-833		RMW-834		RMW-835		RMW-836		RMW-837		RMW-838		RMW-839		RMW-840		RMW-841		RMW-842		RMW-843		RMW-844		RMW-845		RMW-846		RMW-847		RMW-848		RMW-849		RMW-850		RMW-851		RMW-852		RMW-853		RMW-854		RMW-855		RMW-856		RMW-857		RMW-858		RMW-859		RMW-860		RMW-861		RMW-862		RMW-863		RMW-864		RMW-865		RMW-866		RMW-867		RMW-868		RMW-869		RMW-870		RMW-871		RMW-872		RMW-873		RMW-874		RMW-875		RMW-876		RMW-877		RMW-878		RMW-879		RMW-880		RMW-881		RMW-882		RMW-883		RMW-884		RMW-885		RMW-886		RMW-887		RMW-888		RMW-889		RMW-890	
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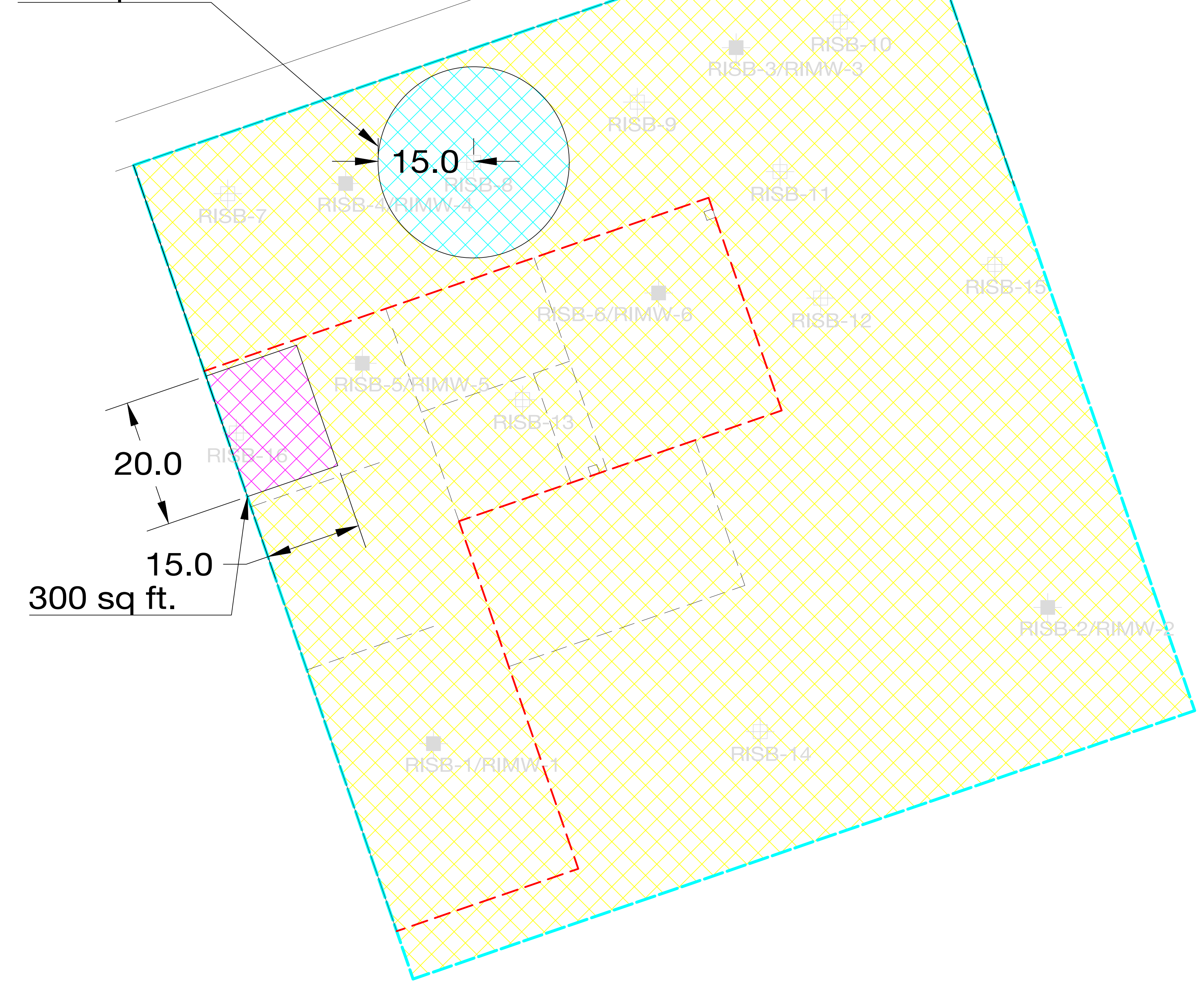
Table 11
Volatile Organic Compounds in Soil Vapor (ug/m3)
148-28 Hillside Avenue, Jamaica, NY 11435

Sample ID		RISV-1 CM48173 9/27/22 AIR		RISV-2 CM48174 9/27/22 AIR		RISV-3 CM49181 10/3/22 AIR		RISV-4 CM49182 10/3/22 AIR		RISV-5 CM48175 9/27/22 AIR	
York ID											
Sampling Date											
Client Matrix											
Compound	CAS Number	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Volatile Organics By EPA TO15 Full List		ug/m3		ug/m3		ug/m3		ug/m3		ug/m3	
Dilution Factor											
1,1,1,2-Tetrachloroethane	630-20-6	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,1,1-Trichloroethane	71-55-6	< 1.00	1.00	3.7	1.00	1.12	1.00	< 1.00	1.00	10.2	1.00
1,1,2,2-Tetrachloroethane	79-34-5	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,1,2-Trichloroethane	79-00-5	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,1-Dichloroethane	75-34-3	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,1-Dichloroethene	75-35-4	< 0.20	0.20	< 0.20	0.20	< 0.20	0.20	< 0.20	0.20	< 0.20	0.20
1,2,4-Trichlorobenzene	120-82-1	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,2,4-Trimethylbenzene	95-63-6	4.69	1.00	10.7	1.00	< 1.00	1.00	5.45	1.00	10.8	1.00
1,2-Dibromoethane(EDB)	106-93-4	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,2-Dichlorobenzene	95-50-1	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,2-Dichloroethane	107-06-2	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,2-dichloropropane	78-87-5	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,2-Dichlorotetrafluoroethane	76-14-2	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,3,5-Trimethylbenzene	108-67-8	1.27	1.00	2.5	1.00	2.1	1.00	1.44	1.00	2.5	1.00
1,3-Butadiene	106-99-0	< 1.00	1.00	15.5	1.00	37.6	1.00	17.4	1.00	63.2	1.00
1,3-Dichlorobenzene	541-73-1	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,4-Dichlorobenzene	106-46-7	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
1,4-Dioxane	123-91-1	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
2-Hexanone(MBK)	591-78-6	2.21	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
4-Ethyltoluene	622-96-8	4.33	1.00	8.99	1.00	1.77	1.00	4.51	1.00	8.99	1.00
4-Isopropyltoluene	99-87-6	< 1.00	1.00	< 1.00	1.00	1.61	1.00	< 1.00	1.00	< 1.00	1.00
4-Methyl-2-pentanone(MIBK)	108-10-1	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	2.07	1.00
Acetone	67-64-1	39.2	1.00	73.4	1.00	49.6	1.00	61.2	1.00	143	15.0
Acrylonitrile	107-13-1	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Benzene	71-43-2	3.48	1.00	8.05	1.00	11.8	1.00	5.75	1.00	17.2	1.00
Benzyl chloride	100-44-7	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Bromodichloromethane	75-27-4	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Bromoform	75-25-2	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Bromomethane	74-83-9	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Carbon Disulfide	75-15-0	2.04	1.00	3.61	1.00	15	1.00	4.67	1.00	13.1	1.00
Carbon Tetrachloride	56-23-5	0.31	0.20	< 0.20	0.20	< 0.20	0.20	< 0.20	0.20	< 0.20	0.20
Chlorobenzene	108-90-7	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	3.86	1.00	< 1.00	1.00
Chloroethane	75-00-3	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Chloroform	67-66-3	12.2	1.00	4.98	1.00	1.05	1.00	< 1.00	1.00	< 1.00	1.00
Chloromethane	74-87-3	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	1.1	1.00
Cis-1,2-Dichloroethene	156-59-2	< 0.20	0.20	< 0.20	0.20	< 0.20	0.20	0.24	0.20	< 0.20	0.20
cis-1,3-Dichloropropene	10061-01-5	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Cyclohexane	110-82-7	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Dibromochloromethane	124-48-1	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Dichlorodifluoromethane	75-71-8	< 1.00	1.00	2.18	1.00	3.45	1.00	< 1.00	1.00	6.67	1.00
Ethanol	64-17-5	19.8	1.00	< 1.00	1.00	6.14	1.00	< 1.00	1.00	12.1	1.00
Ethyl acetate	141-78-6	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Ethylbenzene	100-41-4	2.89	1.00	5.6	1.00	4.11	1.00	3.29	1.00	6.12	1.00
Heptane	142-82-5	2.77	1.00	21.5	1.00	16	1.00	13.6	1.00	68.4	1.00
Hexachlorobutadiene	87-68-3	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Hexane	110-54-3	2.93	1.00	4.68	1.00	23.4	1.00	11.6	1.00	71.5	1.00
Isopropylalcohol	67-63-0	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	2.51	1.00	< 1.00	1.00
Isopropylbenzene	98-82-8	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
m,p-Xylene	179601-23-1	11.4	1.00	22.1	1.00	15.2	1.00	12.7	1.00	23.7	1.00
Methyl Ethyl Ketone	78-93-3	7.87	1.00	6.51	1.00	8.61	1.00	12.1	1.00	29.8	1.00
Methyl tert-butyl ether(MTBE)	1634-04-4	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Methylene Chloride	75-09-2	< 3.00	3.00	< 3.00	3.00	< 3.00	3.00	< 3.00	3.00	< 3.00	3.00
n-Butylbenzene	104-51-8	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
o-Xylene	95-47-6	3.71	1.00	7.38	1.00	5.68	1.00	4.2	1.00	7.33	1.00
Propylene	115-07-1	< 1.00	1.00	< 1.00	1.00	273	15.0	< 1.00	1.00	< 1.00	1.00
sec-Butylbenzene	135-98-8	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Styrene	100-42-5	< 1.00	1.00	1.2	1.00	1.09	1.00	< 1.00	1.00	1.09	1.00
Tetrachloroethene	127-18-4	44.3	0.25	1,760	2.50	231	0.25	136	0.25	800	3.75
Tetrahydrofuran	109-99-9	3.8	1.00	< 1.00	1.00	3.15	1.00	3.21	1.00	< 1.00	1.00
Toluene	108-88-3	9.3	1.00	19	1.00	15.9	1.00	12.8	1.00	26.3	1.00
Trans-1,2-Dichloroethene	156-60-5	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
trans-1,3-Dichloropropene	10061-02-6	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Trichloroethene	79-01-6	0.38	0.20	1.33	0.20	1.23	0.20	2.08	0.20	11	0.20
Trichlorofluoromethane	75-69-4	1.9	1.00	1.85	1.00	1.61	1.00	2.71	1.00	< 1.00	1.00
Trichlorotrifluoroethane	76-13-1	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00	< 1.00	1.00
Vinyl Chloride	75-01-4	< 0.20	0.20	< 0.20	0.20	< 0.20	0.20	< 0.20	0.20	< 0.20	0.20
NOTES:											
Bold Value = Laboratory Detection											
RL is the Laboratory Reporting Limit											

Figures

707 sq.ft

HILLSIDE AVENUE



Notes

Legend	
	Site Boundary
	Former Building Boundary
	Former Petroleum Storage Facilities
	Former Storm and Floor Drains
	Monitoring Well
	Soil Boring
	Soil Vapor Point
	End Point
	Foundation Excavation (see SOE)
	Cellar Excavation to 13ft bgs
	Approximate Hotspot Excavation to 15ft
	Approximate Hotspot Excavation to 8ft
	Contaminated Soil Excavation to 2 ft

Title
Track 2 Cleanup
Depths

No.	Revision/Issue	Date

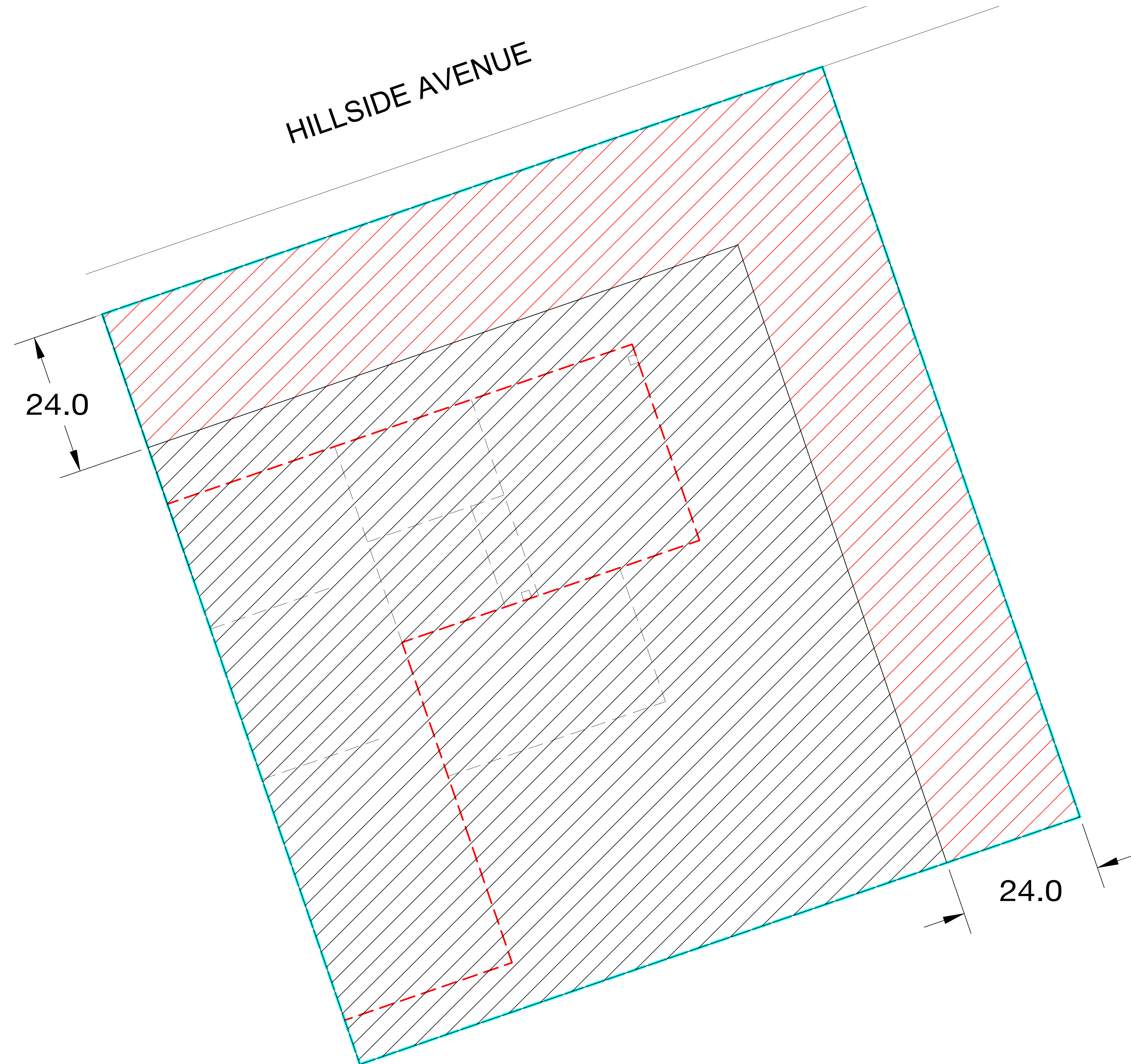


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Environmental Consultants

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Melville, New York 11747

Project Name and Address
C241199
148-28 Hillside AVE
Jamaica, NY
11435

Project 8346-JANY	Figure 1A
Date 2/3/2023	
Scale As Noted	



Notes

Legend

	Site Boundary
	Former Building Boundary
	Former Petroleum Storage Facilities
	Former Storm and Floor Drains
	Monitoring Well
	Soil Boring
	Soil Vapor Point
	End Point
	Foundation Excavation (see SOE)
	Cellar Excavation to 13ft bgs
	Approximate Hotspot Excavation to 15ft
	Approximate Hotspot Excavation to 8ft
	Contaminated Soil Excavation to 2 ft

Title

Development Excavation Plan

No.	Revision/Issue	Date
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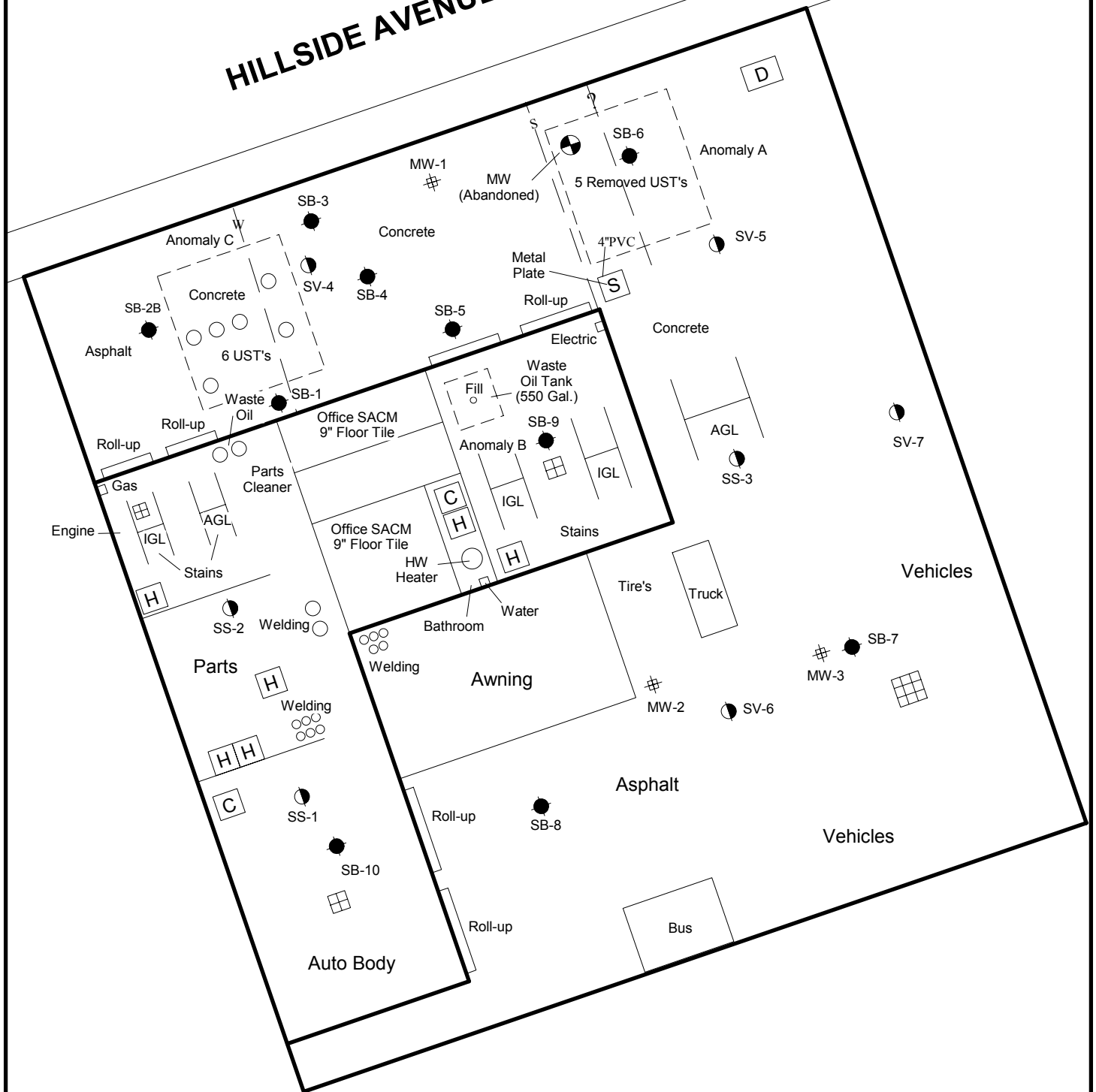


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Project	8346-JANY	Figure	1B
Date	2/3/2023		
Scale	As Noted		

HILLSIDE AVENUE



Legend

- Subsurface Utility
- SB-1 Soil Boring Sampling Location
- SS-1 Soil Vapor / Sub-Slab Soil Vapor Sampling Location
- ⊕ MW-1 Groundwater Monitoring Well Location



Sampling Diagram



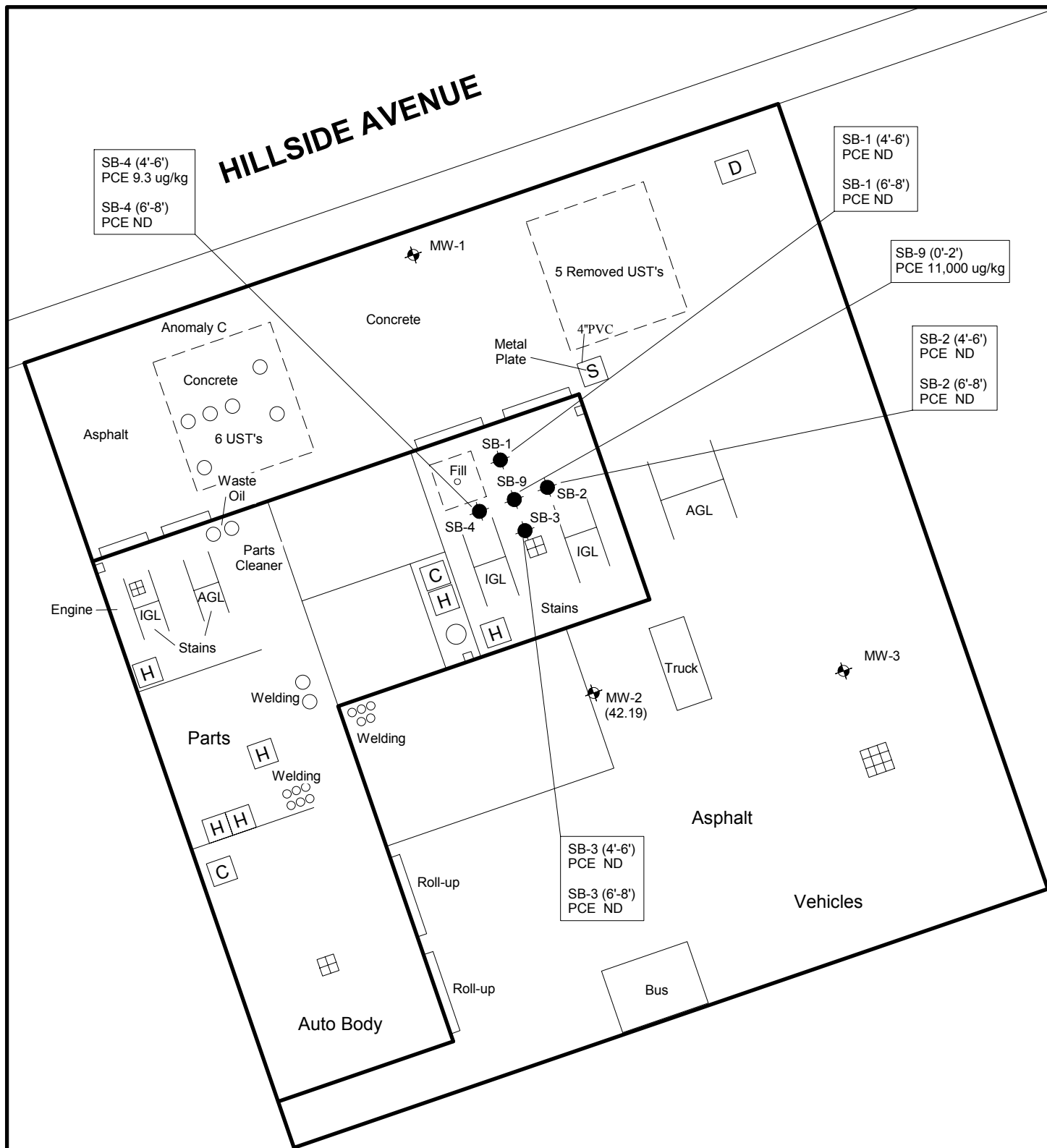
110 Main Street, Suite 103, Port Washington, New York 11050
Tel: 516-441-5800 Fax: 516-441-5511

Project No.: 8346-JANY

Figure No.: 2

Date: 12/30/2016

Scale: Not To Scale



Legend

- SB-1** Soil Boring
 MW-1 Groundwater Monitoring Well

PCE Delineation Soil Borings, SB-1 through SB-4 were collected in 2017

ND - Not Detected



PCE Delineation Results



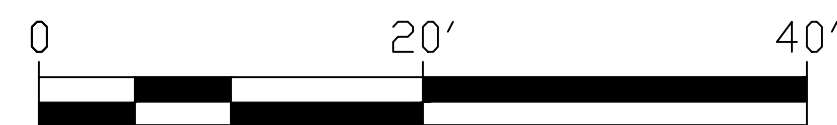
110 Main Street, Suite 103, Port Washington, New York 11050
 Tel: 516-441-5800 Fax: 516-441-5511

Project No.: 8346-JANY

Figure No.: 3

Date: 05/01/2017

Scale: Not To Scale



Notes

Legend		
	Site Boundary	
	Former Building Boundary	
	Former Petroleum Storage Facilities	
	Former Storm and Floor Drains	
	Monitoring Well	
	Soil Boring	
	Soil Vapor Point	

Title

SB/MW Sampling Diagram

No.	Revision/Issue	Date

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Project	8346-JANY	Figure 4
Date	11/30/2022	
Scale	As Noted	



Legend	
	Site Boundary
	Former Building Boundary
	Former Petroleum Storage Facilities
	Former Storm and Floor Drains
	Monitoring Well
	Soil Boring
	Soil Vapor Point

Title
SV Sampling Diagram

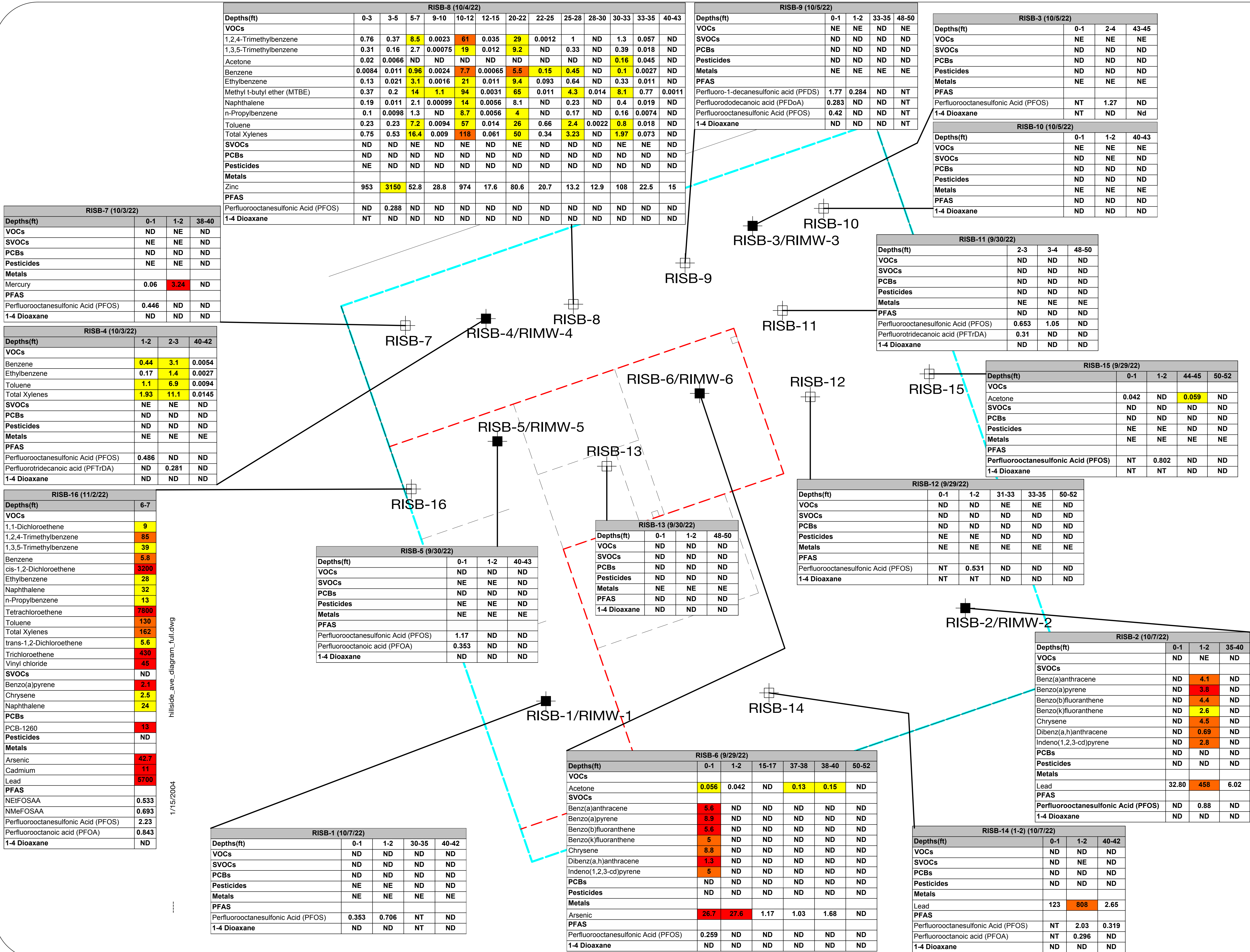
No.	Revision/Issue	Date



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Project Name and Address
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11435

Project	8346-JANY	Figure 5
Date	11/30/2022	
Scale	As Noted	



Notes

Units: mg/kg
PFAS Units ug/kg

Yellow denotes an
exceedance of protection of
groundwater soil cleanup
objectives

Orange denotes an
exceedance of restricted
residential soil cleanup
objectives

Red denotes an
exceedance of commercial
soil cleanup objectives

NE: Not Exceeding NYSDEC
Soil Cleanup Objectives

ND: Not detected above
laboratory detection Limits

NT: Not Tested

Legend	
	Site Boundary
	Former Building Boundary
	Monitoring Well
	Soil Boring

Title

Soil Spider
Diagram

No.	Revision/Issue	Date



Project Name and Address

148-26 Hillside Avenue
148-26 Hillside Avenue
Jamaica, NY
11435

Project	Figure
BCP Site C241199	6
Date	
4/17/2023	
Scale	As Noted

RIMW-4		
Compound	10/24/2022	TOGS
PFAS		
Perfluorooctanoic acid (PFOA)	26.5	10
Metals		
Sodium (Dissolved)	117	20
RIMW-4(Duplicate)		
Compound	10/24/2022	TOGS
PFAS		
Perfluorooctanoic acid (PFOA)	29	10
Metals		
Sodium (Dissolved)	120	20

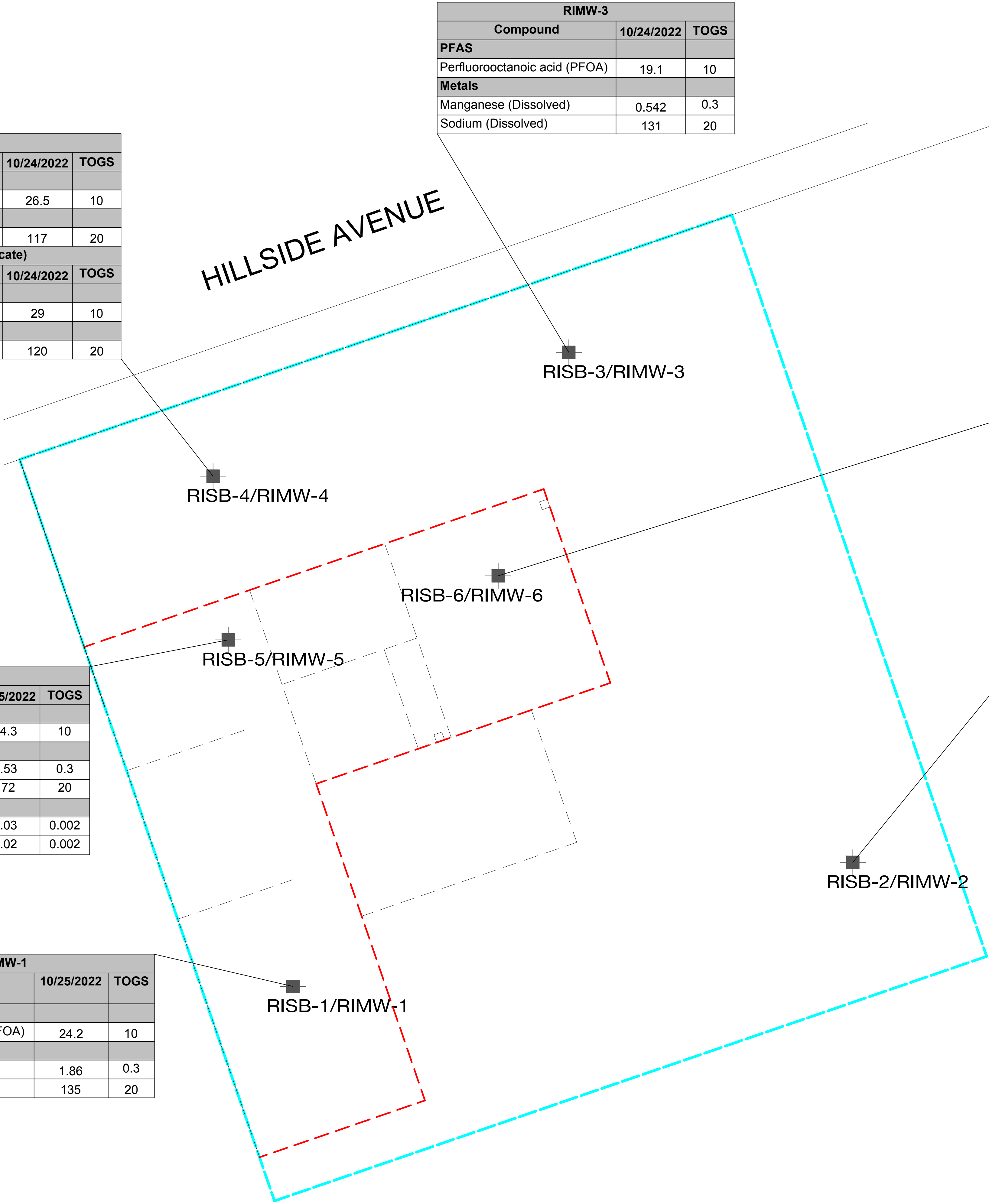
RIMW-3		
Compound	10/24/2022	TOGS
PFAS		
Perfluorooctanoic acid (PFOA)	19.1	10
Metals		
Manganese (Dissolved)	0.542	0.3
Sodium (Dissolved)	131	20

