Advanced
Cleanup
Technologies
Environmental Consultants

Remedial Investigation Work Plan

Daisy French Cleaners Site
1 Franklin Ave, Lynbrook, NY 11563
Section 37 Block 229, Lot 519 & 520

NYSDEC BCP No. C130240

Prepared for:

Billcarol Realty Corp.
17 Pony Circle
Roslyn Heights, NY 11577

Prepared by:

Advanced Cleanup Technologies Inc.
228 Park Ave S PMB 34864
New York, New York 10003-1502 US

July 2025

TABLE OF CONTENTS

Tables

Figures

Appendices

LIST OF ACRONYMS

Acronym	Definition
AST	Aboveground Storage Tank
ACT	Advanced Cleanup Technologies, Inc.
CAMP	Community Air Monitoring Plan
C&D	Construction & Demolition
CEQR	City Environmental Quality Review
CFR	Code of Federal Regulations
CHASP	Construction Health and Safety Plan
CO	Certificate of Occupancy
CPC	City Planning Commission
DSNY	Department of Sanitation
“E”	E-Designation
EAS	Environmental Assessment Statement
EIS	Environmental Impact Statement
ESA	Environmental Site Assessment
EC/IC	Engineering Control and Institutional Control
ELAP	Environmental Laboratory Accreditation Program
FDNY	New York City Fire Department
FWRIA	Fish and Wildlife Resource Impact Analysis
GPR	Ground Penetrating Radar
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations Emergency Response
IDW	Investigation Derived Waste
Notice - NNO	Notice of No Objection
Notice - NTP	Notice To Proceed
Notice - NOS	Notice Of Satisfaction
Notice - FNOS	Final Notice of Satisfaction
NYC BSA	New York City Board of Standards and Appeals
NYC DCP	New York City Department of City Planning

NYC DEP	New York City Department of Environmental Protection
NYC DOB	New York City Department of Buildings
NYC DOF	New York City Department of Finance
NYC HPD	New York City Housing Preservation and Development
NYCRR	New York Codes Rules and Regulations
NYC OER	New York City Office of Environmental Remediation
NYS DEC	New York State Department of Environmental Conservation
NYS DEC DER	New York State Department of Environmental Conservation Division of Environmental Remediation
NYS DEC PBS	New York State Department of Environmental Conservation Petroleum Bulk Storage
NYS DOH	New York State Department of Health
NYS DOT	New York State Department of Transportation
OSHA	United States Occupational Health and Safety Administration
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PE	Professional Engineer
PID	Photo Ionization Detector
PM	Particulate Matter
QEP	Qualified Environmental Professional
RA	Register Architect
RAP	Remedial Action Plan
RAWP	Remedial Action Work Plan
RCR	Remedial Closure Report
RD	Restrictive Declaration
RI	Remedial Investigation
SCOs	Soil Cleanup Objectives
SCG	Standards, Criteria and Guidance
SMP	Site Management Plan
SPDES	State Pollutant Discharge Elimination System
SSDS	Sub-Slab Depressurization System
SVOCs	Semi-Volatile Organic Compounds
USCS	Unified Soil Classification System

USGS	United States Geological Survey
UST	Underground Storage Tank
TAL	Target Analyte List
TCL	Target Compound List
TCO	Temporary Certificate of Occupancy
VB	Vapor Barrier
VOCs	Volatile Organic Compounds

CERTIFICATION

I, Jason Stewart certify that I am currently a Professional Engineer as defined in 6 NYCRR Part 375 and that this Remedial Investigation Work Plan for NYSDEC BCP No. C130240 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: August 6, 2025

Jason Stewart

By: Jason Stewart, P.E.

JASON BRUCE STEWART
105632

REMEDIAL INVESTIGATION WORK PLAN

1.0 INTRODUCTION

This Remedial Investigation Work Plan (RIWP) has been developed for 1 Franklin Ave, Lynbrook, NY 11563 in the North Lynbrook section of Nassau County, New York (the "Site") by Advanced Cleanup Technologies, Inc. (ACT) on behalf of Billcarol Realty Corp, who is participating in the Brownfield Cleanup Program as a Participant as defined in ECL 27-1405(1)(a). The Brownfield Cleanup Agreement was executed on March 4, 2025. This project has been assigned BCP Site No. C130240 by the New York State Department of Environmental Conservation (NYSDEC).

This RIWP describes the proposed investigation that will define the nature and extent of all on-Site contamination, identify contaminant source areas, and produce data of sufficient quantity and quality to support the development of an acceptable Remedial Action Work Plan. The Health and Safety Plan (HASP, Appendix B) addresses potential hazards and contaminants of concern based on past Site uses and safety requirements associated with investigation activities in accordance with ASTM and OSHA guidelines and the NYSDEC DER-10 investigation guidance document.

1.1 Site Locations and Current Usage

The Site is located at 1 Franklin Ave in the hamlet of North Lynbrook in the town Hempstead in Nassau County, NY and is identified as Section 37, Block 229, Lot 519 on the Nassau County Tax Map. Figure 1 shows the Site location. The Site is 17,536 square feet in area. Currently, the Site is a vacant lot with an abandoned bank building. The property is listed with a Business District zoning designation.

South Pond and Mill River are the closest surface bodies of water located approximately 1 mile east of the Site in the presumed hydraulically cross-gradient direction. According to the EPA "Federal

FRDS Public Water Supply System Information", the closest public drinking water well is well # NY0002835 located 1/8 mile north of the Site in the presumed hydraulically upgradient direction form the site. Well # N008190 at 188 Gates Ave, Malverne, NY 11565 is a private drinking water well located approximately 0.5 miles to the west of the Site in the presumed hydraulically cross-gradient direction.

Sensitive receptors within 0.5 miles of the site include the following:

Sensitive Receptor	Address	Distance from Site
Davison Avenue Intermediate School	49 Davison Ave, Lynbrook, NY 11563	700 feet southeast
Sunrise of North Lynbrook Adult Home	53 Franklin Avenue	1300 feet north
Lynbrook West End School	30 Clark Ave, Lynbrook, NY 11563	0.5 miles southwest

1.2 Proposed Redevelopment Plan

The proposed future redevelopment of the Site consists of a filling station with a convenience Store. The Site will be capped, and the parking lot will contain approximately 8 parking spaces. The proposed convenience store will be approximately 2,400 square feet. The installation of two (2) 15,000 Gallon Double Wall Fiberglass Underground Storage Tanks are proposed with the future development. The conceptual development plans are attached in Figure 7

1.3 Description of Surrounding Property

Figure 2 shows the surrounding land usage. The Site is bordered to the north by a warehouse (H&L Irrigation Supply Warehouse) and a residential dwelling; to the east by Franklin Avenue, and beyond by a store (7-Eleven); to the south by Hendrickson Avenue, and beyond by a gasoline service station (Atlantic Gas) and a residential dwelling; and to the west by a commercial building (Weather Champions). The area in the vicinity of the Site is composed predominantly of residential and commercial buildings.

2.0 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

2.1 Summary of Past Uses

According to the historical records reviewed in the August 9, 2023, Phase I Environmental Site Assessment prepared by Cider Environmental, the Site was first developed prior to 1924 as residential dwellings. The existing building was constructed in 1963. The Site maintained a dry-cleaning store under the name "Daisy French Cleaners" from 1963 to 1976, and subsequently various banks with offices occupied the Site from 1977 to 2020. Since 2020, the Site remained as a vacant lot with an abandoned bank building still present on the Site. The Phase I Environmental Site Assessment prepared by Cider Environmental identified the building as serviced by the Nassau county municipal sewer.

A review of the historical records revealed that the eastern adjoining property (2 Franklin Ave) has maintained a gasoline service station from before 1951 to circa 2017. The southern adjacent property (2 Hendrickson Ave) has maintained a gasoline service station since before 1951. The western adjoining property (13 Hendrickson Ave) maintained a gasoline tank circa 1961.

There are several closed NYSDEC Spills associated with adjoining properties. Specifically:

- Spill Nos. 1909184 and 1901462 (13 Hendrickson Ave, 37 feet W) were reported on 12/20/2019 due to dry-cleaning related soil vapor contamination found during a Phase II ESA, which was believed to have originated from the Site. One oil tank was removed and the adjacent property owner voluntarily installed a sub slab depressurization system in their own on-Site building to address the soil vapor issue. Endpoint samples associated with the tank removal were below Commercial SCO except for several SVOCs. The tank Spill No. 1909184 was administratively closed on 12/31/2019 but the soil vapor Spill No. 1901462 related to the off-Site soil vapor issue remains open.

- Spill No. 9112515 (Exxon Station, Hempstead & Franklin Ave, 78 feet ESE) was reported on 3/9/1992 due to a broken gasket inside a dispenser. Contaminated soil was removed. The spill was closed on 4/16/1992.
- Spill No. 9312682 (2 Hendrickson Ave, 97 feet SE) was reported on 1/28/1994 due to a complaint of gasoline odor. DEC inspected but found no product found in drainage. The spill was closed on 6/27/1994.
- Spill No. 9413222 (2 Hendrickson Ave, 97 feet SE) was reported on 1/4/1995 due to gasoline related contamination found in a groundwater sample. No detailed DEC Memo was available. The spill was closed on 3/5/2002.

There are three (3) RCRA generators in the close proximity to the Site, including "Steve Lynbrook Service" (131 feet ESE), Jami's Cleaners (240 Hempstead Ave, 181 feet SE) and Exxon Div of CFI # 72277 (Hempstead & Franklin Ave, 143 feet NE).

2.2 Geology and Hydrogeology

2.3 Topography

According to the USGS Quadrangle, NY Topographic Maps for 14105986 Lynbrook, NY 2019. The elevation of the Site is approximately 18 feet above mean sea level. Topography of the property is essentially level with no abrupt changes in elevation. Topographically, the property is gradient towards general west.

2.4 Stratigraphy

The soils in the area of the Site are classified as Urban Land. Urban Land refers to soils that have been altered by urban development such as buildings and streets, where at least 50 percent of the surface is covered with asphalt, concrete or other impervious building material. Surface soils in the area from 0 to 3 inches bgs can be characterized by loamy sand, from 3-24 inches bgs can be characterized by sandy loam, fine sandy loam, gravelly sandy loam. 24-35 inches bgs can be characterized by Loamy sand, gravelly loamy sand, and fine sandy loam, 35-60 inches bgs can be characterized by stratifies sand and gravel.

During the previous investigation, soil conditions observed during the Cider Environmental Phase II ESA field activities revealed that the subsurface soil consists of light brown medium to fine sand to 15 feet below grade.

The stratigraphy beneath the Site is composed of the Upper Glacial aquifer from the ground surface to approximately 50 feet bgs and is composed of sand as the dominant fraction, along with varying amounts of gravel, silt and clay. Beneath the Upper Glacial aquifer is the Magothy aquifer, predominantly composed of sand fine to medium clayey in part imbedded with lenses and layers of course sand and sandy and solid clay, which extends to a depth of approximately 700 feet bgs. The Raritan confining unit is encountered beneath the Magothy Aquifer, predominantly composed of clay solid and silt, which extends to a depth of approximately 900 feet bgs. The Lloyd aquifer is encountered beneath the Raritan confining unit and is composed of poorly to moderate permeability sand and gravel in a clayey matrix, which extends to the top of bedrock at 1300 feet bgs that consists of crystalline metamorphic or igneous lithology in the vicinity of the Site.

2.5 Hydrology

During the previous Phase II investigation, the groundwater was encountered at a depth of approximately 11 feet bgs. The exact groundwater flow direction could not be determined without the installation and the survey of permanent monitoring wells, which was beyond the scope of work of the previous Phase II ESA. The movement and direction of groundwater flow is influenced by many factors including, but not limited to, the aquifer’s hydraulic characteristics, surface and bedrock topography, the presence of surface water bodies and the influence of pumping wells. Preliminary estimates of groundwater flow direction usually consider surface topography and the presence of nearby surface water bodies. Therefore, assumed regional groundwater flow direction is likely to the south towards to the Great South Bay.

Stormwater runoff from the Site discharges through surface runoff into catch basins/storm drains in the southern portion of the on-Site parking, which are most likely connected to the overflow structures.

2.6 Summary of Previous Investigations

The following investigations were performed at the Site:

1. Phase I Environmental Site Assessment by Cider Environmental, August 2023
2. Phase II Environmental Site Assessment by Cider Environmental, September 2023

Each of these investigations is summarized below. Historical sampling locations are depicted in Figure 3.

2.7 Phase I Environmental Site Assessment by Cider Environmental, August 2023

Cider Environmental completed a Phase I Environmental Site Assessment dated August 2023. The assessment revealed the following recognized environmental conditions (RECs):

- Former Dry-Cleaning Store

In addition, the assessment revealed the following recognized de minimis conditions:

- DMC-1: Former Fuel Oil Application
- DMC-2: Closed Spills on the Adjoining Properties
- DMC-3: Gasoline Filling Station on the Adjoining Properties
- DMC-4: RCRA Generators on the Adjoining Properties
- DMC-5: Stormwater Drywells

2.8 Phase II Environmental Site Assessment by Cider Environmental, September 2023

Cider Environmental completed a Phase II Environmental Site Assessment(ESA) dated September 2023. The work performed under the Phase II ESA included a Site inspection, geophysical survey, and six (6) soil borings were installed, and six (6) soil samples were collected. In addition, six (6) temporary multi-depth (15 feet bgs and 25 feet bgs) groundwater points were installed, and eleven (11) groundwater samples were collected. Finally, two (2) sediment samples were collected from the on-Site stormwater drywells and eight (8) soil gas samples installed less than 2 ft from below the slab were collected.

A remote sensing survey was performed in search of any abandoned USTs and/or former on-Site sanitary systems. The survey identified one (1) subsurface anomaly outside the northwestern wall of the existing building. Based on its size (15’ x 6’) and location, this anomaly likely represents an abandoned underground storage tank (UST). A metallic anomaly was detected to the east of the building. A pipe was detected running from the building to this anomaly. Based on its size (50’ x 10’) and location, this anomaly possibly represents a former sanitary leaching galley.

Soil quality data was compared to Unrestricted and Restricted Commercial Use Soil Cleanup Objectives (UUSCOs and RCSCOs) contained in NYSDEC regulations at 6 NYCRR Part 375-6.8(a-b). Soil sampling results indicated:

- Tetrachloroethylene (PCE) was detected in 1 out of 6 samples at .45 mg/Kg (SB-6 [0’-2’]), but below the UUSCO (1.3 mg/Kg).
- No VOCs were detected in any soil samples at levels exceeding the applicable UUSCOs.

Sediment quality data was compared to Restricted Commercial Use Soil Cleanup Objectives (RCSCOs) contained in NYSDEC 6 NYCRR Part 375-6.8(b). Sediment sampling results indicated:

- No VOCs or metals were detected in any sediment samples at levels exceeding RCSCOs.
- Several SVOCs were detected exceeding the RCSCOs, including benzo-a-anthracene at max. 24 mg/Kg (DW-1); benzo-a-pyrene at max. 35 mg/Kg (DW-1); benzo-b-fluoranthene at max. 77 mg/Kg (DW-1); Dibenzo-a,h-Anthracene 5.1 mg/Kg (DW-1); and indeno(1,2,3-cd) pyrene at max. 27 mg/Kg (DW-1).

Groundwater samples were compared to the NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standard (AWQS). Groundwater sampling results indicated:

- Tetrachloroethylene (PCE) was detected in all 11 groundwater samples at max. 460 µg/L (GW-4 [15']), including 9 samples exceeding the AWQS (5 µg/L).
- PCE levels were generally higher in the shallow samples (15 feet bgs) than the deeper samples (25 feet bgs), except for at GW-3, where PCE was 54 µg/L at 25 feet bgs and 27 µg/L at 15 feet bgs.
- No evidence of DNAPL was detected.
- Several PCE breakdown daughter products were also detected in groundwater samples, including:
    - Trichloroethylene (TCE) was detected in 2 out of 11 samples at max. 1.7 µg/L (GW-5 [15']), below the AWQS (5 µg/L).
    - Cis-1,2-dichloroethene was detected in 2 out of 11 samples at max. 64 µg/L (GW-5 [15']), including 2 samples exceeding the AWQS (5 µg/L).
    - Vinyl chloride was detected in 1 out of 11 samples at 9.1 µg/L (GW-5 [15']), exceeding the AWQS (2 µg/L).

Soil vapor samples were compared to the NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion dated October 2006, and as most recently revised in the NYSDOH Decision Matrices dated February 2024.

Several non-chlorinated compounds were detected in soil vapor and Heptane was detected in SG-6 at 242 µg/m^3 warranting potential soil vapor intrusion mitigation.

Several chlorinated VOCs were detected warranting potential soil vapor intrusion mitigation including:

- Tetrachloroethylene (PCE) in all 8 samples at max. 29,000 µg/m^3 (SG-3)

- Trichloroethene (TCE) in all 8 samples at max. 1,260 µg/m^3 (SG-3)
- Cis-1,2-dichloroethene in 5 out of 8 samples at max. 90,300 µg/m^3 (SG-3)
- 1,1,1-Trichloroethane in 3 out of 8 samples at max. 2,310 µg/m^3 (SG-8)
- 1,1-Dichloroethene in 4 out of 8 samples at max. 235 µg/m^3 (SG-3)

2.9 Findings of Previous Investigations

Findings regarding hydrogeology and the nature and extent of contamination at the Site have been documented in the foregoing investigation reports and are summarized below:

1. The inferred regional groundwater gradient in the vicinity of the Site is to the south.
2. During the previous investigations, the stratigraphy of the Site consists of brown medium to fine sand from below slab and/or asphalt pavement to 15 feet bgs. Field soil screening did not identify any evidence of impact (i.e., elevated PID reading, visual or olfactory). Groundwater was encountered at approximately 11 feet bgs. No evidence of non-aqueous phase liquid (NAPL) was detected.
3. During the Cider Phase II ESA, no soil contamination was detected exceeding UUSCOs.
4. Several SVOCs including benzo-a-anthracene, benzo-a-pyrene, benzo-b-fluoranthene, Dibenzo-a,h-Anthracene, and indeno(1,2,3-cd) pyrene were detected in sediment from the parking lot storm drains exceeding RCSCOs.
5. In the six (6) temporary multi-depth groundwater points installed, PCE, a dry-cleaning related chemical, was detected in all 11 groundwater samples at maximum exceedance of 460 µg/L (GW-4 [15']), including 9 samples exceeding the AWQS (5 µg/L).
6. PCE levels were generally higher in the shallow groundwater samples (15 feet bgs) than the deeper samples (25 feet bgs), except for at GW-3, where PCE was 54 µg/L at 25 feet bgs and 27 µg/L at 15 feet bgs.

7. PCE was detected in all 8 subslab soil gas samples, at concentrations requiring mitigation and at max. 29,000 µg/m^3 (SG-3). PCE breakdown daughter products (TCE max. 1,260 µg/m3 and cis-1,2-dichlorethlene max. 90,300 µg/m3) were also detected in soil vapor at concentrations likely requiring mitigation.

3.0 REMEDIAL INVESTIGATION

3.1 Investigation Rationale

Investigations to date have consisted of shallow soil, soil vapor and groundwater sampling at the Site. Apparent sources of CVOC and SVOC contamination appear to be present beneath the Site. A comprehensive investigation of soil, soil vapor and groundwater quality is required to fully evaluate the nature and extent of contamination at the Site.

Based upon previous investigations at the Site, the identified onsite Contaminants of Concern (COCs) are the following:

- CVOCs:
    - Tetrachloroethylene (PCE)
    - Trichloroethylene (TCE)
    - cis-1,2-Dichloroethylene (cis 1,2-DCE)
    - Vinyl Chloride

The Remedial Investigation will include installation and sampling of the following:

- 19 Soil borings (SB-1 through SB-19)
- 8 Monitoring wells (MW-1 through MW-8)
- 4 Deep Monitoring Wells (MW-1 D, MW-2 D, MW-3 D, and MW-5D)
- 8 Soil vapor samples (SV-1 through SV-8)
- 5 Sub-Slab Soil vapor samples(SS-1 through SS-5)

The rationale for each of these samples is described below. The Remedial Investigation will be performed to evaluate the following four Areas of Concern (AOCs):

3.2 AOC-1: Historical Dry-Cleaning Operations

Soil vapor contamination has been confirmed to be present beneath the interior of the building. Dry-cleaning equipment has historically been located inside the building. Two soil borings and two soil vapor samples have been installed beneath the onsite building. A total of 5 additional soil borings (SB-4 and SB-6 though SB-9) and 1 monitoring well (MW-4) will be installed and sampled beneath the on-Site building to determine the horizontal and vertical boundaries of potential source areas under the building. Three soil borings(SB-2, SB-3, and SB-18), three shallow monitoring wells and two deep monitoring wells(MW-2 S+D, MW-3 S+D, and MW-8) will be installed downgradient of the historic drycleaner to investigate the extent of contamination and to determine if contamination is migrating offsite.

3.3 AOC-2: Former Onsite Septic System

During previous |Site investigations, a metallic anomaly was detected to the east of the building. A pipe was detected running from the building to this anomaly. Based on its size (50’ x 10’) and location, this anomaly possibly represents a former sanitary leaching galley. Two temporary monitoring wells and one soil boring were installed in the vicinity of the suspect former septic system.

A total of two additional soil borings (SB-5 and SB-15), one shallow monitoring well, and one deep monitoring well(MW-5 S+D) will be installed in the vicinity of the suspect former on-Site septic to determine the nature and extent of soil and groundwater contamination associated with potential run-off from interior drains.

3.4 AOC-3: Stormwater Drywells

Sediment contamination exceeding RCSCOs has been confirmed to be present in the two accessible stormwater structures in the on-Site parking lot. One temporary well had been installed downgradient to a stormwater drain onsite. A total of four additional soil borings (SB-11 through SB-14) will be installed downgradient to each stormwater drain and overflow structure to determine the nature and extent of soil contamination associated with potential leaching from the storm drains. In addition, two borings(SB-16 and SB-17) and two monitoring wells(MW-6 and MW-7) will be installed to determine if any contamination from the stormwater structures is migrating offsite.

3.5 AOC-4: Suspect Drum Storage and Suspect Historic UST

When the building was used as historical drycleaner, there was the potential that chemical drums had been stored behind the building along the north and northwestern exterior walls of the building. In addition, a suspect underground storage tank(UST) was identified during previous investigations along the northwestern exterior wall of the building. Two soil borings, two temporary wells, and two soil vapor samples had been installed along the north and northwestern exterior walls. Three additional exterior soil borings (SB-1, SB-10, and SB-19), one interior soil boring (SB-6), one shallow monitoring well, and one deep monitoring well (MW-1 S+D) be installed to determine the nature and extent of soil and groundwater contamination associated with potential drum storage.

3.6 Investigation Procedures

Direct push technology will be utilized to investigate soil, groundwater and soil vapor quality beneath the Site and its vicinity. Dependent upon the logistical limitations of the Site, either a track-mounted drill rig or a portable drill rig will be utilized to advance the soil borings and soil vapor sampling points and convert the soil borings to conventional groundwater wells at select locations. Prior to invasive work, a one-call utility mark-out will be completed in accordance with local laws to locate buried electric, natural gas, telecommunication utilities, etc.

3.7 Soil Sampling

Soil borings will be installed at the approximate locations indicated in the proposed sampling diagram (Figure 5). Soil samples will be collected in either four or five-foot increments in dedicated acetate liners contained within a Geoprobe Macrocore sampler and screened utilizing a

Photoionization Detector (PID). Exterior soil borings SB-1 through SB-3, SB-5, and SB-10 through SB-19 will be installed utilizing a track-mounted drill rig. Interior soil borings SB-4 and SB-6 through SB-9 will be installed utilizing a portable Georprobe 420M drill rig.

The soil borings SB-4 and SB-6 through SB-19 will be continuously sampled from just below the ground surface to the water table. The soil borings SB-1 through SB-3 and SB-5 will be continuously sampled from just below the ground surface to 15 feet below the water table to investigate the potential for Dense Non-Aqueous Phase Liquid (DNAPL) contamination below the water table. If refusal is encountered above the groundwater interface, the location will be relocated in a proximate location and advanced to the groundwater interface at minimum. If grossly contaminated material (GCM) is identified at or below the groundwater interface, GCM will be delineated vertically. A geologist/engineer/QEP will screen the soil samples during borehole advancement for organic vapors with a photo-ionization detector (PID), evaluate for visual and olfactory impacts prior to collecting environmental sample, and log each soil sample in accordance with the Unified Soil Classification System.

At a minimum, for soil samples located under a cover (SB-1 through SB-19), the following soil samples will be collected from each AOC:

- One sample from surficial soils or soils immediately below the pavement;
- One sample from the zone of highest observed contamination (visual/olfactory/PID);
- One sample from the first apparent clean zone if elevated PID readings are recorded;
- One sample from the water table surface.

If contamination is detected in any of the vertical profile borings, the vertical and horizontal extent of the contamination will be defined. The soil samples will be placed into laboratory supplied sampling containers. Each VOC sample will be collected with a dedicated Terra Core sampler. Following sample collection, boreholes not converted into monitoring wells will be backfilled with soil cuttings, if appropriate and an upper bentonite seal and capped with concrete. Contaminated soil cuttings will be placed in sealed and labeled DOT approved 55-gallon drums pending off-Site disposal at a permitted facility. Site work will comply with safety guidelines outlined in the HASP (Appendix B).

3.8 Sediment Sampling

Sediment samples(SD-1 through SD-4) will be collected from all onsite stormwater structures both primary and overflow at the approximate locations indicated in the proposed sampling diagram(Figure 5). Depth to water and depth to bottom values will also be noted for each structure. Samples of storm drain sediment will be collected utilizing a hand-held bucket auger driven into the sediment surface, removed and emptied onto a clean polyethylene bag. Sediment samples will be screened utilizing a Photoionization Detector (PID).

3.9 Groundwater Sampling

Eight groundwater monitoring wells (MW-1 through MW-8) will be installed at the approximate locations indicated in the proposed sampling diagram (Figure 5). The groundwater monitoring wells will be permanently constructed wells, which will utilize 2-inch PVC well screens and riser pipes with a minimum of 2" annular space surrounding each monitoring well.

Monitoring wells (MW-1 through MW-8) will be installed to an approximate depth of 20 feet bgs and screened from 10 to 20 feet bgs as determined from previous investigations at the Site. Four additional deep monitoring wells (MW-1D through MW-3D and MW-5D) will be installed to 35 feet bgs and screened from 25 to 35 feet bgs to evaluate deep groundwater contamination beneath the Site. The screened intervals will be determined by concentrations observed in the field and in consultation with NYSDEC. If DNAPL is observed, additional horizontal and vertical delineation will be performed. The annulus around each well screen will be backfilled with No. 2 well sand up to a minimum of 2’ above the screen, then a one-foot plug of hydrated bentonite followed by native soil to grade. Each monitoring well will be sealed in place with a concrete pad and protective casing. All monitoring wells will be developed following installation and surveyed by a NYS Licensed Surveyor into the NAV88 datum. The survey will have a horizontal accuracy of 0.1 ft and vertical accuracy of 0.01 ft. Groundwater elevation of all monitoring wells on-Site will be measured during a synoptic gauging event. Site specific groundwater flow contours will be generated as part of this investigation to determine groundwater flow direction and presented in the final report.

Groundwater samples from the newly installed wells will be collected no sooner than two weeks following well installation. The depth to water elevation will be measured at each screened interval with an electronic conductivity meter. Groundwater samples will be collected utilizing low-flow techniques in accordance with EPA Region I Low-Stress (Low-Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells (EPASOP-GW 001 Rev. 3, July 30, 1996, Revised January 19, 2010).

The groundwater samples will be placed into laboratory supplied sampling containers. The samples will be placed in a chilled cooler pending refrigeration. A courier will be utilized to transport the samples to the designated analytical laboratory. Proper chain of custody documentation will accompany the samples.

3.10 Soil Vapor Sampling

Soil vapor samples will be collected in accordance with the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH October 2006). Conditions in the field may require adjustment of sampling locations.

Eight soil vapor points SV-1 through SV-8 will be installed at the approximate locations indicated in the proposed sampling diagram to evaluate the potential for soil vapor contamination migrating offsite (Figure 6). The soil vapor points will be installed in the sidewalk to approximately five (5) feet bgs utilizing a track-mounted Geoprobe drill rig, HDPE tubing and a permanent 6-inch woven steel screen implant. The surface of the vapor point will be finished with a manhole cover.

Five sub-slab soil vapor samples SS-1 through SS-5 will be collected at the approximate locations indicated in the proposed sampling diagram. Sub-slab samples will be installed less than 6 inches beneath the bottom of the concrete slab utilizing a power drill, a 1-foot-long drill bit, dedicated Teflon tubing, and VaporPin.

A 6-Liter stainless steel Summa canister with a flow regulator set to a flow rate of approximately 0.025 liters per minute will be connected to the Teflon tubing exiting each soil vapor probe. The flow rate of the Summa canister regulator will not exceed 0.2 liters per minute. Once the canisters are in place, the flow regulators will be opened, and sampling will continue for approximately 4 hours until the canisters are full.

3.11 Underground Storage Tank Removal

The following are the general UST removal procedures that will be followed for the one suspect UST located to date and if any other tanks are located. Further investigation will be performed under the tank to determine if there are associated impacted soil areas that need to be remediated. Closure of the UST will be done in accordance with 6 New York Codes, Rules and Regulations (NYCRR) Part 613.2.6 – Closure of Out-of-Service Tanks, and the Nassau County Public Health Ordinance (Article 11), and will follow NYSDEC guidance document, Permanent Closure of Petroleum Tanks (1987/1998/2003). The suspected UST will be uncovered and inspected to determine their size. If the UST is over 1,100 gallons in capacity, Nassau County and NYSDEC regulations require registration and then closure.

1. NYSDEC Notification for Petroleum Bulk Storage Removals and Abandonment form will be completed and submitted to the Nassau County Department of Health (NCDH) and the NYSDEC Division of Spill Prevention and Response prior to UST closure.
2. The suspect UST previously identified in the Cider Environmental a Phase II ESA will be accessed utilizing a backhoe, small excavator, or equivalent.
3. The UST will be cut into manageable pieces and/or crushed and removed from the Site to be either recycled or disposed of at an approved disposal facility. The contractor will supply disposal or recycling records.
4. Once the UST has been removed from the excavation an assessment will be made of the excavation side walls and bottom of the UST areas. The excavation side walls, and bottom will be field screened with an PID to assess for additional petroleum impacts.

5. Soils determined to be impacted, within the UST area, based on visual observations and field screening (registering 5 ppm or greater), will be excavated and stockpiled onsite on 8-mil plastic and covered with 8-mil plastic. The excavation work will include removal of grossly impacted soils and water (if any) which contains light non-aqueous phase liquid (LNAPL).

6. Prior to the start of the subsurface soil work, a decontamination pad will be built to allow equipment used during the excavation and UST removal activities to be decontaminated. The pad will be constructed on a stable onsite surface using a minimum of 8-mil plastic sheeting and allow water generated during the decontamination processes to be contained and transferred to 55-gallon drums for characterization and proper disposal. Upon completion of the excavation work, the decontamination pad will be disposed of with the impacted soils stockpiled for off- Site disposal at a permitted disposal facility.

7. The excavated soils stockpiled for off-Site disposal will be analyzed for disposal parameters. After approval for disposal from the disposal facility, the soil will be loaded into dump trucks or dump trailers, covered, and transported by a licensed hauler to a permitted facility for proper disposal. Disposal documentation will be provided.

8. Post-excavation soil samples will be collected from the side walls and bottom of each excavation in accordance with NYSDEC DER-10 guidelines to confirm that the remaining soil meets the Part 375 Restricted Use (Commercial) Soil cleanup Objectives (RUSCOs). Post-Excavation Monitoring and Verification procedures are outlined in section 5.2 of this IRMWP.

9. The excavation areas will be barricaded to keep the public and unauthorized personnel away from the excavation while awaiting analytical results and prior to backfilling. If post-excavation soil samples indicate that impacted soil at levels above RCSCOs remains, it is anticipated that additional soil will be excavated for off-Site disposal.

10. Although not expected to be encountered, if groundwater is encountered within an excavation, a sample will be collected for VOC and SVOC analysis to characterize for disposal.

11. Upon soil excavation completion, equipment will be decontaminated prior to being removed from the Site at the decontamination pad location.
12. Suitable backfill material shall be placed and compacted in lifts within the excavation areas. Backfill brought to the Site is outlined under Section 4.1.5 and will meet the requirements outlined in Part 375- 6.7(d) and DER-102 Section 5.4(e).

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.

As defined in DER-1, the following are minimum confirmation sampling frequencies for soil excavations of:

- less than 20 feet in perimeter, include one bottom sample and one sidewall sample biased in the direction of surface runoff;
- 20 to 300 feet in perimeter:
    - one sample from the bottom of each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area;
- in an excavation where multiple layers of contamination have been visually or analytically identified, additional side wall samples in the horizon in which contamination was identified are necessary;
- each excavation within a larger excavation will be considered a separate excavation

Verification samples will be submitted to a New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP)-certified laboratory for analysis as follows:

- Volatile Organic Compounds by EPA Method 8260;
- Semi-volatile organic compounds by EPA Method 8270;

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.

3.12 Investigation Derived Waste

Cuttings may be disposed at the Site within the borehole that generated them to within 24 inches of the surface unless:

- Free product or grossly contaminated soil, are present in the cuttings;
- The borehole has penetrated an aquitard, aquiclude or other confining layer; or extends significantly into bedrock;
- Backfilling the borehole with cuttings will create a significant path for vertical movement of contaminants. Soil additives (bentonite) may be added to the cuttings to reduce permeability
- The soil cannot fit into the borehole.

All boreholes which require drill cuttings disposal would ultimately be filled with hydrated bentonite chips. Those soil borings will be backfilled with hydrated bentonite to avoid eliminate a potential migration pathway. The cuttings and investigative derived wastes associated with those soil borings will be stored on-Site in clearly labeled approved DOT 55-gallon drums, sampled for waste classification and disposed of as regulated waste. Disposable sampling equipment, including spoons, gloves, bags, paper towels, etc. that came in contact with environmental media will be double bagged and disposed as municipal trash in a facility trash dumpster as non-hazardous trash.

3.13 Sample Analysis

Soil, groundwater, soil vapor and indoor air samples will be submitted to a New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP)-certified laboratory for analysis as follows:

For soil samples from soil borings SB-1 through SB-19:

- 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 1633A

For sediment samples SD-1 through SD-4:

- 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 1633A

For groundwater from monitoring wells MW-1 through MW-8:

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

For soil vapor from samples SV-1 through SV-7 and SS-1 through SS-5:

- Volatile Organic Compounds by EPA Method TO-15.

If either LNAPL and/or DNAPL are detected, appropriate samples will be collected for characterization and “finger print analysis” and required regulatory reporting (i.e. spills hotline) will be performed.

3.14 Reporting

Daily field reports will be prepared and submitted to the NYSDEC and NYSDOH. Daily field report will contain: Community Air Monitoring Results, a description of field activities and a supporting figure, and a photo log.

A Remedial Investigation Report (RIR) will be prepared following completion of the field activities and receipt of the laboratory data. The report will be prepared in accordance to NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, dated May 2010 and will provide detailed summaries of the investigative findings of soil, groundwater, soil vapor and indoor air analytical results. All sampling data provided to the Department will be produced in the appropriate Electronic Data Deliverable (EDD) for EquIS format pursuant to DER-10.

Soil quality data will be compared to the NYSDEC 6 NYCRR § 375-6.8 (b) Protection of Groundwater for applicable compounds, and Restricted Commercial Use Soil Cleanup Objectives (RCSCOs). Groundwater quality data will be compared to NYSDEC Part 703 Groundwater Quality Standards (Class GA) or Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and “Sampling, Analysis, And Assessment Of Per- And Polyfluoroalkyl Substances (PFAS) Under NYSDEC’s Part 375 Remedial Programs” (Revised April 2023). Soil vapor and indoor air data will be compared to the NYSDOH *"Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York"* (Last Revised February 2024).

To provide historical context/data and to inform the qualitative human health exposure assessment regarding the potential for exposure in the event the Site boundary soil vapor points indicate the potential for off-Site contamination migration from the Site, data generated during this investigation will be presented in tables and figures depicting any exceedances of soil, groundwater, soil vapor subslab and indoor air parameters. The Report will also include any remedial recommendations, as warranted.

4.0 QUALITY ASSURANCE/QUALITY CONTROL

4.1 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.

4.2 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.

4.3 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.

4.4 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.

4.5 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.

NYSDEC ASP Category B Data Deliverables will be submitted for all of the samples representing the final delineation of the nature and extent of contamination for a remedial investigation. Data validation packages and Data Usability Summary Reports (DUSRs) will be provided in the RIR to support the remedial investigation. The DUSRs for this project will be prepared by Jeri Rossi, CEAC and qualifications for preparing the DUSR report is provided in Appendix D.

5.0 QUALITATIVE HUMAN HEALTH EXPOSURE ASSESSMENT

A Qualitative Human Health Exposure Assessment will be performed based on the data collected to determine any existing or potential future human health exposure risks associated with the Site. The results of the assessment will be included in the final RI report.

6.0 FISH AND WILDLIFE RESOURCE IMPACT ASSESSMENT

A Fish and Wildlife Resources Impact Analysis (FWRIA) in accordance with Section 3.10 of DER-10 will be conducted as part of the RI. The results of the analysis will be included in the final RI report.

7.0 NVESTIGATION HEALTH AND SAFETY PLAN

The investigation HASP is included in Appendix B. Investigative work performed under this

Work Plan will be in full compliance with applicable health and safety laws and regulations, including Site and OSHA worker safety requirements and HAZWOPER requirements, and DER-10. Confined space entry, if any, will comply with OSHA requirements and industry standards and will address potential risks. The parties performing the investigation work will ensure that performance of work is in compliance with the HASP and applicable laws and regulations.

All field personnel involved in investigation activities will participate in training required under 29 CFR 1910.120, including 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 be required to sign a HASP acknowledgment. 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 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 log book or specific form. Potential on-Site chemicals of concern include VOCs, SVOCs, Pesticides/PCBs, and Heavy Metals (specifically arsenic, lead, and mercury at a minimum). Information fact sheets for each contaminant group and/or MSDS' are included in the HASP.

An emergency contact sheet with names and phone numbers for all pertinent project personnel as well as regulatory hotline information is included in the HASP. 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 investigation is included in Appendix C. The CAMP has been designed to identify appropriate measures that will be taken to prevent the off-

Site migration of dust and/or soil, if necessary. The CAMP will be implemented during all ground intrusive activities such as soil boring and monitoring well installation and sampling. CAMP readings will be provided to NYSDEC and NYSDOH project managers in the daily field reports, and all CAMP exceedances must be reported the same day (or the next business day if after hours) along with the reason for exceedance, what was done to correct it, and whether the corrective action was effective.

9.0 PROJECT SCHEDULE

A Gantt Chart containing the estimated project schedule for implementation of this RIWP is provided in Figure 8. The Gantt Chart includes timelines and targeted dates for the start and completion of all activities associated with this RIWP and key milestones such as review/revisions of the RIR, RAWP/RWP through receipt of the Certificate of Completion.

Table 1 Historical Selected Samples and Analytical Methods Summary

Table 1: Selected Samples and Analysis Methods Summary
1 Franklin Avenue, Lynbrook, New York

NYSDEC BCP No. C130240 Daisy French Cleaners

Sample ID	**Matrix**	**Depth**	**Date**	**USEPA Test Method**	**Target Analytes**
SB-1 [10'-11']	Soil	10'-11'	8/17/2023	8260	VOCs
SB-2 [10'-11']	Soil	10'-11'	8/17/2023	8260	VOCs
SB-3 [10'-11']	Soil	10'-11'	8/17/2023	8260 / 8270 CP-51	VOCs / PAHs
SB-4 [10'-11']	Soil	10'-11'	8/17/2023	8260	VOCs
SB-5 [0'-2']	Soil	0'-2'	8/17/2023	8260	VOCs
SB-6 [0'-2']	Soil	0'-2'	8/17/2023	8260	VOCs
DW-1	Sediment	12'	8/17/2023	8260/ 8270/ 6010	VOCs/ SVOCs/ Metals
DW-2	Sediment	12'	8/17/2023	8260/ 8270/ 6010	VOCs/ SVOCs/ Metals
GW-1 [15']	Groundwater	15'	8/17/2023	8260	VOCs
GW-2 [15']	Groundwater	15'	8/17/2023	8260	VOCs
GW-2 [25']	Groundwater	25'	8/17/2023	8260	VOCs
GW-3 [15']	Groundwater	15'	8/17/2023	8260	VOCs
GW-3 [25']	Groundwater	25'	8/17/2023	8260	VOCs
GW-4 [15']	Groundwater	15'	8/17/2023	8260	VOCs
GW-4 [25']	Groundwater	25'	8/17/2023	8260	VOCs
GW-5 [15']	Groundwater	15'	8/17/2023	8260	VOCs
GW-5 [25']	Groundwater	25'	8/17/2023	8260	VOCs
GW-6 [15']	Groundwater	15'	8/17/2023	8260	VOCs
GW-6 [25']	Groundwater	25'	8/17/2023	8260	VOCs
SG-1	soil gas	2'	8/17/2023	TO-15 plus helium	VOCs and helium
SG-2	soil gas	2'	8/17/2023	TO-15 plus helium	VOCs and helium
SG-3	soil gas	2'	8/17/2023	TO-15 plus helium	VOCs and helium
SG-4	soil gas	2'	8/17/2023	TO-15 plus helium	VOCs and helium
SG-5	soil gas	2'	8/17/2023	TO-15 plus helium	VOCs and helium
SG-6	soil gas	2'	8/17/2023	TO-15 plus helium	VOCs and helium
SG-7	soil gas	2'	8/17/2023	TO-15 plus helium	VOCs and helium
SG-8	soil gas	2'	8/17/2023	TO-15 plus helium	VOCs and helium

Table 2 Historical Laboratory Data Summary- Soil

Table 2: Laboratory Data Summary- Soil
1 Franklin Avenue, Lynbrook, New York

NYSDEC BCP No. C130240 Daisy French Cleaners

Notes:
µg/Kg: microgram per kilogram (ppb)
Analyte detected
Common laboratory contaminants
Exceeding 6 NYCRR Part 375 Unrestricted Soil Cleanup Objectives
Exceeding 6 NYCRR Part 375 Restricted Commercial Soil Cleanup Objectives

Parameters	Sample ID	Unit	NYCRR 375 Unrestricted Use	NYCRR 375 Restricted-Commercial	SB-1	SB-2	SB-3	SB-4	SB-5	SB-6
	Sample Date				8/17/2023	8/17/2023	8/17/2023	8/17/2023	8/17/2023	8/17/2023
	CAS				Result	Result	Result	Result	Result	Result
Volatiles By SW8260D										
1,1,1,2-Tetrachloroethane	630-20-6	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
1,1,1-Trichloroethane	71-55-6	µg/Kg	680	500000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	8.5
1,1,2,2-Tetrachloroethane	79-34-5	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
1,1,2-Trichloroethane	79-00-5	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
1,1-Dichloroethane	75-34-3	µg/Kg	270	240000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
1,1-Dichloroethene	75-35-4	µg/Kg	330	500000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
1,1-Dichloropropene	563-58-6	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
1,2,3-Trichlorobenzene	87-61-6	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
1,2,3-Trichloropropane	96-18-4	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
1,2,4-Trichlorobenzene	120-82-1	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
1,2,4-Trimethylbenzene	95-63-6	µg/Kg	3600	190000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
1,2-Dibromo-3-Chloropropane	96-12-8	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
1,2-Dibromoethane	106-93-4	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
1,2-Dichlorobenzene	95-50-1	µg/Kg	1100	500000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
1,2-Dichloroethane	107-06-2	µg/Kg	20	30000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
1,2-Dichloropropane	78-87-5	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
1,3,5-Trimethylbenzene	108-67-8	µg/Kg	8400	190000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
1,3-Dichlorobenzene	541-73-1	µg/Kg	2400	280000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
1,3-Dichloropropane	142-28-9	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
1,4-Dichlorobenzene	106-46-7	µg/Kg	1800	130000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
2,2-Dichloropropane	594-20-7	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
2-Chlorotoluene	95-49-8	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
2-Hexanone	591-78-6	µg/Kg	NA	NA	< 25	< 41	< 29	< 24	< 28	< 23
2-Isopropyltoluene	527-84-4	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
4-Chlorotoluene	106-43-4	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
Methyl Isobutyl Ketone	108-10-1	µg/Kg	NA	NA	< 25	< 41	< 29	< 24	< 28	< 23
Acetone	67-64-1	µg/Kg	50	500000	< 25	< 41	33	< 24	120	28
Acrylonitrile	107-13-1	µg/Kg	NA	NA	< 9.9	< 16	< 12	< 9.7	< 11	< 9.0
Benzene	71-43-2	µg/Kg	60	44000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
Bromobenzene	108-86-1	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
Bromochloromethane	74-97-5	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
Bromodichloromethane	75-27-4	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
Bromoform	75-25-2	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
Bromomethane	74-83-9	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
Carbon Disulfide	75-15-0	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
Carbon Tetrachloride	56-23-5	µg/Kg	760	22000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5

Table 2: Laboratory Data Summary- Soil
1 Franklin Avenue, Lynbrook, New York
NYSDEC BCP No. C130240 Daisy French Cleaners

Notes:
µg/Kg: microgram per kilogram (ppb)
Analyte detected
Common laboratory contaminants
Exceeding 6 NYCRR Part 375 Unrestricted Soil Cleanup Objectives
Exceeding 6 NYCRR Part 375 Restricted Commercial Soil Cleanup Objectives

Parameters	Sample ID	Unit	NYCRR 375 Unrestricted Use	NYCRR 375 Restricted-Commercial	SB-1	SB-2	SB-3	SB-4	SB-5	SB-6
	Sample Date				8/17/2023	8/17/2023	8/17/2023	8/17/2023	8/17/2023	8/17/2023
	CAS				Result	Result	Result	Result	Result	Result
Chlorobenzene	108-90-7	µg/Kg	1100	500000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
Chloroethane	75-00-3	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
Chloroform	67-66-3	µg/Kg	370	350000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
Chloromethane	74-87-3	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
cis-1,2-Dichloroethene	156-59-2	µg/Kg	250	500000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
cis-1,3-Dichloropropene	10061-01-5	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
Chlorodibromomethane	124-48-1	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
Dibromomethane	74-95-3	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
Dichlorodifluoromethane	75-71-8	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
Ethylbenzene	100-41-4	µg/Kg	1000	390000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
Hexachlorobutadiene	87-68-3	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
Isopropylbenzene	98-82-8	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
m&p-Xylene	179601-23-1	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
2-Butanone	78-93-3	µg/Kg	NA	500000	< 25	< 41	< 29	< 24	< 28	< 23
Methyl Tert-Butyl Ether	1634-04-4	µg/Kg	930	500000	< 9.9	< 16	< 12	< 9.7	< 11	< 9.0
Methylene Chloride	75-09-2	µg/Kg	50	500000	< 9.9	< 16	< 12	< 9.7	< 11	< 9.0
Naphthalene	91-20-3	µg/Kg	12000	500000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
n-Butylbenzene	104-51-8	µg/Kg	12000	500000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
n-Propylbenzene	103-65-1	µg/Kg	3900	500000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
o-Xylene	95-47-6	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
p-Isoproplytoluene	99-87-6	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
sec-Butylbenzene	135-98-8	µg/Kg	11000	500000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
Styrene	100-42-5	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
tert-Butylbenzene	98-06-6	µg/Kg	5900	500000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
Tetrachloroethene	127-18-4	µg/Kg	1300	150000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	450
Tetrahydrofuran	109-99-9	µg/Kg	NA	NA	< 9.9	38	17	9.7	24	< 9.0
Toluene	108-88-3	µg/Kg	700	500000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
Total Xylenes	1330-20-7	µg/Kg	260	500000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
trans-1,2-Dichloroethene	156-60-5	µg/Kg	190	500000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
trans-1,3-Dichloropropene	10061-02-6	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
trans-1,4-dichloro-2-butene	110-57-6	µg/Kg	NA	NA	< 9.9	< 16	< 12	< 9.7	< 11	< 9.0
Trichloroethene	79-01-6	µg/Kg	470	200000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
Trichlorofluoromethane	75-69-4	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
Trichlorotrifluoroethane	76-13-1	µg/Kg	NA	NA	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5
Vinyl Chloride	75-01-4	µg/Kg	20	13000	< 5.0	< 8.1	< 5.9	< 4.9	< 5.5	< 4.5

Table 2: Laboratory Data Summary- Soil
1 Franklin Avenue, Lynbrook, New York
NYSDEC BCP No. C130240 Daisy French Cleaners

Notes:
µg/Kg: microgram per kilogram (ppb)
Analyte detected
Common laboratory contaminants
Exceeding 6 NYCRR Part 375 Unrestricted Soil Cleanup Objectives
Exceeding 6 NYCRR Part 375 Restricted Commercial Soil Cleanup Objectives

Parameters	Sample ID	Unit	NYCRR 375 Unrestricted Use	NYCRR 375 Restricted-Commercial	SB-1	SB-2	SB-3	SB-4	SB-5	SB-6
	Sample Date				8/17/2023	8/17/2023	8/17/2023	8/17/2023	8/17/2023	8/17/2023
	CAS				Result	Result	Result	Result	Result	Result
Semivolatiles-STARS/CP-51 By SW8270D										
Acenaphthene	83-32-9	µg/Kg	20000	500000	NT	NT	< 260	NT	NT	NT
Acenaphthylene	208-96-8	µg/Kg	100000	500000	NT	NT	< 260	NT	NT	NT
Anthracene	120-12-7	µg/Kg	100000	500000	NT	NT	< 260	NT	NT	NT
Benzo-a-Anthracene	56-55-3	µg/Kg	1000	5600	NT	NT	< 260	NT	NT	NT
Benzo-a-Pyrene	50-32-8	µg/Kg	1000	1000	NT	NT	< 260	NT	NT	NT
Benzo-b-Fluoranthene	205-99-2	µg/Kg	1000	5600	NT	NT	< 260	NT	NT	NT
Benzo-g,h,i-Perylene	191-24-2	µg/Kg	100000	500000	NT	NT	< 260	NT	NT	NT
Benzo-k-Fluoranthene	207-08-9	µg/Kg	800	56000	NT	NT	< 260	NT	NT	NT
Chrysene	218-01-9	µg/Kg	1000	56000	NT	NT	< 260	NT	NT	NT
Dibenzo-a,h-Anthracene	53-70-3	µg/Kg	330	560	NT	NT	< 260	NT	NT	NT
Fluoranthene	206-44-0	µg/Kg	100000	500000	NT	NT	< 260	NT	NT	NT
Fluorene	86-73-7	µg/Kg	30000	500000	NT	NT	< 260	NT	NT	NT
Indeno(1,2,3-cd)Pyrene	193-39-5	µg/Kg	500	5600	NT	NT	< 260	NT	NT	NT
Naphthalene	91-20-3	µg/Kg	12000	500000	NT	NT	< 260	NT	NT	NT
Phenanthrene	85-01-8	µg/Kg	100000	500000	NT	NT	< 260	NT	NT	NT
Pyrene	129-00-0	µg/Kg	100000	500000	NT	NT	< 260	NT	NT	NT

Table 3 Historical Laboratory Data Summary- Sediment

Table 3: Laboratory Data Summary- Sediment
1 Franklin Avenue, Lynbrook, New York
NYSDEC BCP No. C130240 Daisy French Cleaners

Notes:
µg/Kg: microgram per kilogram (ppb)
mg/Kg: miligram per kilogram (ppm)
Analyte detected
Common laboratory contaminants
Exceeding NCDOH UIC Cleanup Objectives

Parameters	Sample ID	Unit	NCDOH UIC Cleanup Objectives	DW-1	DW-2
	Sample Date			8/17/2023	8/17/2023
	CAS			Result	Result
Metals, Total					
Aluminum, Al	7429-90-5	mg/Kg	NA	6,320	8,130
Antimony, Sb	7440-36-0	mg/Kg	NA	< 4.5	< 4.8
Arsenic, As	7440-38-2	mg/Kg	16	3.18	2.95
Barium, Ba	7440-39-3	mg/Kg	820	28.4	44
Beryllium, Be	7440-41-7	mg/Kg	47	< 0.36	0.38
Cadmium, Cd	7440-43-9	mg/Kg	7.5	0.84	0.58
Calcium, Ca	7440-70-2	mg/Kg	NA	2,000	3,340
Chromium, Cr	7440-47-3	mg/Kg	NA	26	32.9
Cobalt, Co	7440-48-4	mg/Kg	NA	5.4	6.77
Copper, Cu	7440-50-8	mg/kg	1720	54.8	80.3
Iron, Fe	7439-89-6	mg/Kg	NA	8,920	15,100
Lead, Pb	7439-92-1	mg/Kg	450	100	61.7
Magnesium, Mg	7439-95-4	mg/Kg	NA	1,900	2,790
Manganese, Mn	7439-96-5	mg/Kg	2000	73	106
Mercury, Hg	7439-97-6	mg/Kg	0.73	0.05	0.08
Nickel, Ni	7440-02-0	mg/Kg	130	18.6	17
Potassium, K	9/7/7440	mg/Kg	NA	513	740
Selenium, Se	7782-49-2	mg/Kg	4	< 1.8	< 1.9
Silver, Ag	7440-22-4	mg/Kg	NA	< 0.45	< 0.48
Sodium, Na	7440-23-5	mg/Kg	NA	108	195
Thallium, Ti	7440-28-0	mg/Kg	NA	< 4.1	< 4.3
Vanadium, V	7440-62-2	mg/Kg	NA	27.8	35.4
Zinc, Zn	7440-66-6	mg/Kg	2480	469	421

Table 3: Laboratory Data Summary- Sediment
1 Franklin Avenue, Lynbrook, New York
NYSDEC BCP No. C130240 Daisy French Cleaners

Notes:
µg/Kg: microgram per kilogram (ppb)
mg/Kg: miligram per kilogram (ppm)
Analyte detected
Common laboratory contaminants
Exceeding NCDOH UIC Cleanup Objectives

Parameters	Sample ID	Unit	NCDOH UIC Cleanup Objectives	DW-1	DW-2
	Sample Date			8/17/2023	8/17/2023
	CAS			Result	Result
Volatiles By SW8260D					
1,1,1,2-Tetrachloroethane	630-20-6	µg/Kg	NA	< 7.0	< 7.5
1,1,1-Trichloroethane	71-55-6	µg/Kg	680	< 7.0	< 7.5
1,1,2,2-Tetrachloroethane	79-34-5	µg/Kg	600	< 510	< 7.5
1,1,2-Trichloroethane	79-00-5	µg/Kg	NA	< 7.0	< 7.5
1,1-Dichloroethane	75-34-3	µg/Kg	270	< 7.0	< 7.5
1,1-Dichloroethene	75-35-4	µg/Kg	330	< 7.0	< 7.5
1,1-Dichloropropene	563-58-6	µg/Kg	NA	< 7.0	< 7.5
1,2,3-Trichlorobenzene	87-61-6	µg/Kg	NA	< 510	< 7.5
1,2,3-Trichloropropane	96-18-4	µg/Kg	340	< 510	< 7.5
1,2,4-Trichlorobenzene	120-82-1	µg/Kg	3400	< 510	< 7.5
1,2,4-Trimethylbenzene	95-63-6	µg/Kg	3600	< 510	< 7.5
1,2-Dibromo-3-Chloropropane	96-12-8	µg/Kg	NA	< 510	< 7.5
1,2-Dibromoethane	106-93-4	µg/Kg	NA	< 7.0	< 7.5
1,2-Dichlorobenzene	95-50-1	µg/Kg	1100	< 510	< 7.5
1,2-Dichloroethane	107-06-2	µg/Kg	20	< 7.0	< 7.5
1,2-Dichloropropane	78-87-5	µg/Kg	NA	< 7.0	< 7.5
1,3,5-Trimethylbenzene	108-67-8	µg/Kg	8400	< 510	< 7.5
1,3-Dichlorobenzene	541-73-1	µg/Kg	2400	< 510	< 7.5
1,3-Dichloropropane	142-28-9	µg/Kg	300	< 7.0	< 7.5
1,4-Dichlorobenzene	106-46-7	µg/Kg	1800	< 510	< 7.5
2,2-Dichloropropane	594-20-7	µg/Kg	NA	< 7.0	< 7.5
2-Chlorotoluene	95-49-8	µg/Kg	NA	< 510	< 7.5
2-Hexanone	591-78-6	µg/Kg	NA	< 35	< 38
2-Isopropyltoluene	527-84-4	µg/Kg		< 510	< 7.5
4-Chlorotoluene	106-43-4	µg/Kg	NA	< 510	< 7.5
Methyl Isobutyl Ketone	108-10-1	µg/Kg	1000	< 35	< 38
Acetone	67-64-1	µg/Kg	50	140	140
Acrylonitrile	107-13-1	µg/Kg	NA	< 14	< 15
Benzene	71-43-2	µg/Kg	60	< 7.0	< 7.5
Bromobenzene	108-86-1	µg/Kg	NA	< 510	< 7.5
Bromochloromethane	74-97-5	µg/Kg	NA	< 7.0	< 7.5
Bromodichloromethane	75-27-4	µg/Kg	NA	< 7.0	< 7.5
Bromoform	75-25-2	µg/Kg	NA	< 7.0	< 7.5
Bromomethane	74-83-9	µg/Kg	NA	< 7.0	< 7.5
Carbon Disulfide	75-15-0	µg/Kg	2700	< 7.0	< 7.5

Table 3: Laboratory Data Summary- Sediment

1 Franklin Avenue, Lynbrook, New York

NYSDEC BCP No. C130240 Daisy French Cleaners

Notes:
µg/Kg: microgram per kilogram (ppb)
mg/Kg: miligram per kilogram (ppm)
Analyte detected
Common laboratory contaminants
Exceeding NCDOH UIC Cleanup Objectives

Parameters	Sample ID	Unit	NCDOH UIC Cleanup Objectives	DW-1	DW-2
	Sample Date			8/17/2023	8/17/2023
	CAS			Result	Result
Carbon Tetrachloride	56-23-5	µg/Kg	760	< 7.0	< 7.5
Chlorobenzene	108-90-7	µg/Kg	1100	< 7.0	< 7.5
Chloroethane	75-00-3	µg/Kg	1900	< 7.0	< 7.5
Chloroform	67-66-3	µg/Kg	370	< 7.0	< 7.5
Chloromethane	74-87-3	µg/Kg	NA	< 7.0	< 7.5
cis-1,2-Dichloroethene	156-59-2	µg/Kg	250	< 7.0	< 7.5
cis-1,3-Dichloropropene	10061-01-5	µg/Kg	NA	< 7.0	< 7.5
Chlorodibromomethane	124-48-1	µg/Kg	NA	< 7.0	< 7.5
Dibromomethane	74-95-3	µg/Kg	NA	< 7.0	< 7.5
Dichlorodifluoromethane	75-71-8	µg/Kg	NA	< 7.0	< 7.5
Ethylbenzene	100-41-4	µg/Kg	1000	< 7.0	< 7.5
Hexachlorobutadiene	87-68-3	µg/Kg	NA	< 510	< 7.5
Isopropylbenzene	98-82-8	µg/Kg	2300	< 510	< 7.5
m&p-Xylene	179601-23-1	µg/Kg		< 7.0	< 7.5
2-Butanone	78-93-3	µg/Kg	120	< 35	< 38
Methyl Tert-Butyl Ether	1634-04-4	µg/Kg	930	< 14	< 15
Methylene Chloride	75-09-2	µg/Kg	50	< 14	< 15
Naphthalene	91-20-3	µg/Kg	12000	< 510	< 7.5
n-Butylbenzene	104-51-8	µg/Kg	12000	< 510	< 7.5
n-Propylbenzene	103-65-1	µg/Kg	3900	< 510	< 7.5
o-Xylene	95-47-6	µg/Kg	NA	< 7.0	< 7.5
p-Isoproplytoluene	99-87-6	µg/Kg	10000	< 510	< 7.5
sec-Butylbenzene	135-98-8	µg/Kg	11000	< 510	< 7.5
Styrene	100-42-5	µg/Kg	NA	< 7.0	< 7.5
tert-Butylbenzene	98-06-6	µg/Kg	5900	< 510	< 7.5
Tetrachloroethene	127-18-4	µg/Kg	1300	< 7.0	< 7.5
Tetrahydrofuran	109-99-9	µg/Kg	NA	27	16
Toluene	108-88-3	µg/Kg	700	< 7.0	< 7.5
Total Xylenes	1330-20-7	µg/Kg	1600	< 7.0	< 7.5
trans-1,2-Dichloroethene	156-60-5	µg/Kg	190	< 7.0	< 7.5
trans-1,3-Dichloropropene	10061-02-6	µg/Kg	NA	< 7.0	< 7.5
trans-1,4-dichloro-2-butene	110-57-6	µg/Kg	NA	< 1000	< 15
Trichloroethene	79-01-6	µg/Kg	470	< 7.0	< 7.5
Trichlorofluoromethane	75-69-4	µg/Kg	NA	< 7.0	< 7.5
Trichlorotrifluoroethane	76-13-1	µg/Kg	6000	< 7.0	< 7.5
Vinyl Chloride	75-01-4	µg/Kg	20	< 7.0	< 7.5