RIMW-6		
Compound	10/24/2022	TOGS
PFAS		
Perfluorooctanoic acid (PFOA)	18.6	10
Metals		
Manganese (Dissolved)	0.346	0.3
Sodium (Dissolved)	120	20

RIMW-2		
Compound	10/25/2022	TOGS
PFAS		
Perfluorooctanoic acid (PFOA)	19.7	10
Metals		
Iron (Dissolved)	0.52	0.3
Manganese (Dissolved)	1.83	0.3
Sodium (Dissolved)	126	20

RIMW-5		
Compound	10/25/2022	TOGS
PFAS		
Perfluorooctanoic acid (PFOA)	24.3	10
Metals		
Manganese (Dissolved)	0.53	0.3
Sodium (Dissolved)	172	20
SVOCs		
Benz(a)anthracene	0.03	0.002
Chrysene	0.02	0.002

RIMW-1		
Compound	10/25/2022	TOGS
PFAS		
Perfluorooctanoic acid (PFOA)	24.2	10
Metals		
Manganese (Dissolved)	1.86	0.3
Sodium (Dissolved)	135	20



Notes

Units: mg/L
PFAS Units: ng/L

Values denote an exceedance of NYSDEC Technical and Operational Guidance Series (1.1.1)

Legend	
	Site Boundary
	Former Building Boundary
	Former Petroleum Storage Facilities
	Former Storm and Floor Drains
	Monitoring Well
	Soil Boring
	Soil Vapor Point

Title

GW Exceedance
Spider Diagram

No.	Revision/Issue	Date

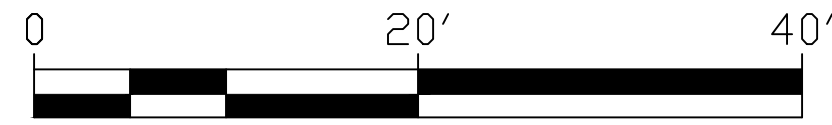


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Jamaica, NY
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Project	8346-JANY	Figure	7
Date	11/30/2022		
Scale	As Noted		



RISV-1	
Compound	09/27/2022
1,1,1-Trichloroethane	3.7
1,2,4-Trimethylbenzene	10.7
1,3,5-Trimethylbenzene	2.5
1,3-Butadiene	15.5
4-Ethyltoluene	8.99
Acetone	73.4
Benzene	8.05
Carbon Disulfide	3.61
Chloroform	4.98
Dichlorodifluoromethane	2.18
Ethylbenzene	5.6
Heptane	21.5
Hexane	4.68
m,p-Xylene	22.1
Methyl Ethyl Ketone	6.51
o-Xylene	7.38
Styrene	1.2
Tetrachloroethene	1760
Toluene	19
Trichloroethene	1.33
Trichlorofluoromethane	1.85

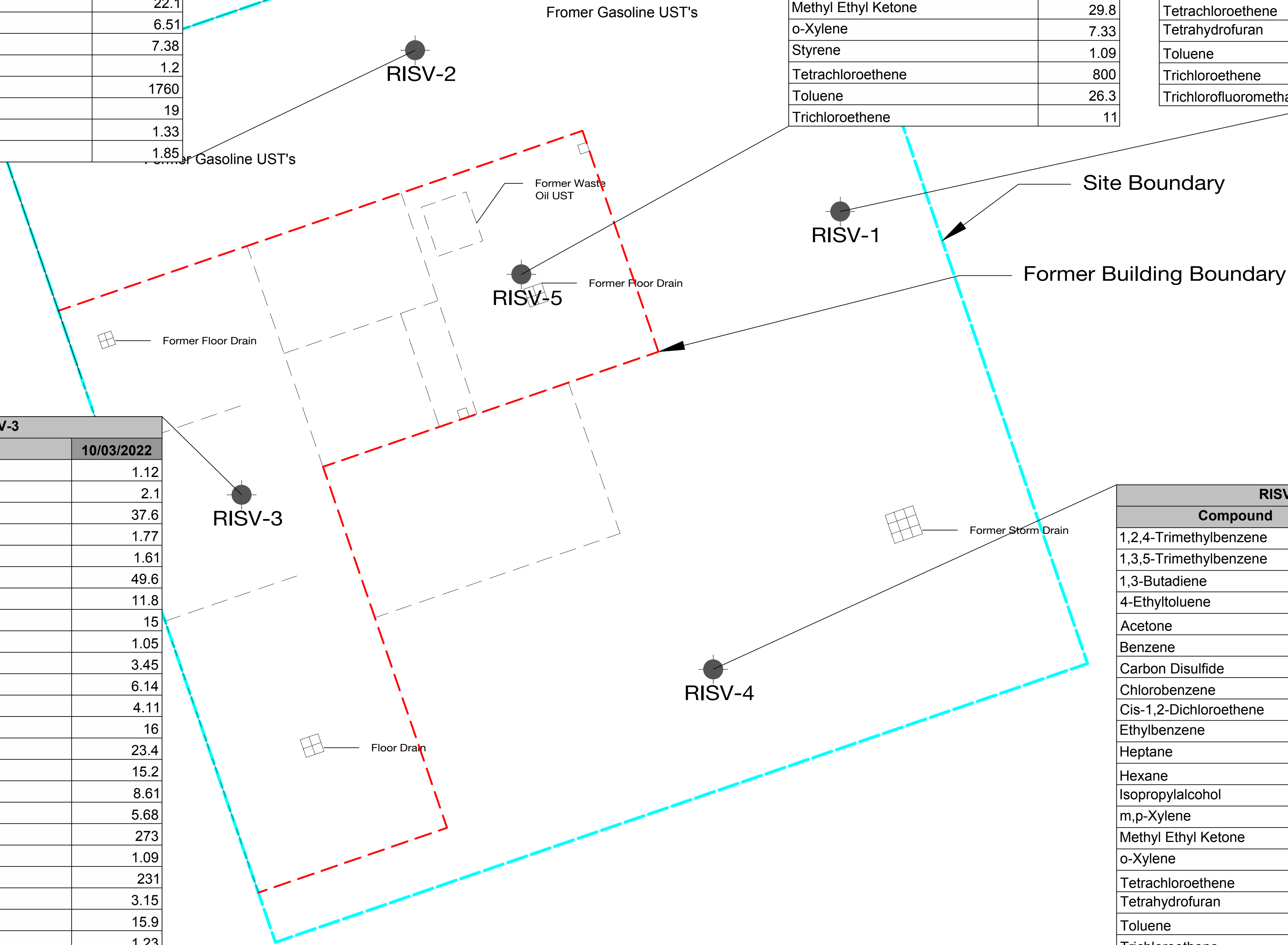
RISV-5	
Compound	09/27/2022
1,1,1-Trichloroethane	10.2
1,2,4-Trimethylbenzene	10.8
1,3,5-Trimethylbenzene	2.5
1,3-Butadiene	63.2
4-Ethyltoluene	8.99
4-Methyl-2-pentanone(MIBK)	2.07
Acetone	143
Benzene	17.2
Carbon Disulfide	13.1
Chloromethane	1.1
Dichlorodifluoromethane	6.67
Ethanol	12.1
Ethylbenzene	6.12
Heptane	68.4
Hexane	71.5
m,p-Xylene	23.7
Methyl Ethyl Ketone	29.8
o-Xylene	7.33
Styrene	1.09
Tetrachloroethene	800
Toluene	26.3
Trichloroethene	11

RISV-1	
Compound	09/27/2022
1,2,4-Trimethylbenzene	4.69
1,3,5-Trimethylbenzene	1.27
2-Hexanone(MBK)	2.21
4-Ethyltoluene	4.33
Acetone	39.2
Benzene	3.48
Carbon Disulfide	2.04
Carbon Tetrachloride	0.31
Chloroform	12.2
Ethanol	19.8
Ethylbenzene	2.89
Heptane	2.77
Hexane	2.93
m,p-Xylene	11.4
Methyl Ethyl Ketone	7.87
o-Xylene	3.71
Tetrachloroethene	44.3
Tetrahydrofuran	3.8
Toluene	9.3
Trichloroethene	0.38
Trichlorofluoromethane	1.9

RISV-3	
Compound	10/03/2022
1,1,1-Trichloroethane	1.12
1,3,5-Trimethylbenzene	2.1
1,3-Butadiene	37.6
4-Ethyltoluene	1.77
4-Isopropyltoluene	1.61
Acetone	49.6
Benzene	11.8
Carbon Disulfide	15
Chloroform	1.05
Dichlorodifluoromethane	3.45
Ethanol	6.14
Ethylbenzene	4.11
Heptane	16
Hexane	23.4
m,p-Xylene	15.2
Methyl Ethyl Ketone	8.61
o-Xylene	5.68
Propylene	273
Styrene	1.09
Tetrachloroethene	231
Tetrahydrofuran	3.15
Toluene	15.9
Trichloroethene	1.23
Trichlorofluoromethane	1.61

RISV-4	
Compound	10/03/2022
1,2,4-Trimethylbenzene	5.45
1,3,5-Trimethylbenzene	1.44
1,3-Butadiene	17.4
4-Ethyltoluene	4.51
Acetone	61.2
Benzene	5.75
Carbon Disulfide	4.67
Chlorobenzene	3.86
Cis-1,2-Dichloroethene	0.24
Ethylbenzene	3.29
Heptane	13.6
Hexane	11.6
Isopropylalcohol	2.51
m,p-Xylene	12.7
Methyl Ethyl Ketone	12.1
o-Xylene	4.2
Tetrachloroethene	136
Tetrahydrofuran	3.21
Toluene	12.8
Trichloroethene	2.08
Trichlorofluoromethane	2.71

HILLSIDE AVENUE



Notes

Units: ug/m³

Legend

	Site Boundary
	Former Building Boundary
	Former Petroleum Storage Facilities
	Former Storm and Floor Drains
	Monitoring Well
	Soil Boring
	Soil Vapor Point

Title

SV Spider Diagram

No.	Revision/Issue	Date

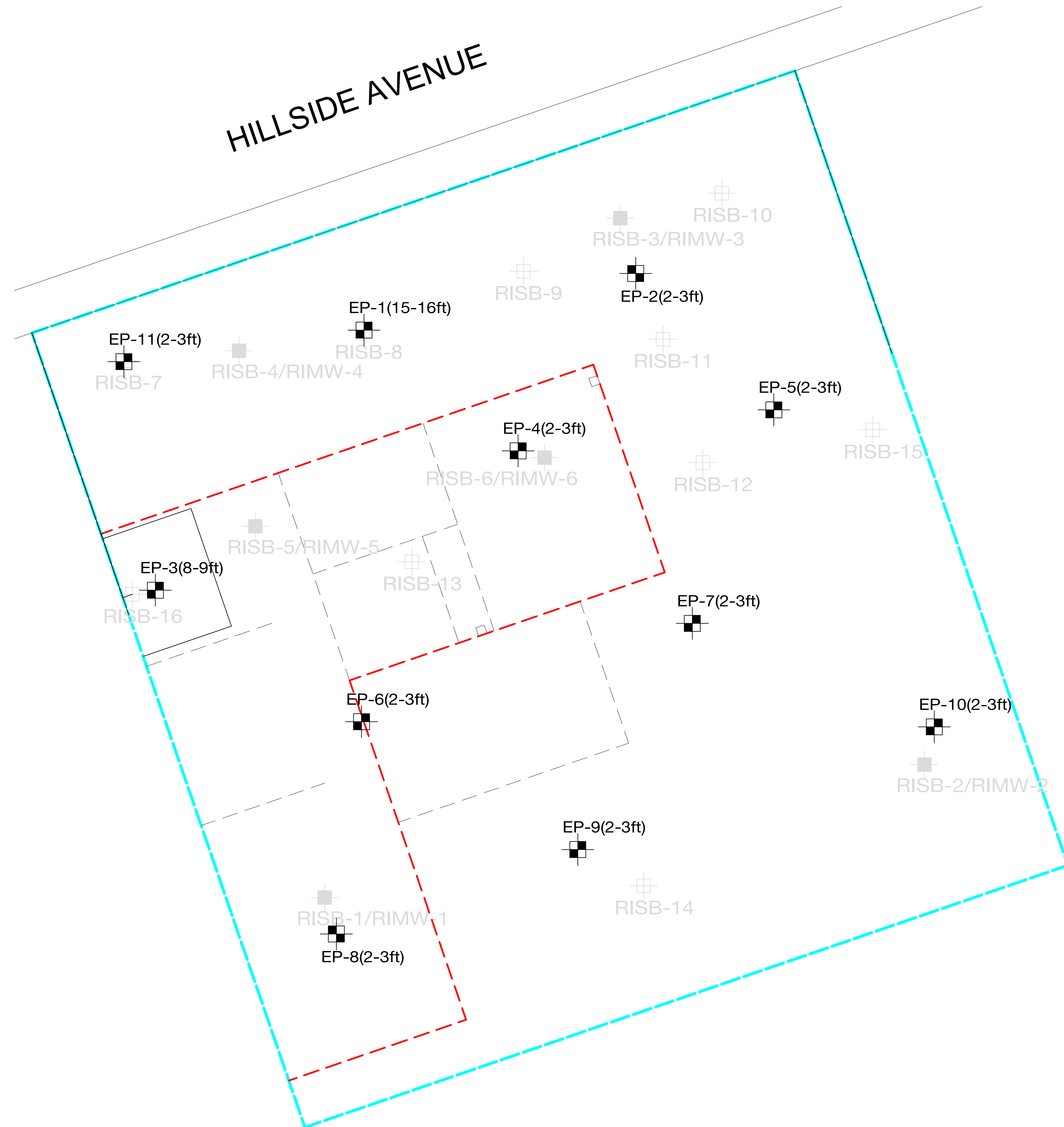
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Melville, New York 11747

Project Name and Address

C241199
148-28 Hillside AVE
Jamaica, NY
11435

Project	8346-JANY	Figure	8
Date	11/30/2022		
Scale	As Noted		



Notes

Legend

	Site Boundary
	Former Building Boundary
	Former Petroleum Storage Facilities
	Former Storm and Floor Drains
	Monitoring Well
	Soil Boring
	Soil Vapor Point
	End Point
	Foundation Excavation (see SOE)
	Cellar Excavation to 13ft bgs
	Approximate Hotspot Excavation to 15ft
	Approximate Hotspot Excavation to 8ft
	Contaminated Soil Excavation to 2 ft

Title

Endpoint Sampling Diagram

No.	Revision/Issue	Date

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Project	8346-JANY	Figure 9
Date	2/3/2023	
Scale	As Noted	

Appendix A

CONSTRUCTION HEALTH

AND SAFETY PLAN

CONSTRUCTION HEALTH AND SAFETY PLAN

For

148-28 Hillside Avenue

QUEENS, NEW YORK

Block 9694, Lot 417

NYSDEC BCP No. C241199

Prepared for:

Chung Lam

Hillside 168 Inc

148-26 Hillside Avenue

Jamaica, NY 11435

Prepared by:

Jason Stewart, P.E. and Advanced Cleanup Technologies, Inc.

228 Park Ave S PMB 34864

New York, New York 10003

516-441-5800

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1

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TITLE

1

Hospital Route

APPENDICES

SECTION

TITLE

A

Chemical Safety Cards

B

Respirator Fit Test Procedures

1.0 INTRODUCTION

The construction of a 9-story mixed-use residential and commercial building with a cellar is being proposed at the property located at 148-28 Hillside Avenue, Jamaica, New York (“the Site”). This Construction Health and Safety Plan (CHASP) has been prepared to identify site-specific health and safety procedures to be followed by on-site contractors during remedial activities at the site. All activities performed under this CHASP are targeted to comply with Occupational Safety and Health Administration (OSHA) Regulations 29 CFR Part 1910, *et seq.*

1.1 Purpose

The purpose of this CHASP is to provide the contractors’ field personnel, and other visitors with an understanding of the potential chemical and physical hazards that exist or may arise while portions of this project are being performed. The primary objective is to ensure the well being of all field personnel and the community surrounding this site. A copy of this CHASP will be available to anyone that requests it. Visiting 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 to read the CHASP.

All on-site personnel shall familiarize themselves with the contents of this CHASP and the remedial activities planned for the site. Personnel choosing not to comply with this CHASP will be removed from the worksite.

1.2 Site Description

The Site is located at 148-28 Hillside Avenue, Jamaica, NY in the central section of Queens County, New York and is identified as Block 9694 and Lots 17 on the New York City Tax Map. Figure 1 shows the Site location. The Site is 17,450-square feet and is located along the southern side of Hillside Avenue between 148th Street to the west and 150th Street to the east. To the north of the property is Hillside Avenue followed by a two-story mixed-use building with apartments

148-28 Hillside Avenue
NYSDEC BCP No. C241199

above commercial businesses. To the east of the property is a one-story commercial building occupied by a supermarket. To the south, a six-story residential apartment building and a two-story religious building are located. The west is a two-story commercial building occupied by the National Organization of Industrial Trade Unions. A map of the site boundary is shown in Figure 1. Currently, the Site is a vacant commercial building.

1.3 Environmental Concerns

Advanced Cleanup Technologies completed a Phase I Environmental Site Assessment on July 14, 2015. The Phase I identifies the property as of 1888 contained a three-story residential building. By 1925, a one-story filling station with gasoline tanks had also been constructed. By 1942, the three-story building was identified as mixed-use and it was demolished by 1963. By 1967, the gasoline tanks were no longer identified, and by 1992 the building was identified as an auto repair shop. The property remained substantially unchanged through 2006.

According to ACT's Phase I Environmental Site Assessment dated July 14, 2015, five abandoned 550-gallon gasoline underground storage tanks were present in front of the building. One inactive 250-gallon waste oil underground storage tank was observed in the interior of the repair shop. According to the site contact, six underground storage tanks were removed from the property approximately 25 years ago. The GPR survey detected disturbed soil that likely was the former location of removed underground storage tanks.

In a Remedial Investigation Report prepared by Advanced Cleanup Technologies in October 2016, soil quality data was compared to Unrestricted and Restricted Residential Use Soil Cleanup Objectives (UUSCOs and RRSCOs) contained in NYSDEC 6 NYCRR Part 375. VOC compounds including acetone (maximum of 110 mg/kg) and tetrachloroethene (11,000 mg/kg) were detected above their Unrestricted Use SCOs in two shallow soil samples. Two SVOCs, Benzo(a)anthracene (1,550 mg/kg) and Chrysene (1,560 mg/kg) exceeded Unrestricted Use SCOs in one shallow soil sample. Benzo(a)anthracene also exceeded Restricted Residential Use SCOs. One Pesticide, 4,4'-DDT (max. of 5.06 mg/kg) exceeded its Unrestricted Use Soil Cleanup Objective. Several metals were identified and lead (1,100 mg/Kg) and selenium (7.18 mg/Kg)

148-28 Hillside Avenue
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exceeded Unrestricted Use SCOs. Lead also exceeded Restricted Residential Use SCOs. Overall, with the exception of PCE disposal, the soil chemistry is similar to sites with historic urban fill in New York City.

Soil vapor samples collected during the RI were compared to the compounds listed in Table 3.1 Air Guidance Values derived by the New York State Department of Health (NYSDOH) located in the NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion, dated October 2006, updated June 2007 for the soil vapor/indoor air matrices, updated September 2013 for tetrachloroethylene (PCE), and updated August 2015 for trichloroethylene (TCE). Soil vapor sampling detected several petroleum related and chlorinated compounds. Highest concentrations were detected for 2-Butanone at 1,100 ug/m³. Petroleum related (BTEX) compounds were detected at a maximum concentration of 299 ug/m³. Chlorinated compound Tetrachloroethylene PCE was detected in all six samples and ranged in concentrations from 50 to 2,700 ug/m³, compared to a NYSDOH screening value of 30 ug/m³. Trichloroethylene was detected in one soil vapor sample in the east section of the site at 55 ug/m³, above the NYSDOH screening value of 2 ug/m³. Concentrations of PCE and TCE are above the NYSDOH guidance matrix and require mitigation.

In October 2022, ACT performed a BCP Remedial Investigation, which included a site inspection, geophysical investigation, and the installation, screening, and sampling of 16 soil borings, 6 groundwater monitoring wells, and 5 soil vapor probes throughout the Site.

Soil:

- Shallow onsite soil quality is generally indicative of urban fill to approximately 5 ft bgs. Shallow soil contained exceedances of Restricted Residential Soil Cleanup Objectives (RRSCOs) for SVOCs (Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, and Indeno(1,2,3-cd)pyrene) and metals (mercury, arsenic, and lead). Soil deeper than 5ft bgs is generally indicative of native soil with no exceedances of RRSCOs.

- During the remedial investigation, two onsite hotspots were identified in the vicinity of soil borings RISB-8 and RISB-16. Soil contamination identified in the vicinity of RISB-8 is indicative of gasoline contamination related to the historically abandoned gasoline USTs. There were exceedances of RRSCOs for BTEX compounds to a depth of approximately 22ft bgs. No liquid petroleum product was found in the soil boring. No exceedances of TOGS were identified for any BTEX compounds in any of the onsite monitoring wells.
- During the installation of an onsite test pit, a spill was identified along the western property boundary (NYSDEC Spill No. 22-03747). During the remedial investigation, a supplemental soil sample was collected from saturated source material at the base of a test pit(RISB-16). The test pit had been excavated to a depth of 6ft bgs and the soil sample was collected from 6-7ft bgs. The soil sample contained contamination indicative of automotive waste from a floor drain inside the historic onsite auto shop. The source area appears to be very small in size and limited to only to a shallow depth. The soil boring RISB-5 and monitoring well RIMW-5 were installed directly adjacent to the spill. RISB-5 had no soil exceedances above RRSCOs.
- The soil from the source material at the base of the hotspot contained compounds above commercial soil cleanup objectives including:
 - arsenic @ 42.7 mg/kg
 - cadmium @ 11 mg/kg
 - lead @ 5,700 mg/kg
 - PCB-1260 @ 13 mg/kg
 - cis-1,2-Dichloroethene @ 3,200 mg/kg
 - Tetrachloroethene @ 7,800 mg/kg
 - Trichloroethene @ 430 mg/kg
 - Vinyl chloride @ 45 mg/kg
 - SVOC Benzo(a)pyrene @ 2.1 mg/kg

Soil Vapor:

- Soil vapor quality contained the CVOCs Tetrachloroethylene and Trichloroethene above NYSDOH indoor air guidelines. Tetrachloroethylene was identified above NYSDOH indoor air guidelines throughout the site, with the highest level found in the front of the property in SV-2 @ 1,760 ug/m³. Trichloroethene was identified above NYSDOH indoor air guidelines in soil vapor samples SV-4 and SV-5, with the highest level found in the center of the site in SV-5 @ 11 ug/m³

2.0 SITE PERSONNEL

All on-site personnel shall have training in accordance with the regulations codified at 29 CFR 1910.20. The Site Supervisor will maintain proof that the qualifications of the on-site personnel comply with these regulations, prior to them being allowed to be included in the on-Site workforce.

All on-site personnel shall familiarize themselves with the contents of the CHASP, the scope of the Remedial Action Work Plan (RAWP) for the Site and attend a daily site specific health and safety briefing prior to the commencement of work activities. Personnel choosing not to comply with this CHASP will be removed from the worksite.

ACT's Site Supervisor will have oversight responsibility over the project to ensure that this CHASP is properly implemented and that ACT and its subcontractors adhere to all OSHA regulations and other established industry health and safety practices.

Each contractor will designate an on-site individual responsible for health and safety issues relating to excavation and construction activities. Each contractor will communicate to the Site Supervisor the name of this individual and what specific actions are to be taken by each contractor during that work day that will be required to comply with the CHASP.

The Site Supervisor will coordinate the activities of all other contractors on-site so as not to

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jeopardize the health and safety of any personnel on-site. In addition, the Site Supervisor will continually monitor and inspect personnel and equipment for compliance with established safe work practices.

A list of the pertinent personnel authorized to supervise site health and safety operations is presented below:

Title	Name	Telephone Number
Site Supervisor ACT	Tim Young	516-640-2947 (Mobile)
Project Manager ACT	Jason Stewart	516-441-5800, Ext. 3 516-589-4050 (Mobile)
Health and Safety Officer ACT	Yisong Yang	718-508-2970 (Mobile)

3.0 PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE) is divided into the following four categories based on the degree of protection afforded:

- Level A: This PPE level will be selected when the greatest level of skin, respiratory, and eye protection is required. It includes positive pressure, full face-piece self-contained breathing apparatus (SCBA), or NIOSH-approved positive pressure supplied air respirator with escape SCBA and a totally-encapsulating chemical-protective suit.
- Level B: This PPE level will be selected when the highest level of respiratory protection is necessary but a lesser level of skin protection is needed. It includes positive

pressure, full face-piece SCBA, or NIOSH-approved positive pressure supplied air respirator with escape SCBA and hooded chemical-resistant clothing such as overalls and long-sleeved jacket, coveralls, one or two-piece chemical-splash suit or disposable chemical-resistant overalls.

Level C: This PPE level will be selected when the concentration(s) and type(s) of airborne substance(s) present in the work area is known and the criteria for using air purifying respirators are met. It includes full-face or half-mask, NIOSH-approved air purifying respirators and hooded chemical-resistant clothing such as overalls and long-sleeved jacket, coveralls, one or two-piece chemical-splash suit or disposable chemical-resistant overalls.

Level D: This PPE level will be selected for nuisance contamination only. It includes coveralls, gloves, chemical-resistant steel toe and shank boots, safety glasses or chemical splash goggles, hard hat, escape mask and face shield.

PPE shall be selected in accordance with the site air monitoring program (Section 5.3), OSHA 29 CFR 1910.120(c), (g), and 1910.132. Protective equipment shall be NIOSH-approved and respiratory protection shall conform to OSHA 29 CFR Part 1910.133 and 1910.134 specifications; head protection shall conform to 1910.135; eye and face protection shall conform to 1910.133; and foot protection shall conform to 1910.136. The only true difference among the levels of protection from D thru B is the addition of the type of respiratory protection.

Before site personnel are required to use any respirator with a negative or positive pressure tight-fitting face-piece, the personnel will be fit tested with the same make, model, style, and size of respirator that will be used. The fit test shall be administered using only an OSHA-accepted fit test protocol. The OSHA-accepted fit test protocols and procedures provided for in 29 CFR 1910.120 are contained in Appendix B of this CHASP.

All Site workers will be required to participate in a comprehensive PPE program. The PPE program will consist of daily “Tailgate” Health and Safety meetings, proper inspection, donning, use,

maintenance, storage and decontamination of protective clothing and equipment, use of protective equipment in temperature extremes and monitoring of co-workers and the work environment.

The Site Supervisor will determine the level of protection required for all field activities and whether the level of protection should be upgraded. It is anticipated that all on-site activities will be conducted in Level D PPE, unless otherwise upgraded by the Site Supervisor. Changes in the level of protection will be recorded in the dedicated site logbook along with the rationale for the changes.

4.0 HAZARD EVALUATION

4.1 Chemical Exposure

A list of chemicals including VOCs, SVOCs, metals and pesticides that are present in subsurface soil at the Site is provided in Table 1. These types of contaminants at the detected concentrations represent a low to moderate potential for exposure. The standards listed in the table represent Immediate Danger to Life and Health (IDLH), Time-Weighted Average (TWA) and Short-Term Exposure Limit (STEL).

The primary routes of exposure for these chemicals are inhalation, ingestion and absorption through the skin and mucous membranes. The health risks associated with the exposure to these substances during construction activities will be minimized through a combination of education, personal protection equipment (PPE) and dust control measures.

4.2 Temperature Hazards

4.2.1 Heat Exposure Hazards

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

Heat Rash

Heat rash results from continuous exposure to heat, humid air, and chafing clothes. Heat rash

is uncomfortable and decreases the ability to tolerate heat.

Heat Cramps

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

Heat Exhaustion

Exhaustion results from 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.

Heat Stroke

Heat stroke results from an 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, coma, and death.

The following procedures should be followed to prevent or control heat stroke:

- 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. Provide shelter against heat and direct sunlight to protect personnel. Take breaks in

shaded areas.

- D. Rotate workers utilizing protective clothing during hot weather.
- E. Establish a work regime that will provide adequate rest periods, with personnel working in shifts.

4.2.2 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 (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).

4.3 Fire Prevention

One portable fire extinguisher with a rating (ratio) of 20 pound A/B/C will be conspicuously and centrally located at the site. Portable extinguishers will be properly tagged with inspection dates

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and maintained in accordance with standard maintenance procedures for portable fire extinguishers.

The following fire prevention guidelines are to be followed:

- 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 free-floating, 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.

4.4 Operation of Heavy Equipment

When operating or working around heavy equipment, the Site Supervisor will ensure that site personnel conform to this CHASP to include the wearing of proper clothing such as hard hats and safety glasses. Any specific health and safety issues relating to the equipment to be used on-site that work day, will be covered in the daily health and safety briefing.

5.0 MANAGEMENT AND PLANNING

5.1 General Site Control

The Site Supervisor will establish a command post within the Site. A perimeter site fence, as required by the New York City Department of Buildings, will be erected to define the limits of the Site. All work must be performed within the site fence. Flagmen and traffic control will be provided as required at all times.

The Site will be left hazard-free at the end of each work day. In addition, all fence gates will be operable and locked in a closed position, all site fencing will be properly standing or braced and site lighting will be operational. The property owner will provide site security during off-work hours.

During site excavation, worker exposure to potential hazardous substances will be minimized through Health and Safety Communication (Section 5.2), Decontamination Procedures (Section 5.3) and Dust Control Methods (Section 5.3).

5.2 Health and Safety Communication

The relatively small size of the work area makes normal verbal communication the primary mode of communication for the project. In the event that verbal communication is impossible the following hand signals will be used.

Gripping a partners wrist = “Leave area immediately”

Hands on top of head = “ I need assistance”

Thumbs up = “OK; I’m alright; I understand”

Thumbs down = “No; Negative”

Daily Health and Safety Meetings will address a list of tasks to be performed that day, the equipment and machinery involved, and any hazards identified with this type of activity. Workers will be given the opportunity to list out additional perceived hazards, and discuss safe work practices while in these operations. The daily safety meeting will also be an opportunity to review the work performed the previous day, any hazards encountered, mitigating actions taken, and suggestions for future improvement.

5.3 Air Monitoring

This section of the CHASP discusses air monitoring that will be performed to address community and site personnel concerns of possible exposures due to airborne migration of

suspected contaminants that may be encountered during on-site field activities.

Periodic air monitoring will be performed for VOCs at the perimeter of the work area once every two hours during field activities. Continuous air monitoring will be performed for VOCs during all ground intrusive activities such as soil excavation, loading and offsite transport. All ambient air readings will be recorded and provided as an appendix in the P.E.-certified Remedial Closure Report.

5.3.1 Community Air Monitoring

Periodic air monitoring for VOCs at the perimeter of the work area will be accomplished as follows:

- VOCs will be monitored at the upwind perimeter of the work area at the start of each work day and periodically thereafter to establish background conditions. The monitoring will be performed utilizing a Photovac 2020 portable Photoionization Detector (PID) or equivalent equipped with a 10.6 eV lamp capable of detecting the types of contaminants known or suspected to be present.
- VOCs will be monitored at the downwind perimeter of the work area daily at 2 hour intervals. If ambient air concentrations of total organic vapors at the downwind perimeter of the work area exceeds 5 parts per million (ppm) above background, work activities will be halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities will resume provided that the total organic vapor level 200 feet downwind of the work area 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 15 minute average.

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities will be shutdown.

5.3.2 Activity-Specific Air Monitoring

Continuous air monitoring will be conducted inside the work area for VOC levels during all ground-intrusive activities, such as soil excavation, loading and offsite transport in accordance with 29 CFR 1910.120(h). Continuous air monitoring will also be performed utilizing a Photovac 2020 PID or equivalent. Continuous air monitoring will be performed in the following manner:

- Volatile organic compounds will be monitored inside the work area of construction and health and safety personnel on a continuous basis. The PID will be programmed to calculate 15-minute running average concentrations. If ambient air concentrations of total organic vapors inside the work area exceed 5 ppm above background, work activities will be halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.
- If total organic vapor levels inside the work area persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities will resume provided that the total organic vapor level inside the work area 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 15 minute average.

5.4 Dust Control

Each contractor shall control any dust generated on-site that may be produced during work activities. Dust control measures will be employed to ensure that there is no off-site migration of dust

into the community by use of a stream of water applied through a fine spray nozzle. The NYC hydrant used for a water source will be fitted with a RPZ control device to prevent inadvertent contamination of the public water supply. In addition, a solid barrier fence will be installed around the perimeter of the property to control any fugitive migration of dust.

5.5 Spill Control and Prevention

Spills associated with site activities may be attributed to project specific heavy equipment and include gasoline, diesel and hydraulic oil. In the event of a leak or a release, site personnel will inform their supervisor immediately, locate the source of spillage and stop the flow if it can be done safely. A spill containment kit including absorbent pads, booms and/or granulated speedy dry absorbent material will be available to site personnel to facilitate the immediate recovery of the spilled material.

Daily inspections of site equipment components including hydraulic lines, fuel tanks, etc. will be performed by their respective operators as a preventative measure for equipment leaks and to ensure equipment soundness. In the event of a spill, site personnel will immediately notify the NYSDEC (1-800-457-7362), and a spill number will be generated.

5.6 Decontamination Procedures

Contaminants will be removed from personnel and equipment through a decontamination regiment. Workers will be required to remove any contaminated PPE before leaving the Site. Work boots, safety glasses, hard hats and work gloves will be washed in a two percent Alconox Solution, followed by three consecutive clean water rinses. All wash and rinse water will be containerized into a DOT drum. Gross contaminants will be brushed from worker's clothing before leaving the Site. A station for hand washing will also be set up.

Decontamination of heavy equipment will also be required before leaving the Site. Excavator buckets and vehicle wheels or tracks will be brushed clean with a broom, before being moved off-site. Reusable hand tools will be washed in a two percent Alconox solution, followed by a series of clean water rinses. All wash and rinse water will be containerized in appropriate steel drums for proper

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disposal.

5.7 Soil Disposal

Any contaminated soil (organic or inorganic constituents) encountered during the remedial activities will be segregated, stockpiled on-site onto polyethylene sheeting, and covered with polyethylene sheeting to prevent exposure to workers and the community until proper transportation and disposal in accordance with all NYSDEC Regulations is arranged.

6.0 EMERGENCY MEDICAL CARE AND PROCEDURES

If a personnel accident occurs on-site requiring emergency care, immediate care will be administered appropriate to the injury in accordance with established Red Cross procedures and practices. In the event of serious injury to on-site personnel, the Emergency Medical Service of the City of New York (EMS) will be summoned to remove the injured individual to the nearest medical facility for treatment as follows.

Ambulance:	911
Emergency Medical:	911
Fire Department:	911
Jamaica Hospital Medical Center:	(718) 206-6066
Police Department:	911
Poison Control Center:	(516) 542-2323

The nearest emergency medical facility is 8900 Van Wyck Expressway, Jamaica, NY 11418, which is located 1.0 miles from the Site. A map of the route to this hospital is attached. The directions to this medical facility from the Site are as follows:

- **Head northeast on Hillside Avenue toward 150th Street;**
- **Turn Right on 150th Street;**
- **Turn Right on Jamaica Avenue;**

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- **Turn Left on Van Wyck Expressway Service Road;**
- **Turn Right on 89th Avenue;**
- **Turn Left onto 135th Street;**
- **Jamaica Hospital Medical Center is located on the Left.**

OSHA approved First Aid Kits will be maintained on-Site along with a First Aid blanket for treating shock, and will be readily accessible to all workers if an emergency occurs. The emergency signal for evacuation of personnel from the Site will be three (3) long blasts of a vehicle horn with the off-site rallying point designated as the corner of 150th Street and Hillside Avenue. If in the event of a fire, explosion or other life-threatening incident on-site, the emergency signal above will be sounded and all personnel will evacuate the Site. The appropriate New York City emergency personnel (fire, police, etc.) will be immediately notified.

All injuries, no matter how slight, will be reported to the site safety supervisor immediately. The Site Supervisor will complete an accident report for all incidents. 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. The Site Supervisor will record occupational injuries and illnesses within 48 hours of occurrence, as required by statute.

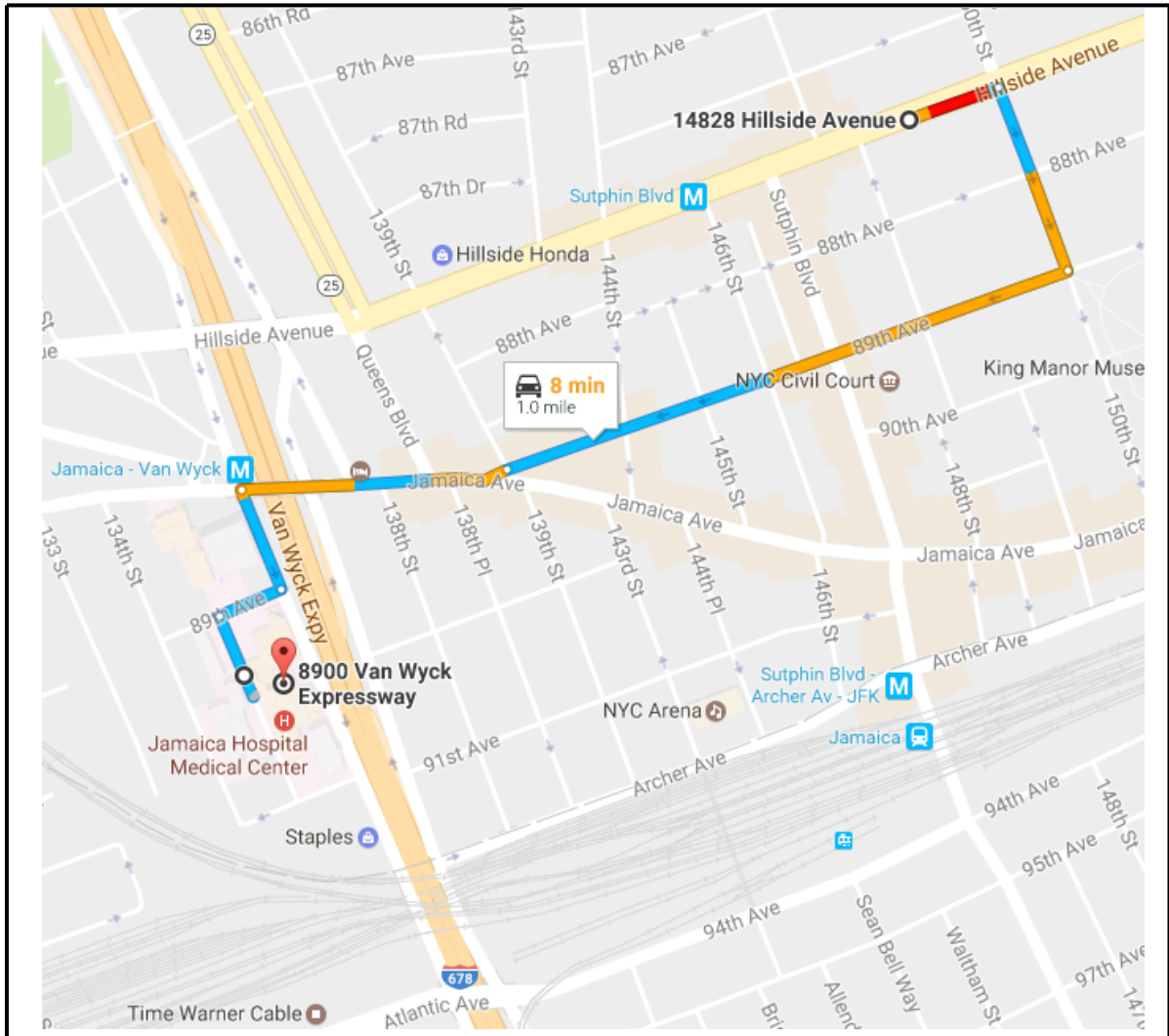
Table 1
NIOSH Exposure Limits

TABLE 1
NIOSH Exposure Limits (mg/m³)¹

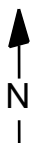
Chemical	IDLH	TWA	STEL
Benzene	1625	1.63	8.13
Toluene	1900	375	560
Ethylbenzene	3530	435	545
Xylenes	3970	435	655
Naphthalene	1250	50	75
Acenaphthene	N.L.	N.L.	N.L.
Anthracene	N.L.	N.L.	N.L.
Pyrene	N.L.	N.L.	N.L.
Chrysene	N.L.	N.L.	N.L.
Benzo(b)Fluoranthene	N.L.	N.L.	N.L.
Benzo(a)Pyrene	N.L.	N.L.	N.L.
Benzo(ghi)Perylene	N.L.	N.L.	N.L.
Polychlorinated Biphenyl	5.0	0.5	N.L.
Aldrin	25	0.25	N.L.
Endrin	2	0.1	N.L.
Chlordane	100	0.5	N.L.
Toxaphene	200	0.5	N.L.
DDT	500	1	N.L.
Silver	10	0.01	N.L.
Barium	1100	0.5	N.L.
Cadmium	9	0.05	N.L.
Selenium	1	0.2	N.L.
Lead	100	0.05	N.L.
Mercury	10	0.05	N.L.
Arsenic	5	0.01	N.L.
Chromium	250	0.5	N.L.

¹ All values taken from NIOSH International Chemical Safety Cards
([Http://www.cdc.gov/niosh/ipcsneng/nengname.html](http://www.cdc.gov/niosh/ipcsneng/nengname.html))
N.L..... None Listed

FIGURE 1
HOSPITAL ROUTE



Souce: Google Maps



Hospital Route	
	
110 Main Street, Suite 103, Port Washington, New York 11050 Tel: 516-441-5800 Fax: 516-441-5511	
Project No.: 8346-JANY	Figure No.: 1
Date: 12/27/2016	Scale: Not To Scale

Appendix A
Chemical Safety Cards

TETRACHLOROETHYLENE**ICSC: 0076 (April 2013)**

PER
Ethylene Tetrachloride
PERC
Tetracap
1,1,2,2-tetrachloroethene
1,1,2,2-Tetrachloroethylene
Perchloroethylene
Tetrachloroethene

CAS #: 127-18-4**UN #: 1897****EC Number: 204-825-9**

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire. Risk of fire and explosion on contact with metals. See Chemical Dangers.	NO open flames, NO sparks and NO smoking. NO contact with hot surfaces or finely divided metals. NO contact with metals. See Chemical Dangers	In case of fire in the surroundings, use appropriate extinguishing media.

STRICT HYGIENE! PREVENT GENERATION OF MISTS!

	SYMPTOMS	PREVENTION	FIRST AID
Inhalation	Cough. Dizziness. Headache. Drowsiness. Nausea. Unconsciousness.	Use ventilation, local exhaust or breathing protection.	Fresh air, rest. Artificial respiration may be needed. Refer immediately for medical attention.
Skin	Dry skin. Redness. Burning sensation.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
Eyes	Redness. Burning sensation. Pain.	Wear safety goggles or face shield.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.
Ingestion	Sore throat. Aspiration hazard! See Inhalation. Cardiac dysrhythmia. Respiratory arrest.	Do not eat, drink, or smoke during work.	Rinse mouth. Do NOT induce vomiting. Refer immediately for medical attention.

SPILLAGE DISPOSAL	CLASSIFICATION & LABELLING
Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance and complete protective clothing. Ventilation. Do NOT let this chemical enter the environment. Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.	According to UN GHS Criteria  WARNING Causes skin irritation Suspected of causing cancer May be harmful if swallowed and enters airways May cause drowsiness or dizziness Toxic to aquatic life with long lasting effects Transportation UN Classification UN Hazard Class: 6.1; UN Pack Group: III
STORAGE	
Separated from metals, ignition sources and food and feedstuffs. See Chemical Dangers. Keep in the dark. Keep in a well-ventilated room. Dry. Cool.	
PACKAGING	
Do not transport with food and feedstuffs. Marine pollutant.	



International
Labour
Organization



World Health
Organization

Prepared by an international group of experts on behalf of ILO and WHO, with the financial assistance of the European Commission.
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European
Commission

TETRACHLOROETHYLENE**ICSC: 0076****PHYSICAL & CHEMICAL INFORMATION****Physical State; Appearance**

COLOURLESS LIQUID WITH CHARACTERISTIC ODOUR.

Physical dangers

The vapour is heavier than air and may accumulate in lowered spaces causing a deficiency of oxygen.

Chemical dangers

Decomposes on contact with hot surfaces or flames. This produces toxic and corrosive fumes of hydrogen chloride, phosgene and chlorine.

Decomposes slowly on contact with moisture. This produces trichloroacetic acid and hydrochloric acid. Reacts violently with finely divided metals. This generates fire and explosion hazard.

Formula: C_2Cl_4 / $Cl_2C=CCl_2$

Molecular mass: 165.8

Boiling point: 121°C

Melting point: -22°C

Density (at 20°C): 1.62 g/cm³

Solubility in water, g/100ml at 20°C: 0.015

Vapour pressure, kPa at 20°C: 1.9

Relative vapour density (air = 1): 5.7

Relative density of the vapour/air-mixture at 20°C (air = 1): 1.09

Octanol/water partition coefficient as log Pow: 3.4

Auto-ignition temperature: > 650°C

EXPOSURE & HEALTH EFFECTS**Routes of exposure**

The substance can be absorbed into the body by inhalation, by ingestion and through the skin.

Effects of short-term exposure

The substance is irritating to the eyes, skin and respiratory tract. If swallowed the substance may cause vomiting and could result in aspiration pneumonitis. The substance may cause effects on the central nervous system. Exposure at high levels could cause unconsciousness.

Inhalation risk

A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20°C.

Effects of long-term or repeated exposure

Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the liver, kidneys and central nervous system. This substance is probably carcinogenic to humans.

OCCUPATIONAL EXPOSURE LIMITS

TLV: 25 ppm as TWA; 100 ppm as STEL; A3 (confirmed animal carcinogen with unknown relevance to humans); BEI issued.

MAK: 69 mg/m³, 10 ppm; peak limitation category: II(2); skin absorption (H); carcinogen category: 3; pregnancy risk group: C.EU-OEL: 138 mg/m³, 20 ppm as TWA; 275 mg/m³, 40 ppm as STEL; (skin)**ENVIRONMENT**

The substance is toxic to aquatic organisms. The substance may cause long-term effects in the aquatic environment. It is strongly advised not to let the chemical enter into the environment.

NOTES

Depending on the degree of exposure, periodic medical examination is suggested.

The odour warning when the exposure limit value is exceeded is insufficient.

Do NOT use in the vicinity of a fire or a hot surface, or during welding.

Use of alcoholic beverages enhances the harmful effect.

ADDITIONAL INFORMATION**EC Classification**

Symbol: Xn, N; R: 40-51/53; S: (2)-23-36/37-61

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TRICHLOROETHYLENE**ICSC: 0081 (April 2013)**

1,1,2-Trichloroethylene
 Trichloroethene
 Ethylene trichloride
 Acetylene trichloride
 Tri
 Chlorylen
 TCE
 Trilene
 Trichlor

CAS #: 79-01-6**UN #: 1710****EC Number: 201-167-4**

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Combustible under specific conditions. See Notes. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames, NO sparks and NO smoking. NO contact with hot surfaces, strong bases or finely divided metals. Prevent build-up of electrostatic charges (e.g., by grounding).	In case of fire in the surroundings, use appropriate extinguishing media. In case of fire: keep drums, etc., cool by spraying with water.

PREVENT GENERATION OF MISTS! AVOID ALL CONTACT!

	SYMPTOMS	PREVENTION	FIRST AID
Inhalation	Dizziness. Drowsiness. Headache. Weakness. Nausea. Unconsciousness.	Use closed system.	Fresh air, rest. Artificial respiration may be needed. Refer immediately for medical attention.
Skin	Dry skin. Redness.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
Eyes	Redness. Pain.	Wear safety spectacles or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.
Ingestion	Sore throat. Aspiration hazard! See Inhalation. Cardiac dysrhythmia. Respiratory arrest.	Do not eat, drink, or smoke during work.	Rinse mouth. Do NOT induce vomiting. Refer immediately for medical attention.

SPILLAGE DISPOSAL	CLASSIFICATION & LABELLING
Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance and complete protective clothing. Ventilation. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.	According to UN GHS Criteria  DANGER May be harmful if swallowed Causes skin irritation Causes serious eye irritation Suspected of causing genetic defects May cause cancer May cause drowsiness or dizziness May be harmful if swallowed and enters airways Harmful to aquatic life with long lasting effects
STORAGE	
Separated from metals, strong bases, food and feedstuffs, combustible substances and ignition sources. See Chemical Dangers. Dry. Keep in the dark. Keep in a well-ventilated room. Cool.	
PACKAGING	
Do not transport with food and feedstuffs. Marine pollutant.	Transportation UN Classification UN Hazard Class: 6.1; UN Pack Group: III



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TRICHLOROETHYLENE**ICSC: 0081****PHYSICAL & CHEMICAL INFORMATION****Physical State; Appearance**

COLOURLESS LIQUID WITH CHARACTERISTIC ODOUR.

Physical dangers

The vapour is heavier than air. As a result of flow, agitation, etc., electrostatic charges can be generated.

Chemical dangers

Decomposes on contact with hot surfaces or flames. This produces toxic and corrosive fumes of phosgene and hydrogen chloride. Decomposes on contact with strong alkali. This produces dichloroacetylene. This increases fire hazard. Reacts violently with finely divided metals. This generates fire and explosion hazard. Slowly decomposed by light in the presence of moisture. This produces corrosive hydrochloric acid.

Formula: C_2HCl_3 / $ClCH=CCl_2$

Molecular mass: 131.4

Boiling point: 87°C

Melting point: -86°C

Relative density (water = 1): 1.5 (20°C)

Solubility in water, g/100ml at 20°C: 0.1

Vapour pressure, kPa at 20°C: 7.8

Relative vapour density (air = 1): 4.5

Relative density of the vapour/air-mixture at 20°C (air = 1): 1.3

Auto-ignition temperature: 410°C

Explosive limits, vol% in air: 7.9 - 100

Octanol/water partition coefficient as log Pow: 2.42

Electrical conductivity: 800 pS/m

EXPOSURE & HEALTH EFFECTS**Routes of exposure**

The substance can be absorbed into the body by inhalation, by ingestion and through the skin.

Effects of short-term exposure

The substance is irritating to the eyes, skin and respiratory tract. If swallowed the substance may cause vomiting and could result in aspiration pneumonitis. The substance may cause effects on the central nervous system, liver and kidneys. This may result in impaired functions. Exposure at high concentrations could cause unconsciousness.

Inhalation risk

A harmful contamination of the air can be reached rather quickly on evaporation of this substance at 20°C.

Effects of long-term or repeated exposure

Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the central nervous system. This may result in fatigue, irritability and mental and memory disturbances. The substance may have effects on the liver, kidneys and immune system. This substance is carcinogenic to humans. Causes toxicity to human reproduction or development.

OCCUPATIONAL EXPOSURE LIMITS

TLV: 10 ppm as TWA; 25 ppm as STEL; A2 (suspected human carcinogen); BEI issued.

MAK: skin absorption (H); carcinogen category: 1; germ cell mutagen group: 3B.

EU-OEL: 54.7 mg/m³, 10 ppm as TWA; 164.1 mg/m³, 30 ppm as STEL; (skin)

ENVIRONMENT

The substance is harmful to aquatic organisms. The substance may cause long-term effects in the aquatic environment. It is strongly advised not to let the chemical enter into the environment.

NOTES

Combustible vapour/air mixtures difficult to ignite, may be developed under certain conditions.

Use of alcoholic beverages enhances the harmful effect.

Depending on the degree of exposure, periodic medical examination is suggested.

The odour warning when the exposure limit value is exceeded is insufficient.

Do NOT use in the vicinity of a fire or a hot surface, or during welding.

ADDITIONAL INFORMATION**EC Classification**

Symbol: T; R: 45-36/38-52/53-67; S: 53-45-61

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VINYLIDENE CHLORIDE**ICSC: 0083 (April 2014)**

1,1-Dichloroethene
1,1-Dichloroethylene
VDC

CAS #: 75-35-4**UN #: 1303 (stabilized)****EC Number: 200-864-0**

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Extremely flammable. Gives off irritating or toxic fumes (or gases) in a fire. Vapour/air mixtures are explosive.	NO open flames, NO sparks and NO smoking. Closed system, ventilation, explosion-proof electrical equipment and lighting. Use non-sparking handtools.	Use water spray, powder, foam, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

PREVENT GENERATION OF MISTS!

	SYMPTOMS	PREVENTION	FIRST AID
Inhalation	Cough. Dizziness. Drowsiness. Unconsciousness.	Use ventilation, local exhaust or breathing protection.	Fresh air, rest. Refer immediately for medical attention.
Skin		Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
Eyes	Redness.	Wear safety spectacles or eye protection in combination with breathing protection.	Rinse with plenty of water (remove contact lenses if easily possible).
Ingestion	Abdominal pain. Further see Inhalation.	Do not eat, drink, or smoke during work.	Rinse mouth. Do NOT induce vomiting. Refer for medical attention.

SPILLAGE DISPOSAL	CLASSIFICATION & LABELLING
Evacuate danger area! Remove all ignition sources. Consult an expert! Personal protection: filter respirator for organic vapours of low boiling point adapted to the airborne concentration of the substance. Do NOT wash away into sewer. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.	According to UN GHS Criteria  DANGER Extremely flammable liquid and vapour Toxic if swallowed May be harmful if inhaled May cause drowsiness or dizziness May cause damage to liver and kidneys through prolonged or repeated exposure Harmful to aquatic life Transportation UN Classification UN Hazard Class: 3; UN Pack Group: I
STORAGE	
Store only if stabilized. Fireproof. Keep in the dark. Cool. Separated from incompatible materials. See Chemical Dangers. Store in an area without drain or sewer access. Provision to contain effluent from fire extinguishing.	
PACKAGING	
Airtight. Unbreakable packaging. Put breakable packaging into closed unbreakable container. Marine pollutant.	



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VINYLIDENE CHLORIDE

ICSC: 0083

PHYSICAL & CHEMICAL INFORMATION

Physical State; Appearance

VOLATILE COLOURLESS LIQUID WITH CHARACTERISTIC ODOUR.

Physical dangers

The vapour is heavier than air and may travel along the ground; distant ignition possible. Vapours are uninhibited and may polymerize, causing blockage of vents.

Chemical dangers

The substance can readily form explosive peroxides. The substance readily polymerizes due to heating or under the influence of oxygen, sunlight, copper or aluminium. This generates fire or explosion hazard. May explode on heating or on contact with flames. Decomposes on burning. This produces toxic and corrosive fumes of hydrogen chloride and phosgene. Reacts violently with oxidants.

Formula: $C_2H_2Cl_2$ / $H_2C=CCl_2$

Molecular mass: 97.0

Boiling point: 32°C

Melting point: -122°C

Relative density (water = 1): 1.2

Solubility in water, g/100ml at 25°C: 0.25 (very poor)

Vapour pressure, kPa at 20°C: 66.5

Relative vapour density (air = 1): 3.3

Relative density of the vapour/air-mixture at 20°C (air = 1): 2.5

Flash point: -25°C c.c.

Auto-ignition temperature: 530°C

Explosive limits, vol% in air: 5.6-16

Octanol/water partition coefficient as log Pow: 2.41

EXPOSURE & HEALTH EFFECTS

Routes of exposure

The substance can be absorbed into the body by inhalation and by ingestion.

Effects of short-term exposure

The substance is mildly irritating to the eyes and upper respiratory tract. Exposure far above the OEL could cause lowering of consciousness.

Inhalation risk

A harmful contamination of the air can be reached very quickly on evaporation of this substance at 20°C.

Effects of long-term or repeated exposure

The substance may have effects on the kidneys and liver. This may result in liver function impairment and kidney impairment. Tumours have been detected in experimental animals but may not be relevant to humans.

OCCUPATIONAL EXPOSURE LIMITS

TLV: 5 ppm as TWA; A4 (not classifiable as a human carcinogen).

MAK: 8.0 mg/m³, 2 ppm; peak limitation category: II(2); carcinogen category: 3; pregnancy risk group: C.EU-OEL: 8 mg/m³, 2 ppm as TWA; 20 mg/m³, 5 ppm as STEL

ENVIRONMENT

The substance is harmful to aquatic organisms.

NOTES

Depending on the degree of exposure, periodic medical examination is suggested.

An added stabilizer or inhibitor can influence the toxicological properties of this substance, consult an expert.

The odour warning when the exposure limit value is exceeded is insufficient.

Do NOT use in the vicinity of a fire or a hot surface, or during welding.

ADDITIONAL INFORMATION

EC Classification

Symbol: F+, Xn; R: 12-20-40; S: (2)-7-16-29-36/37-46; Note: D

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BENZO(a)PYRENE

ICSC: 0104 (April 2014)

Benz(a)pyrene
3,4-Benzopyrene
Benzo(d,e,f)chrysene

CAS #: 50-32-8

UN #: 3077

EC Number: 200-028-5

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.		In case of fire in the surroundings, use appropriate extinguishing media.

See Notes. AVOID ALL CONTACT! PREVENT DISPERSION OF DUST!

	SYMPTOMS	PREVENTION	FIRST AID
Inhalation		Use closed system and ventilation.	Fresh air, rest.
Skin		Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
Eyes		Wear safety spectacles or eye protection in combination with breathing protection.	Rinse with plenty of water (remove contact lenses if easily possible).
Ingestion		Do not eat, drink, or smoke during work.	Rinse mouth.

SPILLAGE DISPOSAL	CLASSIFICATION & LABELLING
Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Do NOT wash away into sewer. Sweep spilled substance into covered sealable containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.	According to UN GHS Criteria  DANGER May cause an allergic skin reaction May cause cancer May cause genetic defects May damage fertility or the unborn child Very toxic to aquatic life with long lasting effects
STORAGE	
Provision to contain effluent from fire extinguishing. Separated from strong oxidants. Store in an area without drain or sewer access. Cool. Dry.	Transportation UN Classification UN Hazard Class: 9; UN Pack Group: III
PACKAGING	
Marine pollutant.	



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BENZO(a)PYRENE**ICSC: 0104****PHYSICAL & CHEMICAL INFORMATION****Physical State; Appearance**

PALE YELLOW CRYSTALS.

Physical dangers**Chemical dangers**

Reacts with strong oxidants. Decomposes on heating. This produces toxic fumes.

Formula: C₂₀H₁₂

Molecular mass: 252.3

Boiling point: 496°C

Melting point: 178.1°C

Density (at 20°C): 1.4 g/cm³

Solubility in water, g/100ml at 20°C: < 0.1 (poor)

Vapour pressure at 20°C: negligible

Octanol/water partition coefficient as log Pow: 6.04

EXPOSURE & HEALTH EFFECTS**Routes of exposure**

Exposure mainly occurs via inhalation.

Effects of short-term exposure

See Notes.

Inhalation risk

A harmful concentration of airborne particles can be reached quickly when dispersed.

Effects of long-term or repeated exposure

Repeated or prolonged contact may cause skin sensitization. This substance is carcinogenic to humans. May cause heritable genetic damage to human germ cells. May cause toxicity to human reproduction or development.

OCCUPATIONAL EXPOSURE LIMITS

TLV: A2 (suspected human carcinogen); BEI issued.

MAK: skin absorption (H); carcinogen category: 2; germ cell mutagen group: 2

ENVIRONMENT

The substance is very toxic to aquatic organisms. Bioaccumulation of this chemical may occur in fish, plants and molluscs. The substance may cause long-term effects in the aquatic environment. It is strongly advised not to let the chemical enter into the environment.

NOTES

Do NOT take working clothes home.

Insufficient data are available on the effect of this substance on human health, therefore utmost care must be taken.

Benzo(a)pyrene is present as a component of polycyclic aromatic hydrocarbons (PAHs) in the environment, usually resulting from the incomplete combustion or pyrolysis of organic matters, especially fossil fuels and tobacco.

ADDITIONAL INFORMATION**EC Classification**

Symbol: T, N; R: 45-46-60-61-43-50/53; S: 53-45-60-61

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BENZ(a)ANTHRACENE**ICSC: 0385 (November 2016)**

1,2-Benzoanthracene
Benzo(a)anthracene
2,3-Benzphenanthrene
Naphthanthracene

CAS #: 56-55-3**UN #: 3077****EC Number: 200-280-6**

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Combustible. Finely dispersed particles form explosive mixtures in air.	NO contact with oxidizing agents. NO open flames. Closed system, dust explosion-proof electrical equipment and lighting. Prevent deposition of dust.	Use water spray, powder, carbon dioxide, foam. In case of fire in the surroundings, use appropriate extinguishing media.

See EFFECTS OF LONG-TERM OR REPEATED EXPOSURE. AVOID ALL CONTACT! IN ALL CASES CONSULT A DOCTOR!

	SYMPTOMS	PREVENTION	FIRST AID
Inhalation		Use local exhaust or breathing protection.	Fresh air.
Skin	MAY BE ABSORBED!	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
Eyes		Wear safety goggles, face shield or eye protection in combination with breathing protection.	Rinse with plenty of water (remove contact lenses if easily possible).
Ingestion		Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Seek medical attention if you feel unwell.

SPILLAGE DISPOSAL	CLASSIFICATION & LABELLING
Personal protection: complete protective clothing including self-contained breathing apparatus. Wet powder to prevent dusting and ignition. Do NOT let this chemical enter the environment. Vacuum spilled material with specialist equipment. Sweep spilled substance into sealable containers. Then store and dispose of according to local regulations.	According to UN GHS Criteria  DANGER May cause cancer Very toxic to aquatic life with long lasting effects Transportation UN Classification UN Hazard Class: 9; UN Pack Group: III
STORAGE	
Separated from oxidizing materials. Store in an area without drain or sewer access. Well closed.	
PACKAGING	
Marine pollutant.	



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BENZ(a)ANTHRACENE**ICSC: 0385****PHYSICAL & CHEMICAL INFORMATION****Physical State; Appearance**

COLOURLESS-TO-YELLOW-BROWN FLUORESCENT FLAKES OR POWDER.

Physical dangers

Dust explosion possible if in powder or granular form, mixed with air.

Chemical dangers

Reacts with oxidizing substances.

Formula: C₁₈H₁₂

Molecular mass: 228.3

Sublimation point: 435°C

Melting point: 162°C

Relative density (water = 1): 1.274

Solubility in water: none

Vapour pressure, Pa at 20°C: 292

Octanol/water partition coefficient as log Pow: 5.61

EXPOSURE & HEALTH EFFECTS**Routes of exposure**

The substance can be absorbed into the body by inhalation, through the skin, by ingestion and through the eyes.

Effects of short-term exposure

See Notes.

Inhalation risk

A nuisance-causing concentration of airborne particles can be reached quickly when dispersed.

Effects of long-term or repeated exposure

This substance is probably carcinogenic to humans.

OCCUPATIONAL EXPOSURE LIMITS

TLV: A2 (suspected human carcinogen); BEI issued.

MAK skin absorption (H).

MAK: carcinogen category: 2; germ cell mutagen group: 3A

ENVIRONMENT

The substance is very toxic to aquatic organisms. The substance may cause long-term effects in the aquatic environment. Bioaccumulation of this chemical may occur in aquatic organisms. It is strongly advised not to let the chemical enter into the environment.

NOTES

Insufficient data are available on the effect of this substance on human health, therefore utmost care must be taken.
Do NOT take working clothes home.

ADDITIONAL INFORMATION**EC Classification**

Symbol: T, N; R: 45-50/53; S: 53-45-60-61

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DIBENZO(a,h)ANTHRACENE**ICSC: 0431 (November 2016)**

1,2:5,6-Dibenzanthracene

CAS #: 53-70-3**UN #: 3077****EC Number: 200-181-8**

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Combustible.	NO open flames.	Use water spray, powder.

See EFFECTS OF LONG-TERM OR REPEATED EXPOSURE. AVOID ALL CONTACT!

	SYMPTOMS	PREVENTION	FIRST AID
Inhalation		Use local exhaust or breathing protection.	Fresh air, rest. Seek medical attention if you feel unwell.
Skin	MAY BE ABSORBED!	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
Eyes	Redness.	Wear face shield or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.
Ingestion		Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Seek medical attention if you feel unwell.

SPILLAGE DISPOSAL	CLASSIFICATION & LABELLING
Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into sealable containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations. Do NOT let this chemical enter the environment.	According to UN GHS Criteria  DANGER May cause cancer Very toxic to aquatic life with long lasting effects Transportation UN Classification UN Hazard Class: 9; UN Pack Group: III
STORAGE	
Well closed. Store in an area without drain or sewer access. Provision to contain effluent from fire extinguishing.	
PACKAGING	
Marine pollutant.	