Table 3: Laboratory Data Summary- Sediment
1 Franklin Avenue, Lynbrook, New York
NYSDEC BCP No. C130240 Daisy French Cleaners

Notes:
µg/Kg: microgram per kilogram (ppb)
mg/Kg: miligram per kilogram (ppm)
Analyte detected
Common laboratory contaminants
Exceeding NCDOH UIC Cleanup Objectives

Parameters	Sample ID	Unit	NCDOH UIC Cleanup Objectives	DW-1	DW-2
	Sample Date			8/17/2023	8/17/2023
	CAS			Result	Result
Polynuclear Aromatic HC By SW8270D					
2-Methylnaphthalene	91-57-6	µg/Kg	36400	< 3500	< 380
Acenaphthene	83-32-9	µg/Kg	98000	< 3500	490
Acenaphthylene	208-96-8	µg/Kg	107000	< 3500	< 380
Anthracene	120-12-7	µg/Kg	1000000	< 3500	1,600
Benzo-a-Anthracene	56-55-3	µg/Kg	1000	24,000	19,000
Benzo-a-Pyrene	50-32-8	µg/Kg	22000	35,000	25,000
Benzo-b-Fluoranthene	205-99-2	µg/Kg	1700	77,000	50,000
Benzo-g,h,i-Perylene	191-24-2	µg/Kg	1000000	26,000	17,000
Benzo-k-Fluoranthene	207-08-9	µg/Kg	1700	20,000	8,900
Chrysene	218-01-9	µg/Kg	1000	53,000	32,000
Dibenzo-a,h-Anthracene	53-70-3	µg/Kg	1000000	5,100	950
Fluoranthene	206-44-0	µg/Kg	1000000	96,000	51,000
Fluorene	86-73-7	µg/Kg	386000	< 3500	1,100
Indeno(1,2,3-cd)Pyrene	193-39-5	µg/Kg	8200	27,000	17,000
Naphthalene	91-20-3	µg/Kg	12000	< 3500	< 380
Phenanthrene	85-01-8	µg/Kg	1000000	23,000	17,000
Pyrene	129-00-0	µg/Kg	1000000	74,000	36,000

Table 4 Historical Laboratory Data Summary- Groundwater

Table 4: Laboratory Data Summary- Groundwater
1 Franklin Avenue, Lynbrook, New York
NYSDEC BCP No. C130240 Daisy French Cleaners

Notes:
µg/L: microgram per liter (ppb)
Analyte detected
Exceeding TOGS 1.1.1 Ambient Water Quality Standard (AWQS)

Parameters	Sample ID	Unit	AWQS	GW-1 [15`]	GW-2 [15`]	GW-2 [25`]	GW-3 [15`]	GW-3 [25`]	GW-4 [15`]
	Sample Date			8/17/2023	8/17/2023	8/17/2023	8/17/2023	8/17/2023	8/17/2023
	CAS			Result	Result	Result	Result	Result	Result
Volatiles By SW8260D									
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	71-55-6	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1,2-Trichloroethane	79-00-5	µg/L	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	75-34-3	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	75-35-4	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	563-58-6	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	87-61-6	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane	96-18-4	µg/L	0.04	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
1,2,4-Trichlorobenzene	120-82-1	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	95-63-6	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane	96-12-8	µg/L	0.04	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dibromoethane	106-93-4	µg/L	0.0006	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
1,2-Dichlorobenzene	95-50-1	µg/L	3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	107-06-2	µg/L	0.6	< 0.60	< 0.60	< 0.60	< 0.60	< 0.60	< 0.60
1,2-Dichloropropane	78-87-5	µg/L	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	108-67-8	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	541-73-1	µg/L	3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	142-28-9	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	106-46-7	µg/L	3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	594-20-7	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	95-49-8	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone	591-78-6	µg/L	50	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Isopropyltoluene	527-84-4	µg/L	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	106-43-4	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl Isobutyl Ketone	108-10-1	µg/L	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Acetone	67-64-1	µg/L	50	< 25	< 25	< 25	< 25	< 25	< 25
Acrylonitrile	107-13-1	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	71-43-2	µg/L	1	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70
Bromobenzene	108-86-1	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromochloromethane	74-97-5	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	75-27-4	µg/L	50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromoform	75-25-2	µg/L	50	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	74-83-9	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Carbon Disulfide	75-15-0	µg/L	60	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Tetrachloride	56-23-5	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	108-90-7	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	75-00-3	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Table 4: Laboratory Data Summary- Groundwater

1 Franklin Avenue, Lynbrook, New York

NYSDEC BCP No. C130240 Daisy French Cleaners

Notes:
µg/L: microgram per liter (ppb)
Analyte detected
Exceeding TOGS 1.1.1 Ambient Water Quality Standard (AWQS)

Parameters	Sample ID	Unit	AWQS	GW-1 [15`]	GW-2 [15`]	GW-2 [25`]	GW-3 [15`]	GW-3 [25`]	GW-4 [15`]
	Sample Date			8/17/2023	8/17/2023	8/17/2023	8/17/2023	8/17/2023	8/17/2023
	CAS			Result	Result	Result	Result	Result	Result
Chloroform	67-66-3	µg/L	7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane	74-87-3	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	156-59-2	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	8.8
cis-1,3-Dichloropropene	10061-01-5	µg/L	0.4	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40
Chlorodibromomethane	124-48-1	µg/L	50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dibromomethane	74-95-3	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dichlorodifluoromethane	75-71-8	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	100-41-4	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	87-68-3	µg/L	0.01	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40
Isopropylbenzene	98-82-8	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m&p-Xylene	179601-23-1	µg/L	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone	78-93-3	µg/L	50	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl Tert-Butyl Ether	1634-04-4	µg/L	10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methylene Chloride	75-09-2	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	91-20-3	µg/L	10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Butylbenzene	104-51-8	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	103-65-1	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	95-47-6	µg/L	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-Isoproplytoluene	99-87-6	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	135-98-8	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	100-42-5	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	98-06-6	µg/L	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	127-18-4	µg/L	5	5.9	17	5.8	27	54	460
Tetrahydrofuran	109-99-9	µg/L	50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
Toluene	108-88-3	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylenes	1330-20-7	µg/L	15	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	156-60-5	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,3-Dichloropropene	10061-02-6	µg/L	0.4	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40
trans-1,4-dichloro-2-butene	110-57-6	µg/L	5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	79-01-6	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	1.4	< 1.0
Trichlorofluoromethane	75-69-4	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorotrifluoroethane	76-13-1	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	75-01-4	µg/L	2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Table 4: Laboratory Data Summary- Groundwater
1 Franklin Avenue, Lynbrook, New York
NYSDEC BCP No. C130240 Daisy French Cleaners

Notes:
µg/L: microgram per liter (ppb)
Analyte detected
Exceeding TOGS 1.1.1 Ambient Water Quality Standard (AWQS)

Parameters	Sample ID	Unit	AWQS	GW-4 [25`]	GW-5 [15`]	GW-5 [25`]	GW-6 [15`]	GW-6 [25`]
	Sample Date			8/17/2023	8/17/2023	8/17/2023	8/17/2023	8/17/2023
	CAS			Result	Result	Result	Result	Result
Volatiles By SW8260D								
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	71-55-6	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1,2-Trichloroethane	79-00-5	µg/L	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	75-34-3	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	75-35-4	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	563-58-6	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	87-61-6	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane	96-18-4	µg/L	0.04	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
1,2,4-Trichlorobenzene	120-82-1	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	95-63-6	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane	96-12-8	µg/L	0.04	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dibromoethane	106-93-4	µg/L	0.0006	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
1,2-Dichlorobenzene	95-50-1	µg/L	3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	107-06-2	µg/L	0.6	< 0.60	< 0.60	< 0.60	< 0.60	< 0.60
1,2-Dichloropropane	78-87-5	µg/L	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	108-67-8	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	541-73-1	µg/L	3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	142-28-9	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	106-46-7	µg/L	3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	594-20-7	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	95-49-8	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone	591-78-6	µg/L	50	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Isopropyltoluene	527-84-4	µg/L	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	106-43-4	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl Isobutyl Ketone	108-10-1	µg/L	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Acetone	67-64-1	µg/L	50	< 25	< 25	< 25	< 25	< 25
Acrylonitrile	107-13-1	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	71-43-2	µg/L	1	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70
Bromobenzene	108-86-1	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromochloromethane	74-97-5	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	75-27-4	µg/L	50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromoform	75-25-2	µg/L	50	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	74-83-9	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Carbon Disulfide	75-15-0	µg/L	60	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Tetrachloride	56-23-5	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	108-90-7	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	75-00-3	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Table 4: Laboratory Data Summary- Groundwater
1 Franklin Avenue, Lynbrook, New York
NYSDEC BCP No. C130240 Daisy French Cleaners

Notes:
µg/L: microgram per liter (ppb)
Analyte detected
Exceeding TOGS 1.1.1 Ambient Water Quality Standard (AWQS)

Parameters	Sample ID Sample Date CAS	Unit	AWQS	GW-4 [25`] 8/17/2023 Result	GW-5 [15`] 8/17/2023 Result	GW-5 [25`] 8/17/2023 Result	GW-6 [15`] 8/17/2023 Result	GW-6 [25`] 8/17/2023 Result
Chloroform	67-66-3	µg/L	7	1.8	< 1.0	< 1.0	< 1.0	1.8
Chloromethane	74-87-3	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	156-59-2	µg/L	5	< 1.0	64	< 1.0	< 1.0	< 1.0
cis-1,3-Dichloropropene	10061-01-5	µg/L	0.4	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40
Chlorodibromomethane	124-48-1	µg/L	50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dibromomethane	74-95-3	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dichlorodifluoromethane	75-71-8	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	100-41-4	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	87-68-3	µg/L	0.01	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40
Isopropylbenzene	98-82-8	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m&p-Xylene	179601-23-1	µg/L	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone	78-93-3	µg/L	50	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl Tert-Butyl Ether	1634-04-4	µg/L	10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methylene Chloride	75-09-2	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	91-20-3	µg/L	10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Butylbenzene	104-51-8	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	103-65-1	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	95-47-6	µg/L	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-Isoproplytoluene	99-87-6	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	135-98-8	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	100-42-5	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	98-06-6	µg/L	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	127-18-4	µg/L	5	42	4.5	3.3	30	12
Tetrahydrofuran	109-99-9	µg/L	50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
Toluene	108-88-3	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylenes	1330-20-7	µg/L	15	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	156-60-5	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,3-Dichloropropene	10061-02-6	µg/L	0.4	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40
trans-1,4-dichloro-2-butene	110-57-6	µg/L	5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	79-01-6	µg/L	5	< 1.0	1.7	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	75-69-4	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorotrifluoroethane	76-13-1	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	75-01-4	µg/L	2	< 1.0	9.1	< 1.0	< 1.0	< 1.0

Table 5 Historical Laboratory Analysis Results- Soil Gas

Table 5: Laboratory Analysis Results- Soil Gas
1 Franklin Avenue, Lynbrook, New York

NYSDEC BCP No. C130240 Daisy French Cleaners

Notes:
$\mu g/m^3$: microgram per cubic meter
Analyte detected
Exceeding Action Levels per NYSDOH 2017 Decision Matrices

Parameters	Sample ID	Unit	NYSDOH Action Levels	SG-1	SG-2	SG-3	SG-4
	Sample Date			8/17/2023	8/17/2023	8/17/2023	8/17/2023
	CAS			Result	Result	Result	Result
Volatiles (TO15) By TO15							
1,1,1,2-Tetrachloroethane	630-20-6	$\mu g/m^3$	NA	< 1.00	< 1.00	< 1.00	< 1.00
1,1,1-Trichloroethane	71-55-6	$\mu g/m^3$	1000	< 1.00	1.85	< 1.00	< 1.00
1,1,2,2-Tetrachloroethane	79-34-5	$\mu g/m^3$	NA	< 1.00	< 1.00	< 1.00	< 1.00
1,1,2-Trichloroethane	79-00-5	$\mu g/m^3$	NA	< 1.00	< 1.00	< 1.00	< 1.00
1,1-Dichloroethane	75-34-3	$\mu g/m^3$	NA	< 1.00	< 1.00	< 1.00	< 1.00
1,1-Dichloroethene	75-35-4	$\mu g/m^3$	60	< 0.20	2.29	235	2.23
1,2,4-Trichlorobenzene	120-82-1	$\mu g/m^3$	NA	< 1.00	< 1.00	< 1.00	< 1.00
1,2,4-Trimethylbenzene	95-63-6	$\mu g/m^3$	NA	12.7	12.4	2.34	6.83
1,2-Dibromoethane	106-93-4	$\mu g/m^3$	NA	< 1.00	< 1.00	< 1.00	< 1.00
1,2-Dichlorobenzene	95-50-1	$\mu g/m^3$	NA	< 1.00	< 1.00	< 1.00	< 1.00
1,2-Dichloroethane	107-06-2	$\mu g/m^3$	NA	< 1.00	< 1.00	< 1.00	< 1.00
1,2-Dichloropropane	78-87-5	$\mu g/m^3$	NA	< 1.00	< 1.00	< 1.00	< 1.00
1,2-Dichlorotetrafluoroethane	76-14-2	$\mu g/m^3$	NA	< 1.00	< 1.00	< 1.00	< 1.00
1,3,5-Trimethylbenzene	108-67-8	$\mu g/m^3$	NA	3.78	5.06	< 1.00	3.24
1,3-Butadiene	106-99-0	$\mu g/m^3$	NA	3.6	25	32.9	< 1.00
1,3-Dichlorobenzene	541-73-1	$\mu g/m^3$	NA	< 1.00	< 1.00	< 1.00	< 1.00
1,4-Dichlorobenzene	106-46-7	$\mu g/m^3$	NA	< 1.00	< 1.00	< 1.00	< 1.00
1,4-Dioxane	123-91-1	$\mu g/m^3$	NA	< 1.00	< 1.00	< 1.00	< 1.00
2-Hexanone	591-78-6	$\mu g/m^3$	NA	12.5	< 1.00	< 1.00	< 1.00
p-Ethyltoluene	622-96-8	$\mu g/m^3$	NA	6.63	8.35	2.47	7.22
p-Isoproplytoluene	99-87-6	$\mu g/m^3$	NA	1.27	1.39	< 1.00	< 1.00
Methyl Isobutyl Ketone	108-10-1	$\mu g/m^3$	NA	149	158	145	215
Acetone	67-64-1	$\mu g/m^3$	NA	124	311	442	287
Acrylonitrile	107-13-1	$\mu g/m^3$	NA	< 1.00	< 1.00	< 1.00	< 1.00
Benzene	71-43-2	$\mu g/m^3$	NA	2.32	15.4	37	8.14
Benzyl chloride	100-44-7	$\mu g/m^3$	NA	< 1.00	< 1.00	< 1.00	< 1.00
Bromodichloromethane	75-27-4	$\mu g/m^3$	NA	< 1.00	< 1.00	< 1.00	< 1.00
Bromoform	75-25-2	$\mu g/m^3$	NA	< 1.00	< 1.00	< 1.00	< 1.00
Bromomethane	74-83-9	$\mu g/m^3$	NA	< 1.00	< 1.00	< 1.00	< 1.00
Carbon Disulfide	75-15-0	$\mu g/m^3$	NA	3.92	28.6	84	14.2
Carbon Tetrachloride	56-23-5	$\mu g/m^3$	60	0.24	0.25	< 0.20	0.22
Chlorobenzene	108-90-7	$\mu g/m^3$	NA	< 1.00	5.06	< 1.00	< 1.00
Chloroethane	75-00-3	$\mu g/m^3$	NA	< 1.00	26.9	15.2	8.07
Chloroform	67-66-3	$\mu g/m^3$	NA	12.9	7.37	17.7	3.19
Chloromethane	74-87-3	$\mu g/m^3$	NA	< 1.00	9.18	3.12	< 1.00
cis-1,2-Dichloroethene	156-59-2	$\mu g/m^3$	60	< 0.20	< 0.20	90,300	1,400
cis-1,3-Dichloropropene	10061-01-5	$\mu g/m^3$	NA	< 1.00	< 1.00	< 1.00	< 1.00
Cyclohexane	110-82-7	$\mu g/m^3$	NA	< 1.00	< 1.00	26.9	< 1.00
Chlorodibromomethane	124-48-1	$\mu g/m^3$	NA	< 1.00	< 1.00	< 1.00	< 1.00
Dichlorodifluoromethane	75-71-8	$\mu g/m^3$	NA	2.29	2.31	< 1.00	2.25
Ethanol	64-17-5	$\mu g/m^3$	NA	582	282	371	642

Table 5: Laboratory Analysis Results- Soil Gas
1 Franklin Avenue, Lynbrook, New York

NYSDEC BCP No. C130240 Daisy French Cleaners

Notes:
µg/m^3: microgram per cubic meter
Analyte detected
Exceeding Action Levels per NYSDOH 2017 Decision Matrices

Parameters	Sample ID	Unit	NYSDOH Action Levels	SG-1	SG-2	SG-3	SG-4
	Sample Date			8/17/2023	8/17/2023	8/17/2023	8/17/2023
	CAS			Result	Result	Result	Result
Ethyl acetate	141-78-6	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
Ethylbenzene	100-41-4	µg/m^3	NA	2.86	7.03	2.36	8.55
Heptane	142-82-5	µg/m^3	NA	2.58	63.5	29	81.5
Hexachlorobutadiene	87-68-3	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
Hexane	110-54-3	µg/m^3	NA	5.14	80.7	56.4	85.2
Isopropylalcohol	67-63-0	µg/m^3	NA	22.9	35.4	32.7	37.1
Isopropylbenzene	98-82-8	µg/m^3	NA	< 1.00	1.41	< 1.00	1.36
m,p-Xylene	179601-23-1	µg/m^3	NA	11.1	22	4.99	28.4
2-Butanone	78-93-3	µg/m^3	NA	64.8	101	13.5	92.3
Methyl Tert-Butyl Ether	1634-04-4	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
Methylene Chloride	75-09-2	µg/m^3	1000	< 3.00	< 3.00	< 3.00	< 3.00
n-Butylbenzene	104-51-8	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
o-Xylene	95-47-6	µg/m^3	NA	4.9	10	2.42	9.55
Propylene	115-07-1	µg/m^3	NA	< 1.00	294	478	194
sec-Butylbenzene	135-98-8	µg/m^3	NA	< 1.00	1.09	< 1.00	< 1.00
Styrene	100-42-5	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
Tetrachloroethene	127-18-4	µg/m^3	1000	1,950	6,440	29,000	13,100
Tetrahydrofuran	109-99-9	µg/m^3	NA	30.9	36.8	37.7	50.7
Toluene	108-88-3	µg/m^3	NA	54.6	209	17.2	26.9
trans-1,2-Dichloroethene	156-60-5	µg/m^3	NA	< 1.00	< 1.00	2,020	31
trans-1,3-Dichloropropene	10061-02-6	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
Trichloroethene	79-01-6	µg/m^3	60	2.1	2.37	1,260	175
Trichlorofluoromethane	75-69-4	µg/m^3	NA	1.1	1.11	< 1.00	1.02
Trichlorotrifluoroethane	76-13-1	µg/m^3	NA	2.75	53.3	22.8	< 1.00
Vinyl Chloride	75-01-4	µg/m^3	60	< 0.20	< 0.20	34.2	0.29
BTEX	NA	µg/m^3	NA	75.78	263.43	63.97	81.54

Table 5: Laboratory Analysis Results- Soil Gas
1 Franklin Avenue, Lynbrook, New York

NYSDEC BCP No. C130240 Daisy French Cleaners

Notes:
µg/m^3: microgram per cubic meter
Analyte detected
Exceeding Action Levels per NYSDOH 2017 Decision Matrices

Parameters	Sample ID	Unit	NYSDOH Action Levels	SG-5	SG-6	SG-7	SG-8
	Sample Date			8/17/2023	8/17/2023	8/17/2023	8/17/2023
	CAS			Result	Result	Result	Result
Volatiles (TO15) By TO15							
1,1,1,2-Tetrachloroethane	630-20-6	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
1,1,1-Trichloroethane	71-55-6	µg/m^3	1000	< 1.00	1.19	< 1.00	2,310
1,1,2,2-Tetrachloroethane	79-34-5	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
1,1,2-Trichloroethane	79-00-5	µg/m^3	NA	< 1.00	< 1.00	< 1.00	3.1
1,1-Dichloroethane	75-34-3	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
1,1-Dichloroethene	75-35-4	µg/m^3	60	< 0.20	< 0.20	< 0.20	16.7
1,2,4-Trichlorobenzene	120-82-1	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
1,2,4-Trimethylbenzene	95-63-6	µg/m^3	NA	19.6	25.4	< 1.00	23.8
1,2-Dibromoethane	106-93-4	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
1,2-Dichlorobenzene	95-50-1	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
1,2-Dichloroethane	107-06-2	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
1,2-Dichloropropane	78-87-5	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
1,2-Dichlorotetrafluoroethane	76-14-2	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
1,3,5-Trimethylbenzene	108-67-8	µg/m^3	NA	6.04	10.7	< 1.00	10.9
1,3-Butadiene	106-99-0	µg/m^3	NA	16.3	< 1.00	< 1.00	1.2
1,3-Dichlorobenzene	541-73-1	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
1,4-Dichlorobenzene	106-46-7	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
1,4-Dioxane	123-91-1	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
2-Hexanone	591-78-6	µg/m^3	NA	< 1.00	< 1.00	< 1.00	3.44
p-Ethyltoluene	622-96-8	µg/m^3	NA	12.1	20.8	< 1.00	8.89
p-Isoproplytoluene	99-87-6	µg/m^3	NA	2.38	3.67	< 1.00	1.67
Methyl Isobutyl Ketone	108-10-1	µg/m^3	NA	241	176	< 1.00	< 1.00
Acetone	67-64-1	µg/m^3	NA	211	593	8.21	162
Acrylonitrile	107-13-1	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
Benzene	71-43-2	µg/m^3	NA	8.78	33.5	< 1.00	3.06
Benzyl chloride	100-44-7	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
Bromodichloromethane	75-27-4	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
Bromoform	75-25-2	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
Bromomethane	74-83-9	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
Carbon Disulfide	75-15-0	µg/m^3	NA	10.2	30.1	< 1.00	3.33
Carbon Tetrachloride	56-23-5	µg/m^3	60	0.28	< 0.20	0.4	0.96
Chlorobenzene	108-90-7	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
Chloroethane	75-00-3	µg/m^3	NA	< 1.00	17.8	< 1.00	< 1.00
Chloroform	67-66-3	µg/m^3	NA	21.8	9.12	3.5	1.75
Chloromethane	74-87-3	µg/m^3	NA	< 1.00	5.98	< 1.00	< 1.00
cis-1,2-Dichloroethene	156-59-2	µg/m^3	60	134	0.56	6.3	< 0.20
cis-1,3-Dichloropropene	10061-01-5	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
Cyclohexane	110-82-7	µg/m^3	NA	< 1.00	< 1.00	< 1.00	1.22
Chlorodibromomethane	124-48-1	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
Dichlorodifluoromethane	75-71-8	µg/m^3	NA	< 1.00	2.39	2.31	2.47
Ethanol	64-17-5	µg/m^3	NA	648	305	7.91	8.79

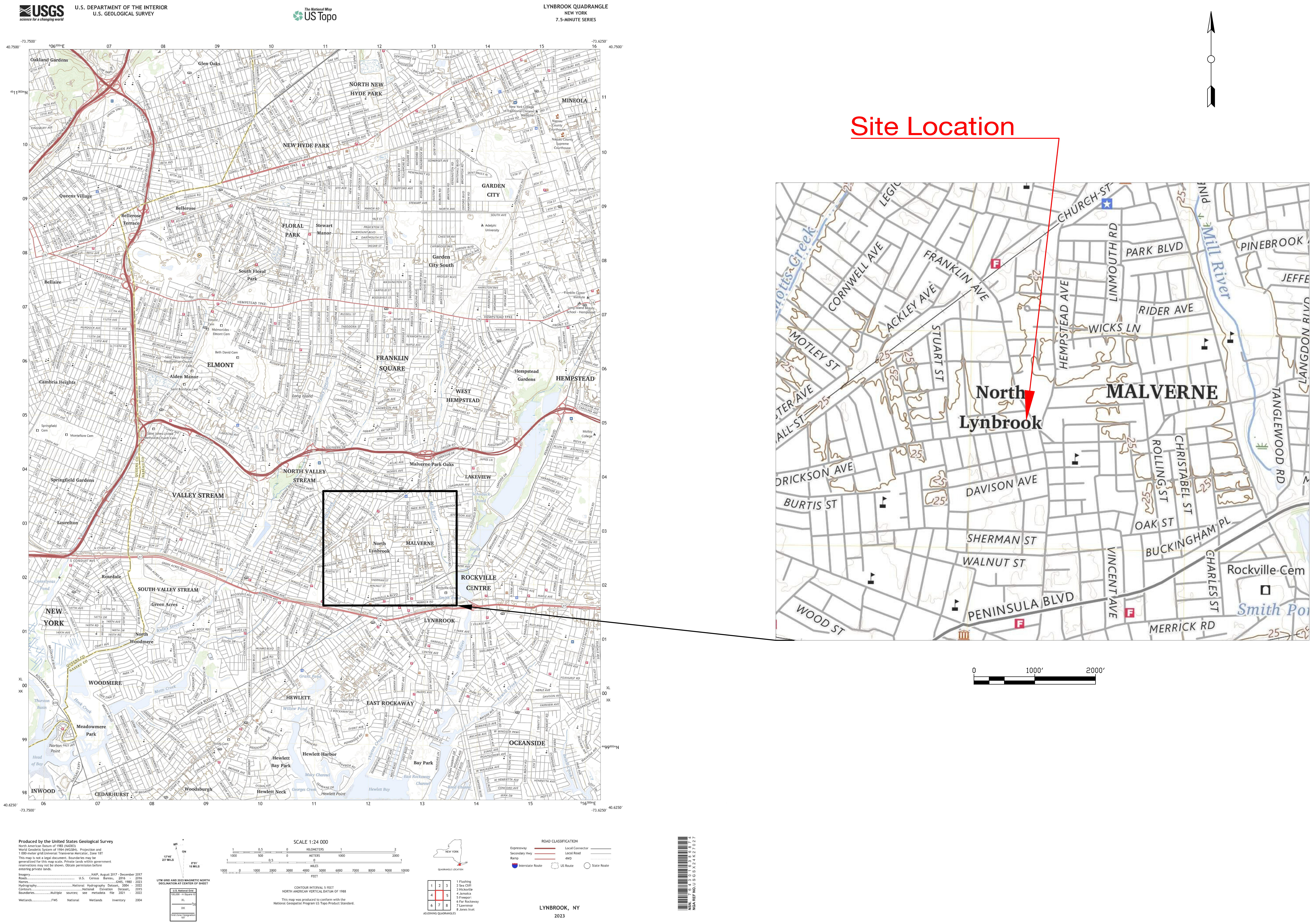
Table 5: Laboratory Analysis Results- Soil Gas
1 Franklin Avenue, Lynbrook, New York

NYSDEC BCP No. C130240 Daisy French Cleaners

Notes:
µg/m^3: microgram per cubic meter
Analyte detected
Exceeding Action Levels per NYSDOH 2017 Decision Matrices

Parameters	Sample ID	Unit	NYSDOH Action Levels	SG-5	SG-6	SG-7	SG-8
	Sample Date			8/17/2023	8/17/2023	8/17/2023	8/17/2023
	CAS			Result	Result	Result	Result
Ethyl acetate	141-78-6	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
Ethylbenzene	100-41-4	µg/m^3	NA	3.48	15.5	< 1.00	4.05
Heptane	142-82-5	µg/m^3	NA	7.29	242	< 1.00	6.27
Hexachlorobutadiene	87-68-3	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
Hexane	110-54-3	µg/m^3	NA	14.2	184	< 1.00	4.97
Isopropylalcohol	67-63-0	µg/m^3	NA	28	< 1.00	3	9.24
Isopropylbenzene	98-82-8	µg/m^3	NA	< 1.00	5.11	< 1.00	2.93
m,p-Xylene	179601-23-1	µg/m^3	NA	11.9	46.9	< 1.00	8.98
2-Butanone	78-93-3	µg/m^3	NA	93.7	113	1.69	11.6
Methyl Tert-Butyl Ether	1634-04-4	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
Methylene Chloride	75-09-2	µg/m^3	1000	< 3.00	< 3.00	< 3.00	< 3.00
n-Butylbenzene	104-51-8	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
o-Xylene	95-47-6	µg/m^3	NA	5.64	23.4	< 1.00	7.59
Propylene	115-07-1	µg/m^3	NA	< 1.00	471	< 1.00	< 1.00
sec-Butylbenzene	135-98-8	µg/m^3	NA	< 1.00	3.97	< 1.00	< 1.00
Styrene	100-42-5	µg/m^3	NA	< 1.00	< 1.00	< 1.00	1.56
Tetrachloroethene	127-18-4	µg/m^3	1000	21,100	14,000	3,270	8,130
Tetrahydrofuran	109-99-9	µg/m^3	NA	46.9	28.3	< 1.00	< 1.00
Toluene	108-88-3	µg/m^3	NA	9.83	159	< 1.00	33.6
trans-1,2-Dichloroethene	156-60-5	µg/m^3	NA	12	< 1.00	< 1.00	< 1.00
trans-1,3-Dichloropropene	10061-02-6	µg/m^3	NA	< 1.00	< 1.00	< 1.00	< 1.00
Trichloroethene	79-01-6	µg/m^3	60	596	100	3.73	18.6
Trichlorofluoromethane	75-69-4	µg/m^3	NA	3.32	1.07	1.02	1.21
Trichlorotrifluoroethane	76-13-1	µg/m^3	NA	< 1.00	8.73	1.18	< 1.00
Vinyl Chloride	75-01-4	µg/m^3	60	0.2	< 0.20	< 0.20	< 0.20
BTEX	NA	µg/m^3	NA	39.63	278.3	ND	57.28

FIGURE 1 LOCATIONAL DIAGRAM



Notes

Title
Site Location
Diagram

No.	Revision/Issue	Date

Advanced
Cleanup
Technologies
Environmental Consultants

228 Park Ave S PMB 34864
New York, New York 10003

Project Name and Address

Daisy French Cleaners No. C130240
1 Franklin Ave
Lynbrook, NY
11563

Project
C130240

Date
7/30/2025

Scale
As Noted

Figure
1

Figure 2 Site Boundary Diagram

Notes

Title
Site Boundary Diagram

No.	Revision/Issue	Date

Advanced Cleanup Technologies
Environmental Consultants

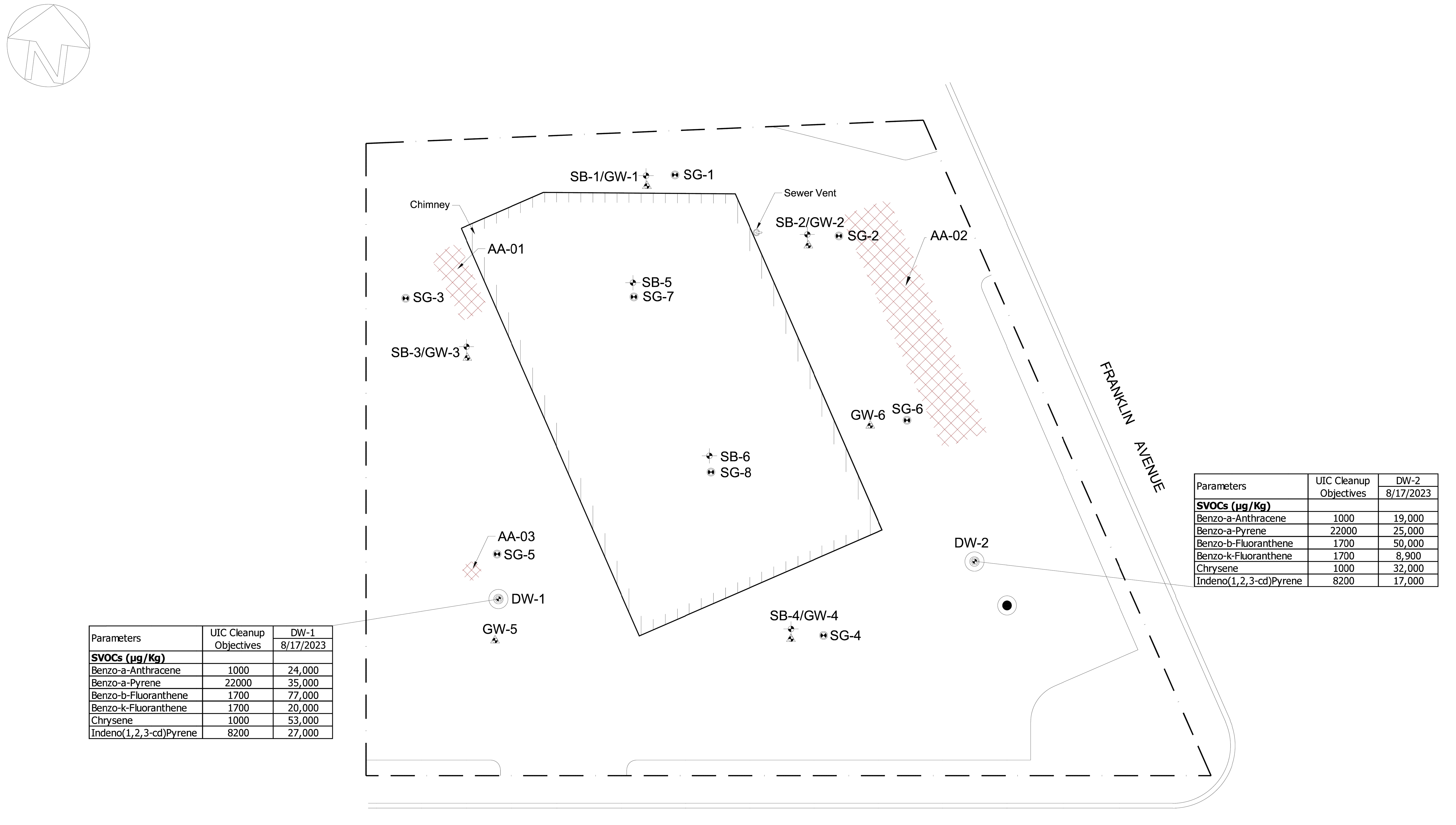
228 Park Ave S PMB 34864
New York, New York 10003

Project Name and Address

Daisy French Cleaners No. C130240
1 Franklin Ave
Lynbrook, NY
11563

Project C130240	Figure 2
Date 7/30/2025	
Scale As Noted	

Figure 3 Historical Cider Phase II Sampling Diagram



Parameters	UIC Cleanup Objectives	DW-2 8/17/2023
SVOCs (µg/Kg)		
Benzo-a-Anthracene	1000	19,000
Benzo-a-Pyrene	22000	25,000
Benzo-b-Fluoranthene	1700	50,000
Benzo-k-Fluoranthene	1700	8,900
Chrysene	1000	32,000
Indeno(1,2,3-cd)Pyrene	8200	17,000

Parameters	UIC Cleanup Objectives	DW-1 8/17/2023
SVOCs (µg/Kg)		
Benzo-a-Anthracene	1000	24,000
Benzo-a-Pyrene	22000	35,000
Benzo-b-Fluoranthene	1700	77,000
Benzo-k-Fluoranthene	1700	20,000
Chrysene	1000	53,000
Indeno(1,2,3-cd)Pyrene	8200	27,000

Note:
On 8/17/2023, six (6) soil borings were installed and six (6) soil samples were collected for laboratory analysis. Six (6) multi-depth temporary groundwater wells were installed and eleven (11) groundwater samples were collected for laboratory analysis. Two (2) sediment samples were collected from on-site stormwater drywells. Eight (8) soil gas samples were collected.

Scale in Feet
10 5 0 10 20

Legend

◎ Dry Well
Sanitary Vent
Groundwater Sampling Point
Soil Sampling Point
Sediment Sampling Point
Soil Gas Sampling Point

Notes

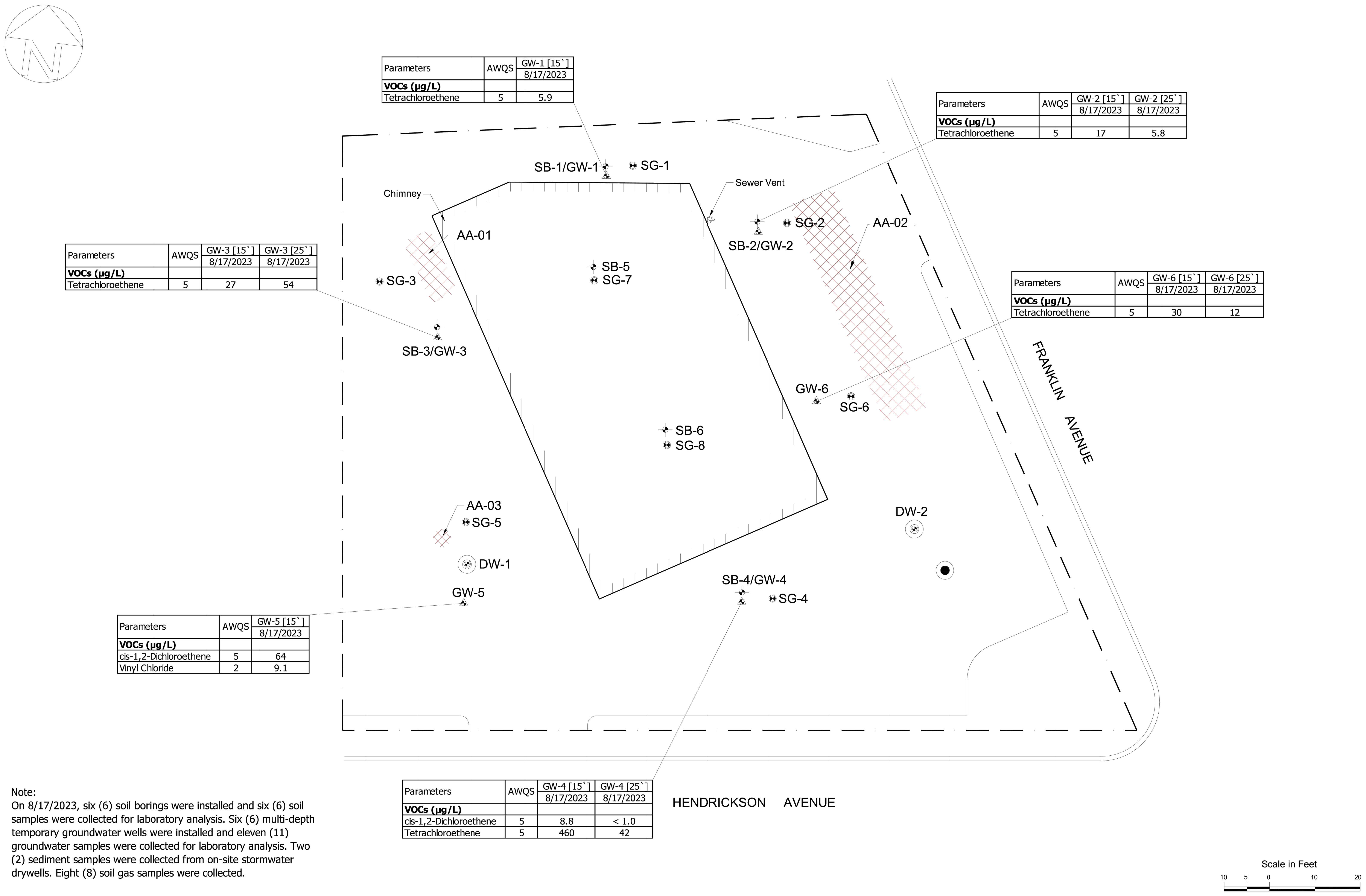
Title
Cider Phase II - Sediment Exceedances

No.	Revision/Issue	Date

Advanced
Cleanup
Technologies
Environmental Consultants
228 Park Ave S PMB 34864
New York, New York 10003

Project Name and Address
Daisy French Cleaners No. C130240
1 Franklin Ave
Lynbrook, NY
11563

Project C130240	Figure 3A
Date 7/30/2025	
Scale As Noted	



Parameters	AWQS	GW-1 [15`] 8/17/2023
VOCs (µg/L)		
Tetrachloroethene	5	5.9

Parameters	AWQS	GW-2 [15`] 8/17/2023	GW-2 [25`] 8/17/2023
VOCs (µg/L)			
Tetrachloroethene	5	17	5.8

Parameters	AWQS	GW-3 [15`] 8/17/2023	GW-3 [25`] 8/17/2023
VOCs (µg/L)			
Tetrachloroethene	5	27	54

Parameters	AWQS	GW-6 [15`] 8/17/2023	GW-6 [25`] 8/17/2023
VOCs (µg/L)			
Tetrachloroethene	5	30	12

Parameters	AWQS	GW-5 [15`] 8/17/2023
VOCs (µg/L)		
cis-1,2-Dichloroethene	5	64
Vinyl Chloride	2	9.1

Parameters	AWQS	GW-4 [15`] 8/17/2023	GW-4 [25`] 8/17/2023
VOCs (µg/L)			
cis-1,2-Dichloroethene	5	8.8	< 1.0
Tetrachloroethene	5	460	42

Note:
On 8/17/2023, six (6) soil borings were installed and six (6) soil samples were collected for laboratory analysis. Six (6) multi-depth temporary groundwater wells were installed and eleven (11) groundwater samples were collected for laboratory analysis. Two (2) sediment samples were collected from on-site stormwater drywells. Eight (8) soil gas samples were collected.

Legend

◎ Dry Well
Sanitary Vent
Groundwater Sampling Point
Soil Sampling Point
Sediment Sampling Point
Soil Gas Sampling Point

Notes

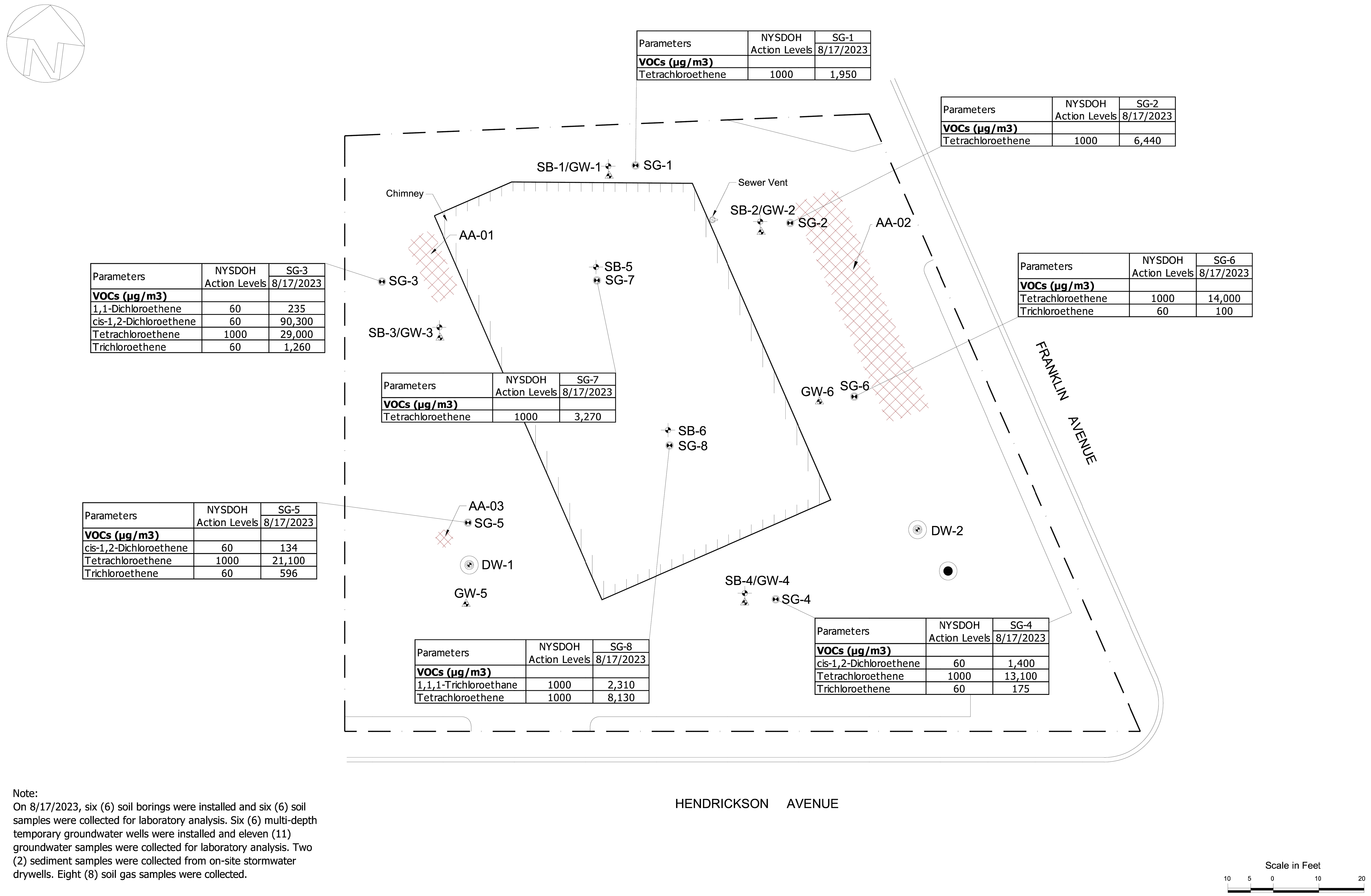
Title
Cider Phase II - Groundwater Exceedances

No.	Revision/Issue	Date

Advanced Cleanup Technologies
Environmental Consultants
228 Park Ave S PMB 34864
New York, New York 10003

Project Name and Address
Daisy French Cleaners No. C130240
1 Franklin Ave
Lynbrook, NY
11563

Project
C130240
Date
7/30/2025
Scale
As Noted
Figure
3B



Parameters	NYSDOH Action Levels	SG-1 8/17/2023
VOCs (µg/m3)		
Tetrachloroethene	1000	1,950

Parameters	NYSDOH Action Levels	SG-2 8/17/2023
VOCs (µg/m3)		
Tetrachloroethene	1000	6,440

Parameters	NYSDOH Action Levels	SG-3 8/17/2023
VOCs (µg/m3)		
1,1-Dichloroethene	60	235
cis-1,2-Dichloroethene	60	90,300
Tetrachloroethene	1000	29,000
Trichloroethene	60	1,260

Parameters	NYSDOH Action Levels	SG-6 8/17/2023
VOCs (µg/m3)		
Tetrachloroethene	1000	14,000
Trichloroethene	60	100

Parameters	NYSDOH Action Levels	SG-7 8/17/2023
VOCs (µg/m3)		
Tetrachloroethene	1000	3,270

Parameters	NYSDOH Action Levels	SG-5 8/17/2023
VOCs (µg/m3)		
cis-1,2-Dichloroethene	60	134
Tetrachloroethene	1000	21,100
Trichloroethene	60	596

Parameters	NYSDOH Action Levels	SG-8 8/17/2023
VOCs (µg/m3)		
1,1,1-Trichloroethane	1000	2,310
Tetrachloroethene	1000	8,130

Parameters	NYSDOH Action Levels	SG-4 8/17/2023
VOCs (µg/m3)		
cis-1,2-Dichloroethene	60	1,400
Tetrachloroethene	1000	13,100
Trichloroethene	60	175

Note:
On 8/17/2023, six (6) soil borings were installed and six (6) soil samples were collected for laboratory analysis. Six (6) multi-depth temporary groundwater wells were installed and eleven (11) groundwater samples were collected for laboratory analysis. Two (2) sediment samples were collected from on-site stormwater drywells. Eight (8) soil gas samples were collected.

Legend

- ◎ Dry Well
- Sanitary Vent
- Groundwater Sampling Point
- Soil Sampling Point
- Sediment Sampling Point
- ⊗ Soil Gas Sampling Point

Notes

Title
Cider Phase II -
Soil Gas
Exceedances

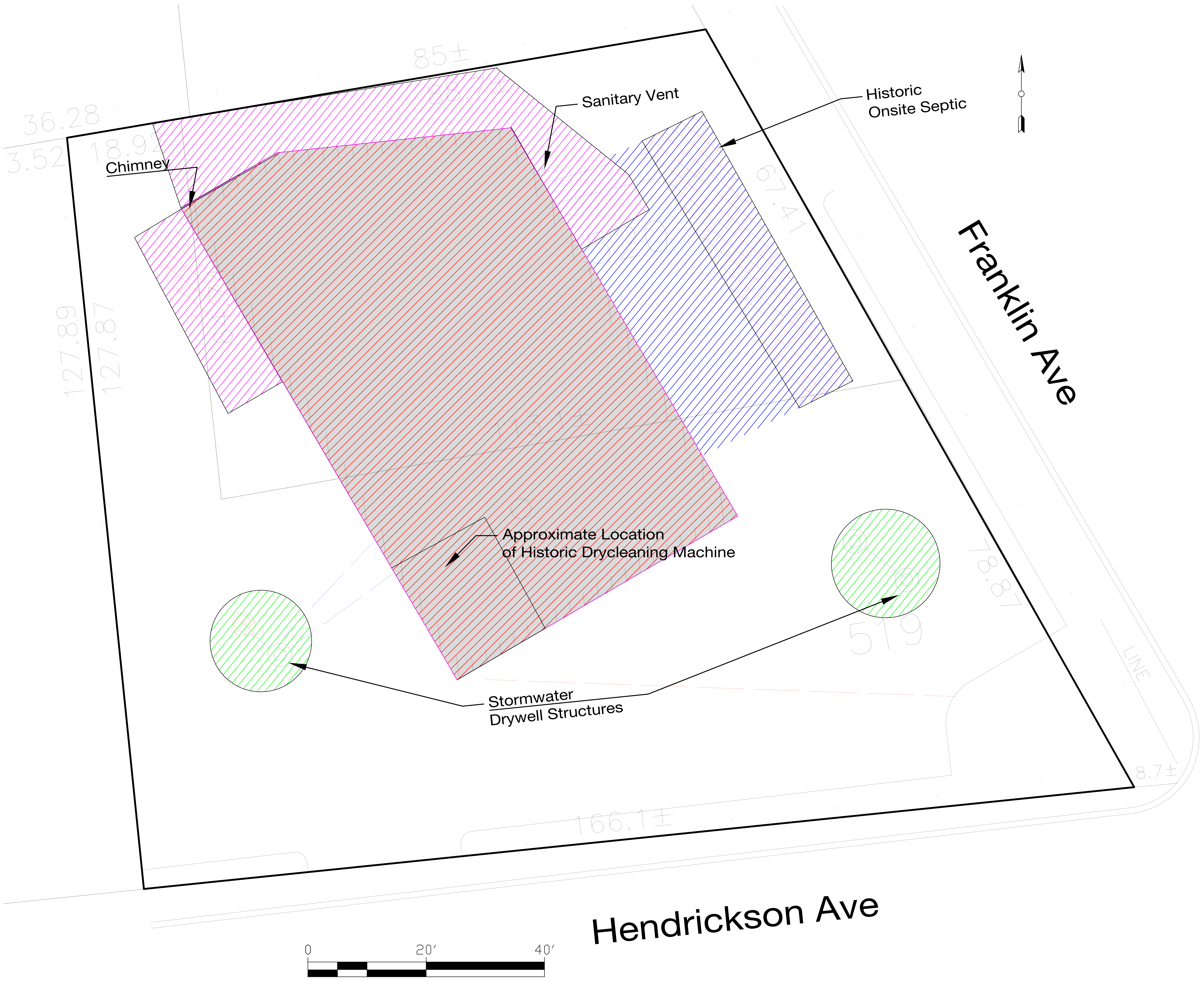
No.	Revision/Issue	Date

Advanced
Cleanup
Technologies
Environmental Consultants
228 Park Ave S PMB 34864
New York, New York 10003

Project Name and Address
Daisy French Cleaners No. C130240
1 Franklin Ave
Lynbrook, NY
11563

Project
C130240
Date
7/30/2025
Scale
As Noted
Figure
3C

Figure 4 Areas of Concern Diagram



Notes

Legend

▨	Historic Drycleaning Operations
▨	Historic Onsite Septic
▨	Stormwater Drywells
▨	Suspect Drum Storage
—	GPR Anomoly Indicative of Piping
—	GPR Anomoly Indicative of Electrical Utilities

Title
Areas of Concern

No.	Revision/Issue	Date

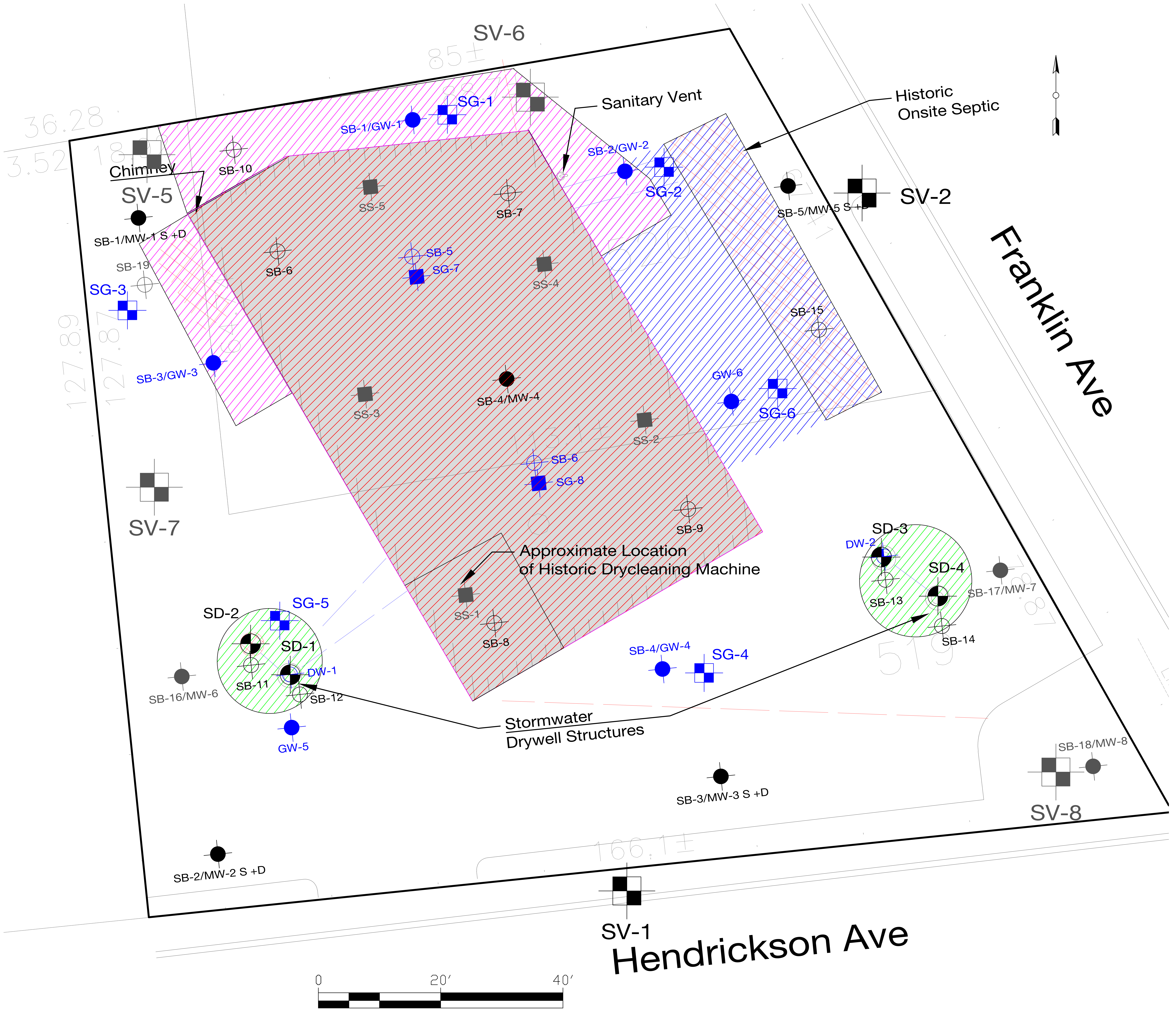
Advanced
Cleanup
Technologies
Environmental Consultants

228 Park Ave S PMB 34864
New York, New York 10003

Project Name and Address
Daisy French Cleaners No. C130240
1 Franklin Ave
Lynbrook, NY
11563

Project C130240	Figure 4
Date 7/30/2025	
Scale As Noted	

Figure 5 Proposed Soil and Groundwater Sampling Diagram



Notes

Investigation

🟦	Cider Phase II ESA
■	BCP Remedial Investigation

Legend

IA-1	Indoor Air Sample
SS-1	Sub-Slab Vapor Sample
SV-1	Soil Vapor Sample
OA-1	Outdoor Air Sample
SB-1	Soil Boring
MW-1	Monitoring Well
SD-1	Sediment Sample

Title
Proposed
Sampling
Diagram

No.	Revision/Issue	Date

Advanced
Cleanup
Technologies
Environmental Consultants

228 Park Ave S PMB 34864
New York, New York 10003

Project Name and Address

Daisy French Cleaners No. C130240
1 Franklin Ave
Lynbrook, NY
11563

Project C130240	Figure 5
Date 8/6/2025	
Scale As Noted	

Figure 6 Proposed Offsite Soil Vapor and Air Sampling Diagram

Notes

Legend	
IA-1	Indoor Air Sample
SS-1	Sub-Slab Vapor Sample
SV-1	Soil Vapor Sample
OA-1	Outdoor Air Sample
SB-1	Soil Boring
MW-1	Monitoring Well
SD-1	Sediment Sample