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DIBENZO(a,h)ANTHRACENE**ICSC: 0431****PHYSICAL & CHEMICAL INFORMATION****Physical State; Appearance**

COLOURLESS CRYSTALLINE POWDER.

Physical dangers**Chemical dangers**Formula: C₂₂H₁₄

Molecular mass: 278.4

Boiling point: 524°C

Melting point: 267°C

Relative density (water = 1): 1.28

Solubility in water: none

Octanol/water partition coefficient as log Pow: 6.5

EXPOSURE & HEALTH EFFECTS**Routes of exposure**

The substance can be absorbed into the body by inhalation, through the skin and by ingestion.

Effects of short-term exposure

See Notes.

Inhalation risk

A nuisance-causing concentration of airborne particles can be reached quickly when dispersed.

Effects of long-term or repeated exposure

The substance may have effects on the skin. This may result in photosensitization. This substance is probably carcinogenic to humans.

OCCUPATIONAL EXPOSURE LIMITS

MAK: carcinogen category: 2; germ cell mutagen group: 3A; skin absorption (H)

ENVIRONMENT

The substance is very toxic to aquatic organisms. The substance may cause long-term effects in the aquatic environment. Bioaccumulation of this chemical may occur along the food chain. It is strongly advised not to let the chemical enter into the environment.

NOTES

Insufficient data are available on the effect of this substance on human health, therefore utmost care must be taken.
Do NOT take working clothes home.

ADDITIONAL INFORMATION**EC Classification**

Symbol: T, N; R: 45-50/53; S: 53-45-60-61

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1,2-DICHLOROETHYLENE**ICSC: 0436 (July 2003)**

Acetylene dichloride
 symmetrical Dichloroethylene
 1,2-Dichloroethene

CAS #: 540-59-0**UN #: 1150****EC Number: 208-750-2**

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Highly flammable. Gives off irritating or toxic fumes (or gases) in a fire. Vapour/air mixtures are explosive.	NO open flames, NO sparks and NO smoking. Closed system, ventilation, explosion-proof electrical equipment and lighting. Do NOT use compressed air for filling, discharging, or handling.	Use water spray, powder, foam, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

STRICT HYGIENE!			
	SYMPTOMS	PREVENTION	FIRST AID
Inhalation	Cough. Sore throat. Dizziness. Nausea. Drowsiness. Weakness. Unconsciousness. Vomiting.	Use ventilation, local exhaust or breathing protection.	Fresh air, rest. Refer for medical attention.
Skin	Dry skin.	Protective gloves.	Remove contaminated clothes. Rinse skin with plenty of water or shower.
Eyes	Redness. Pain.	Wear safety spectacles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.
Ingestion	Abdominal pain. Further see Inhalation.	Do not eat, drink, or smoke during work.	Rinse mouth. Give one or two glasses of water to drink. Refer for medical attention.

SPILLAGE DISPOSAL	CLASSIFICATION & LABELLING
Personal protection: complete protective clothing including self-contained breathing apparatus. Ventilation. Remove all ignition sources. Do NOT wash away into sewer. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in dry sand or inert absorbent. Then store and dispose of according to local regulations.	According to UN GHS Criteria Transportation UN Classification UN Hazard Class: 3; UN Pack Group: II
STORAGE	
Fireproof. Well closed. See Chemical Dangers.	
PACKAGING	



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1,2-DICHLOROETHYLENE**ICSC: 0436****PHYSICAL & CHEMICAL INFORMATION****Physical State; Appearance**

COLOURLESS LIQUID WITH CHARACTERISTIC ODOUR.

Physical dangers

The vapour is heavier than air and may travel along the ground; distant ignition possible.

Chemical dangers

Decomposes on heating and under the influence of air, light and moisture. This produces toxic and corrosive fumes including hydrogen chloride (see ICSC 0163). Reacts with strong oxidants. Reacts with copper, copper alloys and bases. This produces toxic chloroacetylene which is spontaneously flammable in contact with air. Attacks plastics.

Formula: $C_2H_2Cl_2$ / $ClCH=CHCl$

Molecular mass: 96.95

Boiling point: 55°C

Relative density (water = 1): 1.28

Solubility in water: poor

Relative vapour density (air = 1): 3.34

Flash point: 2°C c.c.

Auto-ignition temperature: 460°C

Explosive limits, vol% in air: 9.7-12.8

Octanol/water partition coefficient as log Pow: 2

EXPOSURE & HEALTH EFFECTS**Routes of exposure**

The substance can be absorbed into the body by inhalation of its vapour and by ingestion.

Effects of short-term exposure

The substance is irritating to the eyes and respiratory tract. The substance may cause effects on the central nervous system at high levels. This may result in lowering of consciousness.

Inhalation risk

A harmful contamination of the air will be reached quickly on evaporation of this substance at 20°C; on spraying or dispersing, however, much faster.

Effects of long-term or repeated exposure

The substance defats the skin, which may cause dryness or cracking. The substance may have effects on the liver.

OCCUPATIONAL EXPOSURE LIMITS

TLV: 200 ppm as TWA.

MAK: 800 mg/m³, 200 ppm; peak limitation category: II(2)**ENVIRONMENT****NOTES**

Depending on the degree of exposure, periodic medical examination is suggested.

ADDITIONAL INFORMATION**EC Classification**

Symbol: F, Xn; R: 11-20-52/53; S: (2)-7-16-29-61; Note: C

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BENZO(b)FLUORANTHENE**ICSC: 0720 (March 1999)**

Benz(e)acephenanthrylene
 2,3-Benzofluoroanthene
 Benzo(e)fluoranthene
 3,4-Benzofluoroanthene

CAS #: 205-99-2**EC Number: 205-911-9**

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION			In case of fire in the surroundings, use appropriate extinguishing media.

AVOID ALL CONTACT!			
	SYMPTOMS	PREVENTION	FIRST AID
Inhalation		Use local exhaust or breathing protection.	Fresh air, rest.
Skin		Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
Eyes		Wear safety spectacles or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.
Ingestion		Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention .

SPILLAGE DISPOSAL	CLASSIFICATION & LABELLING
Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations. Do NOT let this chemical enter the environment.	According to UN GHS Criteria Transportation UN Classification
STORAGE	
Provision to contain effluent from fire extinguishing. Well closed.	
PACKAGING	



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BENZO(b)FLUORANTHENE**ICSC: 0720****PHYSICAL & CHEMICAL INFORMATION****Physical State; Appearance**

COLOURLESS CRYSTALS.

Physical dangers**Chemical dangers**

Upon heating, toxic fumes are formed. Decomposes on heating. This produces toxic fumes.

Formula: C₂₀H₁₂

Molecular mass: 252.3

Boiling point: 481°C

Melting point: 168°C

Solubility in water: none

Octanol/water partition coefficient as log Pow: 6.12

EXPOSURE & HEALTH EFFECTS**Routes of exposure**

The substance can be absorbed into the body by inhalation of its aerosol and through the skin.

Effects of short-term exposure**Inhalation risk**

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly.

Effects of long-term or repeated exposure

This substance is possibly carcinogenic to humans. May cause genetic damage in humans.

OCCUPATIONAL EXPOSURE LIMITS

MAK: skin absorption (H); carcinogen category: 2; germ cell mutagen group: 3B

ENVIRONMENT

This substance may be hazardous to the environment. Special attention should be given to air quality and water quality.

NOTES

Benzo(b)fluoranthene is present as a component of polycyclic aromatic hydrocarbons (PAH) content in the environment usually resulting from the incomplete combustion or pyrolysis of organic matters, especially fossil fuels and tobacco.

ACGIH recommends environment containing benzo(b)fluoranthene should be evaluated in terms of the TLV-TWA for coal tar pitch volatile, as benzene soluble 0.2 mg/m³.

TLV Note: Exposure by all routes should be carefully controlled to levels as low as possible.

Insufficient data are available on the effect of this substance on human health, therefore utmost care must be taken.

ADDITIONAL INFORMATION**EC Classification**

Symbol: T, N; R: 45-50/53; S: 53-45-60-61

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BENZO(k)FLUORANTHENE**ICSC: 0721 (March 1999)**

Dibenzo(b,jk)fluorene
8,9-Benzofluoranthene
11,12-Benzofluoranthene

CAS #: 207-08-9**EC Number: 205-916-6**

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION			In case of fire in the surroundings, use appropriate extinguishing media.

AVOID ALL CONTACT!			
	SYMPTOMS	PREVENTION	FIRST AID
Inhalation		Use local exhaust or breathing protection.	Fresh air, rest.
Skin		Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
Eyes		Wear safety spectacles or eye protection in combination with breathing protection if powder.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.
Ingestion		Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention .

SPILLAGE DISPOSAL	CLASSIFICATION & LABELLING
Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations. Do NOT let this chemical enter the environment.	According to UN GHS Criteria Transportation UN Classification
STORAGE	
Provision to contain effluent from fire extinguishing. Well closed.	
PACKAGING	



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BENZO(k)FLUORANTHENE**ICSC: 0721****PHYSICAL & CHEMICAL INFORMATION****Physical State; Appearance**

YELLOW CRYSTALS.

Physical dangers**Chemical dangers**

Upon heating, toxic fumes are formed. Decomposes on heating. This produces toxic fumes.

Formula: C₂₀H₁₂

Molecular mass: 252.3

Boiling point: 480°C

Melting point: 217°C

Solubility in water: none

Octanol/water partition coefficient as log Pow: 6.84

EXPOSURE & HEALTH EFFECTS**Routes of exposure**

The substance can be absorbed into the body by inhalation of its aerosol and through the skin.

Effects of short-term exposure**Inhalation risk**

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly.

Effects of long-term or repeated exposure

This substance is possibly carcinogenic to humans.

OCCUPATIONAL EXPOSURE LIMITS

MAK: skin absorption (H); carcinogen category: 2; germ cell mutagen group: 3B

ENVIRONMENT

This substance may be hazardous to the environment. Special attention should be given to air quality and water quality.

Bioaccumulation of this chemical may occur in crustacea and fish.

NOTES

Benzo(k)fluoranthene is present as a component of polycyclic aromatic hydrocarbons (PAH) content in the environment usually resulting from the incomplete combustion or pyrolysis of organic matters, especially fossil fuels and tobacco.

ACGIH recommends environment containing benzo(k)fluoranthene should be evaluated in terms of the TLV-TWA for coal tar pitch volatile, as benzene soluble 0.2 mg/m³.

Insufficient data are available on the effect of this substance on human health, therefore utmost care must be taken.

ADDITIONAL INFORMATION**EC Classification**

Symbol: T, N; R: 45-50/53; S: 53-45-60-61

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INDENO(1,2,3-cd)PYRENE**ICSC: 0730 (March 1999)**

o-Phenylenepyrene

2,3-Phenylenepyrene

CAS #: 193-39-5**EC Number: 205-893-2**

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION			In case of fire in the surroundings, use appropriate extinguishing media.

AVOID ALL CONTACT!			
	SYMPTOMS	PREVENTION	FIRST AID
Inhalation		Use local exhaust or breathing protection.	Fresh air, rest.
Skin		Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
Eyes		Wear safety spectacles or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.
Ingestion		Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention .

SPILLAGE DISPOSAL	CLASSIFICATION & LABELLING
Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations. Do NOT let this chemical enter the environment.	According to UN GHS Criteria Transportation UN Classification
STORAGE	
Provision to contain effluent from fire extinguishing. Well closed.	
PACKAGING	



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INDENO(1,2,3-cd)PYRENE**ICSC: 0730****PHYSICAL & CHEMICAL INFORMATION****Physical State; Appearance**

YELLOW CRYSTALS.

Physical dangers**Chemical dangers**

Upon heating, toxic fumes are formed. Decomposes on heating. This produces toxic fumes.

Formula: C₂₂H₁₂

Molecular mass: 276.3

Boiling point: 536°C

Melting point: 164°C

Solubility in water: none

Octanol/water partition coefficient as log Pow: 6.58

EXPOSURE & HEALTH EFFECTS**Routes of exposure**

The substance can be absorbed into the body by inhalation of its aerosol and through the skin.

Effects of short-term exposure**Inhalation risk**

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly.

Effects of long-term or repeated exposure

This substance is possibly carcinogenic to humans.

OCCUPATIONAL EXPOSURE LIMITS

MAK: skin absorption (H); carcinogen category: 2

ENVIRONMENT

This substance may be hazardous to the environment. Special attention should be given to air quality and water quality.

Bioaccumulation of this chemical may occur in fish.

NOTES

Indeno(1,2,3-cd)pyrene is present as a component of polycyclic aromatic hydrocarbons (PAH) content in the environment usually resulting from the incomplete combustion or pyrolysis of organic matters, especially fossil fuels and tobacco.

ACGIH recommends environment containing Indeno(1,2,3-c,d)pyrene should be evaluated in terms of the TLV-TWA for coal tar pitch volatile, as benzene soluble 0.2 mg/m³.

Insufficient data are available on the effect of this substance on human health, therefore utmost care must be taken.

ADDITIONAL INFORMATION**EC Classification**

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POLYCHLORINATED BIPHENYL (AROCOR 1254)**ICSC: 0939 (October 1999)**

Chlorobiphenyl (54% chlorine)
 Chlorodiphenyl (54% chlorine)
 PCB

CAS #: 11097-69-1**UN #: 2315****EC Number: 215-648-1**

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.		In case of fire in the surroundings, use appropriate extinguishing media.

PREVENT GENERATION OF MISTS! STRICT HYGIENE!

	SYMPTOMS	PREVENTION	FIRST AID
Inhalation		Use ventilation.	Fresh air, rest. Refer for medical attention.
Skin	MAY BE ABSORBED! Dry skin. Redness.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention .
Eyes		Wear safety goggles or face shield.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.
Ingestion	Headache. Numbness.	Do not eat, drink, or smoke during work.	Rest. Refer for medical attention .

SPILLAGE DISPOSAL	CLASSIFICATION & LABELLING
Consult an expert! Personal protection: complete protective clothing including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.	According to UN GHS Criteria Transportation UN Classification UN Hazard Class: 9; UN Pack Group: II
STORAGE	
Separated from food and feedstuffs. Cool. Dry. Keep in a well-ventilated room.	
PACKAGING	
Unbreakable packaging. Put breakable packaging into closed unbreakable container. Do not transport with food and feedstuffs. Severe marine pollutant.	



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POLYCHLORINATED BIPHENYL (AROCOR 1254)**ICSC: 0939****PHYSICAL & CHEMICAL INFORMATION****Physical State; Appearance**

LIGHT YELLOW VISCOUS LIQUID.

Physical dangers

No data.

Chemical dangers

No data.

Molecular mass: 327 (average)

Relative density (water = 1): 1.5

Solubility in water: none

Vapour pressure, Pa at 25°C: 0.01

Octanol/water partition coefficient as log Pow: 6.30 (estimated)

EXPOSURE & HEALTH EFFECTS**Routes of exposure**

The substance can be absorbed into the body by inhalation of its aerosol, through the skin and by ingestion.

Effects of short-term exposure**Inhalation risk**

A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20°C.

Effects of long-term or repeated exposure

Repeated or prolonged contact with skin may cause dermatitis. May cause chloracne. The substance may have effects on the liver. Animal tests show that this substance possibly causes toxic effects upon human reproduction.

OCCUPATIONAL EXPOSURE LIMITSTLV: 0.5 mg/m³, as TWA; (skin); A3 (confirmed animal carcinogen with unknown relevance to humans)**ENVIRONMENT**

Bioaccumulation of this chemical may occur in aquatic organisms. It is strongly advised not to let the chemical enter into the environment.

NOTESChanges into a resinous state (pour point) at 10°C.
Distillation range: 365°-390°C.**ADDITIONAL INFORMATION****EC Classification**

Symbol: Xn, N; R: 33-50/53; S: (2)-35-60-61; Note: C

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1,2,4-TRIMETHYLBENZENE**ICSC: 1433 (June 2002)**

Pseudocumene

CAS #: 95-63-6**UN #: 1993****EC Number: 202-436-9**

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Flammable. Above 44°C explosive vapour/air mixtures may be formed.	NO open flames, NO sparks and NO smoking. Above 44°C use a closed system, ventilation and explosion-proof electrical equipment. Prevent build-up of electrostatic charges (e.g., by grounding).	Use alcohol-resistant foam, dry powder, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

PREVENT GENERATION OF MISTS!

	SYMPTOMS	PREVENTION	FIRST AID
Inhalation	Confusion. Cough. Dizziness. Drowsiness. Headache. Sore throat. Vomiting.	Use ventilation, local exhaust or breathing protection.	Fresh air, rest. Refer for medical attention.
Skin	Redness. Dry skin.	Protective gloves.	Rinse skin with plenty of water or shower.
Eyes	Redness. Pain.	Wear safety spectacles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.
Ingestion	See Inhalation.	Do not eat, drink, or smoke during work.	Rinse mouth. Do NOT induce vomiting. Refer for medical attention.

SPILLAGE DISPOSAL	CLASSIFICATION & LABELLING
Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations. Do NOT wash away into sewer. Do NOT let this chemical enter the environment.	According to UN GHS Criteria Transportation UN Classification UN Hazard Class: 3; UN Pack Group: III
STORAGE	
Fireproof. Separated from strong oxidants. Well closed. Keep in a well-ventilated room.	
PACKAGING	

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1,2,4-TRIMETHYLBENZENE**ICSC: 1433****PHYSICAL & CHEMICAL INFORMATION****Physical State; Appearance**

COLOURLESS LIQUID WITH CHARACTERISTIC ODOUR.

Physical dangers**Chemical dangers**

Decomposes on burning. This produces toxic and irritating fumes.
Reacts violently with strong oxidants. This generates fire and explosion hazard.

Formula: C₉H₁₂

Molecular mass: 120,2

Boiling point: 169°C

Melting point: -44°C

Relative density (water = 1): 0.88

Solubility in water: very poor

Relative vapour density (air = 1): 4.1

Relative density of the vapour/air-mixture at 20°C (air = 1): 1.01

Flash point: 44°C c.c.

Auto-ignition temperature: 500°C

Explosive limits, vol% in air: 0.9-6.4

Octanol/water partition coefficient as log Pow: 3.8

EXPOSURE & HEALTH EFFECTS**Routes of exposure**

The substance can be absorbed into the body by inhalation.

Effects of short-term exposure

The substance is irritating to the eyes, skin and respiratory tract. If this liquid is swallowed, aspiration into the lungs may result in chemical pneumonitis. The substance may cause effects on the central nervous system.

Inhalation risk

A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20°C; on spraying or dispersing, however, much faster.

Effects of long-term or repeated exposure

The substance defats the skin, which may cause dryness or cracking. Repeated or prolonged inhalation may cause effects on the lungs. This may result in chronic bronchitis. The substance may have effects on the central nervous system and blood. See Notes.

OCCUPATIONAL EXPOSURE LIMITSEU-OEL: 100 mg/m³, 20 ppm as TWA.MAK: 100 mg/m³, 20 ppm; peak limitation category: II(2); pregnancy risk group: C**ENVIRONMENT**

The substance is toxic to aquatic organisms. Bioaccumulation of this chemical may occur in fish.

NOTES

Use of alcoholic beverages enhances the harmful effect.

Depending on the degree of exposure, periodic medical examination is suggested.

See ICSCs 1155, 1362 and 1389.

1,3,5-Trimethylbenzene (Mesitylene) is classified as a marine pollutant.

ADDITIONAL INFORMATION**EC Classification**

Symbol: Xn, N; R: 10-20-36/37/38-51/53; S: (2)-26-61

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PERFLUOROOCTANOIC ACID**ICSC: 1613 (April 2017)**

Pentadecafluorooctanoic acid
 Pentadecafluoro-n-octanoic acid
 Perfluorocaprylic acid
 PFOA

CAS #: 335-67-1**UN #: 3261****EC Number: 206-397-9**

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire. Risk of fire and explosion on contact with bases, oxidants or reducing agents.	NO contact with incompatible substances. See Chemical Dangers.	Use water spray, carbon dioxide, dry powder, foam.

AVOID ALL CONTACT! IN ALL CASES CONSULT A DOCTOR!

	SYMPTOMS	PREVENTION	FIRST AID
Inhalation	Cough. Sore throat.	Use local exhaust or breathing protection.	Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
Skin	MAY BE ABSORBED! Redness. Pain.	Protective gloves. Protective clothing.	Wear protective gloves when administering first aid. Remove contaminated clothes. Rinse and then wash skin with water and soap.
Eyes	Redness. Pain.	Wear safety goggles or eye protection in combination with breathing protection if powder.	Rinse with plenty of water for several minutes (remove contact lenses if easily possible). Refer immediately for medical attention.
Ingestion	Abdominal pain. Nausea. Vomiting. Diarrhoea.	Do not eat, drink, or smoke during work.	Rinse mouth. Give one or two glasses of water to drink. Refer for medical attention.

SPILLAGE DISPOSAL	CLASSIFICATION & LABELLING
Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered non-metallic containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.	According to UN GHS Criteria  DANGER Harmful if swallowed Toxic if inhaled Causes serious eye irritation May cause damage to immune system and liver through prolonged or repeated exposure May damage fertility or the unborn child May cause harm to breast-fed children Suspected of causing cancer Transportation UN Classification UN Hazard Class: 8; UN Pack Group: III
STORAGE	
Store only in original container. Separated from food and feedstuffs and incompatible materials. See Chemical Dangers.	
PACKAGING	
Do not transport with food and feedstuffs. Unbreakable packaging. Put breakable packaging into closed unbreakable container.	



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PERFLUOROOCTANOIC ACID**ICSC: 1613****PHYSICAL & CHEMICAL INFORMATION****Physical State; Appearance**

WHITE POWDER WITH PUNGENT ODOUR.

Physical dangers

No data.

Chemical dangers

Decomposes on heating above 300°C . This produces toxic and corrosive gases including hydrogen fluoride (See ICSC 0283). The solution is a weak acid. Reacts with bases, oxidants and reducing agents. This produces flammable/explosive gas (hydrogen - see ICSC 0001). Attacks many metals.

Formula: C₈HF₁₅O₂

Molecular mass: 414.1

Boiling point: 189°C

Melting point: 52-54°C

Density: 1.79 g/cm³

Solubility in water: none

Octanol/water partition coefficient as log Pow: 6.3

EXPOSURE & HEALTH EFFECTS**Routes of exposure**

The substance can be absorbed into the body by inhalation of its aerosol, through the skin and by ingestion.

Effects of short-term exposure

The substance is irritating to the eyes, skin and respiratory tract.

Inhalation risk

A harmful concentration of airborne particles can be reached quickly when dispersed.

Effects of long-term or repeated exposure

The substance may have effects on the liver and immune system. This substance is possibly carcinogenic to humans. May cause toxicity to human reproduction or development.

OCCUPATIONAL EXPOSURE LIMITS

MAK: (inhalable fraction): 0.005 mg/m³; peak limitation category: II(8); skin absorption (H); carcinogen category: 4; pregnancy risk group: C

ENVIRONMENT**NOTES****ADDITIONAL INFORMATION****EC Classification**

Symbol: T, Xn; R: 40-61-48/23-48/21/22-41-64; S: 53-45

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International Chemical Safety Cards

BENZENE

ICSC: 0015






Cyclohexatriene
Benzol
C₆H₆
Molecular mass: 78.1



ICSC # 0015
CAS # 71-43-2
RTECS # CY1400000
UN # 1114
EC # 601-020-00-8
June 05, 2003 Validated



TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Highly flammable.	NO open flames. NO sparks, and NO smoking	Powder, AFFF, foam, carbon dioxide.
EXPLOSION	Vapour/air mixtures are explosive. Risk of fire and explosion: see Chemical Dangers.	Closed system, ventilation, explosion-proof electrical equipment and lighting. Do NOT use compressed air for filling, discharging, or handling. Use non-sparking handtools. Prevent build-up of electrostatic charges (e.g., by grounding).	In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE		AVOID ALL CONTACT!	
•INHALATION	Dizziness. Drowsiness. Headache. Nausea. Shortness of breath. Convulsions. Unconsciousness.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Refer for medical attention.
•SKIN	MAY BE ABSORBED! Dry skin. Redness. Pain. (Further see Inhalation).	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention.
•EYES	Redness. Pain.	Face shield, or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Abdominal pain. Sore throat. Vomiting. (Further see Inhalation).	Do not eat, drink, or smoke during work.	Rinse mouth. Do NOT induce vomiting. Refer for medical attention.
SPILLAGE DISPOSAL		STORAGE	PACKAGING & LABELLING

Remove all ignition sources. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent and remove to safe place. Do NOT wash away into sewer. Do NOT let this chemical enter the environment. Personal protection: complete protective clothing including self-contained breathing apparatus.	Fireproof. Separated from food and feedstuffs oxidants halogens	Do not transport with food and feedstuffs. Note: E F symbol T symbol R: 45-46-11-36/38-48/23/24/25-65 S: 53-45 UN Hazard Class: 3 UN Packing Group: II
SEE IMPORTANT INFORMATION ON BACK		
ICSC: 0015	Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values	

International Chemical Safety Cards

ICSC: 0015

BENZENE

I M P O R T A N T D A T A	PHYSICAL STATE; APPEARANCE: COLOURLESS LIQUID, WITH CHARACTERISTIC ODOUR.	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation through the skin and by ingestion
	PHYSICAL DANGERS: The vapour is heavier than air and may travel along the ground; distant ignition possible. As a result of flow, agitation, etc., electrostatic charges can be generated.	INHALATION RISK: A harmful contamination of the air can be reached very quickly on evaporation of this substance at 20°C.
	CHEMICAL DANGERS: Reacts violently with oxidants, nitric acid, sulfuric acid and halogens causing fire and explosion hazard. Attacks plastic and rubber.	EFFECTS OF SHORT-TERM EXPOSURE: The substance is irritating to the eyes the skin and the respiratory tract. Swallowing the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis. The substance may cause effects on the central nervous system, resulting in lowering of consciousness. Exposure far above the occupational exposure limit value may result in unconsciousness death.
	OCCUPATIONAL EXPOSURE LIMITS: TLV: 0.5 ppm as TWA 2.5 ppm as STEL (skin) A1 BEI (ACGIH 2004). MAK: H Carcinogen category: 1 Germ cell mutagen group: 3A (DFG 2004). OSHA PEL: 1910.1028 TWA 1 ppm ST 5 ppm <u>See Appendix F</u> NIOSH REL: Ca TWA 0.1 ppm ST 1 ppm <u>See Appendix A</u> NIOSH IDLH: Ca 500 ppm <u>See: 71432</u>	EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: The liquid defats the skin. The substance may have effects on the bone marrow immune system, resulting in a decrease of blood cells. This substance is carcinogenic to humans.
	PHYSICAL PROPERTIES	Relative density of the vapour/air-mixture at 20°C (air = 1): 1.2 Flash point: -11°C c.c. Auto-ignition temperature: 498°C Explosive limits, vol% in air: 1.2-8.0 Octanol/water partition coefficient as log Pow:

11/5/2008 11:39 A

2.13	
ENVIRONMENTAL DATA	The substance is very toxic to aquatic organisms. 
NOTES	
Use of alcoholic beverages enhances the harmful effect. Depending on the degree of exposure, periodic medical examination is indicated. The odour warning when the exposure limit value is exceeded is insufficient. Transport Emergency Card: TEC (R)-30S1114 / 30GF1-II NFPA Code: H2; F3; R0	
ADDITIONAL INFORMATION	
ICSC: 0015	BENZENE
(C) IPCS, CEC, 1994	
IMPORTANT LEGAL NOTICE:	Neither NIOSH, the CEC or the IPCS nor any person acting on behalf of NIOSH, the CEC or the IPCS is responsible for the use which might be made of this information. This card contains the collective views of the IPCS Peer Review Committee and may not reflect in all cases all the detailed requirements included in national legislation on the subject. The user should verify compliance of the cards with the relevant legislation in the country of use. The only modifications made to produce the U.S. version is inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

TOLUENE

ICSC: 0078



Methylbenzene
Toluol
Phenylmethane
 $C_6H_5CH_3$ / C_7H_8
Molecular mass: 92.1

ICSC # 0078
CAS # 108-88-3
RTECS # XS5250000
UN # 1294
EC # 601-021-00-3
October 10, 2002 Validated



TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Highly flammable.	NO open flames, NO sparks, and NO smoking.	Powder, AFFF, foam, carbon dioxide.
EXPLOSION	Vapour/air mixtures are explosive.	Closed system, ventilation, explosion-proof electrical equipment and lighting. Prevent build-up of electrostatic charges (e.g., by grounding). Do NOT use compressed air for filling, discharging, or handling. Use non-sparking handtools.	In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE		STRICT HYGIENE! AVOID EXPOSURE OF (PREGNANT) WOMEN!	
• INHALATION	Cough. Sore throat. Dizziness. Drowsiness. Headache. Nausea. Unconsciousness.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Refer for medical attention.
• SKIN	Dry skin. Redness.	Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.
• EYES	Redness. Pain.	Safety goggles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
• INGESTION	Burning sensation. Abdominal pain. (Further see Inhalation).	Do not eat, drink, or smoke during work.	Rinse mouth. Do NOT induce vomiting. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Evacuate danger area in large spill! Consult an expert in large spill! Remove all ignition sources. Ventilation. Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent and remove to safe place. Do NOT wash away into sewer. Do NOT let this chemical enter the environment. Personal protection: self-contained breathing apparatus	Fireproof. Separated from strong oxidants.	F symbol Xn symbol R: 11-38-48/20-63-65-67 S: 2-36/37-46-62 UN Hazard Class: 3 UN Packing Group: II
SEE IMPORTANT INFORMATION ON BACK		
ICSC: 0078 Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values		

International Chemical Safety Cards

TOLUENE

ICSC: 0078

I M P O R T A N T	PHYSICAL STATE; APPEARANCE: COLOURLESS LIQUID, WITH CHARACTERISTIC ODOUR.	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation, through the skin and by ingestion.
	PHYSICAL DANGERS: The vapour mixes well with air, explosive mixtures are formed easily. As a result of flow, agitation, etc., electrostatic charges can be generated.	INHALATION RISK: A harmful contamination of the air can be reached rather quickly on evaporation of this substance at 20°C.
	CHEMICAL DANGERS: Reacts violently with strong oxidants causing fire and explosion hazard.	EFFECTS OF SHORT-TERM EXPOSURE: The substance is irritating to the eyes and the respiratory tract. The substance may cause effects on the central nervous system. If this liquid is swallowed, aspiration into the lungs may result in chemical pneumonitis. Exposure at high levels may result in cardiac dysrhythmia and unconsciousness.
	OCCUPATIONAL EXPOSURE LIMITS: TLV: 50 ppm as TWA (skin) A4 BEI issued (ACGIH 2004). MAK: Pregnancy risk group: C (DFG 2004). EU OEL: 192 mg/m ³ 50 ppm as TWA 384 mg/m ³ 100 ppm as STEL (skin) (EU 2006). OSHA PEL: TWA 200 ppm C 300 ppm 500 ppm (10-minute maximum peak) NIOSH REL: TWA 100 ppm (375 mg/m ³) ST 150 ppm (560 mg/m ³) NIOSH IDLH: 500 ppm See: <u>108883</u>	EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: The liquid defats the skin. The substance may have effects on the central nervous system. Exposure to the substance may enhance hearing damage caused by exposure to noise. Animal tests show that this substance possibly causes toxicity to human reproduction or development.
	PHYSICAL PROPERTIES Boiling point: 111°C Melting point: -95°C Relative density (water = 1): 0.87 Solubility in water: none	Relative density of the vapour/air-mixture at 20°C (air = 1): 1.01 Flash point: 4°C c.c. Auto-ignition temperature: 480°C

Vapour pressure, kPa at 25°C: 3.8
Relative vapour density (air = 1): 3.1

Explosive limits, vol% in air: 1.1-7.1
Octanol/water partition coefficient as log Pow:
2.69

**ENVIRONMENTAL
DATA**

The substance is toxic to aquatic organisms.



NOTES

Depending on the degree of exposure, periodic medical examination is suggested. Use of alcoholic beverages enhances the harmful effect. Card has been partly updated in October 2004: see sections Occupational Exposure Limits, EU classification, Emergency Response. Card has been partly updated in October 2006: see section Occupational Exposure Limits.

Transport Emergency Card: TEC (R)-30S1294
NFPA Code: H 2; F 3; R 0;

ADDITIONAL INFORMATION

ICSC: 0078

TOLUENE

(C) IPCS, CEC, 1994

**IMPORTANT
LEGAL
NOTICE:**

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International Chemical Safety Cards

ETHYLBENZENE

ICSC: 0268



Ethylbenzol
Phenylethane
EB
 $C_8H_{10}/C_6H_5C_2H_5$
Molecular mass: 106.2



ICSC # 0268
CAS # 100-41-4
RTECS # DA0700000
UN # 1175
EC # 601-023-00-4
November 23, 2007 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Highly flammable.	NO open flames, NO sparks, and NO smoking.	Dry powder. Foam. Carbon dioxide.
EXPLOSION	Vapour/air mixtures are explosive.	Closed system, ventilation, explosion-proof electrical equipment and lighting. Do NOT use compressed air for filling, discharging or handling.	In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE		PREVENT GENERATION OF MISTS!	
•INHALATION	Cough. Sore throat. Dizziness. Drowsiness. Headache.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Refer for medical attention.
•SKIN	Redness.	Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES	Redness. Pain. Irritation: deleted at update Nov 07 - only at very high levels.	Safety goggles	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Burning sensation in the throat and chest. (Further see Inhalation).	Do not eat, drink, or smoke during work.	Rinse mouth. Do NOT induce vomiting. Refer for medical attention.
SPILLAGE DISPOSAL		STORAGE	PACKAGING & LABELLING
Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Ventilation. Collect leaking		Fireproof. Separated from strong oxidants. Provision to contain effluent from fire extinguishing. Store in an area without drain or sewer access.	F symbol Xn symbol R: 11-20

liquid in covered containers. Absorb remaining liquid in sand or inert absorbent and remove to safe place. Do NOT wash away into sewer Do NOT let this chemical enter the environment.