Title

Proposed Offsite Sampling Diagram

No.	Revision/Issue	Date

Advanced Cleanup Technologies
Environmental Consultants

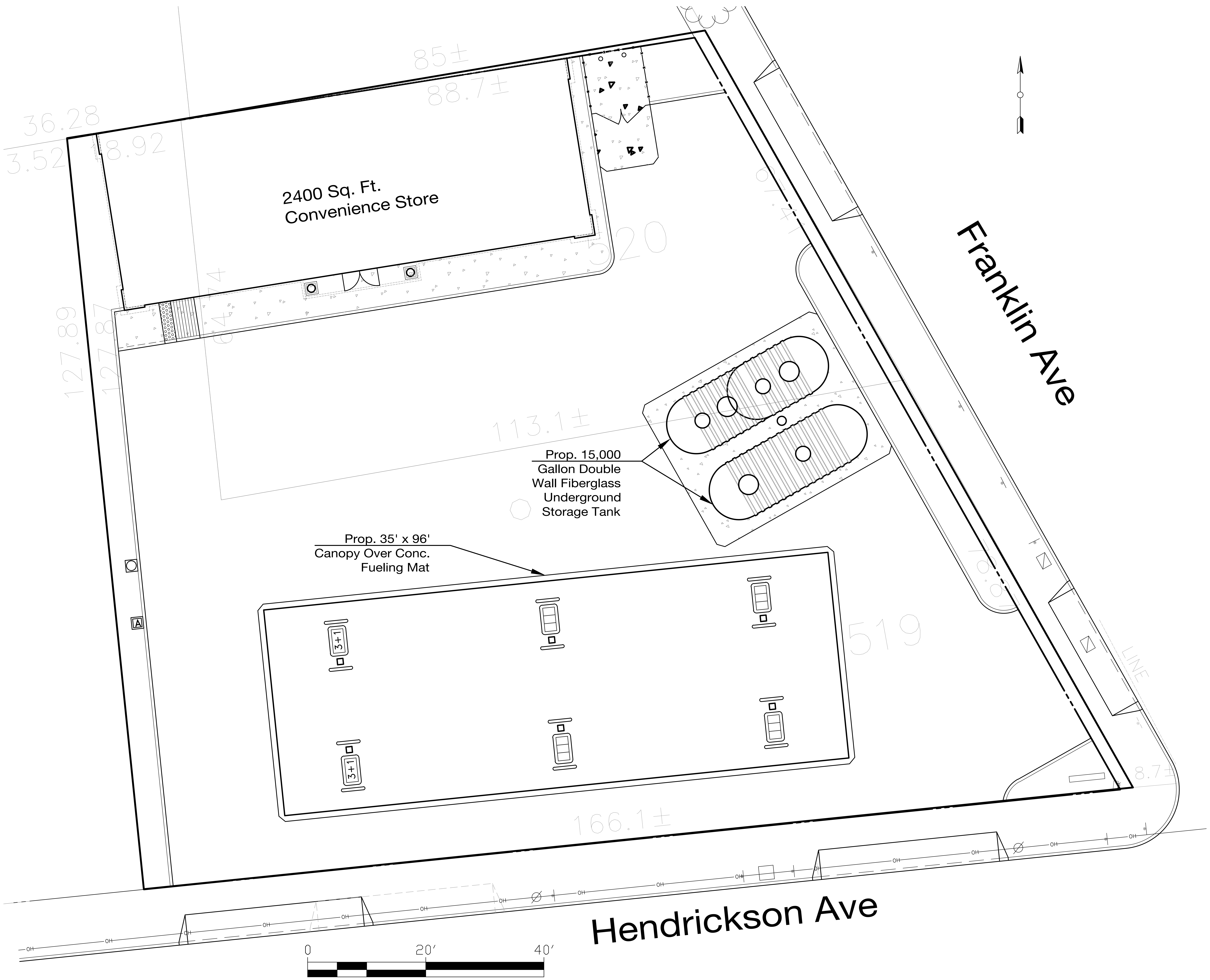
228 Park Ave S PMB 34864
New York, New York 10003

Project Name and Address

Daisy French Cleaners No. C130240
1 Franklin Ave
Lynbrook, NY
11563

Project C130240	Figure 6
Date 8/6/2025	
Scale As Noted	

Figure 7 Proposed Redevelopment Plan



Notes

Title
Proposed
Redevelopment
Plan

No.	Revision/Issue	Date

Advanced
Cleanup
Technologies
Environmental Consultants

228 Park Ave S PMB 34864
New York, New York 10003

Project Name and Address

Daisy French Cleaners No. C130240
1 Franklin Ave
Lynbrook, NY
11563

Project
C130240

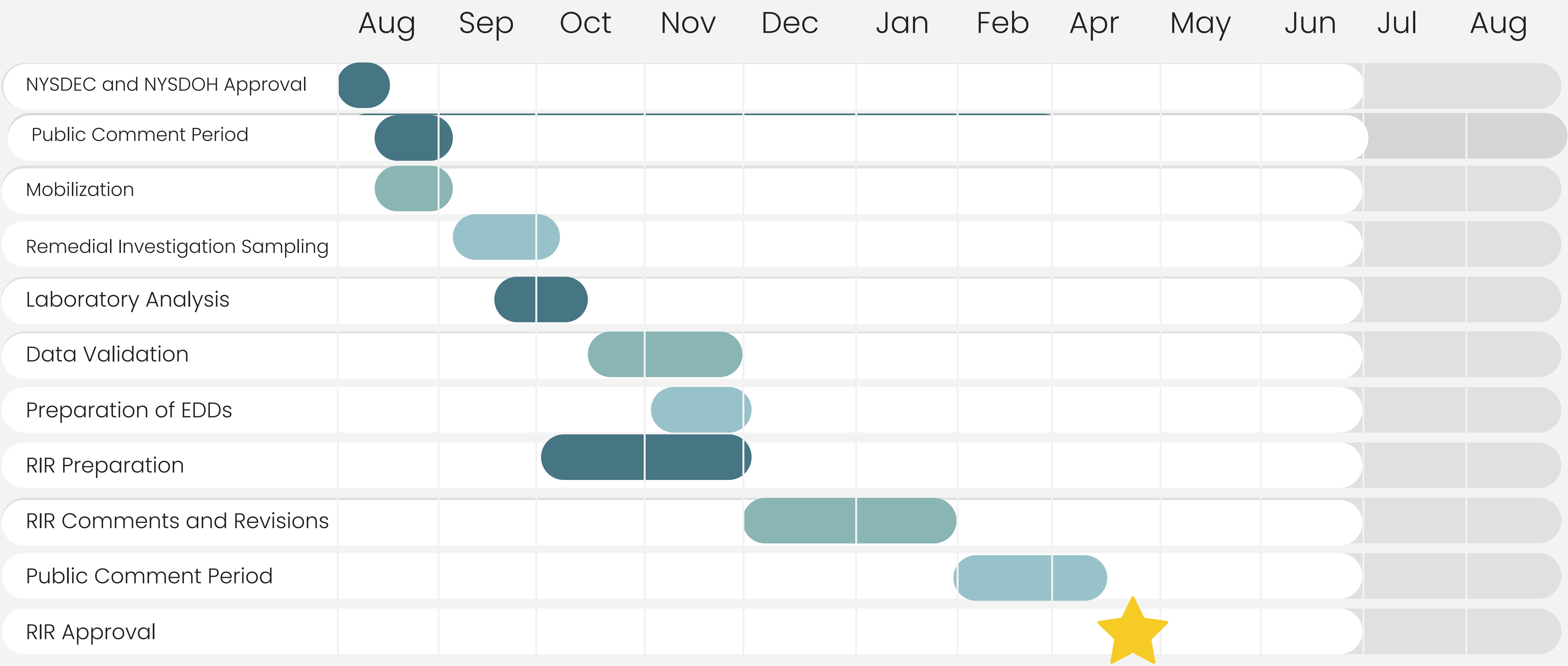
Date
7/30/2025

Scale
As Noted

Figure
7

Figure 8 Project Schedule Gantt Chart

Daisy French Cleaners Site Remedial Investigation
NYSDEC BCP No. C130240



Appendix A Investigation Health and Safety Plan

Advanced
Cleanup
Technologies
Environmental Consultants

INVESTIGATION HEALTH AND SAFETY PLAN

Daisy French Cleaners
1 Franklin Ave, Lynbrook, NY 11563
Section 37 Block 229, Lot 519 & 520

NYSDEC BCP No. C130240

Prepared for:

Billcarol Realty Corp
11019 Boca Woods Ln
Boca Raton, FL 33428 USA

Prepared by:

Jason B Stewart Engineering, P.C.
228 Park Avenue South, PMB 36418
New York, NY 10003
516-441-5800

May 7, 2024

TABLE OF CONTENTS

Tables

Figures

Appendices

1.0 INTRODUCTION

The work scope proposed by JBS at the property located at 1 Franklin Ave, Lynbrook, NY 11563 ("the Site") includes the installation and sampling of nineteen(19) soil borings, eight(8) monitoring wells, eight(8) soil vapor points, and five(5) sub-slab soil vapor samples. This Investigation Health and Safety Plan (HASP) has been prepared to identify site-specific health and safety procedures to be followed by on-site contractors during investigation activities at the site. All activities performed under this HASP 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 HASP 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 HASP will be available to anyone who requests it. Visiting personnel (e.g. government officials, administrators, bank inspectors, assessors, etc.) that will have limited exposure to the site's 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 HASP.

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

1.2 Site Description

The Site is located at 1 Franklin Ave in the hamlet of North Lynbrook in the town Hempstead in Nassau County, NY and is identified as Section 37, Block 229, Lot 519 on the Nassau County Tax Map. Figure 1 shows the Site location. The Site is 17,536 square feet in area. Currently, the Site is a vacant lot with an abandoned bank building

1.3 Environmental Concerns

Based upon the investigations conducted to date, the primary contaminants of concern are chlorinated VOCs from the former dry-cleaning operations. In addition, there is a potential for exposure to SVOCs found in sediment from the parking lot storm drains exceeding NYSDEC soil cleanup objectives.

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 HASP, the scope of the Phase II Work Plan 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 HASP will be removed from the worksite.

JBS' Site Supervisor will have oversight responsibility over the project to ensure that this HASP is properly implemented, and that JBS 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 HASP.

The Site Supervisor will coordinate the activities of all other contractors on-site so as not to 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	Ryder Isidro	831-212-1055(Mobile)
Project Manager ACT	Jason Stewart	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 HASP.

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:

4.2.1.1 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.

4.2.1.2 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.

4.2.1.3 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.

4.2.1.4 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 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 HASP 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 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 HASP 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.

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 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 disposal.

5.7 Soil Disposal

Any contaminated soil (organic or inorganic constituents) encountered during the investigation 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 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**
Long Island Jewish Valley Stream Emergency Room	**(516) 256-6350**
Police Department:	**911**
Poison Control Center:	**(516) 542-2323**

The nearest emergency medical facility is 900 Franklin Ave, Valley Stream, NY 11580, which is located 1 mile from the Site. A map of the route to this hospital is attached (Figure 1). The directions to this medical facility from the Site are as follows:

- **Turn left onto S Franklin Ave.**
- **Long Island Jewish Valley Stream Emergency Room will be 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 Hull Street and Mother Gaston Boulevard. 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 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/m^3)[1]

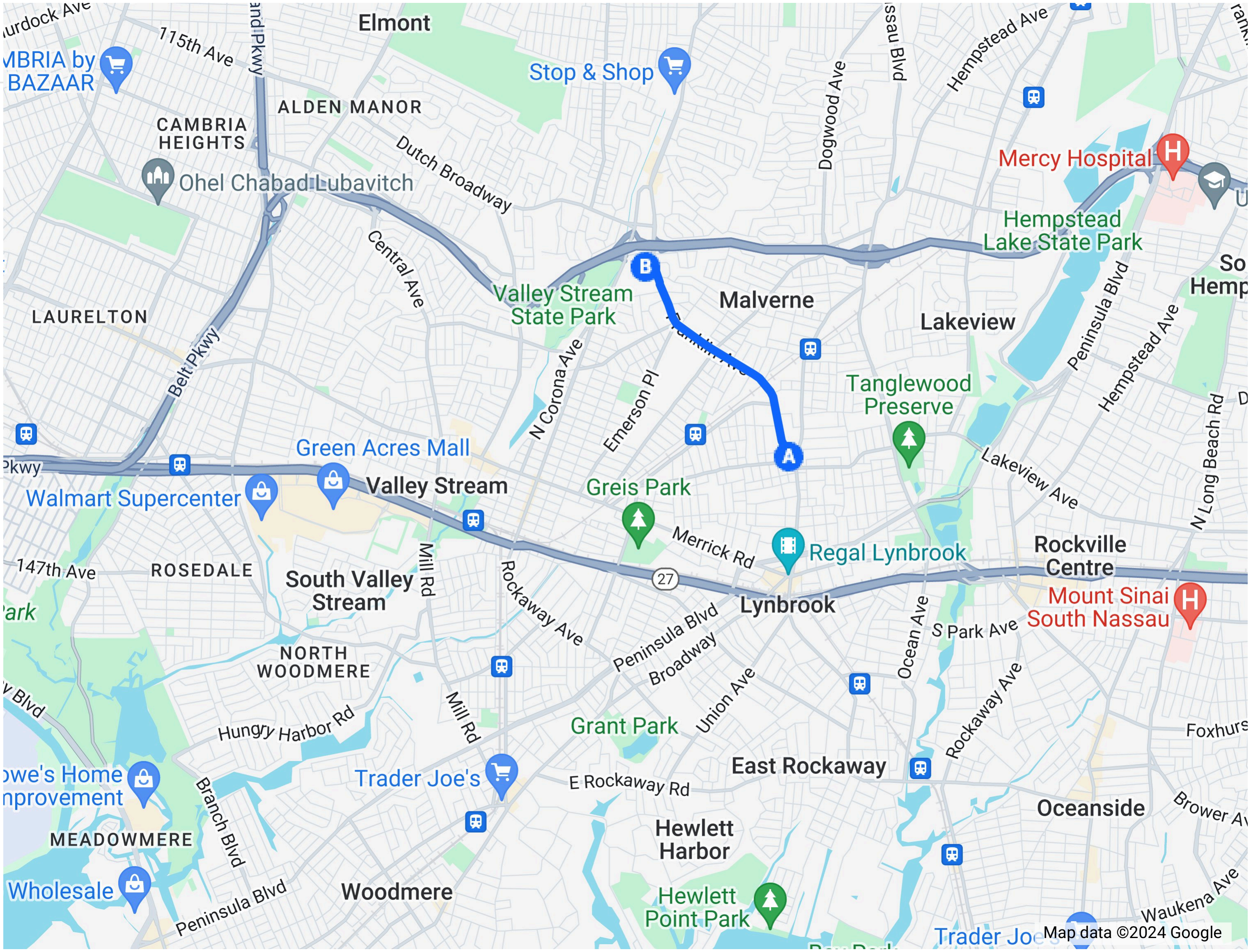
Chemical	IDLH	TWA	STEL
Benzene	1625	1.63	8.13
Toluene	1900	375	560
Ethylbenzene	3530	435	545
Xylenes	3970	435	655
Naphthalene	1250	50	75
Acenaphthene	N.L.	N.L.	N.L.
Anthracene	N.L.	N.L.	N.L.
Pyrene	N.L.	N.L.	N.L.
Chrysene	N.L.	N.L.	N.L.
Benzo(b)Fluoranthene	N.L.	N.L.	N.L.
Benzo(a)Pyrene	N.L.	N.L.	N.L.
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.
Tetrachloroethylene	200	100	N.L
Trichloroethylene	200	100	N.L
Vinyl Chloride	5	1	N.L

[1] *All values taken from NIOSH International Chemical Safety Cards (Http://www.cdc.gov/niosh/ipcsneng/nengname.html)*

N.L. .... None Listed

Figure 1 Hospital Route

1 Franklin Ave to Long Island Jewish Valley Stream - Emergency Room



Directions from 1 Franklin Ave, Lynbrook, NY 11563, USA to 900 Franklin Ave, Valley Stream, NY 11580

A

1 Franklin Ave, Lynbrook, NY 11563, USA

B

900 Franklin Ave, Valley Stream, NY 11580

Hospital Route

Drive 1 mi, 4 minutes

A 1 Franklin Ave, Lynbrook, NY 11563, USA

Head **northeast** toward **S Franklin Ave**

46 ft

↰ Turn **left** onto **S Franklin Ave**Pass by 7-Eleven (on the right in 1 mi)

1.36 mi

↰ Turn **left** onto **Emergency Room**Destination will be on the left

276 ft

B 900 Franklin Ave, Valley Stream, NY 11580, USA

Appendix A Chemical Safety Cards

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

PER
PCE
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

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.

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.

CLASSIFICATION & LABELLING

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

Prepared by an international group of experts on behalf of ILO and WHO, with the financial assistance of the 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/m^3, 10 ppm; peak limitation category: II(2); skin absorption (H); carcinogen category: 3; pregnancy risk group: C.
EU-OEL: 138 mg/m^3, 20 ppm as TWA; 275 mg/m^3, 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

1,1,1-TRICHLOROETHANE

ICSC: 0079 (April 2007)

Methyl chloroform
Methyltrichloromethane
alpha-Trichloroethane

CAS #: 71-55-6
UN #: 2831
EC Number: 200-756-3

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Combustible under specific conditions. Heating will cause rise in pressure with risk of bursting. Gives off irritating or toxic fumes (or gases) in a fire. See Notes.		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!

	SYMPTOMS	PREVENTION	FIRST AID
Inhalation	Cough. Sore throat. Headache. Dizziness. Drowsiness. Nausea. Incoordination. Unconsciousness.	Use ventilation, local exhaust or breathing protection.	Fresh air, rest. Artificial respiration may be needed. 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.	Wear 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 refer for medical attention.
Ingestion	Nausea. Vomiting. Abdominal pain. Diarrhoea. Further see Inhalation.	Do not eat, drink, or smoke during work.	Do NOT induce vomiting. Rinse mouth. Give a slurry of activated charcoal in water to drink. Refer for medical attention .

SPILLAGE DISPOSAL

Personal protection: self-contained breathing apparatus. 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.

STORAGE

Separated from food and feedstuffs, strong oxidants, aluminium, magnesium and zinc. Cool. Dry. Store in an area without drain or sewer access.

PACKAGING

Do not transport with food and feedstuffs.

CLASSIFICATION & LABELLING

According to UN GHS Criteria

WARNING

Causes mild skin irritation
Causes eye irritation
May cause drowsiness and dizziness
May cause damage to cardiovascular system if inhaled
Harmful to aquatic life

Transportation
UN Classification
UN Hazard Class: 6.1; UN Pack Group: III

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

1,1,1-TRICHLOROETHANE **ICSC: 0079**

PHYSICAL & CHEMICAL INFORMATION

Physical State; Appearance
COLOURLESS LIQUID WITH CHARACTERISTIC ODOUR.

Physical dangers
The vapour is heavier than air.

Chemical dangers
Decomposes on burning. This produces toxic and corrosive fumes. Reacts violently with aluminium, aluminium alloys, magnesium, bases, strong oxidants, acetone and zinc.

Formula: $C_2H_3Cl_3$ / CCl_3CH_3
Molecular mass: 133.4
Boiling point: 74°C
Melting point: -30°C
Relative density (water = 1): 1.34
Solubility in water: poor
Vapour pressure, kPa at 20°C: 13.3
Relative vapour density (air = 1): 4.6
Flash point: see Notes
Auto-ignition temperature: 537°C
Explosive limits, vol% in air: 8-16
Octanol/water partition coefficient as log Pow: 2.49

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 mildly irritating to the eyes, respiratory tract and skin. The substance may cause effects on the central nervous system. This may result in lowering of consciousness. Exposure at high levels could cause cardiac dysrhythmia.

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
The substance defats the skin, which may cause dryness or cracking.

OCCUPATIONAL EXPOSURE LIMITS

TLV: 350 ppm as TWA; 450 ppm as STEL; A4 (not classifiable as a human carcinogen); BEI issued.

MAK: 550 mg/m^3, 100 ppm; peak limitation category: II(2); skin absorption (H); pregnancy risk group: C.

EU-OEL: 555 mg/m^3, 100 ppm as TWA; 1110 mg/m^3, 200 ppm as STEL

ENVIRONMENT

The substance is harmful to aquatic organisms.

NOTES

Combustible vapour/air mixtures difficult to ignite, may be developed under certain conditions.
The substance burns only in excess oxygen or if a strong source of ignition is present.
Do NOT use in the vicinity of a fire or a hot surface, or during welding.
An added stabilizer or inhibitor can influence the toxicological properties of this substance, consult an expert.
Depending on the degree of exposure, periodic medical examination is suggested.
Use of alcoholic beverages enhances the harmful effect.

ADDITIONAL INFORMATION

EC Classification
Symbol: Xn, N; Note: F; R: 20-59; S: (2)-24/25-59-61

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

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.

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.

CLASSIFICATION & LABELLING

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

Transportation
UN Classification
UN Hazard Class: 6.1; UN Pack Group: III

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/m^3, 10 ppm as TWA; 164.1 mg/m^3, 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

VINYL CHLORIDE **ICSC: 0082 (April 2017)**
Chloroethene
Chloroethylene
Vinylchloride Monomer (VCM)

CAS #: 75-01-4
UN #: 1086 (stabilized)
EC Number: 200-831-0

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Extremely flammable. Gives off irritating or toxic fumes (or gases) in a fire. Gas/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.	Shut off supply; if not possible and no risk to surroundings, let the fire burn itself out. In other cases extinguish with powder, carbon dioxide, water spray. See Notes. In case of fire: keep cylinder cool by spraying with water. Combat fire from a sheltered position.

AVOID ALL CONTACT! IN ALL CASES CONSULT A DOCTOR!

	SYMPTOMS	PREVENTION	FIRST AID
Inhalation	Dizziness. Drowsiness. Headache. Unconsciousness. Blurred vision. Numbness. Tingling sensation.	Use ventilation, local exhaust or breathing protection.	Fresh air, rest. Refer immediately for medical attention.
Skin	ON CONTACT WITH LIQUID: FROSTBITE.	Protective gloves. Cold-insulating gloves. Protective clothing.	ON FROSTBITE: rinse with plenty of water, do NOT remove clothes. Refer immediately for medical attention.
Eyes	Redness. Pain.	Wear safety goggles or eye protection in combination with breathing protection.	Rinse with plenty of water (remove contact lenses if easily possible). Refer for medical attention.
Ingestion		Do not eat, drink, or smoke during work.	

SPILLAGE DISPOSAL

Evacuate danger area! Consult an expert! Personal protection: complete protective clothing including self-contained breathing apparatus. Ventilation. Remove all ignition sources. Remove vapour cloud with fine water spray. NEVER direct water jet on liquid.

STORAGE

Fireproof. Separated from : see Chemical Dangers. Cool. Store only if stabilized. Well closed. Keep in a well-ventilated room. Separated from oxidizing materials.

PACKAGING

CLASSIFICATION & LABELLING

According to UN GHS Criteria

DANGER

Extremely flammable gas
Contains gas under pressure; may explode if heated
May cause drowsiness or dizziness
May cause damage to liver through prolonged or repeated exposure
Suspected of causing genetic defects
May cause cancer

Transportation
UN Classification
UN Hazard Class: 2.1

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

VINYL CHLORIDE **ICSC: 0082**

PHYSICAL & CHEMICAL INFORMATION

Physical State; Appearance
COLOURLESS COMPRESSED LIQUEFIED GAS WITH CHARACTERISTIC ODOUR.

Physical dangers
The gas 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 form explosive peroxides under specific circumstances. The substance readily polymerizes due to heating and under the influence of air, light and on contact with a catalyst, strong oxidizing agents and metals such as copper and aluminium. This generates fire or explosion hazard. Decomposes on burning. This produces toxic and corrosive fumes of hydrogen chloride and phosgene. Attacks iron and steel in the presence of moisture.

Formula: C_2H_3Cl / $H_2C{=}CHCl$
Molecular mass: 62.5
Boiling point: -13°C
Melting point: -154°C
Relative density (water = 1): 0.9 (liquid)
Density (vapour at 15°C): 8 g/l
Solubility in water, g/l at 25°C: 1.1 (poor)
Relative vapour density (air = 1): 2.2
Vapour pressure, kPa at 20°C: 334
Flash point: -78°C c.c.
Auto-ignition temperature: 472°C
Explosive limits, vol% in air: 3.6-33
Octanol/water partition coefficient as log Pow: 1.6

EXPOSURE & HEALTH EFFECTS

Routes of exposure
The substance can be absorbed into the body by inhalation.

Effects of short-term exposure
The liquid may cause frostbite. The substance is irritating to the eyes. The substance may cause effects on the central nervous system. This may result in lowering of consciousness, convulsions and seizures. Medical observation is indicated.

Inhalation risk
A harmful concentration of this gas in the air will be reached very quickly on loss of containment.

Effects of long-term or repeated exposure
The substance may have effects on the liver, spleen, blood, peripheral blood vessels and tissue and bones of the fingers. Animal tests show that this substance possibly causes toxicity to human reproduction or development. This substance is carcinogenic to humans.

OCCUPATIONAL EXPOSURE LIMITS

TLV: 1 ppm as TWA; A1 (confirmed human carcinogen).
EU-OEL: 2.6 mg/m^3, 1 ppm as TWA.
MAK: carcinogen category: 1

ENVIRONMENT

This substance may be hazardous to the environment. Special attention should be given to ground water contamination.

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.
An added stabilizer or inhibitor can influence the toxicological properties of this substance, consult an expert.
Large fires of this material are practically inextinguishable: use water spray or fog.

ADDITIONAL INFORMATION

EC Classification
Symbol: F+, T; R: 45-12; S: 53-45; Note: D

1,1-DICHLOROETHANE **ICSC: 0249 (April 2017)**
Ethane, 1,1-dichloro-
Ethylidene chloride

CAS #: 75-34-3
UN #: 2362
EC Number: 200-863-5

	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, foam, powder, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

PREVENT GENERATION OF MISTS!

	SYMPTOMS	PREVENTION	FIRST AID
Inhalation	Dizziness. Drowsiness. Lethargy. Nausea. Unconsciousness.	Use ventilation, local exhaust or breathing protection.	Fresh air, rest. Refer for medical attention.
Skin	Dry skin. Roughness.	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	Burning sensation. Further see Inhalation.	Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention .

SPILLAGE DISPOSAL

Personal protection: self-contained breathing apparatus. Do NOT wash away into sewer. 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.

STORAGE

Fireproof. See Chemical Dangers. Cool.

PACKAGING

Marine pollutant.

CLASSIFICATION & LABELLING

According to UN GHS Criteria

DANGER
Highly flammable liquid and vapour
May cause damage to liver and kidneys through prolonged or repeated exposure
Harmful to aquatic life with long lasting effects

Transportation
UN Classification
UN Hazard Class: 3; UN Pack Group: II

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

1,1-DICHLOROETHANE **ICSC: 0249**

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 on burning. This produces toxic and corrosive fumes including phosgene (see ICSC 0007) and hydrogen chloride (see ICSC 0163). Reacts violently with strong oxidants, alkali metals, alkaline earth metals and powdered metals. This generates fire and explosion hazard. Attacks aluminium, iron and polyethylene. Contact with strong caustic causes formation of flammable and toxic acetaldehyde gas.

Formula: CH_3CHCl_2
Molecular mass: 99.0
Boiling point: 57°C
Melting point: -98°C
Relative density (water = 1): 1.2
Solubility in water, g/100ml at 20°C: 0.6 (poor)
Vapour pressure, kPa at 20°C: 24
Relative vapour density (air = 1): 3.4
Flash point: -6°C c.c.
Auto-ignition temperature: 458°C
Explosive limits, vol% in air: 5.6-11.4
Octanol/water partition coefficient as log Pow: 1.8

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 irritating to the eyes and upper respiratory tract. 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 can be reached rather quickly on evaporation of this substance at 20°C.

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 kidneys and liver.

OCCUPATIONAL EXPOSURE LIMITS

TLV: 100 ppm as TWA; A4 (not classifiable as a human carcinogen).

MAK: 205 mg/m^3, 50 ppm; peak limitation category: II(2); skin absorption (H); pregnancy risk group: C; carcinogen category: 3.

EU-OEL: 412 mg/m^3, 100 ppm as TWA; (skin)

ENVIRONMENT

The substance is harmful to aquatic organisms. The substance may cause long-term effects in the aquatic environment.

NOTES

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

ADDITIONAL INFORMATION

EC Classification
Symbol: F, Xn; R: 11-22-36/37-52/53; S: (2)-16-23-61

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

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.

STORAGE

Fireproof. Well closed. See Chemical Dangers.

PACKAGING

CLASSIFICATION & LABELLING

According to UN GHS Criteria

Transportation
UN Classification
UN Hazard Class: 3; UN Pack Group: II

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

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/m^3, 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

BENZENE **ICSC: 0015 (November 2016)**
Cyclohexatriene
Benzol

CAS #: 71-43-2
UN #: 1114
EC Number: 200-753-7

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Highly flammable. Vapour/air mixtures are explosive. Risk of fire and explosion. See Chemical Dangers.	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 non-sparking handtools. Prevent build-up of electrostatic charges (e.g., by grounding).	Use foam, water spray, carbon dioxide, powder. In case of fire: keep drums, etc., cool by spraying with water.

AVOID ALL CONTACT!

	SYMPTOMS	PREVENTION	FIRST AID
Inhalation	Dizziness. Drowsiness. Headache. Nausea. Shortness of breath. Convulsions. Unconsciousness.	Use 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.	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	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

Remove all ignition sources. Evacuate danger area! Consult an expert! Personal protection: complete protective clothing including self-contained breathing apparatus. 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.

STORAGE

Fireproof. Separated from food and feedstuffs, oxidants and halogens. Store in an area without drain or sewer access.

PACKAGING

Do not transport with food and feedstuffs.

CLASSIFICATION & LABELLING

According to UN GHS Criteria

DANGER

Highly flammable liquid and vapour
May be fatal if swallowed and enters airways
Causes skin irritation
Causes serious eye irritation
May cause genetic defects
May cause cancer
Causes damage to the bone marrow and the central nervous system through prolonged or repeated exposure
Harmful to aquatic life with long lasting effects

Transportation
UN Classification
UN Hazard Class: 3; UN Pack Group: II

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

BENZENE **ICSC: 0015**

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. As a result of flow, agitation, etc., electrostatic charges can be generated.

Chemical dangers
Reacts violently with oxidants, nitric acid, sulfuric acid and halogens. This generates fire and explosion hazard. Attacks plastics and rubber.

Formula: C_6H_6
Molecular mass: 78.1
Boiling point: 80°C
Melting point: 6°C
Relative density (water = 1): 0.88
Solubility in water, g/100ml at 25°C: 0.18
Vapour pressure, kPa at 20°C: 10
Relative vapour density (air = 1): 2.7
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: 2.13

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
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. This may result in lowering of consciousness. Exposure far above the OEL could cause unconsciousness and death. If swallowed the substance easily enters the airways and could result in aspiration pneumonitis.

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 defats the skin, which may cause dryness or cracking. The substance may have effects on the central nervous system and immune system. The substance may have effects on the bone marrow. This may result in anaemia. This substance is carcinogenic to humans. May cause heritable genetic damage to human germ cells. See Notes.

OCCUPATIONAL EXPOSURE LIMITS

TLV: 0.5 ppm as TWA; 2.5 ppm as STEL; (skin); A1 (confirmed human carcinogen); BEI issued.
EU-OEL: 3.25 mg/m^3, 1 ppm as TWA; (skin).
MAK: carcinogen category: 1; germ cell mutagen group: 3A; skin absorption (H)

ENVIRONMENT

The substance is toxic to aquatic organisms. The substance may cause long-term effects in the aquatic environment.

NOTES

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.
Benzene causes acute myeloid leukaemia/acute non-lymphocytic leukaemia. Also, a positive association has been observed between exposure to benzene and acute lymphocytic leukaemia, chronic lymphocytic leukaemia, multiple myeloma, and non-Hodgkin lymphoma.

ADDITIONAL INFORMATION

EC Classification
Symbol: F, T; R: 45-46-11-36/38-48/23/24/25-65; S: 53-45; Note: E

TOLUENE **ICSC: 0078 (November 2023)**

Methylbenzene
Toluol
Phenylmethane

CAS #: 108-88-3
UN #: 1294
EC Number: 203-625-9

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Highly flammable. Vapour/air mixtures are explosive. Risk of fire and explosion on contact with strong oxidants.	NO open flames, NO sparks and NO smoking. 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. NO contact with strong oxidizing agents.	Use foam, powder, carbon dioxide, water spray. In case of fire: keep drums, etc., cool by spraying with water.

AVOID ALL CONTACT!			
	SYMPTOMS	**PREVENTION**	**FIRST AID**
Inhalation	Sore throat. Cough. Dizziness. Drowsiness. Headache. Nausea. Unconsciousness.	Use ventilation, local exhaust or breathing protection.	Fresh air, rest. Refer immediately for medical attention.
Skin	Redness. Dry skin.	Protective gloves.	First rinse with plenty of water for at least 15 minutes, then remove contaminated clothes and rinse again. Rinse and then wash skin with water and soap. Refer for medical attention .
Eyes	Redness. Pain.	Wear safety goggles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.
Ingestion	Aspiration hazard! Burning sensation. Abdominal pain. Vomiting. Further see Inhalation.	Do not eat, drink, or smoke during work.	Rinse mouth. Give nothing to drink. Do NOT induce vomiting. Refer immediately for medical attention. See Notes.

SPILLAGE DISPOSAL	CLASSIFICATION & LABELLING

Evacuate danger area! Consult an expert! Personal protection: chemical protection suit and self-contained breathing apparatus. Ventilation. Remove all ignition sources. 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.

STORAGE

Well closed. Fireproof. Separated from strong oxidants. Store in an area without drain or sewer access. Store only in original container.

PACKAGING

According to UN GHS Criteria

DANGER

Highly flammable liquid and vapour
May be fatal if swallowed and enters airways
Causes skin irritation
May cause drowsiness or dizziness
Suspected of damaging fertility or the unborn child
May cause damage to nervous system through prolonged or repeated exposure
Toxic to aquatic life with long lasting effects

Transportation
UN Classification
UN Hazard Class: 3; UN Pack Group: II

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

TOLUENE **ICSC: 0078**

PHYSICAL & CHEMICAL INFORMATION

Physical State; Appearance
COLOURLESS LIQUID WITH CHARACTERISTIC ODOUR.

Physical dangers
The vapour mixes well with air, explosive mixtures are easily formed. As a result of flow, agitation, etc., electrostatic charges can be generated.

Chemical dangers
Reacts violently with strong oxidants such as nitric acid and sulfuric acid. This generates fire and explosion hazard. This produces irritating and toxic gases.

Formula: $C_6H_5CH_3$ / C_7H_8
Molecular mass: 92.1
Boiling point: 111°C
Melting point: -95°C
Relative density (water = 1): 0.87
Solubility in water: none
Vapour pressure, kPa at 25°C: 3.8
Relative vapour density (air = 1): 3.1
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
Explosive limits, vol% in air: 1.1-7.1
Octanol/water partition coefficient as log Pow: 2.69
Viscosity: 0.68 mm²/s at 20°C

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
The substance is irritating to the skin. The substance is mildly irritating to the eyes. 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 could cause cardiac dysrhythmia and 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
The substance defats the skin, which may cause dryness or cracking. The substance may have effects on the central nervous system. Exposure to the substance may increase noise-induced hearing loss. Animal tests show that this substance possibly causes toxicity to human reproduction or development. May cause colour vision impairment.

OCCUPATIONAL EXPOSURE LIMITS

TLV: 20 ppm as TWA; (OTO); A4 (not classifiable as a human carcinogen); BEI issued.
EU-OEL: 192 mg/m^3, 50 ppm as TWA; 384 mg/m^3, 100 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.
Use of alcoholic beverages enhances the harmful effect.
Ingestion of this substance, regardless of the amount ingested, can cause aspiration and thus risk of chemical pneumonitis.
The symptoms of chemical pneumonitis do not become manifest until a few hours or even a few days have passed.

ADDITIONAL INFORMATION

EC Classification

p-XYLENE **ICSC: 0086 (August 2002)**

para-Xylene
1,4-Dimethylbenzene
p-Xylol
paraxylene

CAS #: 106-42-3
UN #: 1307
EC Number: 203-396-5

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Flammable. Above 27°C explosive vapour/air mixtures may be formed.	NO open flames, NO sparks and NO smoking. Above 27°C use a closed system, ventilation and explosion-proof electrical equipment. Prevent build-up of electrostatic charges (e.g., by grounding).	Use water spray, powder, foam, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

STRICT HYGIENE! AVOID EXPOSURE OF (PREGNANT) WOMEN!

	SYMPTOMS	PREVENTION	FIRST AID
Inhalation	Dizziness. Drowsiness. Headache. Nausea.	Use 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.	Wear safety spectacles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.
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

Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Ventilation. Remove all ignition sources. 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.

STORAGE

Fireproof. Separated from strong oxidants and strong acids.

PACKAGING

CLASSIFICATION & LABELLING

According to UN GHS Criteria

Transportation
UN Classification
UN Hazard Class: 3; UN Pack Group: III

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

p-XYLENE **ICSC: 0086**

PHYSICAL & CHEMICAL INFORMATION

Physical State; Appearance
COLOURLESS LIQUID WITH CHARACTERISTIC ODOUR.

Physical dangers
As a result of flow, agitation, etc., electrostatic charges can be generated.

Chemical dangers
Reacts with strong acids and strong oxidants.

Formula: $C_6H_4(CH_3)_2$ / C_8H_{10}
Molecular mass: 106.2
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

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
The substance is irritating to the eyes and 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.

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
The substance defats the skin, which may cause dryness or cracking. The substance may have effects on the central nervous system. Exposure to the substance may increase noise-induced hearing loss. Animal tests show that this substance possibly causes toxicity to human reproduction or development.

OCCUPATIONAL EXPOSURE LIMITS

TLV: 100 ppm as TWA; 150 ppm as STEL; A4 (not classifiable as a human carcinogen); BEI issued.
MAK: 220 mg/m^3, 50 ppm; peak limitation category: II(2); skin absorption (H); pregnancy risk group: D.
EU-OEL: 221 mg/m^3, 50 ppm as TWA; 442 mg/m^3, 100 ppm as STEL; (skin)

ENVIRONMENT

The substance is toxic to aquatic organisms.

NOTES

Depending on the degree of exposure, periodic medical examination is suggested.
The recommendations on this Card also apply to technical xylene.
See ICSCs 0084 and 0085.

ADDITIONAL INFORMATION

EC Classification
Symbol: Xn; R: 10-20/21-38; S: (2)-25; Note: C

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

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.

STORAGE

Provision to contain effluent from fire extinguishing. Separated from strong oxidants. Store in an area without drain or sewer access. Cool. Dry.

PACKAGING

Marine pollutant.

CLASSIFICATION & LABELLING

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

Transportation
UN Classification
UN Hazard Class: 9; UN Pack Group: III

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

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: $C_{20}H_{12}$ 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

ETHYLBENZENE **ICSC: 0268 (November 2007)**

Ethylbenzol
Phenylethane
EB

CAS #: 100-41-4
UN #: 1175
EC Number: 202-849-4

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Highly flammable. 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 dry 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. Sore throat. Dizziness. Drowsiness. Headache.	Use 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.	Wear safety goggles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.
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

Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Ventilation. Do NOT let this chemical enter the environment. Do NOT wash away into sewer. Collect leaking and spilled liquid in covered containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

STORAGE

Fireproof. Separated from strong oxidants. Provision to contain effluent from fire extinguishing. Store in an area without drain or sewer access.

PACKAGING

CLASSIFICATION & LABELLING

According to UN GHS Criteria

DANGER

Highly flammable liquid and vapour
Harmful if inhaled
May be harmful if swallowed
Causes mild skin irritation
Causes eye irritation
Suspected of causing cancer
May cause respiratory irritation
May cause drowsiness and dizziness
May be harmful if swallowed and enters airways
Toxic to aquatic life

Transportation
UN Classification
UN Hazard Class: 3; UN Pack Group: II

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

ETHYLBENZENE **ICSC: 0268**

PHYSICAL & CHEMICAL INFORMATION

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 plastics and rubber.

Formula: $C_8H_{10}/C_6H_5C_2H_5$
Molecular mass: 106.2
Boiling point: 136°C
Melting point: -95°C
Relative density (water = 1): 0.9
Solubility in water, g/100ml at 20°C: 0.015
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: 18°C c.c.
Auto-ignition temperature: 432°C
Explosive limits, vol% in air: 1.0-6.7
Octanol/water partition coefficient as log Pow: 3.1
Viscosity: 0.6 mm^2/s at 25°C

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, 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. Exposure above the OEL could cause lowering of consciousness.

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
This substance is possibly carcinogenic to humans. The substance may have effects on the kidneys and liver. This may result in impaired functions.

OCCUPATIONAL EXPOSURE LIMITS

TLV: 20 ppm as TWA; A3 (confirmed animal carcinogen with unknown relevance to humans); BEI issued.

MAK: 88 mg/m^3, 20 ppm; peak limitation category: II(2); skin absorption (H); carcinogen category: 4; pregnancy risk group: C.

EU-OEL: 442 mg/m^3, 100 ppm as TWA; 884 mg/m^3, 200 ppm as STEL; (skin)

ENVIRONMENT

The substance is toxic to aquatic organisms. It is strongly advised not to let the chemical enter into the environment.

NOTES

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

ADDITIONAL INFORMATION

EC Classification
Symbol: F, Xn; R: 11-20; S: (2)-16-24/25-29

NAPHTHALENE **ICSC: 0667 (June 2015)**
Naphthene

CAS #: 91-20-3
UN #: 1334 (solid) UN #: 2304 (molten)
EC Number: 202-049-5

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Combustible. Above 80°C explosive vapour/air mixtures may be formed. Finely dispersed particles form explosive mixtures in air.	NO open flames. Closed system, dust explosion-proof electrical equipment and lighting. Prevent deposition of dust.	Use water spray, powder, foam, carbon dioxide.

PREVENT DISPERSION OF DUST!

	SYMPTOMS	PREVENTION	FIRST AID
Inhalation	Headache. Weakness. Sweating. Nausea. Vomiting. Further see Ingestion.	Use ventilation (not if powder), local exhaust or breathing protection.	Fresh air. Refer for medical attention.
Skin	See Inhalation.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap. Seek medical attention if you feel unwell.
Eyes	Redness.	Wear safety spectacles.	Rinse with plenty of water (remove contact lenses if easily possible).
Ingestion	Abdominal pain. Diarrhoea. Sweating. Headache. Fever. Jaundice. Weakness. Dark-coloured urine. Symptoms may be delayed.	Do not eat, drink, or smoke during work.	Rinse mouth. Do NOT induce vomiting. Refer immediately for medical attention.

SPILLAGE DISPOSAL

Personal protection: filter respirator for organic gases and vapours 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 containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

STORAGE

Separated from strong oxidants and food and feedstuffs. Store in an area without drain or sewer access. Provision to contain effluent from fire extinguishing.

PACKAGING

Do not transport with food and feedstuffs.
Marine pollutant.

CLASSIFICATION & LABELLING

According to UN GHS Criteria

WARNING

Flammable solid
Harmful if swallowed
May be harmful in contact with skin
Suspected of causing cancer
Very toxic to aquatic life with long lasting effects

Transportation
UN Classification
UN Hazard Class: 4.1; UN Pack Group: III

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

NAPHTHALENE **ICSC: 0667**

PHYSICAL & CHEMICAL INFORMATION

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. This generates fire and explosion hazard.

Formula: $C_{10}H_8$
Molecular mass: 128.18
Boiling point: 218°C
Sublimes at room temperature
Melting point: 80°C
Density: 1.16 g/cm³
Solubility in water at 20°C: very poor
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: 3.35

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
The substance may cause effects on the blood. This may result in lesions of blood cells (haemolysis). See Notes. The effects may be delayed. Ingestion could cause death. Medical observation is indicated.

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
The substance may have effects on the blood. This may result in chronic haemolytic anaemia. The substance may have effects on the eyes. This may result in development of cataract. This substance is possibly carcinogenic to humans.

OCCUPATIONAL EXPOSURE LIMITS

TLV: 10 ppm as TWA; (skin); A3 (confirmed animal carcinogen with unknown relevance to humans).
EU-OEL: 50 mg/m^3, 10 ppm as TWA.
MAK: skin absorption (H); carcinogen category: 2; germ cell mutagen group: 3B

ENVIRONMENT

The substance is 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, for example in fish.

NOTES

ADDITIONAL INFORMATION

EC Classification
Symbol: Xn, N; R: 22-40-50/53; S: (1/2)-26-36/37/39-45-46-60-61

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

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

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 .

<table>
<tr><th>SPILLAGE DISPOSAL</th><th>CLASSIFICATION & LABELLING</th></tr>
<tr><td>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.</td><td rowspan="6">According to UN GHS Criteria

Transportation
UN Classification</td></tr>
<tr><th>STORAGE</th></tr>
<tr><td>Provision to contain effluent from fire extinguishing. Well closed.</td></tr>
<tr><th>PACKAGING</th></tr>
<tr><td></td></tr>
</table>

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

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: $C_{20}H_{12}$
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

BENZO(ghi)PERYLENE **ICSC: 0739 (October 1999)**
1,12-Benzoperylene
1,12-Benzperylene

CAS #: 191-24-2
EC Number: 205-883-8

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Combustible under specific conditions.	NO open flames.	In case of fire in the surroundings, use appropriate extinguishing media.

PREVENT DISPERSION OF DUST!			
	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. 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	
Well closed.	
PACKAGING	

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

BENZO(ghi)PERYLENE **ICSC: 0739**

PHYSICAL & CHEMICAL INFORMATION

Physical State; Appearance
PALE YELLOW-GREEN CRYSTALS.

Physical dangers

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

Formula: $C_{22}H_{12}$
Molecular mass: 276.3
Boiling point: 550°C
Melting point: 278°C
Density: 1.3 g/cm³
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

OCCUPATIONAL EXPOSURE LIMITS

ENVIRONMENT

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

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

EC Classification

ANTHRACENE **ICSC: 0825 (March 1999)**
Anthracin
Paranaphthalene

CAS #: 120-12-7
EC Number: 204-371-1

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Combustible. Finely dispersed particles form explosive mixtures in air.	NO open flames. Closed system, dust explosion-proof electrical equipment and lighting. Prevent deposition of dust.	Use water spray, powder, foam, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

PREVENT DISPERSION OF DUST!

	SYMPTOMS	PREVENTION	FIRST AID
Inhalation	Cough. Sore throat.	Use 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.	Wear 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 refer for medical attention.
Ingestion	Abdominal pain.	Do not eat, drink, or smoke during work.	Rinse mouth. Rest. Refer for medical attention .

SPILLAGE DISPOSAL

Sweep spilled substance into covered containers. Carefully collect remainder. Then store and dispose of according to local regulations. Do NOT let this chemical enter the environment. Personal protection: P2 filter respirator for harmful particles.

STORAGE

Separated from strong oxidants. Well closed.

PACKAGING

CLASSIFICATION & LABELLING

According to UN GHS Criteria

Transportation
UN Classification

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

ANTHRACENE **ICSC: 0825**

PHYSICAL & CHEMICAL INFORMATION

Physical State; Appearance
WHITE CRYSTALS OR FLAKES.

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

Chemical dangers
Decomposes on heating. Decomposes under the influence of strong oxidants. This produces acrid, toxic fume. This generates fire and explosion hazard.

Formula: $C_{14}H_{10}$ / $(C_6H_4CH)_2$
Molecular mass: 178.2
Boiling point: 342°C
Melting point: 218°C
Density: 1.25-1.28 g/cm³
Solubility in water, g/100ml 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)

EXPOSURE & HEALTH EFFECTS

Routes of exposure
The substance can be absorbed into the body by inhalation.

Effects of short-term exposure
The substance is mildly irritating to the skin and respiratory tract.

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
Repeated or prolonged contact with skin may cause dermatitis under the influence of UV light.

OCCUPATIONAL EXPOSURE LIMITS

ENVIRONMENT

The substance is very toxic to aquatic organisms. The substance may cause long-term effects in the aquatic environment.

NOTES

ADDITIONAL INFORMATION

EC Classification

PYRENE **ICSC: 1474 (November 2003)**

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

CAS #: 129-00-0

EC Number: 204-927-3

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames, NO sparks and NO smoking.	Use water spray, carbon dioxide, dry powder, alcohol-resistant foam, polymer foam.

	SYMPTOMS	PREVENTION	FIRST AID
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.	Wear safety spectacles.	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.	Do NOT induce vomiting. Give one or two glasses of water to drink. Refer for medical attention .

SPILLAGE DISPOSAL

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder.

STORAGE

Separated from strong oxidants. Keep in a well-ventilated room.

PACKAGING

Do not transport with food and feedstuffs.

CLASSIFICATION & LABELLING

According to UN GHS Criteria

Transportation
UN Classification

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.

European Commission

PYRENE **ICSC: 1474**

PHYSICAL & CHEMICAL INFORMATION

Physical State; Appearance
PALE YELLOW OR COLOURLESS SOLID IN VARIOUS FORMS.

Physical dangers

Chemical dangers
Decomposes on heating. This produces irritating fumes.

Formula: $C_{16}H_{10}$
Molecular mass: 202.26
Boiling point: 404°C
Melting point: 151°C
Density: 1.27 g/cm³
Solubility in water, mg/l at 25°C: 0.135
Vapour pressure, Pa at ?°C: 0.08
Octanol/water partition coefficient as log Pow: 4.88

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
Exposure to sun may enhance the irritating effect of this substance. This may result in chronic skin discoloration.

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

Effects of long-term or repeated exposure

OCCUPATIONAL EXPOSURE LIMITS

MAK skin absorption (H)

ENVIRONMENT

Bioaccumulation of this chemical may occur in crustacea, fish, milk, algae and molluscs. It is strongly advised not to let the chemical enter into 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.

ADDITIONAL INFORMATION

EC Classification

CHRYSENE **ICSC: 1672 (October 2006)**

Benzo[a]phenanthrene
1,2-Benzophenanthrene
1,2,5,6-Dibenzonaphthalene

CAS #: 218-01-9
UN #: 3077
EC Number: 205-923-4

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Combustible. Finely dispersed particles form explosive mixtures in air.	NO open flames. Closed system, dust explosion-proof electrical equipment and lighting. Prevent deposition of dust.	Use water spray, dry powder, foam, carbon dioxide.

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.
Skin		Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
Eyes		Wear safety goggles.	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.

SPILLAGE DISPOSAL

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. 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.

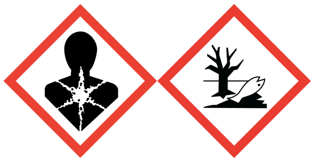
STORAGE

Separated from strong oxidants. Store in an area without drain or sewer access. Provision to contain effluent from fire extinguishing.

PACKAGING

CLASSIFICATION & LABELLING

According to UN GHS Criteria



WARNING

Suspected of causing cancer
Very toxic to aquatic life
Toxic to aquatic life with long lasting effects

Transportation
UN Classification
UN Hazard Class: 9; UN Pack Group: III

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

CHRYSENE **ICSC: 1672**

PHYSICAL & CHEMICAL INFORMATION

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
Decomposes on burning. This produces toxic fumes. Reacts violently with strong oxidants.

Formula: $C_{18}H_{12}$
Molecular mass: 228.3
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

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 concentration of airborne particles can be reached quickly when dispersed.

Effects of long-term or repeated exposure
This substance is possibly carcinogenic to humans.

OCCUPATIONAL EXPOSURE LIMITS

TLV: A3 (confirmed animal carcinogen with unknown relevance to humans); BEI issued.
MAK: skin absorption (H); carcinogen category: 2

ENVIRONMENT

The substance is very toxic to aquatic organisms. Bioaccumulation of this chemical may occur in seafood. 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.
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.
TLV Note: Exposure by all routes should be carefully controlled to levels as low as possible.

ADDITIONAL INFORMATION

EC Classification
Symbol: T, N; R: 45-68-50/53; S: 53-45-60-61

ACENAPHTHENE **ICSC: 1674 (October 2006)**
1,2-Dihydroacenaphthylene
1,8-Ethylenenaphthalene

CAS #: 83-32-9
UN #: 3077
EC Number: 201-469-6

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Combustible. Finely dispersed particles form explosive mixtures in air.	NO open flames. Closed system, dust explosion-proof electrical equipment and lighting. Prevent deposition of dust.	Use water spray, dry powder, foam, carbon dioxide.

See Notes. PREVENT DISPERSION OF DUST!

	SYMPTOMS	PREVENTION	FIRST AID
Inhalation		Use local exhaust or breathing protection.	Fresh air, rest.
Skin		Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
Eyes		Wear safety goggles.	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.

SPILLAGE DISPOSAL

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. 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 store and dispose of according to local regulations.

STORAGE

Separated from strong oxidants. Provision to contain effluent from fire extinguishing. Store in an area without drain or sewer access.

PACKAGING

CLASSIFICATION & LABELLING

According to UN GHS Criteria

WARNING
Very toxic to aquatic life with long lasting effects

Transportation
UN Classification
UN Hazard Class: 9; UN Pack Group: III

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

ACENAPHTHENE **ICSC: 1674**

PHYSICAL & CHEMICAL INFORMATION

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.	Formula: $C_{12}H_{10}$ Molecular mass: 154.2 Boiling point: 279°C Melting point: 95°C Density: 1.2 g/cm³ Solubility in water, g/100ml 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

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 concentration of airborne particles can be reached quickly when dispersed. **Effects of long-term or repeated exposure** See Notes.

OCCUPATIONAL EXPOSURE LIMITS

ENVIRONMENT

The substance is very 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

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.

ADDITIONAL INFORMATION

EC Classification

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

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 \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<INF>4</INF> OH) 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 C Accident and Injury Report Form

Employee's Report of Injury Form

Instructions: Employees shall use this form to report all work related injuries, illnesses, or "near miss" events (which could have caused an injury or illness) – *no matter how minor*. This helps us to identify and correct hazards before they cause serious injuries. This form shall be completed by employees as soon as possible and given to a supervisor for further action.

I am reporting a work related: ☐ Injury ☐ Illness ☐ Near miss	
Your Name:	
Job title:	
Supervisor:	
Have you told your supervisor about this injury/near miss? ☐ Yes ☐ No	
Date of injury/near miss:	Time of injury/near miss:
Names of witnesses (if any):	
Where, exactly, did it happen?	
What were you doing at the time?	
Describe step by step what led up to the injury/near miss. (continue on the back if necessary):	
What could have been done to prevent this injury/near miss?	
What parts of your body were injured? If a near miss, how could you have been hurt?	
Did you see a doctor about this injury/illness? ☐ Yes ☐ No	
If yes, whom did you see?	Doctor's phone number:
Date:	Time:
Has this part of your body been injured before? ☐ Yes ☐ No	
If yes, when?	Supervisor:
Your signature:	Date:

Supervisor's Accident Investigation Form

Name of Injured Person ____

Date of Birth _______________ Telephone Number __________________

Address ____

City __________________________ State_______ Zip ____________

(Circle one) Male Female

What part of the body was injured? Describe in detail. ____________________________________

____

What was the nature of the injury? Describe in detail. _____________________________________

____

____

Describe fully how the accident happened? What was employee doing prior to the event? What equipment, tools being using? ____

____

____

Names of all witnesses:

___________________________________ ___________________________________

___________________________________ ___________________________________

Date of Event ____________________ Time of Event ______________________________

Exact location of event: ____

What caused the event? ____

____

____

Were safety regulations in place and used? If not, what was wrong? ___________________________

____

Employee went to doctor/hospital? Doctor's Name ____

Hospital Name ____

Recommended preventive action to take in the future to prevent reoccurrence.

____

____

____

____________________ __________

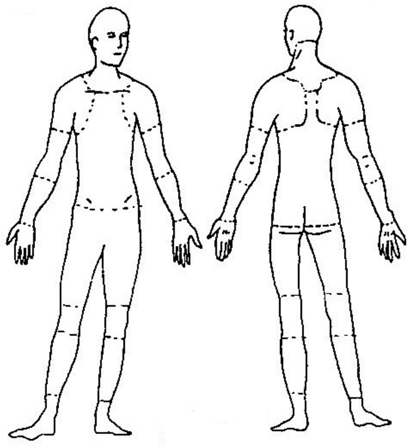
Supervisor Signature Date

Incident Investigation Report

Instructions: Complete this form as soon as possible after an incident that results in serious injury or illness. (Optional: Use to investigate a minor injury or near miss that *could have resulted in a serious injury or illness*.)

This is a report of a: ☐ Death ☐ Lost Time ☐ Dr. Visit Only ☐ First Aid Only ☐ Near Miss	
Date of incident:	This report is made by: ☐ Employee ☐ Supervisor ☐ Team ☐ Other_________

Step 1: Injured employee (complete this part for each injured employee)

Name:	Sex: ☐ Male ☐ Female	Age:
Department:	Job title at time of incident:	
Part of body affected: (shade all that apply) 	Nature of injury: (most serious one) ☐ Abrasion, scrapes ☐ Amputation ☐ Broken bone ☐ Bruise ☐ Burn (heat) ☐ Burn (chemical) ☐ Concussion (to the head) ☐ Crushing Injury ☐ Cut, laceration, puncture ☐ Hernia ☐ Illness ☐ Sprain, strain ☐ Damage to a body system: ☐ Other ___________	This employee works: ☐ Regular full time ☐ Regular part time ☐ Seasonal ☐ Temporary Months with this employer Months doing this job:

Step 2: Describe the incident

Exact location of the incident:	Exact time:
What part of employee's workday? ☐ Entering or leaving work ☐ Doing normal work activities ☐ During meal period ☐ During break ☐ Working overtime ☐ Other___________________	
Names of witnesses (if any):	

Number of attachments:	Written witness statements:	Photographs:	Maps / drawings:

What personal protective equipment was being used (if any)?

Describe, step-by-step the events that led up to the injury. Include names of any machines, parts, objects, tools, materials and other important details.

Description continued on attached sheets: ☐

Step 3: Why did the incident happen?

Unsafe workplace conditions: (Check all that apply)

☐ Inadequate guard
☐ Unguarded hazard
☐ Safety device is defective
☐ Tool or equipment defective
☐ Workstation layout is hazardous
☐ Unsafe lighting
☐ Unsafe ventilation
☐ Lack of needed personal protective equipment
☐ Lack of appropriate equipment / tools
☐ Unsafe clothing
☐ No training or insufficient training
☐ Other: ______________________________

Unsafe acts by people: (Check all that apply)

☐ Operating without permission
☐ Operating at unsafe speed
☐ Servicing equipment that has power to it
☐ Making a safety device inoperative
☐ Using defective equipment
☐ Using equipment in an unapproved way
☐ Unsafe lifting
☐ Taking an unsafe position or posture
☐ Distraction, teasing, horseplay
☐ Failure to wear personal protective equipment
☐ Failure to use the available equipment / tools
☐ Other: ___________________________________

Why did the unsafe conditions exist?

Why did the unsafe acts occur?

Is there a reward (such as “the job can be done more quickly”, or “the product is less likely to be damaged”) that may have encouraged the unsafe conditions or acts? ☐ Yes ☐ No
If yes, describe:

Were the unsafe acts or conditions reported prior to the incident? ☐ Yes ☐ No

Have there been similar incidents or near misses prior to this one? ☐ Yes ☐ No

Step 4: How can future incidents be prevented?

What changes do you suggest to prevent this incident/near miss from happening again?

☐ Stop this activity ☐ Guard the hazard ☐ Train the employee(s) ☐ Train the supervisor(s)

☐ Redesign task steps ☐ Redesign work station ☐ Write a new policy/rule ☐ Enforce existing policy

☐ Routinely inspect for the hazard ☐ Personal Protective Equipment ☐ Other: ____________________

What should be (or has been) done to carry out the suggestion(s) checked above?