S: 2-16-24/25-29
UN Hazard Class: 3
UN Packing Group: II
Signal: Danger
Flame-Excl mark-Health haz
Highly flammable liquid and vapour
May be harmful if swallowed
Harmful if inhaled vapour
Causes mild skin irritation
Causes eye irritation
Suspected of causing cancer
May cause respiratory irritation
May cause drowsiness or dizziness
May be harmful if swallowed and enters airways
Toxic to aquatic life

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0268

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the international version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

ICSC: 0268

ETHYLBENZENE

I M P O R T A N T A I N F O R M A T I O N	PHYSICAL STATE: APPEARANCE: COLOURLESS LIQUID, WITH AROMATIC ODOUR. PHYSICAL DANGERS: The vapour mixes well with air, explosive mixtures are easily formed. CHEMICAL DANGERS: Reacts with strong oxidants. Attacks plastic and rubber. OCCUPATIONAL EXPOSURE LIMITS: TLV: 100 ppm as TWA 125 ppm as STEL A3 (confirmed animal carcinogen with unknown relevance to humans); BEL issued (ACGIH 2007). EU OEL: 442 mg/m³ 100 ppm as TWA 884 mg/m³ 200 ppm as STEL (skin) (EU 2006). OSHA PEL: TWA 100 ppm (435 mg/m³) NIOSH REL: TWA 100 ppm (435 mg/m³) ST 125 ppm (545 mg/m³) NIOSH IDLH: 800 ppm 10%LEL See: 100414	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation of its vapour, and by ingestion. INHALATION RISK: A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20°C. EFFECTS OF SHORT-TERM EXPOSURE: The substance is irritating to the eyes the skin and the respiratory tract. Swallowing the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis. The substance may cause effects on the central nervous system. Exposure above the OEL could cause lowering of consciousness. EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: This substance is possibly carcinogenic to humans. The substance may have effects on the kidneys and liver, resulting in impaired functions. Repeated contact with skin may cause dryness and cracking.
PHYSICAL PROPERTIES	Boiling point: 136°C Melting point: -95°C Relative density (water = 1): 0.9	Relative density of the vapour/air-mixture at 20°C (air = 1): 1.02 Flash point: 18°C e.c.

	Solubility in water, g/100 ml at 20°C: 0.015 Vapour pressure, kPa at 20°C: 0.9 Relative vapour density (air = 1): 3.7	Auto-ignition temperature: 432°C Explosive limits, vol% in air: 1.0-6.7 Octanol/water partition coefficient as log Pow: 3.1 Viscosity, mm ² /s at 25 °C: 0.6
ENVIRONMENTAL DATA	The substance is toxic to aquatic organisms. It is strongly advised that this substance does not enter the environment.	
NOTES		
The odour warning when the exposure limit value is exceeded is insufficient. Transport Emergency Card: TEC (R)-305 1135 or 30GF1- H+T NFPA Code: H2; F3; R0		
ADDITIONAL INFORMATION		
ICSC: 0268	(C) IPCS, CEC, 1994	ETHYLBENZENE
IMPORTANT LEGAL NOTICE:	Neither NIOSH, the CEC or the IPCS nor any person acting on behalf of NIOSH, the CEC or the IPCS is responsible for the use which might be made of this information. This card contains the collective views of the IPCS Peer Review Committee and may not reflect in all cases all the detailed requirements included in national legislation on the subject. The user should verify compliance of the cards with the relevant legislation in the country of use. The only modifications made to produce the U.S. version is inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values.	

International Chemical Safety Cards

ICSC: 0086

p-XYLENE



para-Xylene
1,4-Dimethylbenzene
p-Xylol
 $C_6H_4(CH_3)_2$ / C_8H_{10}
Molecular mass: 106.2



ICSC # 0086

CAS # 106-42-3

RTECS # ZE2625000

UN # 1307

EC # 601-022-00-9

August 03, 2002 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Flammable.	NO open flames, NO sparks, and NO smoking.	Powder, water spray, foam, carbon dioxide.
EXPLOSION	Above 27°C explosive vapour/air mixtures may be formed.	Above 27°C use a closed system, ventilation, and explosion-proof electrical equipment. Prevent build-up of electrostatic charges (e.g., by grounding).	In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE		STRICT HYGIENE! AVOID EXPOSURE OF (PREGNANT) WOMEN!	
•INHALATION	Dizziness. Drowsiness. Headache. Nausea.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Refer for medical attention.
•SKIN	Dry skin. Redness.	Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES	Redness. Pain.	Safety spectacles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Burning sensation. Abdominal pain. (Further see Inhalation).	Do not eat, drink, or smoke during work.	Rinse mouth. Do NOT induce vomiting. Refer for medical attention.
SPILLAGE DISPOSAL		STORAGE	PAC KAGING & LABELLING
Ventilation. Remove all ignition sources. Collect leaking and spilled liquid in sealable containers as far as		Fireproof. Separated from strong oxidants and strong acids	Note:

11/5/2008 11:41

possible. Absorb remaining liquid in sand or inert absorbent and remove to safe place. Do NOT let this chemical enter the environment. (Extra personal protection: filter respirator for organic gases and vapours.)

R: 10-20/21-38
S: 2-25
UN Hazard Class: 3
UN Packing Group: III

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0086

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C)IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values

International Chemical Safety Cards

p-XYLENE

ICSC: 0086

I M P O R T A N T A T A	PHYSICAL STATE; APPEARANCE: COLOURLESS LIQUID, WITH CHARACTERISTIC ODOUR.	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation, through the skin and by ingestion.
	PHYSICAL DANGERS: As a result of flow, agitation, etc., electrostatic charges can be generated.	INHALATION RISK: A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20°C.
	CHEMICAL DANGERS: Reacts with strong acids strong oxidants	EFFECTS OF SHORT-TERM EXPOSURE: The substance is irritating to the eyes and the skin. The substance may cause effects on the central nervous system if this liquid is swallowed, aspiration into the lungs may result in chemical pneumonitis.
	OCCUPATIONAL EXPOSURE LIMITS: TLV: 100 ppm as TWA 150 ppm as STEL A4 (ACGIH 2001). BEI (ACGIH 2001). EU OEL: 50 ppm as TWA 100 ppm as STEL (skin) (EU 2000).	EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: The liquid defats the skin. The substance may have effects on the central nervous system. Animal tests show that this substance possibly causes toxicity to human reproduction or development.
	OSHA PEL: TWA 100 ppm (435 mg/m ³) NIOSH REL: TWA 100 ppm (435 mg/m ³) ST 150 ppm (655 mg/m ³) NIOSH IDLH: 900 ppm See: 95476	
PHYSICAL PROPERTIES	Boiling point: 138°C Melting point: 13°C Relative density (water = 1): 0.86 Solubility in water: none Vapour pressure, kPa at 20°C: 0.9	Relative vapour density (air = 1): 3.7 Relative density of the vapour/air-mixture at 20°C (air = 1): 1.02 Flash point: 27°C c.c. Auto-ignition temperature: 528°C Explosive limits, vol% in air: 1.1-7.0 Octanol/water partition coefficient as log Pow: 3.15
ENVIRONMENTAL DATA	The substance is toxic to aquatic organisms.	



NOTES

Depending on the degree of exposure, periodic medical examination is indicated. The recommendations on this Card also apply to technical xylene. See ICSC 0084 o-Xylene and 0085 m-Xylene.

Transport Emergency Card: TEC (R)-30S1307-III
NFPA Code: H 2; F 3; R 0;

Card has been partially updated in January 2008; see Occupational Exposure Limits.

ADDITIONAL INFORMATION

ICSC: 0086

p-XYLENE

(C) IPCS, CEC, 1994

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International Chemical Safety Cards

NAPHTHALENE

ICSC: 0667



Naphthene
C₁₀H₈

Molecular mass: 128.18

ICSC # 0667

CAS # 91-20-3

RTECS # QJ0525000

UN # 1334 (solid); 2304 (molten)

EC # 601-052-00-2

April 21, 2005 Validated



TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible.	NO open flames.	Powder, water spray, foam, carbon dioxide.
EXPLOSION	Above 80°C explosive vapour/air mixtures may be formed. Finely dispersed particles form explosive mixtures in air.	Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	
EXPOSURE		PREVENT DISPERSION OF DUST!	
•INHALATION	Headache. Weakness. Nausea. Vomiting. Sweating. Confusion. Jaundice. Dark urine.	Ventilation (not if powder), local exhaust, or breathing protection.	Fresh air, rest. Refer for medical attention.
•SKIN	MAY BE ABSORBED! (Further see Inhalation).	Protective gloves.	Rinse skin with plenty of water or shower.
•EYES		Safety spectacles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Abdominal pain. Diarrhoea. Convulsions. Unconsciousness. (Further see Inhalation).	Do not eat, drink, or smoke during work. Wash hands before eating.	Rest. Refer for medical attention.
SPILLAGE DISPOSAL		STORAGE	PACKAGING & LABELLING
Personal protection: filter respirator for organic gases and vapours. Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place.		Separated from strong oxidants, food and feedstuffs. Store in an area without drain or sewer access.	Do not transport with food and feedstuffs. Marine pollutant. Xn symbol N symbol R: 22-40-50/53 S: 2-36/37-46-60-61

UN Hazard Class: 4.1
UN Packing Group: III

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0667

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values

International Chemical Safety Cards

ICSC: 0667

NAPHTHALENE

I M P O R T A N T D A T A	PHYSICAL STATE; APPEARANCE: WHITE SOLID IN VARIOUS FORMS , WITH CHARACTERISTIC ODOUR. PHYSICAL DANGERS: Dust explosion possible if in powder or granular form, mixed with air. CHEMICAL DANGERS: On combustion, forms irritating and toxic gases. Reacts with strong oxidants OCCUPATIONAL EXPOSURE LIMITS: TLV: 10 ppm as TWA 15 ppm as STEL (skin) A4 (not classifiable as a human carcinogen); (ACGIH 2005). MAK: skin absorption (H); Carcinogen category: 2; Germ cell mutagen group: 3B; (DFG 2004). OSHA PEL: TWA 10 ppm (50 mg/m³) NIOSH REL: TWA 10 ppm (50 mg/m³) ST 15 ppm (75 mg/m³) NIOSH IDLH: 250 ppm See: <u>91203</u>	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation, through the skin and by ingestion. INHALATION RISK: A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20°C. See Notes. EFFECTS OF SHORT-TERM EXPOSURE: The substance may cause effects on the blood , resulting in lesions of blood cells (haemolysis) See Notes. The effects may be delayed. Exposure by ingestion may result in death. Medical observation is indicated. EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: The substance may have effects on the blood , resulting in chronic haemolytic anaemia. The substance may have effects on the eyes , resulting in the development of cataract. This substance is possibly carcinogenic to humans.
PHYSICAL PROPERTIES	Boiling point: 218°C Sublimation slowly at room temperature Melting point: 80°C Density: 1.16 g/cm³ Solubility in water, g/100 ml at 25°C: none	Vapour pressure, Pa at 25°C: 11 Relative vapour density (air = 1): 4.42 Flash point: 80°C c.c. Auto-ignition temperature: 540°C Explosive limits, vol% in air: 0.9-5.9 Octanol/water partition coefficient as log Pow: 3.3
ENVIRONMENTAL DATA	The substance is very toxic to aquatic organisms. The substance may cause long-term effects in the aquatic environment.	
NOTES		
Some individuals may be more sensitive to the effect of naphthalene on blood cells. Transport Emergency Card: TEC (R)-41S1334 (solid); 41GF 1 -II+III (solid); 41 S2304 (molten) NFPA Code: H2; F2; R0;		

ADDITIONAL INFORMATION	
ICSC: 0667	NAPHTHALENE
(C) IPCS, CEC, 1994	
IMPORTANT LEGAL NOTICE:	Neither NIOSH, the CEC or the IPCS nor any person acting on behalf of NIOSH, the CEC or the IPCS is responsible for the use which might be made of this information. This card contains the collective views of the IPCS Peer Review Committee and may not reflect in all cases all the detailed requirements included in national legislation on the subject. The user should verify compliance of the cards with the relevant legislation in the country of use. The only modifications made to produce the U.S. version is inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

ACENAPHTHENE

ICSC: 1674



1,2-Dihydroacenaphthylene

1,8-Ethylenenaphthalene

 $C_{12}H_{10}$

Molecular mass: 154.2

ICSC # 1674

CAS # 83-32-9

RTECS # AB1000000

UN # 3077

October 12, 2006 Validated



TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible.	NO open flames.	Water spray. Dry powder. Foam. Carbon dioxide.
EXPLOSION	Finely dispersed particles form explosive mixtures in air.	Prevent deposition of dust; closed system. dust explosion-proof electrical equipment and lighting.	
EXPOSURE	See NOTES.	PREVENT DISPERSION OF DUST!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES		Safety goggles	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work.	Rinse mouth.
SPILLAGE DISPOSAL		STORAGE	PACKAGING & LABELLING
Personal protection: P2 filter respirator for harmful particles. Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place.		Separated from strong oxidants. Provision to contain effluent from fire extinguishing. Store in an area without drain or sewer access.	UN Hazard Class: 9 UN Packing Group: III Signal: Warning Enviro Very toxic to aquatic life with long lasting effects
SEE IMPORTANT INFORMATION ON BACK			

ICSC: 1674

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

ACENAPHTHENE

ICSC: 1674

I M P O R T A N T D A T A	PHYSICAL STATE; APPEARANCE: WHITE TO BEIGE CRYSTALS PHYSICAL DANGERS: Dust explosion possible if in powder or granular form, mixed with air. CHEMICAL DANGERS: On combustion, forms toxic gases including carbon monoxide. Reacts with strong oxidants OCCUPATIONAL EXPOSURE LIMITS: TLV not established. MAK not established.	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation of its aerosol, through the skin and by ingestion. INHALATION RISK: A harmful concentration of airborne particles can be reached quickly when dispersed EFFECTS OF SHORT-TERM EXPOSURE: EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: See Notes.
PHYSICAL PROPERTIES	Boiling point: 279°C Melting point: 95°C Density: 1.2 g/cm³ Solubility in water, g/100 ml at 25°C: 0.0004	Vapour pressure, Pa at 25°C: 0.3 Relative vapour density (air = 1): 5.3 Flash point: 135°C o.c. Auto-ignition temperature: >450 °C Octanol/water partition coefficient as log Pow: 3.9 - 4.5
ENVIRONMENTAL DATA	The substance is very toxic to aquatic organisms. The substance may cause long-term effects in the aquatic environment. It is strongly advised that this substance does not enter the environment.	
NOTES		
Acenaphthene occurs as a pure substance and also as a component of polyaromatic hydrocarbon (PAH) mixtures. Human population studies have associated PAH's exposure with cancer and cardiovascular diseases. Insufficient data are available on the effect of this substance on human health, therefore utmost care must be taken. Transport Emergency Card: TEC (R)-90GM7-III		
ADDITIONAL INFORMATION		

ICSC: 1674**ACENAPHTHENE**

(C) IPCS, CEC, 1994

**IMPORTANT
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International Chemical Safety Cards

ANTHRACENE

ICSC: 0825



Anthracin
Paranaphthalene
 $C_{14}H_{10}$ / $(C_6H_4CH)_2$
Molecular mass: 178.2

ICSC # 0825

CAS # 120-12-7

RTECS # CA9350000

March 24, 1999 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible.	NO open flames.	Powder, water spray, foam, carbon dioxide.
EXPLOSION	Finely dispersed particles form explosive mixtures in air.	Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE		PREVENT DISPERSION OF DUST!	
•INHALATION	Cough. Sore throat.	Ventilation (not if powder), local exhaust, or breathing protection.	Fresh air, rest. Refer for medical attention.
•SKIN	Redness.	Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES	Redness. Pain.	Safety spectacles, face shield, or eye protection in combination with breathing protection if powder.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Abdominal pain.	Do not eat, drink, or smoke during work.	Rinse mouth. Rest. Refer for medical attention.
SPILLAGE DISPOSAL		STORAGE	PACKAGING & LABELLING
Sweep spilled substance into containers. Carefully collect remainder, then remove to safe place Do NOT let this chemical enter the environment (Extra personal protection: P2 filter respirator for harmful particles).		Separated from strong oxidants. Well closed.	
SEE IMPORTANT INFORMATION ON BACK			
ICSC: 0825		Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values	

International Chemical Safety Cards

ANTHRACENE

ICSC: 0825

I M P O R T A N T D A T A	PHYSICAL STATE; APPEARANCE: WHITE CRYSTALS OR FLAKES.	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation.
	PHYSICAL DANGERS: Dust explosion possible if in powder or granular form, mixed with air.	INHALATION RISK: Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly.
	CHEMICAL DANGERS: The substance decomposes on heating, under influence of strong oxidants producing acrid, toxic fume, causing fire and explosion hazard.	EFFECTS OF SHORT-TERM EXPOSURE: The substance slightly irritates the skin and the respiratory tract.
	OCCUPATIONAL EXPOSURE LIMITS: TLV not established.	EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: Repeated or prolonged contact with skin may cause dermatitis under the influence of UV light.
PHYSICAL PROPERTIES	Boiling point: 342°C Melting point: 218°C Density: 1.25-1.28 g/cm³ Solubility in water, g/100 ml at 20 °C: 0.00013 Vapour pressure, Pa at 25°C: 0.08	Relative vapour density (air = 1): 6.15 Flash point: 121°C Auto-ignition temperature: 538°C Explosive limits, vol% in air: 0.6-? Octanol/water partition coefficient as log Pow: 4.5 (calculated)
ENVIRONMENTAL DATA	The substance is very toxic to aquatic organisms. The substance may cause long-term effects in the aquatic environment.	
NOTES		
Green oil, Tetra-olive N2G are trade names.		
NFPA Code: H0; F1; R;		
ADDITIONAL INFORMATION		
ICSC: 0825		
ANTHRACENE		
(C) IPCS, CEC, 1994		
IMPORTANT LEGAL NOTICE:	Neither NIOSH, the CEC or the IPCS nor any person acting on behalf of NIOSH, the CEC or the IPCS is responsible for the use which might be made of this information. This card contains the collective views of the IPCS Peer Review Committee and may not reflect in all cases all the detailed requirements included in national legislation on the subject. The user should verify compliance of the cards with the	

relevant legislation in the country of use. The only modifications made to produce the U.S. version is inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

PYRENE
ICSC: 1474


Benzo (d,e,f) phenanthrene
beta-Pyrene

$C_{16}H_{10}$

Molecular mass: 202.26

ICSC # 1474

CAS # 129-00-0

RTECS # UR2450000

November 27, 2003 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames, NO sparks, and NO smoking.	Water spray, carbon dioxide, dry powder, alcohol-resistant foam, foam.
EXPLOSION			
EXPOSURE			
• INHALATION		Avoid inhalation of dust	Fresh air, rest.
• SKIN	Redness.	Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
• EYES	Redness.	Safety spectacles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
• INGESTION		Do not eat, drink, or smoke during work.	Do NOT induce vomiting. Give plenty of water to drink. Refer for medical attention.
SPILLAGE DISPOSAL		STORAGE	PACKAGING & LABELLING
Sweep spilled substance into containers: if appropriate, moisten first to prevent dusting. Carefully collect remainder Do NOT let this chemical enter the environment. (Extra personal protection: P2 filter respirator for harmful particles.)		Separated from strong oxidants. Keep in a well-ventilated room.	Do not transport with food and feedstuffs.
SEE IMPORTANT INFORMATION ON BACK			
ICSC: 1474		Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.	

International Chemical Safety Cards

PYRENE

ICSC: 1474

I M P O R T A N T D A T A	PHYSICAL STATE; APPEARANCE: YELLOW COLOURLESS SOLID IN VARIOUS FORMS	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation through the skin and by ingestion
	PHYSICAL DANGERS:	INHALATION RISK: Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed.
	CHEMICAL DANGERS: The substance decomposes on heating producing irritating fumes	EFFECTS OF SHORT-TERM EXPOSURE: Exposure to sun may provoke an irritating effect of pyrene on skin and lead to chronic skin discoloration.
	OCCUPATIONAL EXPOSURE LIMITS: TLV not established. MAK not established.	EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
PHYSICAL PROPERTIES	Boiling point: 404°C Melting point: 151°C Density: 1.27 g/cm ³	Solubility in water: 0.135 mg/l at 25°C Vapour pressure, Pa at °C: 0.08 Octanol/water partition coefficient as log Pow: 4.88
ENVIRONMENTAL DATA	Bioaccumulation of this chemical may occur in crustacea, in fish, in milk, in algae and in molluscs. It is strongly advised that this substance does not enter the environment.	
NOTES		
Pyrene is one of many polycyclic aromatic hydrocarbons - standards are usually established for them as mixtures, e.g., coal tar pitch volatiles. However, pyrene may be encountered as a laboratory chemical in its pure form. Health effects of exposure to the substance have not been investigated adequately. See ICSC 1415 Coal-tar pitch.		
ADDITIONAL INFORMATION		
ICSC: 1474		PYRENE
(C) IPCS, CEC, 1994		
IMPORTANT LEGAL NOTICE:	Neither NIOSH, the CEC or the IPCS nor any person acting on behalf of NIOSH, the CEC or the IPCS is responsible for the use which might be made of this information. This card contains the collective views of the IPCS Peer Review Committee and may not reflect in all cases all the detailed requirements included in national legislation on the subject. The user should verify compliance of the cards with the	

irrelevant legislation in the country of use. The only modifications made to produce the U.S. version is
inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

CHRYSENE

ICSC: 1672



Benzoaphenanthrene
1,2-Benzophenanthrene
1,2,5,6-Dibenzonaphthalene
 $C_{18}H_{12}$
Molecular mass: 228.3



ICSC # 1672

CAS # 218-01-9

RTECS # GC0700000

UN # 3077

EC # 601-048-00-0

October 12, 2006 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible.	NO open flames.	Water spray. Dry powder. Foam. Carbon dioxide.
EXPLOSION	Finely dispersed particles form explosive mixtures in air.	Prevent deposition of dust; closed system; dust explosion-proof electrical equipment and lighting.	
EXPOSURE	See EFFECTS OF LONG-TERM OR REPEATED EXPOSURE.	AVOID ALL CONTACT!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES		Safety goggles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work.	Rinse mouth.
SPILLAGE DISPOSAL		STORAGE	PACKAGING & LABELLING
Personal protection: P3 filter respirator for toxic particles. Do NOT let this chemical enter the environment. Sweep spilled substance into sealable containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place.		Separated from strong oxidants, Provision to contain effluent from fire extinguishing. Store in an area without drain or sewer access.	T symbol N symbol R: 45-68-50/53 S: 53-45-60-61 UN Hazard Class: 9 UN Packing Group: III

		Signal: Warning Health haz-Enviro Suspected of causing cancer Very toxic to aquatic life Toxic to aquatic life with long lasting effects
SEE IMPORTANT INFORMATION ON BACK		
ICSC: 1672	Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the international version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values	

International Chemical Safety Cards

ICSC: 1672

CHRYSENE

I M P O R T A N T D A T A	PHYSICAL STATE; APPEARANCE: COLOURLESS TO BEIGE CRYSTALS OR POWDER PHYSICAL DANGERS: Dust explosion possible if in powder or granular form, mixed with air. CHEMICAL DANGERS: The substance decomposes on burning producing toxic fumes Reacts violently with strong oxidants. OCCUPATIONAL EXPOSURE LIMITS: TLV: A3 (confirmed animal carcinogen with unknown relevance to humans); (ACGIH 2006). MAK: skin absorption (H); Carcinogen category: 2 (DFG 2007).	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation of its aerosol, through the skin and by ingestion. INHALATION RISK: A harmful concentration of airborne particles can be reached quickly when dispersed EFFECTS OF SHORT-TERM EXPOSURE: EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: This substance is possibly carcinogenic to humans.
PHYSICAL PROPERTIES	Boiling point: 448°C Melting point: 254 - 256°C Density: 1.3 g/cm³	Solubility in water: very poor Octanol/water partition coefficient as log Pow: 5.9
ENVIRONMENTAL DATA	The substance is very toxic to aquatic organisms. Bioaccumulation of this chemical may occur in seafood. It is strongly advised that this substance does not enter the environment.	

NOTES

Depending on the degree of exposure, periodic medical examination is suggested. Do NOT take working clothes home. This substance does not usually occur as a pure substance but as a component of polyaromatic hydrocarbon (PAH) mixtures. Human population studies have associated PAH's exposure with cancer and cardiovascular diseases.

Transport Emergency Card: TEC (R)-90GM7-III
Card has been partially updated in January 2008: see Occupational Exposure Limits.

ADDITIONAL INFORMATION**ICSC: 1672****CHRYSENE**

(C) IPCS, CEC, 1994

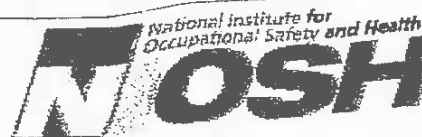
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International Chemical Safety Cards

ICSC: 0720

BENZO(b)FLUORANTHENE



Benz(e)acephenanthrylene
2,3-Benzofluoranthene
Benzo(e)fluoranthene
3,4-Benzofluoranthene
 $C_{20}H_{12}$
Molecular mass: 252.3

ICSC # 0720
CAS # 205-99-2
RTECS # CU1400000
EC # 601-034-00-4
March 25, 1999 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE			In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION			
EXPOSURE		AVOID ALL CONTACT!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES		Safety spectacles or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible). Then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention.
SPILLAGE DISPOSAL	STORAGE	PAC	PACKAGING & LABELLING
Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment.	Provision to contain effluent from fire extinguishing. Well closed.	T syn: 4500 N syn: 4500 R: 45-50/53 S: 53-45-60-61	

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0720

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values

International Chemical Safety Cards

BENZO(b)FLUORANTHENE

ICSC: 0720

I M P O R T A N T D A T A	PHYSICAL STATE; APPEARANCE: COLOURLESS CRYSTALS	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation of its aerosol and through the skin.
	PHYSICAL DANGERS:	INHALATION RISK: Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly.
	CHEMICAL DANGERS: Upon heating, toxic fumes are formed.	EFFECTS OF SHORT-TERM EXPOSURE:
	OCCUPATIONAL EXPOSURE LIMITS: TLV: A2 (suspected human carcinogen); (ACGIH 2004). MAK: Carcinogen category: 2; (DFG 2004).	EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: This substance is possibly carcinogenic to humans. May cause genetic damage in humans.
PHYSICAL PROPERTIES	Boiling point: 481°C Melting point: 168°C Solubility in water: none	Octanol/water partition coefficient as log Pow: 6.12
ENVIRONMENTAL DATA	This substance may be hazardous to the environment; special attention should be given to air quality and water quality.	
NOTES		
Benzo(b)fluoranthene is present as a component of polycyclic aromatic hydrocarbons (PAH) content in the environment usually resulting from the incomplete combustion or pyrolysis of organic matters, especially fossil fuels and tobacco. ACGIH recommends environment containing benzo(b)fluoranthene should be evaluated in terms of the TLV-TWA for coal tar pitch volatile, as benzene soluble 0.2 mg/m³. Insufficient data are available on the effect of this substance on human health, therefore utmost care must be taken.		
ADDITIONAL INFORMATION		
ICSC: 0720		BENZO(b)FLUORANTHENE
(C) IPCS, CEC, 1994		

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International Chemical Safety Cards

BENZO(a)PYRENE

ICSC: 0104



Benz(a)pyrene
3,4-Benzopyrene
Benzo(d,e,f)chrysene
 $C_{20}H_{12}$
Molecular mass: 252.3

ICSC # 0104
CAS # 50-32-8
RTECS # DJ3675000
EC # 601-032-00-3
October 17, 2005 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible.	NO open flames.	Water spray, foam, powder, carbon dioxide.
EXPLOSION			
EXPOSURE	See EFFECTS OF LONG-TERM OR REPEATED EXPOSURE.	AVOID ALL CONTACT! AVOID EXPOSURE OF (PREGNANT) WOMEN!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN	MAY BE ABSORBED!	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES		Safety goggles or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible). Then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work.	Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Refer for medical attention.
SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING	
Evacuate danger area! Personal protection: complete protective clothing including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Sweep spilled substance into sealable containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder,	Separated from strong oxidants.	T symbol N symbol R: 45-46-60-61-43-50/53 S: 53-45-60-61	

then remove to safe place.

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0104

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

ICSC: 0104

BENZO(a)PYRENE

I M P O R T A N T D A T A	PHYSICAL STATE; APPEARANCE: PALE-YELLOW CRYSTALS	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation of its aerosol, through the skin and by ingestion.
	PHYSICAL DANGERS:	INHALATION RISK: Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed.
	CHEMICAL DANGERS: Reacts with strong oxidants causing fire and explosion hazard.	EFFECTS OF SHORT-TERM EXPOSURE:
	OCCUPATIONAL EXPOSURE LIMITS: TLV: Exposure by all routes should be carefully controlled to levels as low as possible A2 (suspected human carcinogen); (ACGIH 2005). MAK: Carcinogen category: 2; Germ cell mutagen group: 2; (DFG 2005).	EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: This substance is carcinogenic to humans. May cause heritable genetic damage to human germ cells. Animal tests show that this substance possibly causes toxicity to human reproduction or development.
PHYSICAL PROPERTIES	Boiling point: 496°C Melting point: 178.1°C Density: 1.4 g/cm ³	Solubility in water: none (<0.1 g/100 ml) Vapour pressure : negligible Octanol/water partition coefficient as log Pow: 6.04
ENVIRONMENTAL DATA	The substance is very toxic to aquatic organisms. Bioaccumulation of this chemical may occur in fish, in plants and in molluscs. The substance may cause long-term effects in the aquatic environment.	
NOTES		
Do NOT take working clothes home. Benzo(a)pyrene is present as a component of polycyclic aromatic hydrocarbons (PAHs) in the environment, usually resulting from the incomplete combustion or pyrolysis of organic matters, especially fossil fuels and tobacco.		
ADDITIONAL INFORMATION		



ICSC: 0104

BENZO(a)PYRENE

(C) IPCS, CEC, 1994

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International Chemical Safety Cards

BENZO(ghi)PERYLENE

ICSC: 0739



1,12-Benzoperylene
1,12-Benzoperylene
 $C_{22}H_{12}$

Molecular mass: 276.3

ICSC # 0739

CAS # 191-24-2

RTECS # DI6200500

October 18, 1999 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible under specific conditions.	NO open flames.	In case of fire in the surroundings: all extinguishing agents allowed.
EXPLOSION			
EXPOSURE		PREVENT DISPERSION OF DUST!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES		Safety spectacles, or eye protection in combination with breathing protection if powder.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention.
SPILLAGE DISPOSAL		STORAGE	PACKAGING & LABELLING
Sweep spilled substance into covered containers. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment.		Well closed.	
SEE IMPORTANT INFORMATION ON BACK			
ICSC: 0739		Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1991. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.	

International Chemical Safety Cards

BENZO(ghi)PERYLENE

ICSC: 0739

I M P O R T A N T D A T A	PHYSICAL STATE; APPEARANCE: PALE YELLOW-GREEN CRYSTALS.	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation of its aerosol and through the skin.
	PHYSICAL DANGERS:	INHALATION RISK: Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly.
	CHEMICAL DANGERS: Upon heating, toxic fumes are formed.	EFFECTS OF SHORT-TERM EXPOSURE:
	OCCUPATIONAL EXPOSURE LIMITS: TLV not established.	EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
PHYSICAL PROPERTIES	Boiling point: 550°C Melting point: 278°C Density: 1.3 g/cm ³	Solubility in water: none Octanol/water partition coefficient as log Pow: 6.58
ENVIRONMENTAL DATA	This substance may be hazardous to the environment; special attention should be given to air and water.	
NOTES		
Benzo(ghi)perylene is present as a component of polycyclic aromatic hydrocarbons (PAH) content in the environment usually resulting from the incomplete combustion or pyrolysis of organic matters, especially fossil fuels and tobacco. Data are insufficiently available on the effect of this substance on human health, therefore utmost care must be taken.		
ADDITIONAL INFORMATION		
ICSC: 0739		
(C) IPCS, CEC, 1994		
BENZO(ghi)PERYLENE		
IMPORTANT LEGAL NOTICE:	Neither NIOSH, the CEC or the IPCS nor any person acting on behalf of NIOSH, the CEC or the IPCS is responsible for the use which might be made of this information. This card contains the collective views of the IPCS Peer Review Committee and may not reflect in all cases all the detailed requirements included in national legislation on the subject. The user should verify compliance of the cards with the relevant legislation in the country of use. The only modifications made to produce the U.S. version is inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values.	

International Chemical Safety Cards

POLYCHLORINATED BIPHENYL (AROCOR 1254)

ICSC: 0939

			
Chlorobiphenyl (54% chlorine) Chlorodiphenyl (54% chlorine) PCB Molecular mass: 327 (average)			
ICSC # 0939 CAS # 11097-69-1 RTECS # TO1360000 UN # 2315 EC # 602-039-00-4 October 20, 1999 Validated			
TYPES OF HAZARD/ EXPOSURE		ACUTE HAZARDS/ SYMPTOMS	
FIRE		Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.	
EXPLOSION			
EXPOSURE		PREVENT GENERATION OF MISTS! STRICT HYGIENE!	
•INHALATION		Ventilation.	
•SKIN		MAY BE ABSORBED! Dry skin. Redness.	
•EYES		Protective gloves. Protective clothing.	
•INGESTION		Safety goggles, face shield.	
		Headache, Numbness.	
		Do not eat, drink, or smoke during work.	
		Fresh air, rest. Refer for medical attention.	
		Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.	
		First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.	
		Rest. Refer for medical attention.	
SPILLAGE DISPOSAL		STORAGE	
Consult an expert! Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent and remove to safe place. Do NOT let this chemical enter the environment. Personal protection: complete protective clothing including self-contained breathing apparatus.		Separated from food and feedstuffs. Cool, Dry. Keep in a well-ventilated room.	
		PACKAGING & LABELLING	
		Unbreakable packaging; put breakable packaging into closed unbreakable container. Do not transport with food and feedstuffs.	
		Severe	
		Marine pollutant.	
		Note: C	
		Xn symbol	
		N symbol	
		R: 33-50/53	
		S: 2-35-60-61	
		UN Hazard Class: 9	
		UN Packing Group: II	
SEE IMPORTANT INFORMATION ON BACK			
ICSC: 0939			
Prepared in the context of co-operation between the International Programme on Chemical Safety & the Commission of the European Communities (IPCS/CEC 1994). No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.			

International Chemical Safety Cards

POLYCHLORINATED BIPHENYL (AROCOR 1254)

ICSC: 0939

I	PHYSICAL STATE; APPEARANCE: LIGHT YELLOW VISCOUS LIQUID.	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation of its aerosol, through the skin and by ingestion
M		

P O R T A N T I N F O R M A T I O N	PHYSICAL DANGERS: CHEMICAL DANGERS: The substance decomposes in a fire producing irritating and toxic gases OCCUPATIONAL EXPOSURE LIMITS: TLV: 0.5 mg/m ³ as TWA (skin) A3 (ACGIH 2004). MAK: 0.05 ppm & 70 mg/m ³ 14 Peak Irritation category: II(8) Carcinogen category: 3B Pregnancy risk group: E (DFG 2004). OSHA PEL: TWA 0.5 mg/m ³ skin NIOSH REL*: Ca TWA 0.001 mg/m ³ See Appendix A *Note The REL also applies to other PCBs. NIOSH IDLH: Ca 5 mg/m ³ See IDLH INDEX	INHALATION RISK: A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20°C EFFECTS OF SHORT-TERM EXPOSURE: EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the liver. Animal tests show that this substance possibly causes toxic effects upon human reproduction.
PHYSICAL PROPERTIES	Relative density (water = 1): 1.5 Solubility in water: none	Vapour pressure, Pa at 25°C: 0.01 Octanol/water partition coefficient as log Pow: 6.30 (estimated)
ENVIRONMENTAL DATA	In the food chain important to humans, bioaccumulation takes place, specifically in aquatic organisms. It is strongly advised not to let the chemical enter into the environment.	
NOTES		
Changes into a resinous state (pour point) at 10°C. Distillation range: 365°-390°C.		
Transport Emergency Card: TEC (R)-90GM2-II-L		
ADDITIONAL INFORMATION		
ICSC: 0939 POLYCHLORINATED BIPHENYL (AROCOR 1254) (C) IPCS, CEC, 1994		
IMPORTANT LEGAL NOTICE:	Neither NIOSH, the CEC or the IPCS nor any person acting on behalf of NIOSH, the CEC or the IPCS is responsible for the use which might be made of this information. This card contains the collective views of the IPCS Peer Review Committee and may not reflect in all cases all the detailed requirements included in national legislation on the subject. The user should verify compliance of the cards with the relevant legislation in the country of use. The only modifications made to produce the U.S. version is inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values	



International Chemical Safety Cards

ALDRIN

ICSC: 0774



1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-exo-1,4-endo-5,8-dimethanonaphthalene
1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-,
(1alpha,4alpha,4aβ,5alpha,8alpha,8aβ)

HHDN

 $C_{12}H_8Cl_6$

Molecular mass: 364.9

ICSC # 0774

CAS # 309-00-2

RTECS # IO2100000

UN # 2761

EC # 602-048-00-3

March 26, 1998 Validated



TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Not combustible. Liquid formulations containing organic solvents may be flammable. Gives off irritating or toxic fumes (or gases) in a fire.		In case of fire in the surroundings: all extinguishing agents allowed.
EXPLOSION			
EXPOSURE		PREVENT DISPERSION OF DUST! STRICT HYGIENE! AVOID EXPOSURE OF ADOLESCENTS AND CHILDREN!	
•INHALATION	(See Ingestion).	Ventilation (not if powder).	Fresh air, rest. Refer for medical attention.
•SKIN	MAY BE ABSORBED! See Ingestion.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.
•EYES		Safety goggles, or face shield.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Convulsions. Dizziness. Headache. Nausea. Vomiting. Muscle twitching.	Do not eat, drink, or smoke during work. Wash hands before eating.	Give a slurry of activated charcoal in water to drink. Do NOT induce vomiting. Rest. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Do NOT wash away into sewer. Sweep spilled substance into sealable containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. (Extra personal protection: chemical protection suit including self-contained breathing apparatus).	Provision to contain effluent from fire extinguishing. Separated from food and feedstuffs and incompatible materials: See Chemical Dangers. Well closed. Keep in a well-ventilated room. Store in an area without drain or sewer access.	Do not transport with food and feedstuffs. Severe marine pollutant. T symbol N symbol R: 24/25-40-48/24/25-50/53 S: 1/2-22-36/37-45-60-61 UN Hazard Class: 6.1 UN Packing Group: II
SEE IMPORTANT INFORMATION ON BACK		
ICSC: 0774	Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.	

International Chemical Safety Cards

ALDRIN

ICSC: 0774

I M P O R T A N T D A T A	PHYSICAL STATE; APPEARANCE: COLOURLESS CRYSTALS	ROUTES OF EXPOSURE: The substance can be absorbed into the body through the skin and by ingestion.
	PHYSICAL DANGERS:	INHALATION RISK: Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly on spraying.
	CHEMICAL DANGERS: The substance decomposes on heating producing toxic and corrosive fumes including hydrogen chloride. Reacts with acids and oxidants. Attacks many metals in presence of water.	EFFECTS OF SHORT-TERM EXPOSURE: The substance may cause effects on the central nervous system, resulting in convulsions. The effects may be delayed. Medical observation is indicated.
	OCCUPATIONAL EXPOSURE LIMITS: TLV: 0.25 mg/m ³ (as TWA), A3 (skin) (ACGIH 1997). MAK: (Inhalable fraction) 0.25 mg/m ³ skin absorption (H); Peak limitation category: II(8) (DFG 2006). OSHA PEL: TWA 0.25 mg/m ³ skin NIOSH REL: Ca TWA 0.25 mg/m ³ skin See <u>Appendix A</u> NIOSH IDLH: Ca 25 mg/m ³ See: <u>309002</u>	EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: The substance accumulates in the human body. Cumulative effects are possible: see Acute Hazards/Symptoms.
	PHYSICAL PROPERTIES	Solubility in water: none Vapour pressure, Pa at 20°C: 0.009 Octanol/water partition coefficient as log Pow: 7.4
ENVIRONMENTAL DATA	The substance is very toxic to aquatic organisms. This substance may be hazardous to the environment; special attention should be given to birds, honey bees. In the food chain important to humans, bioaccumulation takes place, specifically in aquatic organisms. It is strongly advised not to let the chemical enter into the environment because it persists	



in the environment. The substance may cause long-term effects in the aquatic environment. Avoid release to the environment in circumstances different to normal use.

NOTES

Other melting points: 49-60°C (technical grade). Depending on the degree of exposure, periodic medical examination is indicated. If the substance is formulated with solvent(s) also consult the card(s) (ICSC) of the solvent(s). Carrier solvents used in commercial formulations may change physical and toxicological properties. Do NOT take working clothes home. The recommendations on this Card also apply to ICSC 0787 (dieldrin). Aldrec, Aldrex, Aldrite, Aldron, Aldrosol, Algran, Alttox, Drinox, Octalene, Seedrin, and Toxadrin are trade names.

Transport Emergency Card: TEC (R)-61G41b.
NFPA Code: H2; F0; R0;

Card has been partially updated in August 2007: see Storage, Occupational Exposure Limits.

ADDITIONAL INFORMATION

ICSC: 0774

ALDRIN

(C) IPCS, CEC, 1994

IMPORTANT LEGAL NOTICE:

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International Chemical Safety Cards

ENDRIN
ICSC: 1023

			
		$C_{12}H_8Cl_6O$ Molecular mass: 380.9	
ICSC # 1023 CAS # 72-20-8 RTECS # IO1575000 UN # 2761 EC # 602-051-00-X March 10, 2000 Validated			
TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Not combustible. Liquid formulations containing organic solvents may be flammable. Gives off irritating or toxic fumes (or gases) in a fire.		In case of fire in the surroundings: all extinguishing agents allowed.
EXPLOSION			
EXPOSURE		PREVENT DISPERSION OF DUST! STRICT HYGIENE!	IN ALL CASES CONSULT A DOCTOR!
•INHALATION	(See Ingestion).	Local exhaust or breathing protection.	Fresh air, rest. Refer for medical attention.
•SKIN	MAY BE ABSORBED!	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.
•EYES		Face shield or eye protection in combination with breathing protection if powder.	First rinse with plenty of water (for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Dizziness. Weakness. Headache. Nausea. Vomiting. Convulsions.	Do not eat, drink, or smoke during work. Wash hands before eating.	Give a slurry of activated charcoal in water to drink. Rest. Refer for medical attention.
SPILLAGE DISPOSAL		STORAGE	PACKAGING & LABELLING
Do NOT wash away into sewer. Sweep spilled substance into sealable containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment. (Extra personal protection:		Provision to contain effluent from fire extinguishing. Separated from food and feedstuffs Well closed. Keep in a well-ventilated room.	Do not transport with food and feedstuffs. Severe marine pollutant. T+ symbol N symbol R: 24-28-50/53

chemical protection suit including
self-contained breathing apparatus).

S: 1/2-22-36/37-45-60-61
UN Hazard Class: 6.1
UN Packing Group: I

SEE IMPORTANT INFORMATION ON BACK

ICSC: 1023

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values

International Chemical Safety Cards

ENDRIN

ICSC: 1023

I M P O R T A N T D A T A	PHYSICAL STATE; APPEARANCE: WHITE CRYSTALS PHYSICAL DANGERS: CHEMICAL DANGERS: The substance decomposes on heating above 245°C, producing hydrogen chloride phosgene OCCUPATIONAL EXPOSURE LIMITS: TLV: 0.1 mg/m³ (skin) (ACGIH 2000). OSHA PEL: TWA 0.1 mg/m³ skin NIOSH REL: TWA 0.1 mg/m³ skin NIOSH IDLH: 2 mg/m³ See: <u>72208</u>	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation, through the skin and by ingestion. INHALATION RISK: Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly on spraying or when dispersed, especially if powdered. EFFECTS OF SHORT-TERM EXPOSURE: The substance may cause effects on the central nervous system, resulting in convulsions and death. The effects may be delayed. Medical observation is indicated. EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
PHYSICAL PROPERTIES	Decomposes below boiling point at 245°C Melting point: 200°C Density: 1.7 g/cm³	Solubility in water, g/100 ml at 25°C: none Vapour pressure, Pa at 25°C: negligible Octanol/water partition coefficient as log Pow: 5.34
ENVIRONMENTAL DATA	The substance is very toxic to aquatic organisms. This substance may be hazardous to the environment; special attention should be given to honey bees birds mammals It is strongly advised not to let the chemical enter into the environment because it persists in the environment. In the food chain important to humans, bioaccumulation takes place, specifically in fish seafood Avoid release to the environment in circumstances different to normal use.	
NOTES		
If the substance is formulated with solvent(s) also consult the card(s) (ICSC) of the solvent(s). Carrier solvents used in commercial formulations may change physical and toxicological properties. Do NOT take working clothes home. Transport Emergency Card: TEC (R)-61G41a		



NFPA Code: H3; F0; R; 0	
ADDITIONAL INFORMATION	
ICSC: 1023	ENDRIN
(C) IPCS, CEC, 1994	
IMPORTANT LEGAL NOTICE:	Neither NIOSH, the CEC or the IPCS nor any person acting on behalf of NIOSH, the CEC or the IPCS is responsible for the use which might be made of this information. This card contains the collective views of the IPCS Peer Review Committee and may not reflect in all cases all the detailed requirements included in national legislation on the subject. The user should verify compliance of the cards with the relevant legislation in the country of use. The only modifications made to produce the U.S. version is inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

CHLORDANE (TECHNICAL PRODUCT)

ICSC: 0740








1,2,4,5,6,7,8-Octachloro-2,3,3a,4,7,7a-hexahydro-4,7-methanoindene
 1,2,4,5,6,7,8-Octachloro-2,3,3a,4,7,7a-hexahydro-4,7-methano-1H-indene
 $C_{10}H_6Cl_8$
 Molecular mass: 409.8

ICSC # 0740

CAS # 57-74-9

UN # 2996

EC # 602-047-00-8

March 26, 1998 Validated





TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Liquid formulations containing organic solvents may be flammable. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames.	Alcohol-resistant foam, powder, carbon dioxide.
EXPLOSION			
EXPOSURE		PREVENT GENERATION OF MISTS! STRICT HYGIENE! AVOID EXPOSURE OF ADOLESCENTS AND CHILDREN!	IN ALL CASES CONSULT A DOCTOR!
•INHALATION	(See Ingestion).	Breathing protection.	Fresh air, rest. Refer for medical attention.
•SKIN	MAY BE ABSORBED!	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES	Redness. Pain.	Safety goggles face shield or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Confusion. Convulsions. Nausea. Vomiting.	Do not eat, drink, or smoke during work. Wash hands before eating.	Rest. Refer for medical attention.
SPILLAGE DISPOSAL		STORAGE	PACKAGING & LABELLING
Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent and remove to safe place. Do NOT wash away into sewer. Personal protection: chemical protection suit		Provision to contain effluent from fire extinguishing. Separated from food and feedstuffs bases and incompatible materials See Chemical Dangers. Well closed. Keep in a well-ventilated room.	Do not transport with food and feedstuffs. Severe marine pollutant. Xn symbol N symbol

including self-contained breathing apparatus.

R: 21/22-40-50/53
S: 2-36/37-60-61
UN Hazard Class: 6.1
UN Packing Group: III

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0740

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

CHLORDANE (TECHNICAL PRODUCT)

ICSC: 0740

I M P O R T A N T D A T A	PHYSICAL STATE; APPEARANCE: TECHNICAL: LIGHT YELLOW TO AMBER VISCIOUS LIQUID PHYSICAL DANGERS: CHEMICAL DANGERS: The substance decomposes on burning, on contact with bases producing toxic fumes including phosgene hydrogen chloride Attacks iron, zinc, plastic, rubber and coatings. OCCUPATIONAL EXPOSURE LIMITS: TLV: 0.5 mg/m³ as TWA (skin) A3 (confirmed animal carcinogen with unknown relevance to humans); (ACGIH 2004). MAK: (Inhalable fraction) 0.5 mg/m³ Peak limitation category: II(8); skin absorption (H); Carcinogen category: 3B; (DFG 2004). OSHA PEL: TWA 0.5 mg/m³ skin NIOSH REL: Ca TWA 0.5 mg/m³ skin <u>See Appendix A</u> NIOSH IDLH: Ca 100 mg/m³ <u>See: 57749</u>	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation, through the skin and by ingestion. INHALATION RISK: Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly on spraying. EFFECTS OF SHORT-TERM EXPOSURE: Exposure at high levels may result in disorientation, tremors, convulsions, respiratory failure and death. Medical observation is indicated. EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: The substance may have effects on the liver immune system, resulting in tissue lesions and liver impairment. This substance is possibly carcinogenic to humans.
PHYSICAL PROPERTIES	Boiling point at 0.27kPa: 175°C Relative density (water = 1): 1.59-1.63 Solubility in water: none	Vapour pressure, Pa at 25°C: 0.0013 Octanol/water partition coefficient as log Pow: 2.78
ENVIRONMENTAL DATA	The substance is very toxic to aquatic organisms. This substance may be hazardous to the environment; special attention should be given to soil organisms, honey bees. It is strongly advised that this substance does not enter the environment. The substance may cause long-term effects in the aquatic environment.	
NOTES If the substance is formulated with solvents also consult the ICSCs of these materials. Carrier solvents used in commercial formulations may change physical and toxicological properties. Belt, Chlor Kil, Chlortox, Corodan, Gold Crest, Intox,		

Kypchlor, Niran, Octachlor, Sydane, Synklor, Termi-Ded, Topiclör, and Toxichlor are trade names. Also consult ICSC 0743 Heptachlor.

Transport Emergency Card: TEC (R)-61GT6-III

ADDITIONAL INFORMATION

ICSC: 0740

CHLORDANE (TECHNICAL PRODUCT)

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September 2005

NIOSH Pocket Guide to Chemical Hazards

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Chlorinated camphene

CAS 8001-35-2

C10H10Cl8RTECS XW5250000

Synonyms & Trade Names

Chlorocamphene, Octachlorocamphene, Polychlorocamphene, Toxaphene

DOT ID & Guide

2761 1.51

Exposure Limits

NIOSH REL: Ca [skin] [See Appendix A](#)

Limits

OSHA PEL: TWA 0.5 mg/m³ [skin]IDLH Ca [200 mg/m³] See:

Conversion

8001352

Physical Description

Amber, waxy solid with a mild, piney, chlorine- and camphor-like odor. [insecticide]

MW 413.8

BP: Decomposes

MLT: 149-194°F

Sol: 0.0003%

VP(77°F): 0.4 mmHg

IP: ?

Sp.Gr: 1.65

F.P: NA

UEL: NA

LEL: NA

Noncombustible Solid, but may be dissolved in flammable liquids.

Incompatibilities & Reactivities

Strong oxidizers [Note: Slightly corrosive to metals under moist conditions.]

Measurement Methods

NIOSH 5039See: [NMAM](#) or [OSHA Methods](#)

Personal Protection & Sanitation [\(See protection codes\)](#)

Skin: Prevent skin contact

Eyes: Prevent eye contact

Wash skin: When contaminated/Daily

Remove: When wet or contaminated

Change: Daily

Provide: Eyewash, Quick drench

First Aid [\(See procedures\)](#)

Eye: Irrigate immediately

Skin: Soap wash promptly

Breathing: Respiratory support

Swallow: Medical attention immediately

Respirator Recommendations NIOSH

At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration

(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode

(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:

(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister having an N100, R100, or P100 filter. [Click here](#) for information on selection of N, R, or P filters./Any appropriate escape-type, self-contained breathing apparatus[Important additional information about respirator selection](#)

Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms Nausea, confusion, agitation, tremor, convulsions, unconsciousness; dry, red skin; [potential occupational carcinogen]

Target Organs central nervous system, skin

Cancer Site [in animals: liver cancer]

International Chemical Safety Cards

DDT

ICSC: 0034

 			
Dichlorodiphenyltrichloroethane 1,1,1-Trichloro-2,2-bis(p-chlorophenyl)ethane 2,2-bis(p-Chlorophenyl)-1,1,1-trichloroethane 1,1'-(2,2,2-Trichloroethylidene)bis(4-chlorobenzene) p,p'-DDT C₁₄H₉Cl₅ Molecular mass: 354.5			
ICSC # 0034 CAS # 50-29-3 RTECS # KJ3325000 UN # 2761 EC # 602-045-00-7 April 20, 2004 Validated			
			
TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible. Liquid formulations containing organic solvents may be flammable. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames	Powder, water spray, foam, carbon dioxide.
EXPLOSION			
EXPOSURE		PREVENT DISPERSION OF DUST! STRICT HYGIENE! AVOID EXPOSURE OF (PREGNANT) WOMEN!	
•INHALATION	Cough.	Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES	Redness	Safety goggles, or eye protection in combination with breathing protection if powder.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Tremors, Diarrhoea, Dizziness, Headache, Vomiting, Numbness, Paresthesias, Hyperexcitability, Convulsions.	Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Give a slurry of activated charcoal in water to drink. Rest. Refer for medical attention.
SPILLAGE DISPOSAL		STORAGE	PACKAGING & LABELLING
Do NOT let this chemical enter the environment. Sweep spilled substance into sealable non-metallic containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Personal protection: P3 filter respirator for toxic particles.		Provision to contain effluent from fire extinguishing. Separated from iron, aluminium and its salts, food and feedsuffs. See Chemical Danger.	Do not transport with food and feedsuffs. Severe marine pollutant. T symbol. N symbol. R: 25-40-48/25-50/53. S: 1/2-22-36/37-45-60-61. UN Hazard Class: 6.1. UN Packing Group: III.
SEE IMPORTANT INFORMATION ON BACK			
ICSC: 0034		Prepared in the context of co-operation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.	

International Chemical Safety Cards

DDT

ICSC: 0034

See also: [INTRODUCTION](#) See ICSC CARD: [0843](#)

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I M P O R T A N T A I N I N G	PHYSICAL STATE; APPEARANCE: COLOURLESS CRYSTALS WHITE POWDER. TECHNICAL PRODUCT IS WAXY SOLID. PHYSICAL DANGERS: CHEMICAL DANGERS: On combustion, forms toxic and corrosive fumes including hydrogen chloride. Reacts with aluminum and iron. OCCUPATIONAL EXPOSURE LIMITS: TLV: 1 mg/m ³ as TWA A3 (ACGIH 2004). MAK: 1 mg/m ³ H Peak limitation category: II(8) (DFG 2003). OSHA PEL TWA 1 mg/m ³ skin NIOSH REL: Ca TWA 0.5 mg/m ³ See Appendix A NIOSH IDLH: Ca 500 mg/m ³ See: 50293	ROUTES OF EXPOSURE: The substance can be absorbed into the body by ingestion. INHALATION RISK: Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly especially if powdered. EFFECTS OF SHORT-TERM EXPOSURE: May cause mechanical irritation. The substance may cause effects on the central nervous system, resulting in convulsions and respiratory depression. Exposure at high levels may result in death. Medical observation is indicated. EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: The substance may have effects on the central nervous system and liver. This substance is possibly carcinogenic to humans. Animal tests show that this substance possibly causes toxicity to human reproduction or development.
PHYSICAL PROPERTIES	Boiling point: 260°C Melting point: 109°C Density: 1.6 g/cm ³	Solubility in water: poor Octanol/water partition coefficient as log Pow: 6.36
ENVIRONMENTAL DATA	The substance is very toxic to aquatic organisms. This substance may be hazardous to the environment; special attention should be given to birds. Bioaccumulation of this chemical may occur along the food chain, for example in milk and aquatic organisms. This substance does enter the environment under normal use. Great care, however, should be given to avoid any additional release, e.g. through inappropriate disposal.	
NOTES Depending on the degree of exposure, periodic medical examination is indicated. Carrier solvents used in commercial formulations may change physical and toxicological properties. Do NOT take working clothes home. Consult national legislation. Agritan, Azotox, Anofex, Iodex, Gesapon, Gesarex, Gesarol, Guesapon, Clofenotane, Zeidane, Dicophane, Neocid are trade names. Transport Emergency Card: TEC (R)-61GT7-III		
ADDITIONAL INFORMATION		
ICSC: 0034		
(C) IPCS, CEC, 1994		
IMPORTANT LEGAL NOTICE:	Neither NIOSH, the CEC or the IPCS nor any person acting on behalf of NIOSH, the CEC or the IPCS is responsible for the use which might be made of this information. This card contains the collective views of the IPCS Peer Review Committee and may not reflect in all cases all the detailed requirements included in national legislation on the subject. The user should verify compliance of the cards with the relevant legislation in the country of use. The only modifications made to produce the U.S. version is inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values.	

International Chemical Safety Cards

SILVER
ICSC: 0810


Argentum

C.I. 77820

Ag

ICSC # 0810

CAS # 7440-22-4

RTECS # VW3500000

September 10, 1997 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Not combustible, except as powder.		
EXPLOSION			
EXPOSURE		PREVENT DISPERSION OF DUST!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves.	Rinse skin with plenty of water or shower.
•EYES		Safety spectacles, or eye protection in combination with breathing protection if powder.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work.	
SPILLAGE DISPOSAL		STORAGE	PACKAGING & LABELLING
Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment.		Separated from ammonia, strong hydrogen peroxide solutions, strong acids.	
SEE IMPORTANT INFORMATION ON BACK			
ICSC: 0810		Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values	

International Chemical Safety Cards

SILVER

ICSC: 0810

I M P O R T A N T D A T A	PHYSICAL STATE; APPEARANCE: WHITE METAL. TURNS DARK ON EXPOSURE TO OZONE, HYDROGEN SULFIDE OR SULFUR.	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation and by ingestion.
	PHYSICAL DANGERS:	INHALATION RISK: Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed.
	CHEMICAL DANGERS: Shock-sensitive compounds are formed with acetylene. Reacts with acids causing fire hazard. Contact with strong hydrogen peroxide solution will cause violent decomposition to oxygen gas. Contact with ammonia may cause formation of compounds that are explosive when dry.	EFFECTS OF SHORT-TERM EXPOSURE: Inhalation of high amounts of metallic silver vapours may cause lung damage with pulmonary oedema.
	OCCUPATIONAL EXPOSURE LIMITS: TLV (metal): 0.1 mg/m ³ (ACGIH 1997). EU OEL: 0.1 mg/m ³ as TWA (EU 2000). OSHA PEL: TWA 0.01 mg/m ³ NIOSH REL: TWA 0.01 mg/m ³ NIOSH IDLH: 10 mg/m ³ (as Ag) See: <u>IDLH INDEX</u>	EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: The substance may cause a grey-blue discoloration of the eyes, nose, throat and skin (argyria/argyrosis).

PHYSICAL PROPERTIES	Boiling point: 2212°C Melting point: 962°C	Relative density (water = 1): 10.5 Solubility in water: none
ENVIRONMENTAL DATA	This substance may be hazardous to the environment; special attention should be given to aquatic organisms.	

**NOTES**

Card has been partially updated in March 2008: see Occupational Exposure Limits.

ADDITIONAL INFORMATION

ICSC: 0810	SILVER
(C) IPCS, CEC, 1994	

IMPORTANT LEGAL NOTICE:	Neither NIOSH, the CEC or the IPCS nor any person acting on behalf of NIOSH, the CEC or the IPCS is responsible for the use which might be made of this information. This card contains the collective views of the IPCS Peer Review Committee and may not reflect in all cases all the detailed requirements included in national legislation on the subject. The user should verify compliance of the cards with the relevant legislation in the country of use. The only modifications made to produce the U.S. version is inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values.
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International Chemical Safety Cards

BARIUM

ICSC: 1052



Ba

Atomic mass: 137.3

ICSC # 1052

CAS # 7440-39-3

RTECS # CQ8370000

UN # 1400

October 20, 1999 Validated



TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Flammable. Many reactions may cause fire or explosion.	NO open flames, NO sparks, and NO smoking. NO contact with water.	Special powder, dry sand, NO hydrous agents. NO water.
EXPLOSION	Finely dispersed particles form explosive mixtures in air.	Prevent deposition of dust; closed system; dust explosion-proof electrical equipment and lighting.	
EXPOSURE		PREVENT DISPERSION OF DUST! STRICT HYGIENE!	
•INHALATION	Cough. Sore throat.	Local exhaust or breathing protection.	Fresh air, rest. Refer for medical attention.
•SKIN	Redness.	Protective gloves.	Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention.
•EYES	Redness. Pain.	Safety goggles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention.
SPILLAGE DISPOSAL		STORAGE	PACKAGING & LABELLING
Sweep spilled substance into sealable containers. Carefully collect remainder, then remove to safe place. Chemical protection suit including self-contained breathing apparatus. Do NOT wash away into sewer.		Separated from halogenated solvents, strong oxidants, acids. Dry. Keep under inert gas, oil or oxygen-free liquid.	UN Hazard Class: 4.3 UN Packing Group: II
SEE IMPORTANT INFORMATION ON BACK			

ICSC: 1052

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

BARIUM

ICSC: 1052

I M P O R T A N T D A T A	PHYSICAL STATE; APPEARANCE: YELLOWISH TO WHITE LUSTROUS SOLID IN VARIOUS FORMS.	ROUTES OF EXPOSURE: The substance can be absorbed into the body by ingestion.
	PHYSICAL DANGERS: Dust explosion possible if in powder or granular form, mixed with air.	INHALATION RISK:
	CHEMICAL DANGERS: The substance may spontaneously ignite on contact with air (if in powder form). The substance is a strong reducing agent and reacts violently with oxidants and acids. Reacts violently with halogenated solvents. Reacts with water, forming flammable/explosive gas (hydrogen - see ICSC0001), causing fire and explosion hazard.	EFFECTS OF SHORT-TERM EXPOSURE: The substance irritates the eyes, the skin and the respiratory tract.
	OCCUPATIONAL EXPOSURE LIMITS: TLV: 0.5 mg/m ³ (as TWA) (ACGIH 1999).	EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
	PHYSICAL PROPERTIES	
	Boiling point: 1640°C Melting point: 725°C Density: 3.6 g/cm ³	Solubility in water: reaction
	ENVIRONMENTAL DATA	
	NOTES	
	Reacts violently with fire extinguishing agents such as water, bicarbonate, powder, foam, and carbon dioxide. Rinse contaminated clothes (fire hazard) with plenty of water.	
	Transport Emergency Card: TEC (R)-43G12	
ADDITIONAL INFORMATION		
ICSC: 1052		BARIUM
(C) IPCS, CEC, 1994		
IMPORTANT LEGAL	Neither NIOSH, the CEC or the IPCS nor any person acting on behalf of NIOSH, the CEC or the IPCS is responsible for the use which might be made of this information. This card contains the collective view	

NOTICE:

of the IPCS Peer Review Committee and may not reflect in all cases all the detailed requirements included in national legislation on the subject. The user should verify compliance of the cards with the relevant legislation in the country of use. The only modifications made to produce the U.S. version is inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

ICSC: 0020

CADMIUM



Cd

Atomic mass: 112.4



ICSC # 0020

CAS # 7440-43-9

RTECS # EU9800000

UN # 2570

EC # 048-002-00-0

April 22, 2005 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Flammable in powder form and spontaneously combustible in pyrophoric form. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames, NO sparks, and NO smoking. NO contact with heat or acid(s).	Dry sand. Special powder. NO other agents.
EXPLOSION	Finely dispersed particles form explosive mixtures in air.	Prevent deposition of dust; closed system. dust explosion-proof electrical equipment and lighting.	
EXPOSURE		PREVENT DISPERSION OF DUST! AVOID ALL CONTACT!	IN ALL CASES CONSULT A DOCTOR!
•INHALATION	Cough. Sore throat.	Local exhaust or breathing protection.	Fresh air, rest. Refer for medical attention.
•SKIN		Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES	Redness. Pain.	Safety goggles or eye protection in combination with breathing protection.	Immediately rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Abdominal pain. Diarrhoea. Headache. Nausea. Vomiting.	Do not eat, drink, or smoke during work.	Rest. Refer for medical attention.
SPILLAGE DISPOSAL		STORAGE	PACKAGING & LABELLING
Evacuate danger area! Personal protection: chemical protection suit including self-contained breathing apparatus. Remove all ignition sources. Sweep spilled substance into containers. Carefully collect remainder, then remove to safe place.		Fireproof. Dry. Keep under inert gas. Separated from ignition sources, oxidants acids, food and feedstuffs	Airtight. Unbreakable packaging; put breakable packaging into closed unbreakable container. Do not transport with food and feedstuffs. Note: E, T-symbols N symbol

11/5/2008 11:43

R: 45-26-48/23/25-62-63-68-50/53

S: 53-45-60-61

UN Hazard Class: 6.1

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0020

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values

International Chemical Safety Cards

CADMIUM

ICSC: 0020

I M P O R T A N T D A T A	PHYSICAL STATE; APPEARANCE: SOFT BLUE-WHITE METAL LUMPS OR GREY POWDER. MALLEABLE. TURNS BRITTLE ON EXPOSURE TO 80°C AND TARNISHES ON EXPOSURE TO MOIST AIR.	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation of its aerosol and by ingestion.
	PHYSICAL DANGERS: Dust explosion possible if in powder or granular form, mixed with air.	INHALATION RISK: A harmful concentration of airborne particles can be reached quickly when dispersed, especially if powdered.
	CHEMICAL DANGERS: Reacts with acids forming flammable/explosive gas (hydrogen - see ICSC0001). Dust reacts with oxidants, hydrogen azide, zinc, selenium or tellurium, causing fire and explosion hazard.	EFFECTS OF SHORT-TERM EXPOSURE: The fume is irritating to the respiratory tract. Inhalation of fume may cause lung oedema (see Notes). Inhalation of fumes may cause metal fume fever. The effects may be delayed. Medical observation is indicated.
	OCCUPATIONAL EXPOSURE LIMITS: TLV: (Total dust) 0.01 mg/m ³ (Respirable fraction) 0.002 mg/m ³ as TWA A2 (suspected human carcinogen); BEI issued (ACGIH 2005). MAK: skin absorption (H); Carcinogen category: 1; Germ cell mutagen group: 3A; (DFG 2004).	EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: Lungs may be affected by repeated or prolonged exposure to dust particles. The substance may have effects on the kidneys, resulting in kidney impairment. This substance is carcinogenic to humans.
	OSHA PEL*: 1910.1027 TWA 0.005 mg/m ³ *Note: The PEL applies to all Cadmium compounds (as Cd).	
	NIOSH REL*: Ca See Appendix A *Note: The REL applies to all Cadmium compounds (as Cd).	
	NIOSH IDLH: Ca 9 mg/m ³ (as Cd) See: IDLH INDEX	
PHYSICAL PROPERTIES	Boiling point: 765°C Melting point: 321°C Density: 8.6 g/cm ³	Solubility in water: none Auto-ignition temperature: (cadmium metal dust) 250°C
ENVIRONMENTAL DATA		
NOTES		

Reacts violently with fire extinguishing agents such as water, foam, carbon dioxide and halons. Depending on the degree of exposure, periodic medical examination is indicated. The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential. Do NOT take working clothes home. Cadmium also exists in a pyrophoric form (EC No. 048-011-00-X), which bears the additional EU labelling symbol F, R phrase 17, and S phrases 7/8 and 43. UN numbers and packing group will vary according to the physical form of the substance.