Description continued on attached sheets: ☐

Step 5: Who completed and reviewed this form? (Please Print)

Written by: Department:	Title: Date:
Names of investigation team members:	
Reviewed by:	Title: Date:

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 mcg/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 mcg/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 mcg/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 Quality Assurance Project Plan

Advanced
Cleanup
Technologies
Environmental Consultants

QUALITY ASSURANCE PROJECT PLAN

Daisy French Cleaners
1 Franklin Ave, Lynbrook, NY 11563
Section 37 Block 229, Lot 519 & 520

NYSDEC BCP No. C130240

Prepared for:

Billcarol Realty Corp
11019 Boca Woods Ln
Boca Raton, FL 33428 USA

Prepared by:

Advanced Cleanup Technologies Inc.
228 Park Ave S PMB 34864
New York, New York 10003-1502 US

July 2025

TABLE OF CONTENTS

1.0 INTRODUCTION

Advanced Cleanup Technologies, Inc. (ACT) has prepared this Quality Assurance Project Plan (QAPP) for site activities to be undertaken at the property located at 1 Franklin Ave, Lynbrook, NY 11563(the site). This QAPP has been prepared to define the quality assurance (QA) and quality control (QC) measures to be implemented, to verify the integrity of the work to be performed at the site, and that the data collected will be of the appropriate type and quality needed for the intended use. Specifically, this QAPP addresses the following:

- Project Objectives, including Quality Assurance Objectives for Data
- Overview of Field Sampling Program and Procedures
- Sample Packaging and Shipping
- Sample Documentation
- Sample Analytical Program
- Quality Assurance/Quality Control Procedures

1.1 Project Scopes and Goals

Investigations to date have consisted of shallow soil, soil vapor, and indoor air sampling at the Site. The proposed project scope is to perform a comprehensive investigation of on and offsite soil, soil vapor, and groundwater quality. The project goal is to fully evaluate the nature and extent of contamination from the Site.

1.2 Clean-up Criteria

Soil quality data will be compared to NYSDEC Part 375-6.8(a) Unrestricted Used Soil Cleanup Objectives, Part 375-6.8(b) Protection of Groundwater for applicable compounds, Restricted Commercial Use Soil Cleanup Objectives (SCOs). Groundwater quality data will be compared to NYSDEC Part 703 Groundwater Quality Standards (Class GA) or Division of Water

Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards. Soil vapor quality data will be compared to NYSDOH soil vapor screening levels contained in Matrix A, B and C of the NYSDOH Guidance and Indoor Air Guidelines. A site map depicting sampling locations is attached below.

2.0 PROJECT ORGANIZATION AND PERSONNEL RESPONSIBILITIES

The investigative efforts defined in the RIWP will be coordinated by ACT on behalf of the NYSDEC. The NYSDEC is the lead regulatory agency overseeing the investigation site. An organization structure has been developed to identify the roles and responsibilities of the various parties involved with the project, as discussed below.

The **NYSDEC Project Manager, John Sheehan,** will be responsible for reviewing and approving work plans and amendments, coordinating approval of requested modifications, and providing guidance on regulatory requirements.

The **Environmental Contractor Project Director, Paul Stewart of ACT,** will provide technical expertise for review of the project plans, reports and ongoing field activities. The program manager will be responsible for the coordination of the overall project with the NYSDEC. The Project Director will act as the project's Quality Assurance Manager.

The **Environmental Contractor Project Manager, Jason Stewart of ACT,** will be responsible for the day to day project management, task leadership, and project engineering support and for the planning and implementation of RIWP activities. The Project Manager will be responsible for ensuring that the requirements of the RIWP are implemented. The project manager will also act as the site Health and Safety Manager (HSM).

The **Environmental Contractor Quality Assurance Officer, Charlotte Li of ACT,** will be responsible for quality assurance and quality control for sampling and laboratory performance.

The **Environmental Contractor Field Team Leader, Yisong Yang of ACT,** will be responsible for sample collection, oversight of subcontractor personnel, and coordination of daily field activities. The Field Team Leader will act as the Site Health and Safety Officer ensuring implementation of the Site Health and Safety Plan.

A NYSDOH Environmental Laboratory Accreditation Program (ELAP) certified laboratory, **Phoenix Environmental Laboratories, Inc. (NYSDOH #11301),** will be contracted to perform required analyses and reporting, including Analytical Services Protocol (ASP) Category B Deliverables, which will allow for data validation.

NYSDEC ASP Category B Data Deliverables will be submitted for all of the samples representing the final delineation of the nature and extent of contamination for a remedial investigation. Data validation packages and Data Usability Summary Reports (DUSRs) will be provided in the RIR to support the remedial investigation. The DUSRs for this project will be prepared by LABORATORY DATA CONSULTANTS, INC. and qualifications for preparing the DUSR report is provided in Appendix E.

Subcontractors will perform remedial construction, surveying, drilling, and/or sampling at the direction of the Field Team Leader in accordance with this RIWP.

3.0 QUALITY ASSURANCE PROJECT OBJECTIVES

The objective of RIWP activities for the site is to obtain sufficient data at a known quality level to assess the effectiveness of the remedy selected in eliminating, reducing, or controlling risks to human health and the environment.

3.1 Data Quality Categories

Data quality objectives (DQO) are qualitative and quantitative statements that specify the quality of the data required to support decisions during remedial and monitoring activities. DQOs composed of written expectations for precision, accuracy, representativeness, completeness and comparability of a data set (see Section 3.2). The DQO process provides a logical basis for linking the QA/QC procedures to the intended use of the data, primarily through the decision maker's acceptable limits on decision error. One descriptive data categories - definitive data - will be used for the site.

Definitive data is generated using specific analytical methods and guidelines and have satisfied known QA/QC requirements. Analytical data provided by an off-site laboratory shall be definitive data, and are deemed critical to project objectives. QA/QC elements of definitive data include determination and documentation of calibrations, detection limits, method blanks, and matrix spike recoveries.

3.2 QA/QC Characteristics

The overall QA/QC objective for RIWP activities is to develop and implement procedures that will provide data of known and documented quality. QA/QC characteristics for data include precision, accuracy, representativeness, completeness, and comparability (PARCC). Data quality objectives for each of these parameters are determined based on the level of data required. Descriptions of these characteristics are provided below:

Precision is the measurement of agreement in repeated tests of the same or identical samples, under prescribed conditions. Analytical precision can be expressed in terms of Standard Deviation (SD), Relative Standard Deviation (RSD) and/or Relative Percent Difference (RPD). The precision of analytical environmental samples has two components - laboratory precision and sampling precision. Laboratory precision is determined by replicate measurements of laboratory duplicates and by analysis of reference materials. The precision of the field sampling effort is determined by the analysis of field duplicate samples. Field duplicate analysis will be performed at a rate of five percent (i.e., one duplicate collected for every 20 samples). Acceptance criteria for duplicates analyzed by an off-site laboratory shall be an RPD of 25 percent.

Accuracy is the degree of agreement of a measured sample result or average of results with an accepted reference or true value. It is the quantitative measurement of the bias of a system, and is expressed in terms of percent recovery (%R). Measurements of accuracy for the laboratory include surrogate spike, laboratory control spike, matrix spike and matrix spike duplicate samples. The laboratory must meet or exceed control limit objectives and the applicable methodologies.

Representativeness is the degree to which the results of the analyses accurately and precisely represent a characteristic of a population, a process condition, or an environmental condition. In this case, representativeness is the degree to which the data reflect the contaminants present and their concentration magnitudes in the sampled site areas. Representativeness of data will be ensured through the implementation of approved sampling procedures. Results from environmental field duplicate sample analyses can be used to assess representativeness, in addition to precision.

Completeness is defined as the percentage of samples that meet or exceed all the criteria objective levels for accuracy, precision and detection limits within a defined time period or event. It is the measure of the number of data "points" which are judged to be valid, usable results. The objective for completeness for this project is 100 percent, and will be calculated by dividing the number of usable data results (i.e., all results not considered to be “rejected” and all samples able to be analyzed) by the number of possible data results (i.e., the total number of field samples collected), and then multiplying by 100 percent.

Comparability is the degree of confidence with which results from two or more data sets, or two or more laboratories, may be compared. To achieve comparability, standard environmental methodologies will be employed in the field and in the laboratory. See Section 6.0 for analysis methods and detection limits for this RIWP activities.

4.0 SITE MONITORING ACTIVITIES

Monitoring activities to be performed at the site will be conducted in accordance with established technical guidelines, methods, policies and Standard Operating Procedures (SOPs). The subsections below present an overview of the sampling program procedures; a more detailed discussion of the monitoring activities is presented in the RIWP.

4.1 Soil Sampling

Soil samples will be collected continuously from grade to the water table surface. Soil samples will be collected in either four or five-foot increments in dedicated acetate liners contained within a Geoprobe Macrocore sampler and screened utilizing a Photoionization Detector (PID). Soil recovered from each macro core sampler will be visually characterized for color, texture, and moisture content and screened with a photoionization detector (PID). The presence of visible staining and elevated PID readings will be noted. Soil samples will be collected for laboratory analysis as prescribed in Section 3.7 of the RIWP.

4.2 Sediment Sampling

Sediment samples will be collected from all onsite stormwater structures both primary and overflow. Depth to water and depth to bottom values will also be noted for each structure. Samples of storm drain sediment will be collected utilizing a hand-held bucket auger driven into the sediment surface, removed and emptied onto a clean polyethylene bag. Sediment samples will be screened utilizing a Photoionization Detector (PID).

4.3 Sub-slab Soil Vapor Sampling

Sub-slab soil vapor sample will be collected utilizing dedicated Teflon tubing implanted within 6 inches of the base of the basement slab and backed with coarse sand. A 6-Liter stainless steel Summa canister with a flow regulator set to collect an entire sample in 4 to 6 hours will be connected to the other end of Teflon tubing. Once the canister is in place, the flow regulator will be opened and sampling will continue until the canister is full. Soil vapor samples will be transmitted under chain of custody to ELAP-certified laboratory.

All samples will be analyzed for VOCs in accordance with USEPA Method TO-15.

4.4 Soil Vapor Sampling

Soil vapor samples will be collected in accordance with the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH October 2006). Conditions in the field may require adjustment of sampling locations. The soil vapor points will be installed in the sidewalk to approximately five (5) feet bgs utilizing a track-mounted Geoprobe drill rig, HDPE tubing and a permanent 6-inch woven steel screen implant. The surface of the vapor point will be finished with a manhole cover.

A 6-Liter stainless steel Summa canister with a flow regulator set to a flow rate of approximately 0.025 liters per minute will be connected to the Teflon tubing exiting each soil vapor probe. The flow rate of the Summa canister regulator will not exceed 0.2 liters per minute.

Once the canisters are in place, the flow regulators will be opened, and sampling will continue for approximately 4 hours until the canisters are full.

4.5 Groundwater Sampling

Groundwater samples will be collected from cased monitoring wells no sooner than two weeks following well development. The depth to water elevation will be measured with an electronic conductivity meter. Dedicated polyethylene tubing will be inserted within the casing of the monitoring well. A peristaltic pump will be utilized to purge and sample the groundwater well. Groundwater samples will be collected utilizing low-flow techniques in accordance with USEPA guidance for Low-Stress (Low-Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells (EPASOP-GW4, Revised 9/19/17).

The groundwater samples will be placed into laboratory supplied sampling containers. Nitric acid will be utilized as a preservative for total Metals. The samples will be placed in a chilled cooler pending refrigeration. A courier will be utilized to transport the samples to the designated analytical laboratory. Proper chain of custody documentation will accompany the samples.

Following sample collection, boreholes not converted into monitoring wells will be backfilled with soil cuttings, if appropriate and an upper bentonite seal and capped with concrete. Contaminated soil cuttings will be placed in sealed and labeled DOT approved 55-gallon drums pending off-site disposal at a permitted facility.

4.6 Indoor and Outdoor Air Sampling

Indoor air samples will be collected by placing 6-Liter stainless steel Summa canisters on surfaces approximately 3 feet above the floor. Each Summa canister will be equipped with a flow regulator set to a flow rate of approximately 0.0125 liters per minute. The canisters will be opened to initiate sampling, which will continue for approximately 8 hours until the canisters are almost full and the regulators are closed.

5.0 SAMPLE CUSTODY AND DOCUMENTATION

Each day that samples are collected, a chain-of-custody/request for analysis form will be completed and submitted to the laboratory with samples to be analyzed. A copy of the chain-of-custody will be retained by the Project Manager. The chain-of-custody will include the project name, sampler's signature, sample IDs, date and time of sample collection, and analysis requested.

Samples will be packaged and shipped in a manner that maintains sample preservation requirements during transport (i.e., ice to keep samples cool until receipt at the laboratory), ensures that sample holding times can be achieved by the laboratory, and prevents samples from being tampered with.

If a commercial carrier ships samples, a bill of lading (waybill) will be used as documentation of sample custody. Receipts for bills of lading and other documentation of shipment shall be maintained as part of the permanent custody documentation. Commercial carriers are not required to sign the chain-of-custody as long as it is enclosed in the shipping container and evidence tape (custody seal) remains in place on the shipping container.

Identification and documentation of samples are important in maintaining data quality. Strict custody procedures are necessary to ensure the integrity of the environmental samples. Sections below address sample identification, packaging, shipping, and documentation.

5.1 Sample Identification System

The method of identification of a sample depends on the type of measurement or analysis performed. When field screening measurements (e.g., vacuum pressure, flow rate) are made, data are recorded directly in logbooks. Identifying information such as project name, sample location and depth, date and time, name of sampler, field observations, remarks, etc. shall be recorded.

Each sample collected for off-site laboratory analysis during the field investigation should be specifically designated for unique identification. Samples should be identified using a letter code to indicate sample collection methodology. A letter code (see below) will follow, along with the name and/or number that identifies the specific location where the sample was collected. Field equipment blanks will be denoted by the letter code "FB" and trip blanks with "TB". Sample collection date and time should be recorded in the field logbook, chain of custody as well as the sample label.

Letter code prefixes for RIWP activities are as follows:

SB	Delineation Soil Sample
FB	Field Blank Sample
TB	Trip Blank Sample

At a minimum, all location and identification information for the samples shall be recorded in the field sampling logbook, and on the appropriate chain of custody record form for shipment.

5.2 Sample Custody and Packaging

Sample custody shall be strictly maintained and carefully documented each time sample material is collected, transported, received, prepared, and analyzed. Custody procedures are necessary to ensure the integrity of the samples, and samples collected during monitoring activities must be traceable from the time the samples are collected until they are disposed of and/or stored, and their derived data are used in the subsequent monitoring report. Sample custody is defined as (1) being in the sampler's possession; (2) being in the sampler's view, after being in the sampler's possession; (3) being locked in a secured container, after being in the sampler's possession; and (4) being placed in a designated secure area.

5.2.1 Field Custody and Packaging Procedures

Field custody procedures shall be implemented for each sample collected. The field sampler shall be responsible for the care and custody of the samples until they are properly transferred or dispatched. To maintain the integrity of the samples, the samples are to be stored in a designated, secure area and/or be custody sealed in the appropriate containers prior to shipment.

Each environmental sample will be properly identified and individually labeled. Labels will be filled out in indelible ink with at least the following information: sample identification (see Section 5.1), type and matrix of sample, date and time of sample acquisition, name of sampler, analysis required, and preservation (as necessary). The sample label will be securely attached to the sample container.

A laboratory supplied completed chain of custody form will be included with all samples.

5.2.2 Laboratory Custody Procedures

The following generally summarizes laboratory custody procedures; more detailed operations are presented in the laboratory's SOPs.

- A designated sample custodian will accept custody of the shipped samples and will verify that the information on the sample labels matches that on the chain of custody record(s).
- The laboratory custodian will use the sample label number or assign a unique laboratory number to each sample label and will assure that all samples are transferred to the proper analyst or stored in the appropriate secure area; and,
- Laboratory personnel are responsible for the care and custody of samples from the time they are received until the sample is exhausted or returned to the custodian or sample storage area. Internal chain of custody records shall be maintained by the laboratory.

The laboratory shall communicate with ACT personnel by telephone, email or facsimile, as necessary, throughout the process of sample scheduling, shipment, analysis and data reporting, to ensure that samples are properly processed. If a problem occurs during sample shipment or receipt (e.g., a sample container arrives broken or with insufficient sample volume, a sample was not preserved correctly, a sample was not listed on the chain of custody, etc.), the laboratory shall immediately notify the appropriate person for resolution.

Samples received by the laboratory will be retained until analyses and QA checks are completed. When sample analyses and necessary QA checks have been completed, the unused portion of the sample and the sample container must be disposed of properly by the laboratory. All identifying tags, data sheets, and laboratory records shall be retained as part of the permanent documentation.

6.0 ANALYTICAL REQUIREMENTS

Analytical services will be provided by a NYSDOH ELAP approved laboratory. The laboratory will follow NYSDEC Analytical Sampling Protocol (ASP) and provide data in results only format, with the exception of the final round of sampling in which data will be reported with Category B deliverables (ASP-B). Analyses not available using ASP-B will be provided in results only format.

7.0 DECONTAMINATION PROCEDURES

In order to minimize the potential for cross-contamination, non-dedicated drilling and sampling equipment shall be properly decontaminated prior to and between sampling/drilling locations.

Decontamination of sampling equipment will be kept to a minimum in the field, and wherever possible, dedicated disposable sampling equipment will be used. Decontamination fluids will be stored in US Department of Transportation (DOT)-approved 55-gallon drums or in an on-site storage tank (liquids only) until proper disposal.

Personnel directly involved in equipment decontamination will wear protective clothing in accordance with the project Health and Safety Plan (HASP).

7.1 General Procedures

Drilling equipment will be decontaminated in a designated area. Sampling equipment and probes will be decontaminated in an area covered with plastic sheeting near the sampling location. Waste material generated during decontamination activities will be containerized, stored and disposed of. Decontamination of sampling equipment shall be kept to a minimum, and wherever possible, dedicated sampling equipment shall be used. Personnel directly involved in equipment decontamination shall wear appropriate protective equipment.

7.2 Drilling Equipment

Drilling equipment shall be decontaminated by steam cleaning prior to performance of the first boring/excavation and between all subsequent borings/excavations. This shall include hand tools, casing, augers, drill rods, temporary well material and other related tools and equipment. Water used during drilling and/or steam cleaning operations shall be from a potable source.

7.3 Sampling Equipment

Sampling equipment (i.e., trowels, knives, split-spoons, bowls, hand augers, etc.) will be decontaminated prior to each use as follows:

- Laboratory-grade glassware detergent and tap water scrub to remove visual contamination
- Generous tap water rinse
- Distilled water rinse

8.0 QUALITY ASSURANCE/QUALITY CONTROL REQUIREMENTS

This section will discuss the type and quantities of QA/QC samples to be utilized during implementation of the field program.

8.1 Field Quality Control Samples

The subsections below present general information and guidance on field QC samples, including definition and frequency of QC blanks. Field QC samples will be labeled and shipped according to the procedures outlined in Section 5.1.

8.1.1 Field Blanks

A field blank will be collected to evaluate the potential for contamination of environmental samples from inadequate decontamination of field equipment. Field blanks shall be collected by pouring laboratory supplied distilled/deionized (DI) water over and/or through decontaminated non-disposable equipment or disposable equipment, and collecting the rinsate. Field blanks will be collected at a frequency of one per decontamination event per type of sampling equipment, not to exceed one per day per sample matrix. Preservation and analysis of field blanks will be identical to that of the associated environmental samples.

8.1.2 Trip Blanks

A trip blank serves to detect possible cross-contamination of samples resulting from handling, storage and shipment procedures. Blanks are stored by the laboratory under the same conditions as the environmental samples. A trip blank will accompany each cooler containing samples submitted for VOC analysis (if any), and will be preserved identically to the associated environmental samples. Due to the lack of VOC impact identified at the site, it is not anticipated that trip blanks will be necessary during the final soil sampling.

8.1.3 Temperature Blanks

A temperature blank will be sent with each cooler of samples to be analyzed for VOCs to verify that the cooler temperature has been maintained at 4ºC. One non-preserved VOA vial shall be filled with either potable or DI water, and labeled with "NYSDEC cooler temperature indicator" and the date. If supplied, the laboratory's temperature blank will be used in place of the VOA vial. The laboratory shall record the temperature of the blank water on the chain of custody immediately upon cooler arrival.

8.1.4 Field Environmental Duplicate Samples

Duplicate environmental samples will be analyzed by the off-site laboratories to evaluate the reproducibility of the sampling procedures. Duplicate samples will be collected at a rate of five percent of the total samples for each specific matrix for each type of analysis (i.e., one duplicate for up to every 20 samples). The duplicate samples will be collected from the same location and at the same time as the original environmental sample; however, the duplicated samples will be "coded" in such a manner that the laboratory will not be able to determine of which original field sample they are duplicated (i.e., "blind" duplicates). For example, the duplicate sample of location EP001 may be "coded" as location EP051, as long as there are not more than fifty endpoint samples being collected (i.e., the coded sample name should not be assigned a legitimate sample location identification). An explanation of the duplicate "coding" must be written in the field logbook. Preservation and analysis of duplicate samples will be identical to those for the environmental samples. Precision of field data will be evaluated based on the calculation of Relative Percent Difference (RPD), with acceptance criteria of 25 percent for the off-site laboratory samples. Blind duplicate samples will be collected in the same manner as the environmental samples.

8.2 Laboratory Quality Control Samples

General information and guidance on laboratory QC samples are presented in the subsections below. A summary of QC procedures, frequencies, criteria, and corrective actions for the samples, as determined by the applicable method guidelines.

8.2.1 Method Blanks/Preparation Blanks

A method blank (for organics) or a preparation blank (for inorganics) will be analyzed with every batch of samples to ensure that contamination has not occurred during the analytical process. Method blanks consist of a portion of analyte-free solid that is processed through the entire sample procedure the same as an environmental sample.

8.2.2 Laboratory Control Samples

A laboratory control sample (LCS) consists of an analyte- solid phase sample that is spiked with target analytes at a known concentration. The LCS shall be analyzed 1 per 20 samples to assess the ability of the analytical procedure to generate a correct result without matrix effects/interferences affecting the analysis. The percent recoveries for the LCS compounds will be compared to QC limits stated in the appropriate methods. MS/MSD will be collected on groundwater and soil samples at a rate of 1 per 20 samples per matrix.

8.2.3 Surrogate Compounds

Surrogates (also known as System Monitoring Compounds) are compounds of known concentrations added to every organic analysis sample for analytical chromatography methods at the beginning of the sample preparation to monitor their recovery. Surrogate recoveries will be used to assess potential matrix interferences and to monitor any potential effects of sample preparation and analysis on final analyte concentrations. The recovery values will be compared to values established in the applicable methodologies to determine the validity of the data.

8.2.4 Internal Standards

Internal standards are used to provide instrument correction for variation in instrument performance and injection volumes. Internal standards also establish relative response factors for the analytes.

9.0 INSTRUMENT CALIBRATION AND PREVENTIVE MAINTENANCE

9.1 Calibration

Equipment will be inspected and approved by the Field Team Leader before being used. Equipment will generally be calibrated in the field to factory specifications. Monitoring equipment will be calibrated following manufacturers recommended schedules. Daily field response checks and calibrations will be performed as necessary following manufacturers standard operating procedures. Equipment calibrations will be documented in a designated field logbook.

The Field Team Leader or his designee will be responsible for ensuring that instrumentation is of the proper range, type and accuracy for the measurement/test being performed, and that all of the equipment are calibrated at their required frequencies, according to their specific calibration protocols/procedures.

All field measurement instruments must be calibrated according to the manufacturer's instructions prior to the commencement of the day's activities. Exceptions to this requirement shall be permitted only for instruments that have fixed calibrations pre-set by the equipment manufacturer. Calibration information shall be documented on in a designated field logbook. Information to be recorded includes the date, the operator, and the calibration standards (concentration, manufacturer, etc.). All project personnel using measuring equipment or instruments in the field shall be trained in the calibration and usage of the equipment and are personally responsible for ensuring that the equipment has been properly calibrated prior to its use.

In addition, all field instruments must undergo response verification checks at the end of the day's activities and at any other time that the user suspects or detects anomalies in the data being generated. The checks consist of exposing the instrument to a known source of analyte (e.g., the calibration solution), and verifying a response. If an unacceptable instrument response is obtained during the check the data shall be labeled suspect, the problem documented in the site logbook, and appropriate corrective action taken.

Any equipment found to be out of calibration shall be recalibrated. When instrumentation is found to be out of calibration or damaged, an evaluation shall be made to ascertain the validity of previous test results since the last calibration check. If it is necessary to ensure the acceptability of suspect items, the originally required tests shall be repeated (if possible), using properly calibrated equipment. Any instrument consistently found to be out of calibration shall be repaired or replaced.

9.2 Preventive Maintenance

Field equipment shall be maintained at its proper functional status in accordance to manufacturer manual specifications. A check of the equipment shall be performed before field activities begin, and any potential spare parts (e.g., batteries, connectors, etc.) and maintenance tools will be brought on site, to minimize equipment downtime during the field activities. Visual checks of the equipment will be conducted on a daily basis. Routine preventive maintenance shall be performed to assure proper operation of the equipment. Any maintenance performed on field equipment will be documented in the designated field logbook, and shall be undertaken by personnel who have the appropriate skills and/or training in the type of maintenance required.

10.0 DATA REDUCTION, VALIDATION AND REPORTING

Standard methods and references will be used as guidelines for data handling, reduction, validation, and reporting. All data for the project will be compiled and summarized with an independent verification at each step in the process to prevent transcription/typographical errors. Any computerized entry of data will also undergo verification review.

10.1 Data Reduction

10.1.1 Field Data Reduction

Field instrumentation data will be reported by site personnel in field logbooks associated with the monitoring event. At the end of each monitoring event, the field screening data results shall be summarized in tabulated form, as warranted.

10.1.2 Laboratory Data Reduction

All data generated by the off-site laboratory will be reported in a specified format containing all required elements to perform data validation. Analytical results shall be presented on standard NYSDEC Analytical Sampling Protocol (ASP) forms or equivalents and reported with Category B (ASP-B) deliverables and include the dates the samples were received and analyzed, and the actual methodology used with the exception of interim sampling in which data will be reported in Category A (ASP-A) format.

Laboratory QA/QC information required by the method protocols will be compiled, including the application of data QA/QC qualifiers as appropriate. In addition, laboratory worksheets, laboratory notebooks, chains-of-custody, instrument logs, standards records, calibration records, and maintenance records, as applicable, will be provided in the laboratory data packages to determine the validity of data.

10.1.3 Project Data Reduction

Following receipt of the laboratory analytical results by Advanced Cleanup Technologies, Inc., the data results will be compiled and presented in an appropriate tabular form. Where appropriate, the impacts of QA/QC qualifiers resulting from laboratory or external validation reviews will be assessed in terms of data usability.

10.2 Data Usability and Validation

The main purpose of the data is for use in defining the extent of contamination at the site, to aid in evaluation of potential human health and ecological exposure assessments, and to support remedial action decisions. Based upon this, data use usability and validation will be performed as described below. Complete data packages will be archived in the project files, and if deemed necessary additional validation can be performed using procedures in the following sections. It is anticipated that data validation will be performed on data collected during the final round of sampling, only.

10.2.1 Data Usability and Validation Requirements

Data usability and validation are performed on analytical data sets, primarily to confirm that sampling and chain-of-custody documentation are complete, sample IDs can be tied to specific sampling locations, samples were analyzed within the required holding times, and analyses are reported in conformance to NYSDEC ASP data deliverable requirements as applicable to the method utilized.

All data should be provided to NYSDEC in draft form prior to being validated by a third party data validator namely LABORATORY DATA CONSULTANTS, INC. and qualifications for preparing the DUSR report is provided in Appendix F. The data validation report should be included in the PRR.

10.1.1 Data Usability and Validation Methods

If deemed necessary by NYSDEC, a data usability evaluation for the data collected during the RIWP and a data usability summary report (DUSR) will be prepared. The DUSR will be prepared in accordance with USEPA National Function Guidelines for Organic Superfund Methods Data Review, January 2017 (EPA-540-R-2017-002); USEPA National Function Guidelines for Inorganic Superfund Methods Data Review, January 2017 (EPA-540-R-2017-002); and USEPA Region 2 SOPs.

11.0 CORRECTIVE ACTION

Review and implementation of systems and procedures may result in recommendations for corrective action. Any deviations from the specified procedures within approved RIWP due to unexpected site-specific conditions shall warrant corrective action. All errors, deficiencies, or other problems shall be brought to the immediate attention of Jason Stewart of ACT, who in turn shall contact the Quality Assurance/Data Quality Manager or her designee.

Procedures have been established to ensure that conditions adverse to data quality are promptly investigated, evaluated and corrected. These procedures for review and implementation of a change are as follows:

- Define the problem.
- Investigate the cause of the problem.
- Develop a corrective action to eliminate the problem, in consultation with the personnel who defined the problem and who will implement the change.
- Complete the required form describing the change and its rationale (see below for form requirements).
- Obtain all required written approvals.
- Implement the corrective action.
- Verify that the change has eliminated the problem.

During the project, all changes to the SI monitoring program will be documented in field logs/sheets and Jason Stewart of ACT will be advised.

If any problems occur with the laboratory or analyses, the laboratory must immediately notify Jason Stewart of ACT, who will consult with other ACT project staff. All approved corrective actions shall be controlled and documented.

All corrective action documentation shall include an explanation of the problem and a proposed solution which will be maintained in the project file or associated logs. Each report must be approved by the necessary personnel (e.g., the PM) before implementation of the change occurs. Jason Stewart of ACT shall be responsible for controlling, tracking, implementing and distributing identified changes.