ADDITIONAL INFORMATION**ICSC: 0020****CADMIUM**

(C) IPCS, CEC, 1994

**IMPORTANT
LEGAL
NOTICE:**

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International Chemical Safety Cards

SELENIUM

ICSC: 0072

 			
Se (powder)			
ICSC # 0072 CAS # 7782-49-2 RTECS # VS7700000 EC # 034-001-00-2 April 26, 1993 Validated			
TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames. NO contact with oxidants.	Powder, AFFF, foam, carbon dioxide. NO water
EXPLOSION	Risk of fire and explosion on contact with oxidants.		
EXPOSURE		PREVENT DISPERSION OF DUST! STRICT HYGIENE!	
•INHALATION	Irritation of nose. Cough. Dizziness. Headache. Laboured breathing. Nausea. Sore throat. Vomiting. Weakness. Symptoms may be delayed (see Notes).	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Refer for medical attention.
•SKIN	Redness. Skin burns. Pain. Discolouration.	Protective gloves. Protective clothing.	Rinse skin with plenty of water or shower. Refer for medical attention. Remove and isolate contaminated clothes.
•EYES	Redness. Pain. Blurred vision.	Safety spectacles or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible). Then take to a doctor.
•INGESTION	Metallic taste. Diarrhoea. Chills. Fever. (Further see Inhalation).	Do not eat, drink, or smoke during work.	Rinse mouth. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Refer for medical attention.
SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING	
Do NOT wash away into sewer. Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Personal protection: P3 filter respirator for toxic particles.	Fireproof. Separated from strong oxidants, strong acids, food and feedstuffs Dry.	Airtight. Do not transport with food and feedstuffs. T symbol R: 23/25-33-53 S: 1/2-20/21-28-45-61	

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0072

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the international version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

SELENIUM

ICSC: 0072

I M P O R T A N T D A T A	PHYSICAL STATE; APPEARANCE: ODOURLESS SOLID IN VARIOUS FORMS. DARK RED-BROWN TO BLUISH-BLACK AMORPHOUS SOLID OR RED TRANSPARENT CRYSTALS OR METALLIC GREY TO BLACK CRYSTALS.	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation, through the skin and by ingestion.	
	PHYSICAL DANGERS:	INHALATION RISK: Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed.	
	CHEMICAL DANGERS: Upon heating, toxic fumes are formed. Reacts violently with oxidants strong acids Reacts with water at 50°C forming flammable/explosive gas (hydrogen - see ICSC0001) and selenious acids. Reacts with incandescence on gentle heating with phosphorous and metals such as nickel, zinc, sodium, potassium, platinum.	EFFECTS OF SHORT-TERM EXPOSURE: The substance is irritating to the eyes and the respiratory tract Inhalation of dust may cause lung oedema (see Notes). Inhalation of fume may cause symptoms of asphyxiation, chills and fever and bronchitis. The effects may be delayed.	
	OCCUPATIONAL EXPOSURE LIMITS: TLV: 0.2 mg/m ³ as TWA (ACGIH 2004). MAK: (Inhalable fraction) 0.05 mg/m ³ Peak limitation category: II(4); Carcinogen category: 3B; Pregnancy risk group: C; (DFG 2004). OSHA PEL*: TWA 0.2 mg/m ³ *Note: The PEL also applies to other selenium compounds (as Se) except Selenium hexafluoride. NIOSH REL*: TWA 0.2 mg/m ³ *Note: The REL also applies to other selenium compounds (as Se) except Selenium hexafluoride. NIOSH IDLH: 1 mg/m ³ (as Se) See: <u>7782492</u>	EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the respiratory tract, gastrointestinal tract, and skin, resulting in nausea, vomiting, cough, yellowish skin discolouration, loss of nails, garlic breath and bad teeth.	
	PHYSICAL PROPERTIES	Boiling point: 685°C Melting point: 170-217°C Relative density (water = 1): 4.8	Solubility in water: none Vapour pressure, Pa at 20°C: 0.1
	ENVIRONMENTAL DATA		
NOTES			
Do NOT take working clothes home.			
ADDITIONAL INFORMATION			

ICSC: 0072		SELENIUM
(C) IPCS, CEC, 1994		
IMPORTANT LEGAL NOTICE:	Neither NIOSH, the CEC or the IPCS nor any person acting on behalf of NIOSH, the CEC or the IPCS is responsible for the use which might be made of this information. This card contains the collective views of the IPCS Peer Review Committee and may not reflect in all cases all the detailed requirements included in national legislation on the subject. The user should verify compliance of the cards with the relevant legislation in the country of use. The only modifications made to produce the U.S. version is inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values.	

International Chemical Safety Cards

LEAD
ICSC: 0052


Lead metal
Plumbum
Pb
(powder)

ICSC # 0052

CAS # 7439-92-1

RTECS # QF7525000

August 10, 2002 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.		In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION	Finely dispersed particles form explosive mixtures in air.	Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	
EXPOSURE	See EFFECTS OF LONG-TERM OR REPEATED EXPOSURE.	PREVENT DISPERSION OF DUST; AVOID EXPOSURE OF (PREGNANT) WOMEN!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES		Safety spectacles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible); then take to a doctor.
•INGESTION	Abdominal pain. Nausea. Vomiting.	Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Give plenty of water to drink. Refer for medical attention.
SPILLAGE DISPOSAL		STORAGE	PACKAGING & LABELLING
Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment. Personal protection: P3 filter respirator for toxic particles.		Separated from food and feedsuffs incompatible materials See Chemical Dangers.	

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0052

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

LEAD

ICSC: 0052

I M P O R T A N T D A T A	PHYSICAL STATE; APPEARANCE: BLUISH-WHITE OR SILVERY-GREY SOLID IN VARIOUS FORMS. TURNS TARNISHED ON EXPOSURE TO AIR.	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation and by ingestion.
	PHYSICAL DANGERS: Dust explosion possible if in powder or granular form, mixed with air.	INHALATION RISK: A harmful concentration of airborne particles can be reached quickly when dispersed, especially if powdered.
	CHEMICAL DANGERS: On heating, toxic fumes are formed. Reacts with oxidants. Reacts with hot concentrated nitric acid, boiling concentrated hydrochloric acid and sulfuric acid. Attacked by pure water and by weak organic acids in the presence of oxygen.	EFFECTS OF SHORT-TERM EXPOSURE:
	OCCUPATIONAL EXPOSURE LIMITS: TLV: 0.05 mg/m ³ as TWA A3 (confirmed animal carcinogen with unknown relevance to humans); BEI issued (ACGIH 2004). MAK: Carcinogen category: 2; Germ cell mutagen group: 3A; (DFG 2006). EU OEL: as TWA 0.15 mg/m ³ (EU 2002). OSHA PEL*: 1910.1025 TWA 0.050 mg/m ³ <u>See Appendix C</u> *Note: The PEL also applies to other lead compounds (as Pb) – <u>see Appendix C</u> . NIOSH REL*: TWA 0.050 mg/m ³ <u>See Appendix C</u> *Note: The REL also applies to other lead compounds (as Pb) – <u>see Appendix C</u> . NIOSH IDLH: 100 mg/m ³ (as Pb) <u>See: 7439921</u>	EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: The substance may have effects on the blood bone marrow central nervous system peripheral nervous system kidneys , resulting in anaemia, encephalopathy (e.g., convulsions), peripheral nerve disease, abdominal cramps and kidney impairment. Causes toxicity to human reproduction or development. This substance is probably carcinogenic to humans. fast track change Oct 06 - IARC 2A.
PHYSICAL PROPERTIES	Boiling point: 1740°C Melting point: 327.5°C	Density: 11.34 g/cm ³ Solubility in water: none
ENVIRONMENTAL DATA	Bioaccumulation of this chemical may occur in plants and in mammals. It is strongly advised that this substance does not enter the environment.	
NOTES		
Depending on the degree of exposure, periodic medical examination is suggested. Do NOT take working clothes home. Card has been partly updated in April 2005. See section Occupational Exposure Limits. Card has been partly updated in October 2006: see section Occupational Exposure Limits, Effects Long Tem Exposure.		



ADDITIONAL INFORMATION	
ICSC: 0052	LEAD
(C) IPCS, CEC, 1994	
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International Chemical Safety Cards

MERCURY

ICSC: 0056



Quicksilver
Liquid silver
Hg



ICSC # 0056
CAS # 7439-97-6
RTECS # OV4550000
UN # 2809
EC # 080-001-00-0
April 22, 2004 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.		In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION	Risk of fire and explosion.		In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE		STRICT HYGIENE! AVOID EXPOSURE OF (PREGNANT) WOMEN! AVOID EXPOSURE OF ADOLESCENTS AND CHILDREN!	IN ALL CASES CONSULT A DOCTOR!
•INHALATION	Abdominal pain. Cough. Diarrhoea. Shortness of breath. Vomiting. Fever or elevated body temperature.	Local exhaust or breathing protection.	Fresh air, rest. Artificial respiration if indicated. Refer for medical attention.
•SKIN	MAY BE ABSORBED! Redness.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.
•EYES		Face shield, or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work. Wash hands before eating.	Refer for medical attention.
SPILLAGE DISPOSAL		STORAGE	PACKAGING & LABELLING
Evacuate danger area in case of a large spill! Consult an expert! Ventilation. Collect leaking and spilled liquid in		Provision to contain effluent from fire extinguishing. Separated from food and feedsuffs Well closed.	Special material. Do not transport with food and feedsuffs. T symbol

sealable non-metallic containers as far as possible. Do NOT wash away into sewer. Do NOT let this chemical enter the environment. Chemical protection suit including self-contained breathing apparatus.

UN symbol
R: 23-33-50/53
S: 1/2-7-45-60-61
UN Hazard Class: 8
UN Packing Group: III

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0056

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

MERCURY

ICSC: 0056

I M P O R T A N T D A T A	PHYSICAL STATE; APPEARANCE: ODOURLESS, HEAVY AND MOBILE SILVERY LIQUID METAL. PHYSICAL DANGERS: CHEMICAL DANGERS: Upon heating, toxic fumes are formed. Reacts violently with ammonia and halogens causing fire and explosion hazard. Attacks aluminium and many other metals forming amalgams. OCCUPATIONAL EXPOSURE LIMITS: TLV: 0.025 mg/m³ as TWA (skin) A4 BEI issued (ACGIH 2004). MAK: 0.1 mg/m³ Sh Peak limitation category: II(8) Carcinogen category: 3B (DFG 2003). OSHA PEL: C 0.1 mg/m³ NIOSH REL: Hg Vapor: TWA 0.05 mg/m³ skin Other: C 0.1 mg/m³ skin NIOSH IDLH: 10 mg/m³ (as Hg) See: 7439976	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation of its vapour and through the skin, also as a vapour! INHALATION RISK: A harmful contamination of the air can be reached very quickly on evaporation of this substance at 20°C. EFFECTS OF SHORT-TERM EXPOSURE: The substance is irritating to the skin. Inhalation of the vapours may cause pneumonitis. The substance may cause effects on the central nervous system and kidneys. The effects may be delayed. Medical observation is indicated. EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: The substance may have effects on the central nervous system kidneys, resulting in irritability, emotional instability, tremor, mental and memory disturbances, speech disorders. Danger of cumulative effects. Animal tests show that this substance possibly causes toxic effects upon human reproduction.
PHYSICAL PROPERTIES	Boiling point: 357°C Melting point: -39°C Relative density (water = 1): 13.5 Solubility in water: none	Vapour pressure: Pa at 20°C: 0.26 Relative vapour density (air = 1): 6.93 Relative density of the vapour/air-mixture at 20°C (air = 1): 1.009
ENVIRONMENTAL DATA	The substance is very toxic to aquatic organisms. In the food chain bioaccumulation takes place, specifically in fish. important to humans. 	
NOTES		

Depending on the degree of exposure, periodic medical examination is indicated. No odour warning if toxic concentrations are present. Do NOT take working clothes home.

Transport Emergency Card: TEC (R)-80GC9-II+III

ADDITIONAL INFORMATION

ICSC: 0056

MERCURY

(C) IPCS, CEC, 1994

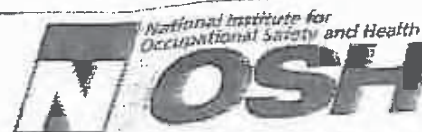
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International Chemical Safety Cards

ARSENIC

ICSC: 0013



Grey arsenic
As
Atomic mass: 74.9

ICSC # 0013
CAS # 7440-38-2
 RTECS # CG0525000
UN # 1558
EC # 033-001-00-X
October 18, 1999 Validated



TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames. NO contact with strong oxidizers. NO contact with hot surfaces.	Powder, water spray, foam, carbon dioxide.
EXPLOSION	Risk of fire and explosion is slight when exposed to hot surfaces or flames in the form of fine powder or dust.	Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	
EXPOSURE		PREVENT DISPERSION OF DUST! AVOID ALL CONTACT! AVOID EXPOSURE OF (PREGNANT) WOMEN!	IN ALL CASES CONSULT A DOCTOR!
•INHALATION	Cough. Sore throat. Shortness of breath. Weakness. See Ingestion.	Closed system and ventilation.	Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
•SKIN	Redness.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse skin with plenty of water or shower.
•EYES	Redness.	Face shield or eye protection in combination with breathing protection if powder.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Abdominal pain. Diarrhoea. Nausea. Vomiting. Burning sensation in the throat and chest. Shock or collapse. Unconsciousness.	Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Refer for medical attention.
SPILLAGE DISPOSAL		STORAGE	PACKAGING & LABELLING

Evacuate danger area! Sweep spilled substance into sealable containers. Carefully collect remainder, then remove to safe place. Chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment.	Separated from strong oxidants, acids, halogens, food and feedstuffs. Well closed.	Do not transport with food and feedstuffs. Marine pollutant. T symbol N symbol R: 23/25-50/53 S: 1/2-20/21-28-45-60-61 UN Hazard Class: 6.1 UN Packing Group: II
SEE IMPORTANT INFORMATION ON BACK		
ICSC: 0013	Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the international version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values	

International Chemical Safety Cards

ARSENIC

ICSC: 0013

I M P O R T A N T D A T A	PHYSICAL STATE; APPEARANCE: ODOURLESS, BRITTLE, GREY, METALLIC-LOOKING CRYSTALS.	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation of its aerosol and by ingestion.
	PHYSICAL DANGERS:	INHALATION RISK: Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly, when dispersed.
	CHEMICAL DANGERS: Upon heating, toxic fumes are formed. Reacts violently with strong oxidants and halogens, causing fire and explosion hazard. Reacts with acids to produce	EFFECTS OF SHORT-TERM EXPOSURE: The substance is irritating to the eyes the skin and the respiratory tract. The substance may cause effects on the gastrointestinal tract cardiovascular system central nervous system kidneys, resulting in severe gastroenteritis, loss of fluid, and electrolytes, cardiac disorders shock convulsions and kidney impairment Exposure above the OEL may result in death. The effects may be delayed. Medical observation is indicated.
	OCCUPATIONAL EXPOSURE LIMITS: OSHA PEL: 1910.1018 TWA 0.010 mg/m ³ NIOSH REL: Ca C 0.002 mg/m ³ 15-minute See <u>Appendix A</u> NIOSH IDLH: Ca 5 mg/m ³ (as As) See: 7440382 TLV: 0.01 mg/m ³ as TWA A1 (confirmed human carcinogen); BEI issued (ACGIH 2004).	EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the mucous membranes, skin, peripheral nervous system liver bone marrow, resulting in pigmentation disorders, hyperkeratosis, perforation of nasal septum, neuropathy, liver impairment anaemia This substance is carcinogenic to humans. Animal tests show that this substance possibly causes toxicity to human reproduction or development.
	MAK: Carcinogen category: 1; Germ cell mutagen group: 3A; (DFG 2004).	
PHYSICAL PROPERTIES	Sublimation point: 613°C Density: 5.7 g/cm ³	Solubility in water: none

ENVIRONMENTAL DATA	The substance is toxic to aquatic organisms. It is strongly advised that this substance does not enter the environment.	
NOTES		
The substance is combustible but no flash point is available in literature. Depending on the degree of exposure, periodic medical examination is suggested. Do NOT take working clothes home. Refer also to cards for specific arsenic compounds, e.g., Arsenic pentoxide (ICSC 0377), Arsenic trichloride (ICSC 0221), Arsenic trioxide (ICSC 0378), Arsine (ICSC 0222). Transport Emergency Card: TEC (R)-61GT5-II		
ADDITIONAL INFORMATION		
ICSC: 0013		ARSENIC
(C) IPCS, CEC, 1994		
IMPORTANT LEGAL NOTICE:	Neither NIOSH, the CEC or the IPCS nor any person acting on behalf of NIOSH, the CEC or the IPCS is responsible for the use which might be made of this information. This card contains the collective views of the IPCS Peer Review Committee and may not reflect in all cases all the detailed requirements included in national legislation on the subject. The user should verify compliance of the cards with the relevant legislation in the country of use. The only modifications made to produce the U.S. version is inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values.	

International Chemical Safety Cards

CHROMIUM

ICSC: 0029



Chromium
Cr
Atomic mass: 52.0
(powder)

ICSC # 0029

CAS # 7440-47-3

RTECS # GB4200000

October 27, 2004 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible under specific conditions.	No open flames if in powder form.	In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION		Prevent deposition of dust; closed system; dust explosion-proof electrical equipment and lighting.	
EXPOSURE		PREVENT DISPERSION OF DUST!	
• INHALATION	Cough.	Local exhaust or breathing protection.	Fresh air, rest.
• SKIN		Protective gloves.	Remove contaminated clothes. Rinse skin with plenty of water or shower.
• EYES	Redness.	Safety goggles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
• INGESTION		Do not eat, drink, or smoke during work.	Rinse mouth.
SPILLAGE DISPOSAL		STORAGE	PACKAGING & LABELLING
Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Personal protection: P2 filter respirator for harmful particles.			
SEE IMPORTANT INFORMATION ON BACK			
ICSC: 0029		Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications in the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.	

International Chemical Safety Cards

ICSC: 0029

CHROMIUM

I M P O R T A N T A	PHYSICAL STATE: APPEARANCE: GREY POWDER	ROUTES OF EXPOSURE:
	PHYSICAL DANGERS: Dust explosion possible if in powder or granular form, mixed with air.	INHALATION RISK: A harmful concentration of airborne particles can be reached quickly when dispersed.
	CHEMICAL DANGERS: Chromium is a catalytic substance and may cause reaction in contact with many organic and inorganic substances, causing fire and explosion hazard.	EFFECTS OF SHORT-TERM EXPOSURE: May cause mechanical irritation to the eyes and the respiratory tract.
	OCCUPATIONAL EXPOSURE LIMITS: TLV: (as Cr metal, Cr(III) compounds) 0.5 mg/m ³ as TWA A4 (ACGIH 2004). MAK not established.	EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
	OSHA PEL*: TWA 1 mg/m ³ See Appendix C *Note: The PEL also applies to insoluble chromium salts.	
	NIOSH REL: TWA 0.5 mg/m ³ See Appendix C	
	NIOSH IDLH: 250 mg/m ³ (as Cr) See: 7440473	
PHYSICAL PROPERTIES	Boiling point: 2642°C Melting point: 1900°C Density: 7.15 g/cm ³	Solubility in water: none
ENVIRONMENTAL DATA		
NOTES		
The surface of the chromium particles is oxidized to chromium(III) oxide in air. See ICSC 1531 Chromium(III) oxide.		
ADDITIONAL INFORMATION		
CHROMIUM		
ICSC: 0029		
(C) IPCS, CEC, 1994		
IMPORTANT LEGAL NOTICE:	Neither NIOSH, the CEC or the IPCS nor any person acting on behalf of NIOSH, the CEC or the IPCS is responsible for the use which might be made of this information. This card contains the collective views of the IPCS Peer Review Committee and may not reflect in all cases all the detailed requirements included in national legislation on the subject. The user should verify compliance of the cards with the relevant legislation in the country of use. The only modifications made to produce the U.S. version is inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values.	

Appendix B

Respirator Fit Test Procedures

Appendix A to Sec. 1910.120--Personal Protective Equipment Test Methods

This appendix sets forth the non-mandatory examples of tests which may be used to evaluate compliance with Sec. 1910.120 (g)(4) (ii) and (iii). Other tests and other challenge agents may be used to evaluate compliance.

A. Totally-encapsulating chemical protective suit pressure test

1.0--Scope

1.1 This practice measures the ability of a gas tight totally-encapsulating chemical protective suit material, seams, and closures to maintain a fixed positive pressure. The results of this practice allow the gas tight integrity of a totally-encapsulating chemical protective suit to be evaluated.

1.2 Resistance of the suit materials to permeation, penetration, and degradation by specific hazardous substances is not determined by this test method.

2.0--Definition of terms

2.1 Totally-encapsulated chemical protective suit (TECP suit) means a full body garment which is constructed of protective clothing materials; covers the wearer's torso, head, arms, legs and respirator; may cover the wearer's hands and feet with tightly attached gloves and boots; completely encloses the wearer and respirator by itself or in combination with the wearer's gloves and boots.

2.2 Protective clothing material means any material or combination of materials used in an item of clothing for the purpose of isolating parts of the body from direct contact with a potentially hazardous liquid or gaseous chemicals.

2.3 Gas tight means, for the purpose of this test method, the limited flow of a gas under pressure from the inside of a TECP suit to atmosphere at a prescribed pressure and time interval.

3.0--Summary of test method

3.1 The TECP suit is visually inspected and modified for the test. The test apparatus is attached to the suit to permit inflation to

[[Page 392]]

the pre-test suit expansion pressure for removal of suit wrinkles and creases. The pressure is lowered to the test pressure and monitored for three minutes. If the pressure drop is excessive, the TECP suit fails the test and is removed from service. The test is repeated after leak location and repair.

4.0--Required Supplies

4.1 Source of compressed air.

4.2 Test apparatus for suit testing, including a pressure measurement device with a sensitivity of at least $\frac{1}{4}$ inch water gauge.

4.3 Vent valve closure plugs or sealing tape.

4.4 Soapy water solution and soft brush.

4.5 Stop watch or appropriate timing device.

5.0--Safety Precautions

5.1 Care shall be taken to provide the correct pressure safety devices required for the source of compressed air used.

6.0--Test Procedure

6.1 Prior to each test, the tester shall perform a visual inspection of the suit. Check the suit for seam integrity by visually examining the

8.1.4 Records shall be kept for each pressure test even if repairs are being made at the test location.

Caution

Visually inspect all parts of the suit to be sure they are positioned correctly and secured tightly before putting the suit back into service. Special care should be taken to examine each exhaust valve to make sure it is not blocked.

Care should also be exercised to assure that the inside and outside of the suit is completely dry before it is put into storage.

B. Totally-encapsulating chemical protective suit qualitative leak test

1.0--Scope

1.1 This practice semi-qualitatively tests gas tight totally-encapsulating chemical protective suit integrity by detecting inward leakage of ammonia vapor. Since no modifications are made to the suit to carry out

[[Page 393]]

this test, the results from this practice provide a realistic test for the integrity of the entire suit.

1.2 Resistance of the suit materials to permeation, penetration, and degradation is not determined by this test method. ASTM test methods are available to test suit materials for these characteristics and the tests are usually conducted by the manufacturers of the suits.

2.0--Definition of terms

2.1 Totally-encapsulated chemical protective suit (TECP suit) means a full body garment which is constructed of protective clothing materials; covers the wearer's torso, head, arms, legs and respirator; may cover the wearer's hands and feet with tightly attached gloves and boots; completely encloses the wearer and respirator by itself or in combination with the wearer's gloves, and boots.

2.2 Protective clothing material means any material or combination of materials used in an item of clothing for the purpose of isolating parts of the body from direct contact with a potentially hazardous liquid or gaseous chemicals.

2.3 Gas tight means, for the purpose of this test method, the limited flow of a gas under pressure from the inside of a TECP suit to atmosphere at a prescribed pressure and time interval.

2.4 Intrusion Coefficient means a number expressing the level of protection provided by a gas tight totally-encapsulating chemical protective suit. The intrusion coefficient is calculated by dividing the test room challenge agent concentration by the concentration of challenge agent found inside the suit. The accuracy of the intrusion coefficient is dependent on the challenge agent monitoring methods. The larger the intrusion coefficient the greater the protection provided by the TECP suit.

3.0--Summary of recommended practice

3.1 The volume of concentrated aqueous ammonia solution (ammonia hydroxide NH_4OH) required to generate the test atmosphere is determined using the directions outlined in 6.1. The suit is donned by a person wearing the appropriate respiratory equipment (either a positive pressure self-contained breathing apparatus or a positive pressure supplied air respirator) and worn inside the enclosed test room. The

exhaust of the ammonia test atmosphere after the test(s) are completed.

5.5 Individuals shall be medically screened for the use of respiratory protection and checked for allergies to ammonia before participating in this test procedure.

6.0--Test procedure

6.1.1 Measure the test area to the nearest foot and calculate its volume in cubic feet. Multiply the test area volume by 0.2 milliliters of concentrated aqueous ammonia solution per cubic foot of test area volume to determine the approximate volume of concentrated aqueous ammonia required to generate 1000 ppm in the test area.

6.1.2 Measure this volume from the supply of concentrated aqueous ammonia and place it into a closed plastic container.

6.1.3 Place the container, several high range ammonia detector tubes, and the pump in the clean test pan and locate it near the test area entry door so that the suited individual has easy access to these supplies.

6.2.1 In a non-contaminated atmosphere, open a pre-sealed ammonia indicator strip and fasten one end of the strip to the inside of the suit face shield lens where it can be seen by the wearer. Moisten the indicator strip with distilled water. Care shall be taken not to contaminate the detector part of the indicator paper by touching it. A small piece of masking tape or equivalent should be used to attach the indicator strip to the interior of the suit face shield.

6.2.2 If problems are encountered with this method of attachment, the indicator strip can be attached to the outside of the respirator face piece lens being used during the test.

6.3 Don the respiratory protective device normally used with the suit, and then don the TECP suit to be tested. Check to be sure all openings which are intended to be sealed (zippers, gloves, etc.) are completely sealed. DO NOT, however, plug off any venting valves.

6.4 Step into the enclosed test room such as a closet, bathroom, or test booth, equipped with an exhaust fan. No air should be exhausted from the chamber during the test because this will dilute the ammonia challenge concentrations.

6.5 Open the container with the pre-measured volume of concentrated aqueous ammonia within the enclosed test room, and pour the liquid into the empty plastic test pan. Wait two minutes to allow for adequate volatilization of the concentrated aqueous ammonia. A small mixing fan can be used near the evaporation pan to increase the evaporation rate of the ammonia solution.

6.6 After two minutes a determination of the ammonia concentration within the chamber should be made using the high range colorimetric detector tube. A concentration of 1000 ppm ammonia or greater shall be generated before the exercises are started.

6.7 To test the integrity of the suit the following four minute exercise protocol should be followed:

6.7.1 Raising the arms above the head with at least 15 raising motions completed in one minute.

6.7.2 Walking in place for one minute with at least 15 raising motions of each leg in a one-minute period.

6.7.3 Touching the toes with a least 10 complete motions of the arms from above the head to touching of the toes in a one-minute period.

6.7.4 Knee bends with at least 10 complete standing and squatting motions in a one-minute period.

6.8 If at any time during the test the colorimetric indicating paper should change colors, the test should be stopped and section 6.10 and 6.12 initiated (See] 4.2).

Visually inspect all parts of the suit to be sure they are positioned correctly and secured tightly before putting the suit back into service. Special care should be taken to examine each exhaust valve to make sure it is not blocked.

Care should also be exercised to assure that the inside and outside of the suit is completely dry before it is put into storage.

Appendix B

Community Air Monitoring Plan

New York State Department of Health Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. 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.
2. 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 15-minute average.
3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.
4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed $150 \text{ mcg}/\text{m}^3$ above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than $150 \text{ mcg}/\text{m}^3$ 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-10 particulate concentration to within $150 \text{ mcg}/\text{m}^3$ of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

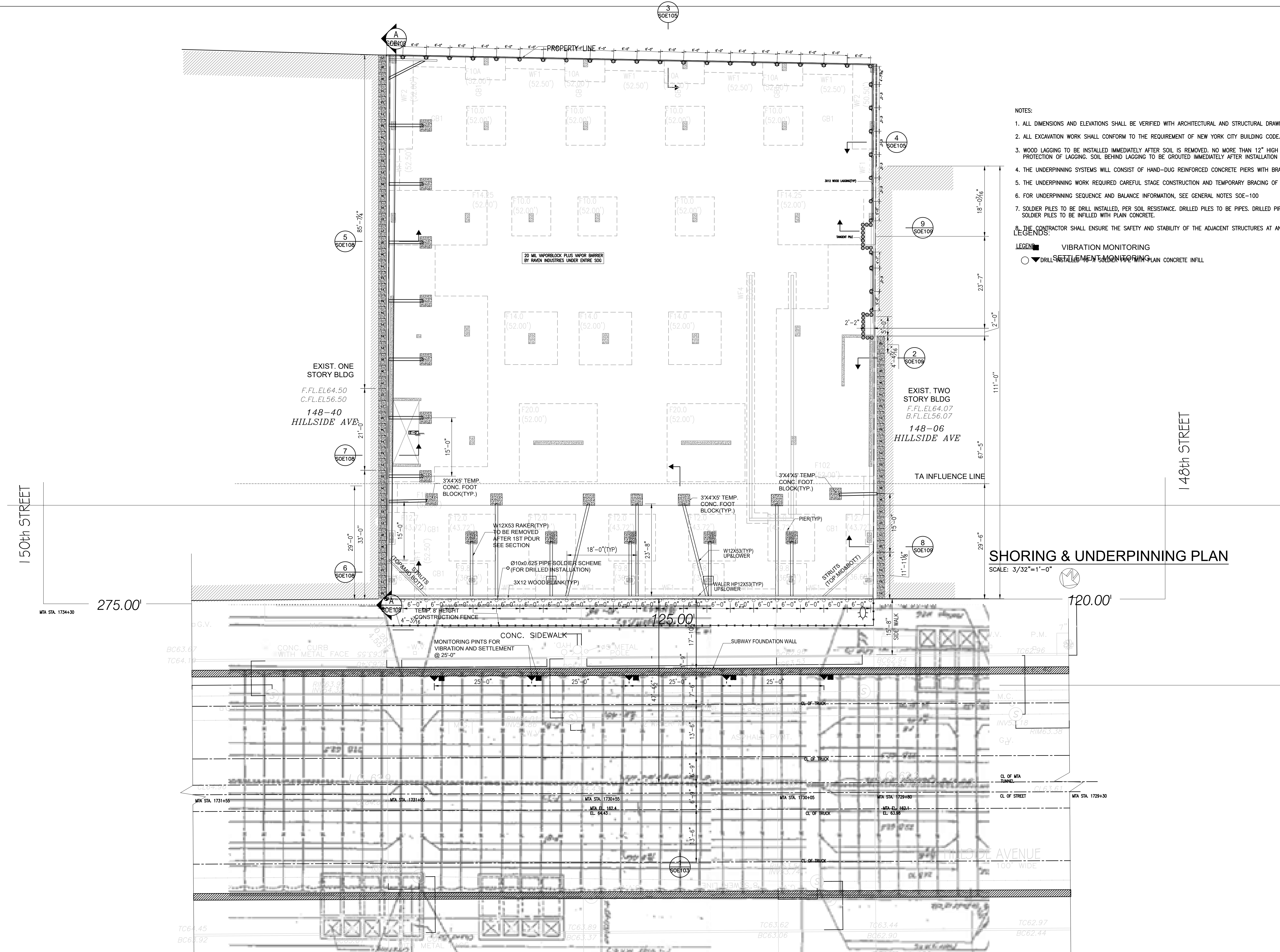
December 2009

Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals Structures

- When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor/dust barriers, temporary negative-pressure enclosures, or special ventilation devices should be considered to prevent exposures related to the work activities and to control dust and odors. Consideration should be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.
- If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 ppm, monitoring should occur within the occupied structure(s). Depending upon the nature of contamination, chemical-specific colorimetric tubes of sufficient sensitivity may be necessary for comparing the exposure point concentrations with appropriate pre-determined response levels (response actions should also be pre-determined). Background readings in the occupied spaces must be taken prior to commencement of the planned work. Any unusual background readings should be discussed with NYSDOH prior to commencement of the work.
- If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 mcg/m³, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 mcg/m³ or less at the monitoring point.

Appendix C

Shoring Plan



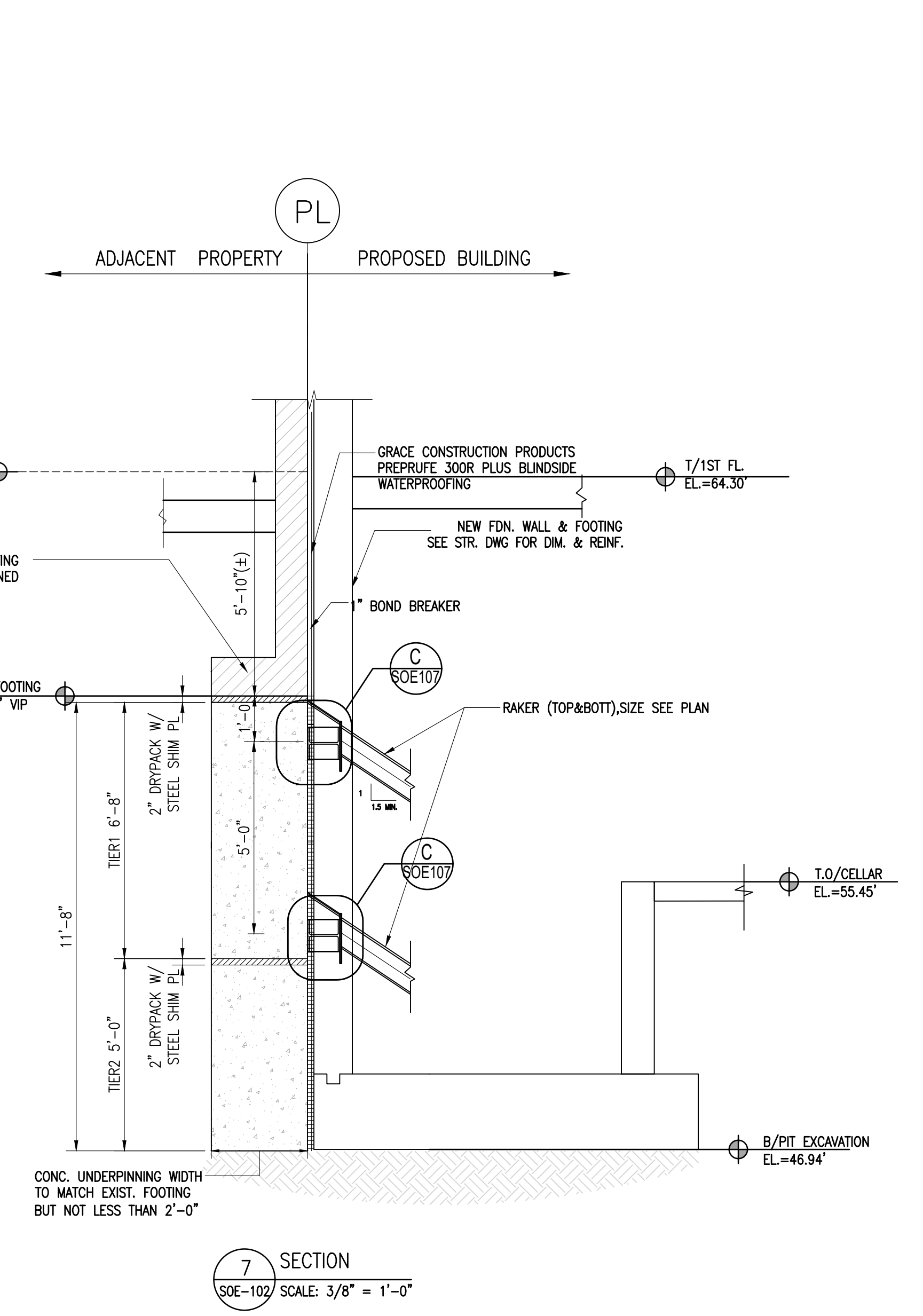
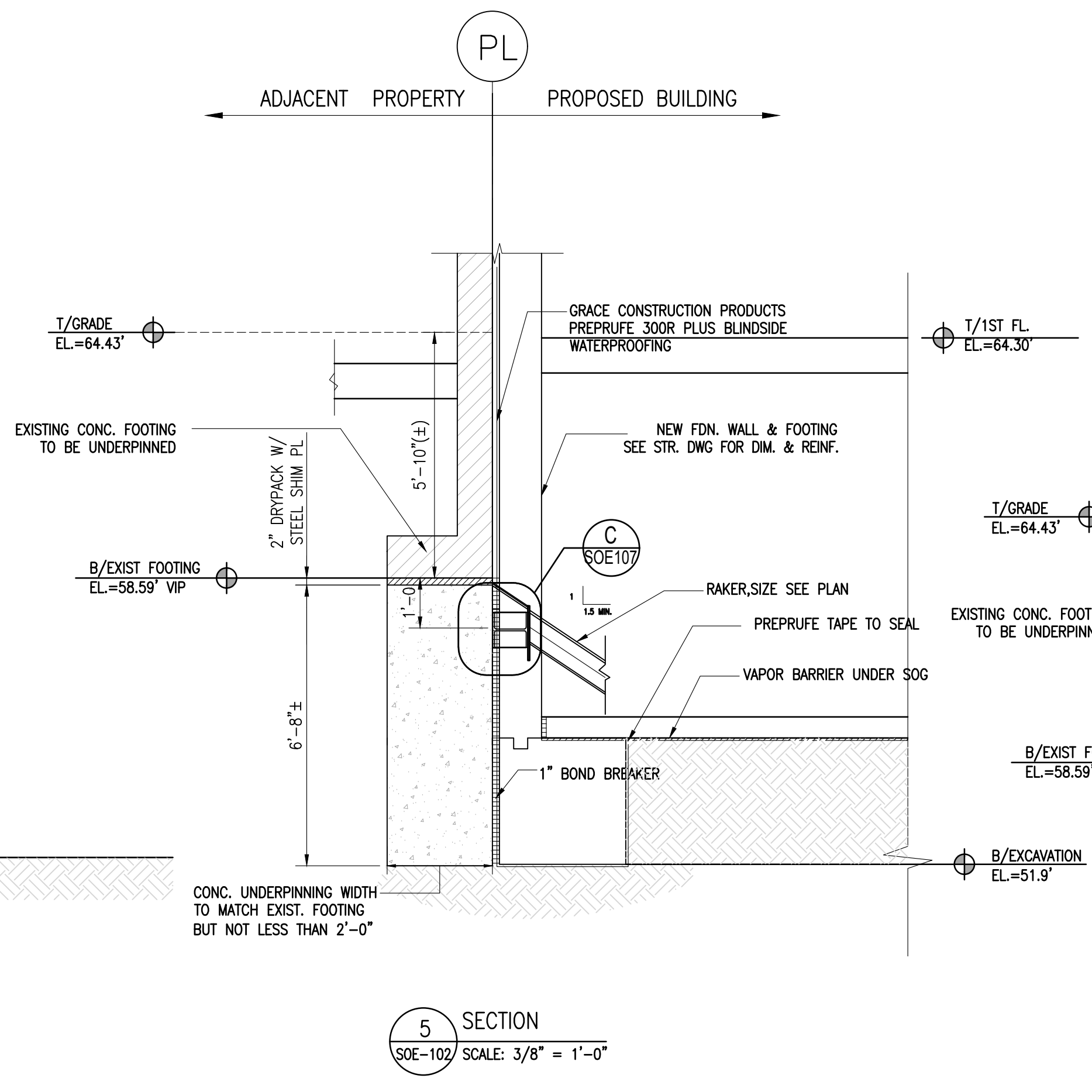
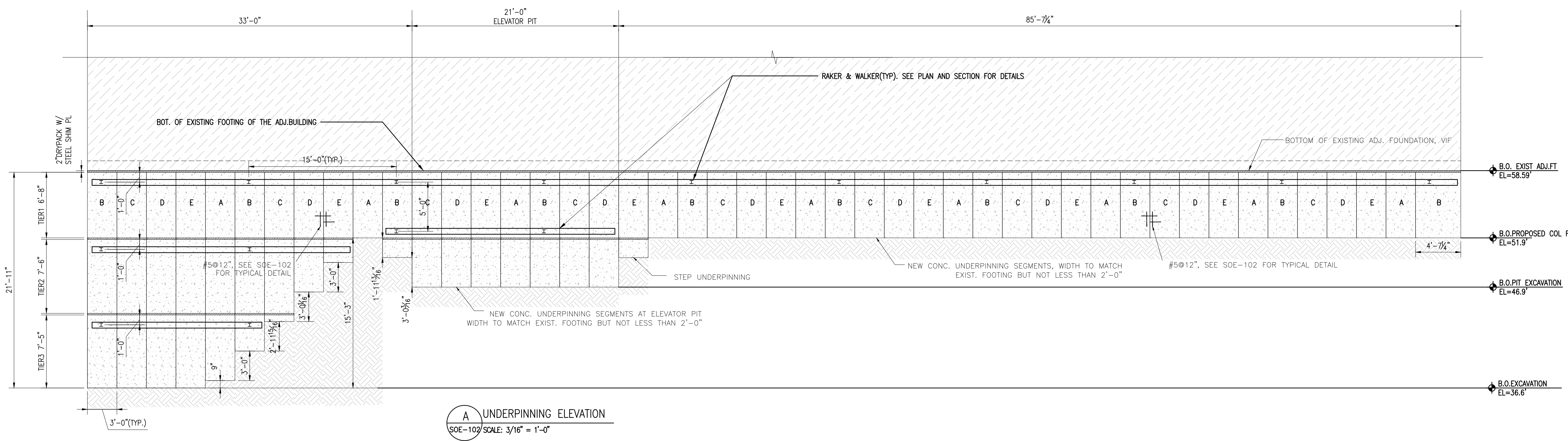
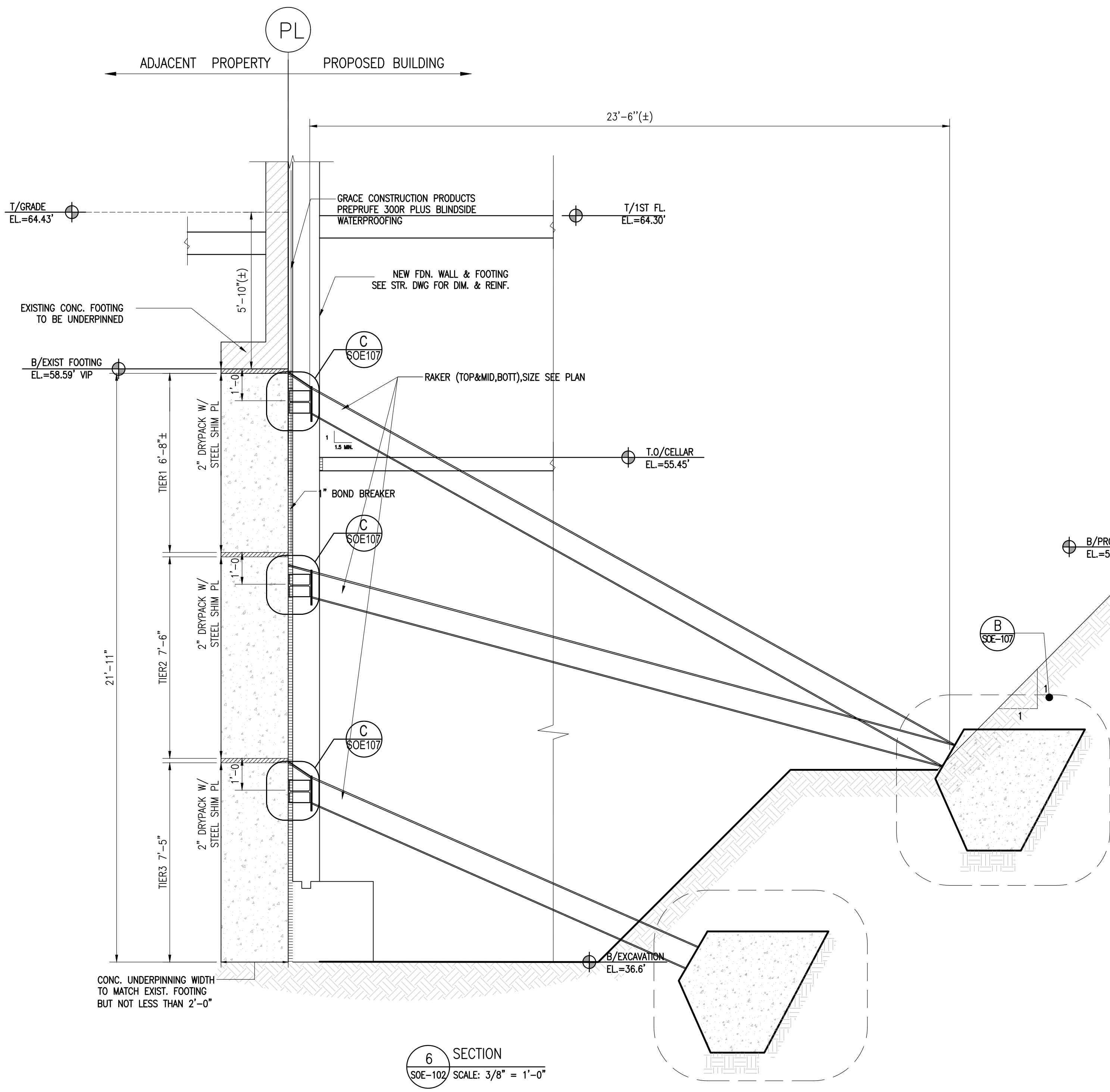
- NOTES:
1. ALL DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS AND IN FIELD.
 2. ALL EXCAVATION WORK SHALL CONFORM TO THE REQUIREMENT OF NEW YORK CITY BUILDING CODE.
 3. WOOD LAGGING TO BE INSTALLED IMMEDIATELY AFTER SOIL IS REMOVED. NO MORE THAN 12" HIGH SOIL SHALL BE EXPOSED W/O PROTECTION OF LAGGING. SOIL BEHIND LAGGING TO BE GROUTED IMMEDIATELY AFTER INSTALLATION OF THE LAGGING.
 4. THE UNDERPINNING SYSTEMS WILL CONSIST OF HAND-DUG REINFORCED CONCRETE PIERS WITH BRACING SYSTEM AS REQUIRED.
 5. THE UNDERPINNING WORK REQUIRED CAREFUL STAGE CONSTRUCTION AND TEMPORARY BRACING OF STRUCTURES.
 6. FOR UNDERPINNING SEQUENCE AND BALANCE INFORMATION, SEE GENERAL NOTES SOE-100
 7. SOLDIER PILES TO BE DRILL INSTALLED, PER SOIL RESISTANCE. DRILLED PILES TO BE PIPES. DRILLED PIPE SOLDIER PILES TO BE INFILLED WITH PLAIN CONCRETE.
 8. THE CONTRACTOR SHALL ENSURE THE SAFETY AND STABILITY OF THE ADJACENT STRUCTURES AT ANYTIME THROUGHOUT THE CONSTRUCTION.

- LEGENDS:
- LEGEND
- VIBRATION MONITORING
- DRILL INSTALLMENT MONITORING
- ▼ SETTLEMENT MONITORING
- PLAIN CONCRETE INFILL

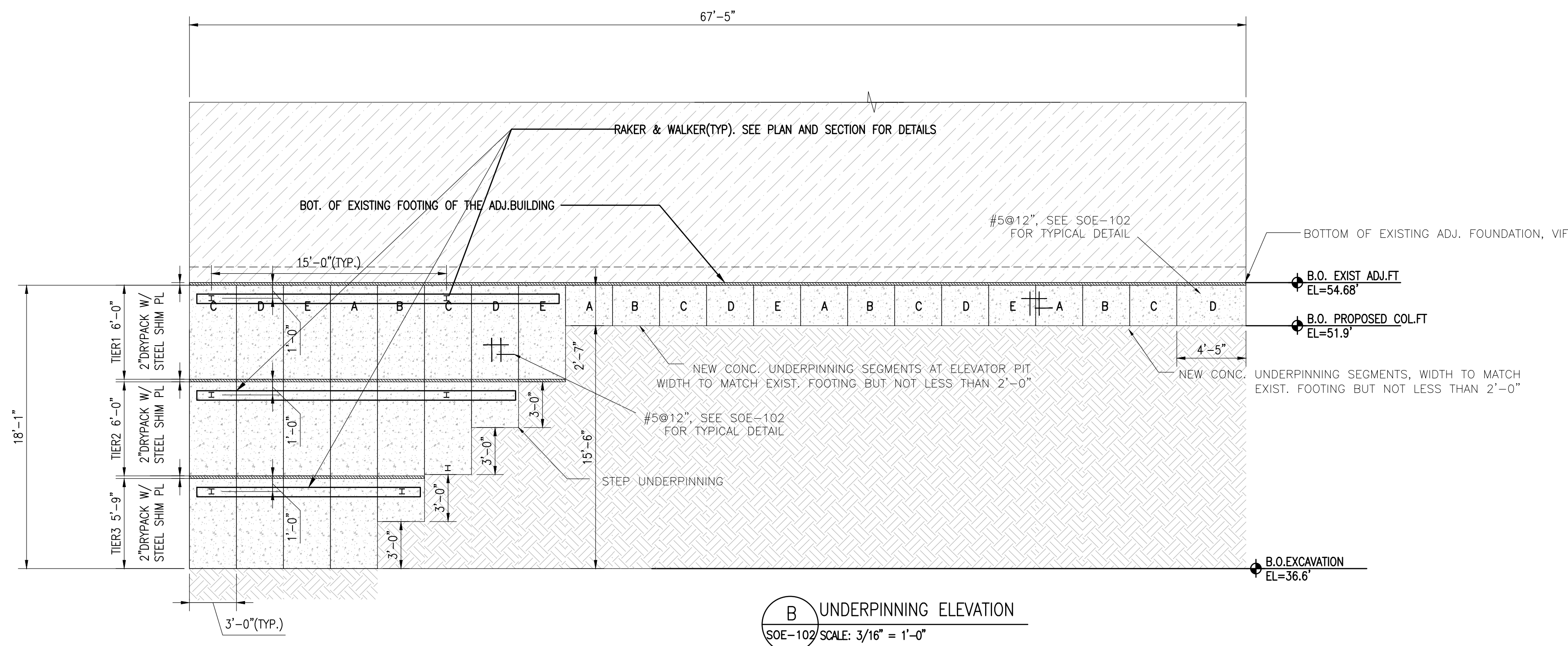
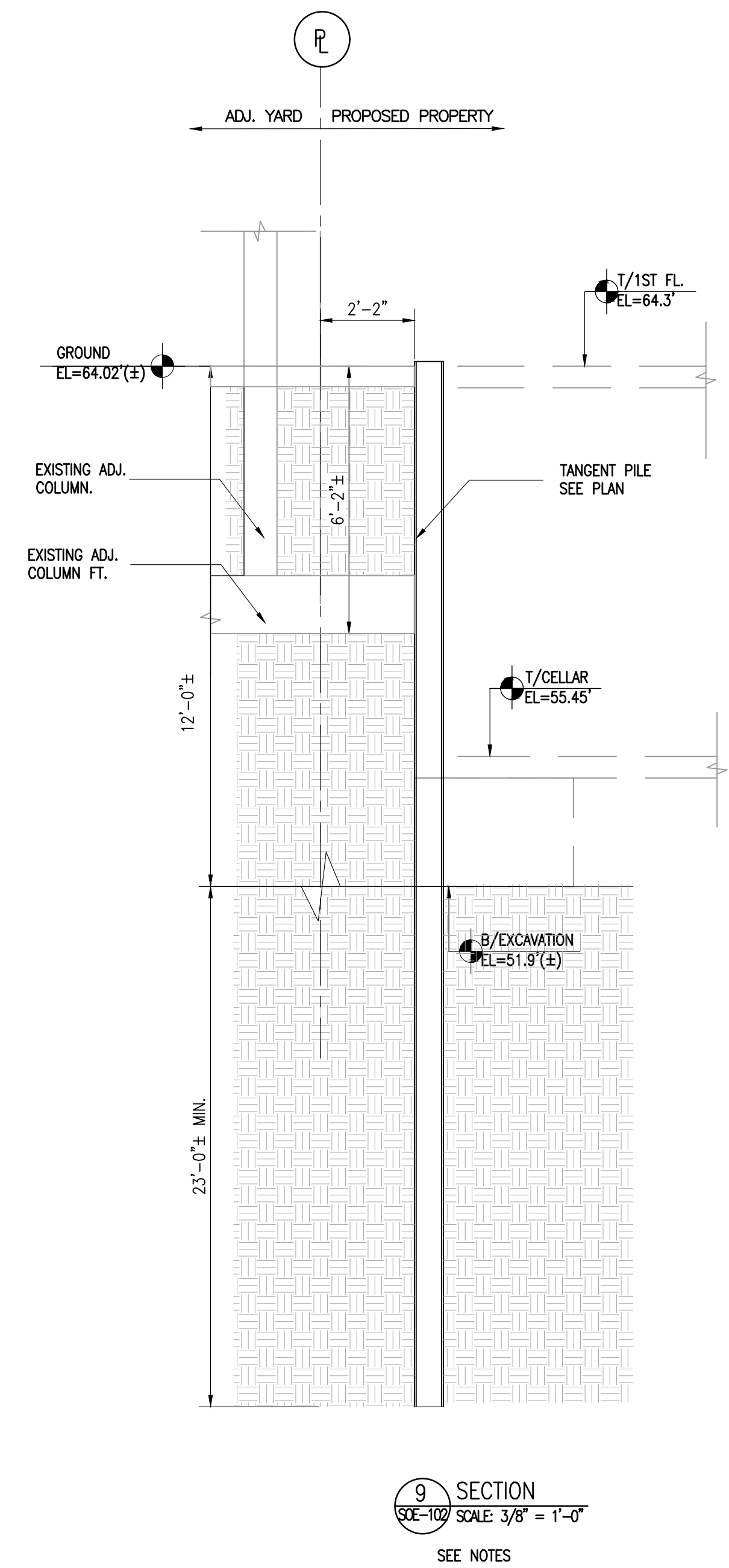
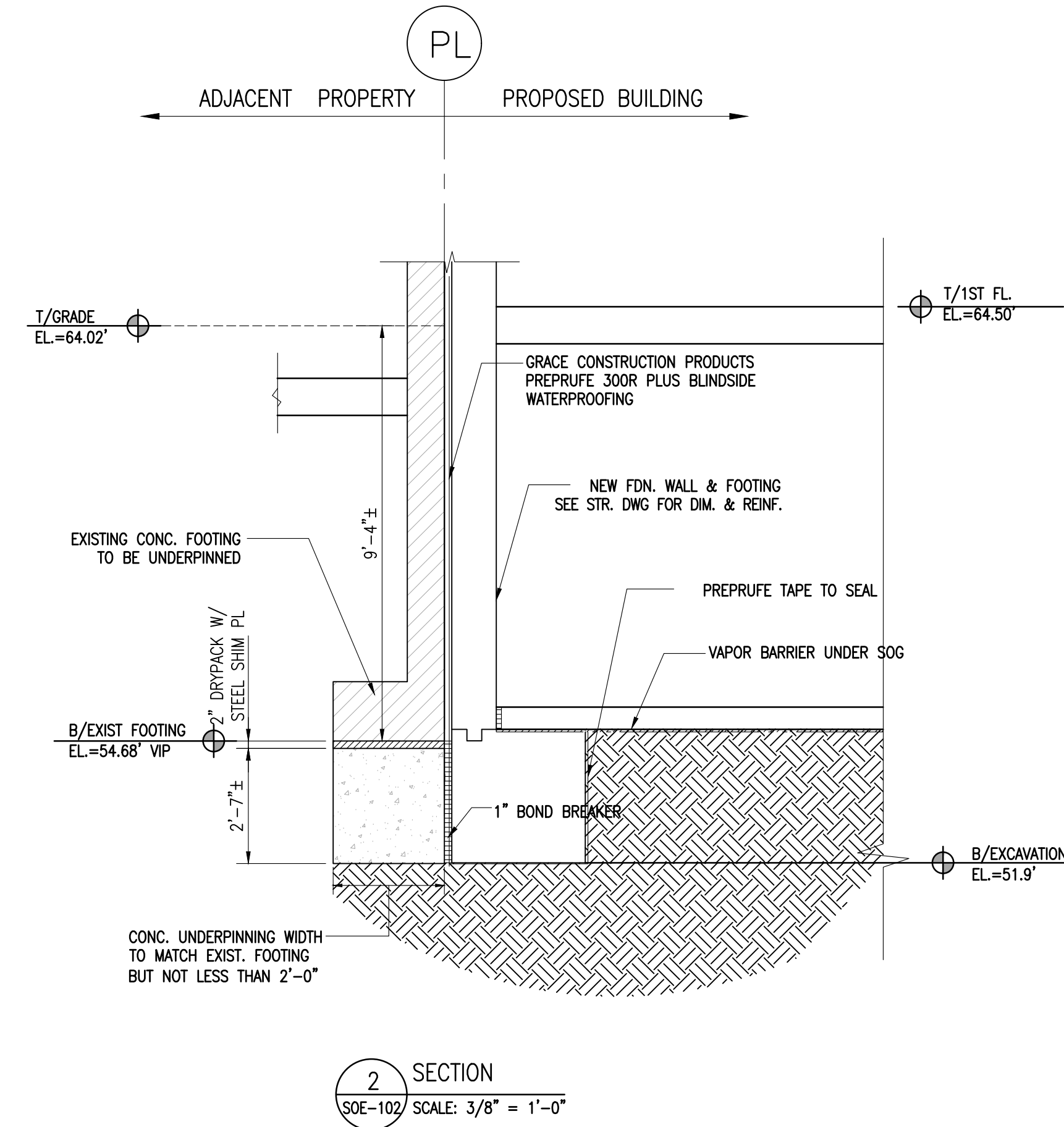
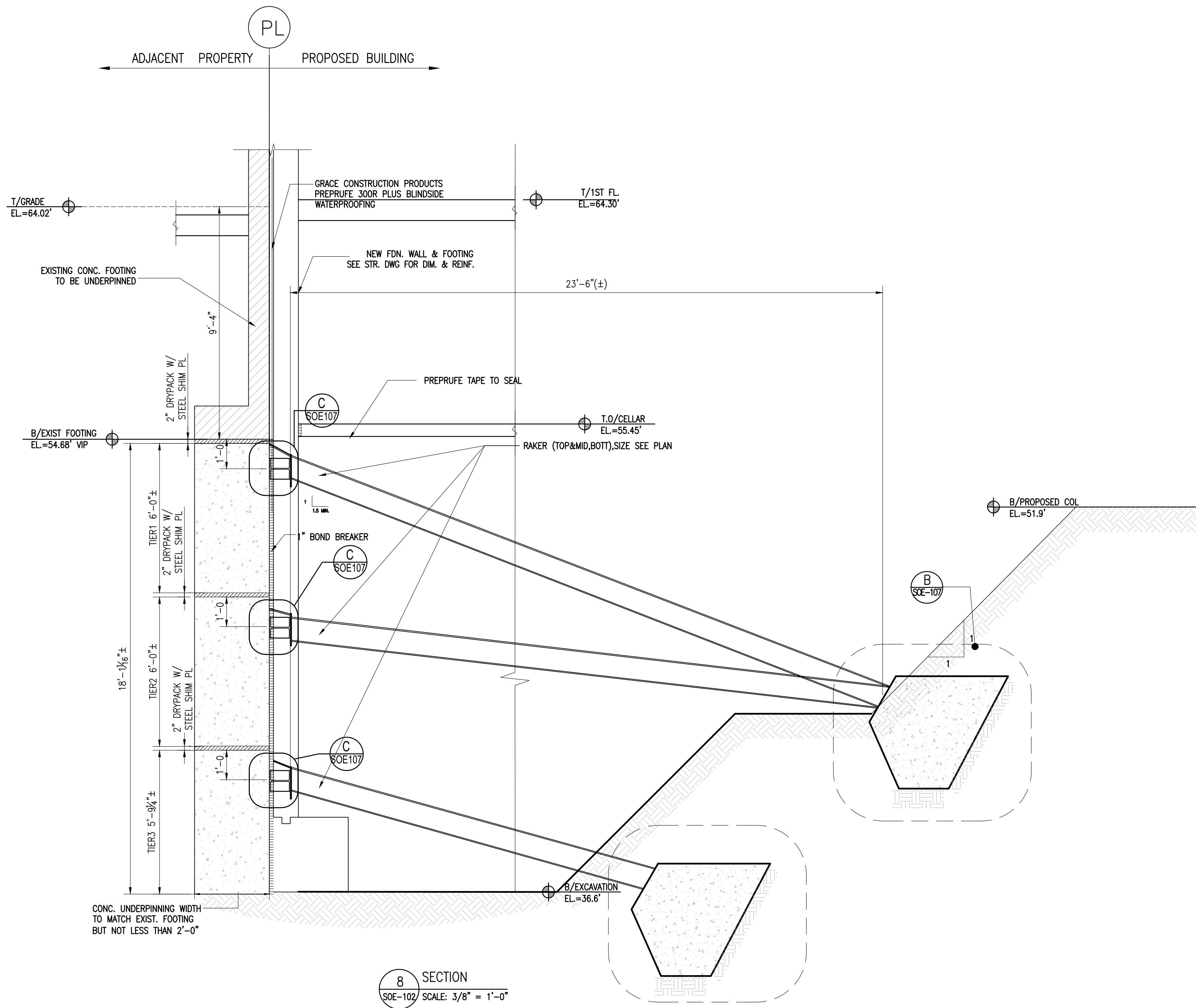
SHORING & UNDERPINNING PLAN

SCALE: 3/32"=1'-0"

03-01-17	SUBMITTED TO DOB/ FILING
DATE:	REV. DESCRIPTION:
STRUCTURE ENGINEER:	
JUST CONSULTING ENGINEERING, PLLC	
Consulting Engineers	
136-20 38th AVE. 3rd FL. FLUSHING, NY 11354	
TEL: (718) 308-6986 Email: info@jcepllc.com	
THE PLAN IS APPROVED ONLY FOR THE WORK INDICATED ON THE APPLICATION. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.	
CLIENT:	
PROJECT:	
PROPOSED A 9-STORY MIXED-USE COMMERCIAL & RESIDENTIAL BUILDING	
148-18 HILLSIDE AVE, JAMAICA, NY 11435	
DRAWING TITLE :	
SHORING PLAN	
DATE: 09/08/2020	PROJECT #: 20170105
SEAL & SIGNATURE:	DRAWN BY: LM
	CHKD. BY: XW
	DRAWING #:
	SOE-102.00



PROPOSED
SHORING
SECTIONS
AT THE
SUPERMARKET
(EXP#2)



PROPOSED
SHORING
SECTIONS
AT UNION
(EXP#4)

Appendix D NYSDEC
Request to Import/Reuse
Fill or Soil



**NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION**



Request to Import/Reuse Fill or Soil

This form is based on the information required by DER-10, Section 5.4(e). Use of this form is not a substitute for reading the applicable Technical Guidance document.

SECTION 1 – SITE BACKGROUND

The allowable site use is:

Have Ecological Resources been identified?

Is this soil originating from the site?

How many cubic yards of soil will be imported/reused?

If greater than 1000 cubic yards will be imported, enter volume to be imported:

SECTION 2 – MATERIAL OTHER THAN SOIL

Is the material to be imported gravel, rock or stone?

Does it contain less than 10%, by weight, material that would pass a size 10 sieve?

Does it contain less than 10%, by weight, material that would pass a size 100 sieve?

Is this virgin material from a permitted mine or quarry?

Is this material recycled concrete or brick from a DEC registered processing facility?

SECTION 3 - SAMPLING

Provide a brief description of the number and type of samples collected in the space below:

Example Text: 5 discrete samples were collected and analyzed for VOCs. 2 composite samples were collected and analyzed for SVOCs, Inorganics & PCBs/Pesticides.

If the material meets requirements of DER-10 section 5.4(e)5 (other material), no chemical testing needed.

SECTION 3 CONT'D - SAMPLING

Provide a brief written summary of the sampling results or attach evaluation tables (compare to DER-10, Appendix 5):

--

Example Text: Arsenic was detected up to 17 ppm in 1 (of 5) samples; the allowable level is 16 ppm.

If Ecological Resources have been identified use the "If Ecological Resources are Present" column in Appendix 5.

SECTION 4 – SOURCE OF FILL

Name of person providing fill and relationship to the source:

--

Location where fill was obtained:

--

Identification of any state or local approvals as a fill source:

--

If no approvals are available, provide a brief history of the use of the property that is the fill source:

--

Provide a list of supporting documentation included with this request:

--

The information provided on this form is accurate and complete.

Signature

Date

Print Name

Firm