Analytical Methods/Quality Assurance Summary Table

Sample ID	Matrix	Sample Interval	Analytical Parameter	Analytical Method	Preservation Method	Container Type/Volume	Sample Holding Time
SB-1	Soil	0-12" bgs., zone of highest observed contamination, first apparent clean zone if elevated PID readings are recorded, water table surface,	VOCs	EPA Method 8260	Cool 4°C, freeze at lab within 48 hours	2 x VOA vials with 5 ml DI Water Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial unpres., Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial with 5 ml MeOH, Teflon-Lined cap	14 days
			SVOCs, Pesticides/PCBs, TAL Metals, cyanide	EPA Methods 8270, 8081/8082, 6010/7473,	Cool 4°C	2 x 8oz. container	14 days
			PFAS	EPA Method 1633A	Cool 4°C	250 ml PFAS Container	14 days
SB-2	Soil	0-12" bgs., zone of highest observed contamination, first apparent clean zone if elevated PID readings are recorded, water table surface,	VOCs	EPA Method 8260	Cool 4°C, freeze at lab within 48 hours	2 x VOA vials with 5 ml DI Water Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial unpres., Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial with 5 ml MeOH, Teflon-Lined cap	14 days
			SVOCs, Pesticides/PCBs, TAL Metals, cyanide	EPA Methods 8270, 8081/8082, 6010/7473,	Cool 4°C	2 x 8oz. container	14 days
			PFAS	EPA Method 1633A	Cool 4°C	250 ml PFAS Container	14 days

SB-3	Soil	0-12” bgs., zone of highest observed contamination, first apparent clean zone if elevated PID readings are recorded, water table surface,	VOCs	EPA Method 8260	Cool 4°C, freeze at lab within 48 hours	2 x VOA vials with 5 ml DI Water Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial unpres., Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial with 5 ml MeOH, Teflon-Lined cap	14 days
			SVOCs, Pesticides/PCBs, TAL Metals, cyanide	EPA Methods 8270, 8081/8082, 6010/7473,	Cool 4°C	2 x 8oz. container	14 days
			PFAS	EPA Method 1633A	Cool 4°C	250 ml PFAS Container	14 days
SB-4	Soil	0-12” bgs., zone of highest observed contamination, first apparent clean zone if elevated PID readings are recorded, water table surface,	VOCs	EPA Method 8260	Cool 4°C, freeze at lab within 48 hours	2 x VOA vials with 5 ml DI Water Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial unpres., Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial with 5 ml MeOH, Teflon-Lined cap	14 days
			SVOCs, Pesticides/PCBs, TAL Metals, cyanide	EPA Methods 8270, 8081/8082, 6010/7473,	Cool 4°C	2 x 8oz. container	14 days
			PFAS	EPA Method 1633A	Cool 4°C	250 ml PFAS Container	14 days

SB-5	Soil	0-12" bgs., zone of highest observed contamination, first apparent clean zone if elevated PID readings are recorded, water table surface,	VOCs	EPA Method 8260	Cool 4°C, freeze at lab within 48 hours	2 x VOA vials with 5 ml DI Water Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial unpres., Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial with 5 ml MeOH, Teflon-Lined cap	14 days
			SVOCs, Pesticides/PCBs, TAL Metals, cyanide	EPA Methods 8270, 8081/8082, 6010/7473,	Cool 4°C	2 x 8oz. container	14 days
			PFAS	EPA Method 1633A	Cool 4°C	250 ml PFAS Container	14 days
SB-6	Soil	0-12" bgs., zone of highest observed contamination, first apparent clean zone if elevated PID readings are recorded, water table surface,	VOCs	EPA Method 8260	Cool 4°C, freeze at lab within 48 hours	2 x VOA vials with 5 ml DI Water Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial unpres., Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial with 5 ml MeOH, Teflon-Lined cap	14 days
			SVOCs, Pesticides/PCBs, TAL Metals, cyanide	EPA Methods 8270, 8081/8082, 6010/7473,	Cool 4°C	2 x 8oz. container	14 days
			PFAS	EPA Method 1633A	Cool 4°C	250 ml PFAS Container	14 days

SB-7	Soil	0-12” bgs., zone of highest observed contamination, first apparent clean zone if elevated PID readings are recorded, water table surface,	VOCs	EPA Method 8260	Cool 4°C, freeze at lab within 48 hours	2 x VOA vials with 5 ml DI Water Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial unpres., Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial with 5 ml MeOH, Teflon-Lined cap	14 days
			SVOCs, Pesticides/PCBs, TAL Metals, cyanide	EPA Methods 8270, 8081/8082, 6010/7473,	Cool 4°C	2 x 8oz. container	14 days
			PFAS	EPA Method 1633A	Cool 4°C	250 ml PFAS Container	14 days
SB-8	Soil	0-12” bgs., zone of highest observed contamination, first apparent clean zone if elevated PID readings are recorded, water table surface	VOCs	EPA Method 8260	Cool 4°C, freeze at lab within 48 hours	2 x VOA vials with 5 ml DI Water Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial unpres., Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial with 5 ml MeOH, Teflon-Lined cap	14 days
			SVOCs, Pesticides/PCBs, TAL Metals, cyanide	EPA Methods 8270, 8081/8082, 6010/7473,	Cool 4°C	2 x 8oz. container	14 days
			PFAS	EPA Method 1633A	Cool 4°C	250 ml PFAS Container	14 days

SB-9	Soil	0-12” bgs., zone of highest observed contamination, first apparent clean zone if elevated PID readings are recorded, water table surface	VOCs	EPA Method 8260	Cool 4°C, freeze at lab within 48 hours	2 x VOA vials with 5 ml DI Water Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial unpres., Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial with 5 ml MeOH, Teflon-Lined cap	14 days
			SVOCs, Pesticides/PCBs, TAL Metals, cyanide	EPA Methods 8270, 8081/8082, 6010/7473,	Cool 4°C	2 x 8oz. container	14 days
			PFAS	EPA Method 1633A	Cool 4°C	250 ml PFAS Container	14 days
SB-10	Soil	0-12” bgs., zone of highest observed contamination, first apparent clean zone if elevated PID readings are recorded, water table surface	VOCs	EPA Method 8260	Cool 4°C, freeze at lab within 48 hours	2 x VOA vials with 5 ml DI Water Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial unpres., Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial with 5 ml MeOH, Teflon-Lined cap	14 days
			SVOCs, Pesticides/PCBs, TAL Metals, cyanide	EPA Methods 8270, 8081/8082, 6010/7473,	Cool 4°C	2 x 8oz. container	14 days
			PFAS	EPA Method 1633A	Cool 4°C	250 ml PFAS Container	14 days

SB-11	Soil	0-12” bgs., zone of highest observed contamination, first apparent clean zone if elevated PID readings are recorded, water table surface	VOCs	EPA Method 8260	Cool 4°C, freeze at lab within 48 hours	2 x VOA vials with 5 ml DI Water Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial unpres., Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial with 5 ml MeOH, Teflon-Lined cap	14 days
			SVOCs, Pesticides/PCBs, TAL Metals, cyanide	EPA Methods 8270, 8081/8082, 6010/7473,	Cool 4°C	2 x 8oz. container	14 days
			PFAS	EPA Method 1633A	Cool 4°C	250 ml PFAS Container	14 days
SB-12	Soil	0-12” bgs., zone of highest observed contamination, first apparent clean zone if elevated PID readings are recorded, water table surface	VOCs	EPA Method 8260	Cool 4°C, freeze at lab within 48 hours	2 x VOA vials with 5 ml DI Water Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial unpres., Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial with 5 ml MeOH, Teflon-Lined cap	14 days
			SVOCs, Pesticides/PCBs, TAL Metals, cyanide	EPA Methods 8270, 8081/8082, 6010/7473,	Cool 4°C	2 x 8oz. container	14 days
			PFAS	EPA Method 1633A	Cool 4°C	250 ml PFAS Container	14 days

SB-13	Soil	0-12” bgs., zone of highest observed contamination, first apparent clean zone if elevated PID readings are recorded, water table surface	VOCs	EPA Method 8260	Cool 4°C, freeze at lab within 48 hours	2 x VOA vials with 5 ml DI Water Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial unpres., Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial with 5 ml MeOH, Teflon-Lined cap	14 days
			SVOCs, Pesticides/PCBs, TAL Metals, cyanide	EPA Methods 8270, 8081/8082, 6010/7473,	Cool 4°C	2 x 8oz. container	14 days
			PFAS	EPA Method 1633A	Cool 4°C	250 ml PFAS Container	14 days
SB-14	Soil	0-12” bgs., zone of highest observed contamination, first apparent clean zone if elevated PID readings are recorded, water table surface	VOCs	EPA Method 8260	Cool 4°C, freeze at lab within 48 hours	2 x VOA vials with 5 ml DI Water Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial unpres., Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial with 5 ml MeOH, Teflon-Lined cap	14 days
			SVOCs, Pesticides/PCBs, TAL Metals, cyanide	EPA Methods 8270, 8081/8082, 6010/7473,	Cool 4°C	2 x 8oz. container	14 days
			PFAS	EPA Method 1633A	Cool 4°C	250 ml PFAS Container	14 days

SB-15	Soil	0-12” bgs., zone of highest observed contamination, first apparent clean zone if elevated PID readings are recorded, water table surface	VOCs	EPA Method 8260	Cool 4°C, freeze at lab within 48 hours	2 x VOA vials with 5 ml DI Water Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial unpres., Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial with 5 ml MeOH, Teflon-Lined cap	14 days
			SVOCs, Pesticides/PCBs, TAL Metals, cyanide	EPA Methods 8270, 8081/8082, 6010/7473,	Cool 4°C	2 x 8oz. container	14 days
			PFAS	EPA Method 1633A	Cool 4°C	250 ml PFAS Container	14 days
SB-16	Soil	0-12” bgs., zone of highest observed contamination, first apparent clean zone if elevated PID readings are recorded, water table surface	VOCs	EPA Method 8260	Cool 4°C, freeze at lab within 48 hours	2 x VOA vials with 5 ml DI Water Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial unpres., Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial with 5 ml MeOH, Teflon-Lined cap	14 days
			SVOCs, Pesticides/PCBs, TAL Metals, cyanide	EPA Methods 8270, 8081/8082, 6010/7473,	Cool 4°C	2 x 8oz. container	14 days
			PFAS	EPA Method 1633A	Cool 4°C	250 ml PFAS Container	14 days

SB-17	Soil	0-12” bgs., zone of highest observed contamination, first apparent clean zone if elevated PID readings are recorded, water table surface	VOCs	EPA Method 8260	Cool 4°C, freeze at lab within 48 hours	2 x VOA vials with 5 ml DI Water Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial unpres., Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial with 5 ml MeOH, Teflon-Lined cap	14 days
			SVOCs, Pesticides/PCBs, TAL Metals, cyanide	EPA Methods 8270, 8081/8082, 6010/7473,	Cool 4°C	2 x 8oz. container	14 days
			PFAS	EPA Method 1633A	Cool 4°C	250 ml PFAS Container	14 days
SB-18	Soil	0-12” bgs., zone of highest observed contamination, first apparent clean zone if elevated PID readings are recorded, water table surface	VOCs	EPA Method 8260	Cool 4°C, freeze at lab within 48 hours	2 x VOA vials with 5 ml DI Water Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial unpres., Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial with 5 ml MeOH, Teflon-Lined cap	14 days
			SVOCs, Pesticides/PCBs, TAL Metals, cyanide	EPA Methods 8270, 8081/8082, 6010/7473,	Cool 4°C	2 x 8oz. container	14 days
			PFAS	EPA Method 1633A	Cool 4°C	250 ml PFAS Container	14 days

SB-19	Soil	0-12” bgs., zone of highest observed contamination, first apparent clean zone if elevated PID readings are recorded, water table surface	VOCs	EPA Method 8260	Cool 4°C, freeze at lab within 48 hours	2 x VOA vials with 5 ml DI Water Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial unpres., Teflon-Lined cap	14 days
					Cool 4°C	1 x VOA vial with 5 ml MeOH, Teflon-Lined cap	14 days
			SVOCs, Pesticides/PCBs, TAL Metals, cyanide	EPA Methods 8270, 8081/8082, 6010/7473,	Cool 4°C	2 x 8oz. container	14 days
			PFAS	EPA Method 1633A	Cool 4°C	250 ml PFAS Container	14 days

MW-1S	Groundwater	-	VOCs	EPA Methods 8260	Cool, 4°C	1 x VOA Kit	14 days
			SVOCs	EPA Methods 8270	Cool, 4°C	2x 1-Liter Ambers	7 days
			1,4-Dioxane in SIM mode	EPA Method 8270-SIM	Cool, 4°C	1 x 1-Liter Ambers	7 days
			Pesticides & PCBs	EPA Method 8081/8082	Cool, 4°C	2 x 1-Liter Ambers	7 days
			PFAS	EPA Method 1633	Cool, 4°C	250 ml PFAS Container	14 days to extract, 28 days to analysis
			TAL Metals, cyanide	EPA Method 6010/7473	Cool, 4°C	2 x 250 ml containers(1 with HNO3 and 1 with NaOH)	6 months for TAL Metals, 14 days for cyanide
MW-1D	Groundwater	-	VOCs	EPA Methods 8260	Cool, 4°C	1 x VOA Kit	14 days
			SVOCs	EPA Methods 8270	Cool, 4°C	2x 1-Liter Ambers	7 days
			1,4-Dioxane in SIM mode	EPA Method 8270-SIM	Cool, 4°C	1 x 1-Liter Ambers	7 days
			Pesticides & PCBs	EPA Method 8081/8082	Cool, 4°C	2 x 1-Liter Ambers	7 days
			PFAS	EPA Method 1633	Cool, 4°C	250 ml PFAS Container	14 days to extract, 28 days to analysis
			TAL Metals, cyanide	EPA Method 6010/7473	Cool, 4°C	2 x 250 ml containers(1 with HNO3 and 1 with NaOH)	6 months for TAL Metals, 14 days for cyanide

MW-2S	Groundwater	-	VOCs	EPA Methods 8260	Cool, 4°C	1 x VOA Kit	14 days
			SVOCs	EPA Methods 8270	Cool, 4°C	2x 1-Liter Ambers	7 days
			1,4-Dioxane in SIM mode	EPA Method 8270-SIM	Cool, 4°C	1 x 1-Liter Ambers	7 days
			Pesticides & PCBs	EPA Method 8081/8082	Cool, 4°C	2 x 1-Liter Ambers	7 days
			PFAS	EPA Method 1633	Cool, 4°C	250 ml PFAS Container	14 days to extract, 28 days to analysis
			TAL Metals, cyanide	EPA Method 6010/7473	Cool, 4°C	2 x 250 ml containers(1 with HNO3 and 1 with NaOH)	6 months for TAL Metals, 14 days for cyanide
MW-2D	Groundwater	-	VOCs	EPA Methods 8260	Cool, 4°C	1 x VOA Kit	14 days
			SVOCs	EPA Methods 8270	Cool, 4°C	2x 1-Liter Ambers	7 days
			1,4-Dioxane in SIM mode	EPA Method 8270-SIM	Cool, 4°C	1 x 1-Liter Ambers	7 days
			Pesticides & PCBs	EPA Method 8081/8082	Cool, 4°C	2 x 1-Liter Ambers	7 days
			PFAS	EPA Method 1633	Cool, 4°C	250 ml PFAS Container	14 days to extract, 28 days to analysis
			TAL Metals, cyanide	EPA Method 6010/7473	Cool, 4°C	2 x 250 ml containers(1 with HNO3 and 1 with NaOH)	6 months for TAL Metals, 14 days for cyanide

MW-3S	Groundwater	-	VOCs	EPA Methods 8260	Cool, 4°C	1 x VOA Kit	14 days
			SVOCs	EPA Methods 8270	Cool, 4°C	2x 1-Liter Ambers	7 days
			1,4-Dioxane in SIM mode	EPA Method 8270-SIM	Cool, 4°C	1 x 1-Liter Ambers	7 days
			Pesticides & PCBs	EPA Method 8081/8082	Cool, 4°C	2 x 1-Liter Ambers	7 days
			PFAS	EPA Method 1633	Cool, 4°C	250 ml PFAS Container	14 days to extract, 28 days to analysis
			TAL Metals, cyanide	EPA Method 6010/7473	Cool, 4°C	2 x 250 ml containers(1 with HNO3 and 1 with NaOH)	6 months for TAL Metals, 14 days for cyanide
MW-3D	Groundwater	-	VOCs	EPA Methods 8260	Cool, 4°C	1 x VOA Kit	14 days
			SVOCs	EPA Methods 8270	Cool, 4°C	2x 1-Liter Ambers	7 days
			1,4-Dioxane in SIM mode	EPA Method 8270-SIM	Cool, 4°C	1 x 1-Liter Ambers	7 days
			Pesticides & PCBs	EPA Method 8081/8082	Cool, 4°C	2 x 1-Liter Ambers	7 days
			PFAS	EPA Method 1633	Cool, 4°C	250 ml PFAS Container	14 days to extract, 28 days to analysis
			TAL Metals, cyanide	EPA Method 6010/7473	Cool, 4°C	2 x 250 ml containers(1 with HNO3 and 1 with NaOH)	6 months for TAL Metals, 14 days for cyanide

MW-4	Groundwater	-	VOCs	EPA Methods 8260	Cool, 4°C	1 x VOA Kit	14 days
			SVOCs	EPA Methods 8270	Cool, 4°C	2x 1-Liter Ambers	7 days
			1,4-Dioxane in SIM mode	EPA Method 8270-SIM	Cool, 4°C	1 x 1-Liter Ambers	7 days
			Pesticides & PCBs	EPA Method 8081/8082	Cool, 4°C	2 x 1-Liter Ambers	7 days
			PFAS	EPA Method 1633	Cool, 4°C	250 ml PFAS Container	14 days to extract, 28 days to analysis
			TAL Metals, cyanide	EPA Method 6010/7473	Cool, 4°C	2 x 250 ml containers(1 with HNO3 and 1 with NaOH)	6 months for TAL Metals, 14 days for cyanide
MW-5S	Groundwater	-	VOCs	EPA Methods 8260	Cool, 4°C	1 x VOA Kit	14 days
			SVOCs	EPA Methods 8270	Cool, 4°C	2x 1-Liter Ambers	7 days
			1,4-Dioxane in SIM mode	EPA Method 8270-SIM	Cool, 4°C	1 x 1-Liter Ambers	7 days
			Pesticides & PCBs	EPA Method 8081/8082	Cool, 4°C	2 x 1-Liter Ambers	7 days
			PFAS	EPA Method 1633	Cool, 4°C	250 ml PFAS Container	14 days to extract, 28 days to analysis
			TAL Metals, cyanide	EPA Method 6010/7473	Cool, 4°C	2 x 250 ml containers(1 with HNO3 and 1 with NaOH)	6 months for TAL Metals, 14 days for cyanide

MW-5D	Groundwater	-	VOCs	EPA Methods 8260	Cool, 4°C	1 x VOA Kit	14 days
			SVOCs	EPA Methods 8270	Cool, 4°C	2x 1-Liter Ambers	7 days
			1,4-Dioxane in SIM mode	EPA Method 8270-SIM	Cool, 4°C	1 x 1-Liter Ambers	7 days
			Pesticides & PCBs	EPA Method 8081/8082	Cool, 4°C	2 x 1-Liter Ambers	7 days
			PFAS	EPA Method 1633	Cool, 4°C	250 ml PFAS Container	14 days to extract, 28 days to analysis
			TAL Metals, cyanide	EPA Method 6010/7473	Cool, 4°C	2 x 250 ml containers(1 with HNO3 and 1 with NaOH)	6 months for TAL Metals, 14 days for cyanide
MW-6	Groundwater	-	VOCs	EPA Methods 8260	Cool, 4°C	1 x VOA Kit	14 days
			SVOCs	EPA Methods 8270	Cool, 4°C	2x 1-Liter Ambers	7 days
			1,4-Dioxane in SIM mode	EPA Method 8270-SIM	Cool, 4°C	1 x 1-Liter Ambers	7 days
			Pesticides & PCBs	EPA Method 8081/8082	Cool, 4°C	2 x 1-Liter Ambers	7 days
			PFAS	EPA Method 1633	Cool, 4°C	250 ml PFAS Container	14 days to extract, 28 days to analysis
			TAL Metals, cyanide	EPA Method 6010/7473	Cool, 4°C	2 x 250 ml containers(1 with HNO3 and 1 with NaOH)	6 months for TAL Metals, 14 days for cyanide

MW-7	Groundwater	-	VOCs	EPA Methods 8260	Cool, 4°C	1 x VOA Kit	14 days
			SVOCs	EPA Methods 8270	Cool, 4°C	2x 1-Liter Ambers	7 days
			1,4-Dioxane in SIM mode	EPA Method 8270-SIM	Cool, 4°C	1 x 1-Liter Ambers	7 days
			Pesticides & PCBs	EPA Method 8081/8082	Cool, 4°C	2 x 1-Liter Ambers	7 days
			PFAS	EPA Method 1633	Cool, 4°C	250 ml PFAS Container	14 days to extract, 28 days to analysis
			TAL Metals, cyanide	EPA Method 6010/7473	Cool, 4°C	2 x 250 ml containers(1 with HNO3 and 1 with NaOH)	6 months for TAL Metals, 14 days for cyanide

SV-1	Soil Vapor	4 hr	VOCs	EPA Method TO-15	Ambient	6l Summa Canister	30 days
SV-2	Soil Vapor	4 hr	VOCs	EPA Method TO-15	Ambient	6l Summa Canister	30 days
SV-3	Soil Vapor	4 hr	VOCs	EPA Method TO-15	Ambient	6l Summa Canister	30 days
SV-4	Soil Vapor	4 hr	VOCs	EPA Method TO-15	Ambient	6l Summa Canister	30 days
SV-5	Soil Vapor	4 hr	VOCs	EPA Method TO-15	Ambient	6l Summa Canister	30 days
SV-6	Soil Vapor	4 hr	VOCs	EPA Method TO-15	Ambient	6l Summa Canister	30 days
SV-7	Soil Vapor	4 hr	VOCs	EPA Method TO-15	Ambient	6l Summa Canister	30 days
SV-8	Soil Vapor	4 hr	VOCs	EPA Method TO-15	Ambient	6l Summa Canister	30 days

SS-1	Soil Vapor	4 hr	VOCs	EPA Method TO-15	Ambient	5l Summa Canister	30 days
SS-2	Soil Vapor	4 hr	VOCs	EPA Method TO-15	Ambient	5l Summa Canister	30 days
SS-3	Soil Vapor	4 hr	VOCs	EPA Method TO-15	Ambient	5l Summa Canister	30 day
SS-4	Soil Vapor	4 hr	VOCs	EPA Method TO-15	Ambient	5l Summa Canister	30 days
SS-5	Soil Vapor	4 hr	VOCs	EPA Method TO-15	Ambient	5l Summa Canister	30 day

Matrix	Soil	Groundwater	Soil Vapor	Sub-Slab
Number of Samples	60	11	8	5
Number of Duplicate Samples	5% of total samples or 1 per 20 samples	5% of total samples or 1 per 20 samples	-	
Number of Field Blanks	1 per day of sampling	1 per day of sampling	-	
Number of Trip Blanks	1 per cooler	1 per cooler	-	
Number of MS/MSD Pairs	1 per 20 samples	1 per 20 samples	-	

Appendix D Personnel Qualifications

Jeri Rossi, CEAC

513 Springfield Avenue
Cranford, NJ 07016
(908) 370-3431
richjerirossi513@gmail.com

Certified Environmental Analytical Chemist (CEAC) through the National Registry of Certified Chemists. Background includes sample analysis on various media (groundwater, soil, surface water, biota such as plant and fish tissue, air, sampling media such as filters) using CLP, SW846 and other EPA methods. Served as laboratory organics department manager, laboratory Quality Assurance Director and chemistry consultant. As a chemistry consultant, provides data validation of analytical data generated from various media for RCRA and CERCLA investigations. Develops project specific QAPPs and other planning documents. Provide technical support to address various analytical questions and interpretations.

PROFESSIONAL EXPERIENCE

ICF, 2021 – 2025

Senior Chemist

Data validation of environmental analytical data in support of Superfund site assessment and remediation and other EPA projects. Technical review of Quality Assurance Project Plans (QAPPs), Sampling and Analysis Plans (SAPs) and Data Management Plans (DMPs) as well as other QA and planning documents.

de maximis Data Management Solutions, 2012 – 2021

Senior Chemist

Senior Chemist supporting Project Coordinator overseeing the RI/FS, NTCRA and RD/RA phases of a research and metal manufacturing facility that was licensed to possess and process low-level radioactive substances. Operations at the facility included the investigation and development of materials for missiles, airframes, and other components. The facility developed a large-scale depleted uranium manufacturing operation, manufactured metal powders, beryllium and beryllium alloy parts and specialty titanium parts.

As a Senior Chemist, implemented the QAPPs for all phases of the project. Provided review of Sampling and Analysis Plans (SAPs) to ensure sampling analytical methods supported project objectives. Prepared analytical sections of the QAPP for the RD/RA phase of project which involved multiple laboratories, full suite TCL/TAL analyses, radiochemistry analyses and waste characterization. Assisted with RFQ process and selection of laboratories to support the project. Performed laboratory audits, laboratory oversight, resolution of analytical issues and ensuring analyses were conducted according to the project QAPP. Performed data validation for all phases of the project.

Regulatory Consultant

Assisted a drinking water laboratory to attain national laboratory accreditation through the TNI (The NELAC Institute) organization. Provided training to laboratory personnel and management on the requirements of the TNI Standards as well as design and implement a formal QA/QC system. Once the laboratory achieved TNI accreditation, provided on-going support to ensure compliance with TNI Standards. The laboratory became one of five laboratories in a network of drinking waters laboratories in the Northeast. Performed data integrity and ethics training, annual internal audits, SOP review and regulatory support for the entire laboratory network.

ETC Corporation / Envirotech Research / Hampton-Clarke / IAL, 1984-2012

Analyst, Organic Section Lead, QA Director

Over 25 years of laboratory experience. Performed analysis on various media for VOCs, SVOCs, pesticides, PCBs, total petroleum hydrocarbons (TPHs) and petroleum fingerprinting using EPA methods. As the Organics Manager, interviewed, trained, and supervised chemists in the VOC and semi-volatile organic compound (SVOC) departments. Managed the day-to-day operations of these departments and ensured analyses were method compliant and were performed in accordance with project-specific requirements. Developed and implemented laboratory-specific SOPs and trained laboratory personnel in the procedures focusing on good laboratory practices. As a project manager, served as the technical liaison between the client and laboratory and played a central role in communicating project specifications and laboratory capability.

Served as QA Director for two commercial laboratories. Implemented and maintained Quality System for entire laboratory, with a strong emphasis on meeting state regulations as well as complying with TNI/NELAC standards. Performed internal audits on each department to confirm compliance with method requirements and laboratory quality standards. Reviewed and updated SOPs on an annual basis. Developed and implemented ethics training programs. Ensured laboratory compliance with current state and federal regulations, reviewed, and approved all client QAPPs, and performed technical review of final reports prior to release to client.

Education

BS, Environmental Science, Rutgers University, 1993

Certifications and Trainings

CEAC (Certified Environmental Analytical Chemist)- National Registry of Certified Chemists

Professional Publications/Presentations:

“Data Interpretation;” NJ Site Remediation Conference, January 2018.

“Final Data Interpretation/Usability: What's the Next Step?;’ NJ LSRPA Fall 2017 Seminar.

“Uncertainty Associated with Field and Laboratory Activities;” CIANJ EBC Spring Conference presentation, May 2015.

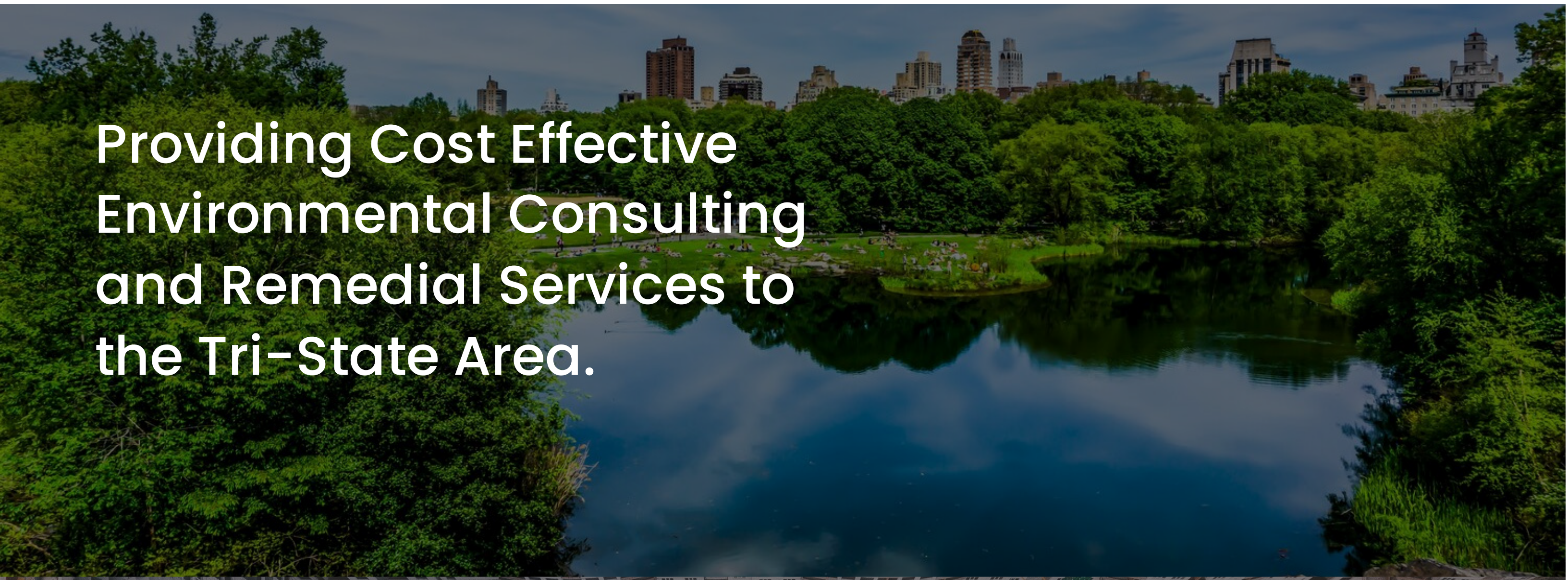
Continuing Education/Specialized Training:

‘New Jersey DEP/Stroud Center Macroinvertebrate Fall Stream School, Rutgers University, October 2016.

“Advanced Petroleum Forensics,” Rutgers University, October 2013.

“Interpretation of Mass Spectra," conducted by Environmental Analytical Consulting, Inc., Edison, New Jersey, March 1990.

Advanced
Cleanup
Technologies
Environmental Consultants



Providing Cost Effective Environmental Consulting and Remedial Services to the Tri-State Area.

Since 1986, ACT has been providing Environmental Consulting Services to the Banking, Insurance, Construction, and Legal Professions

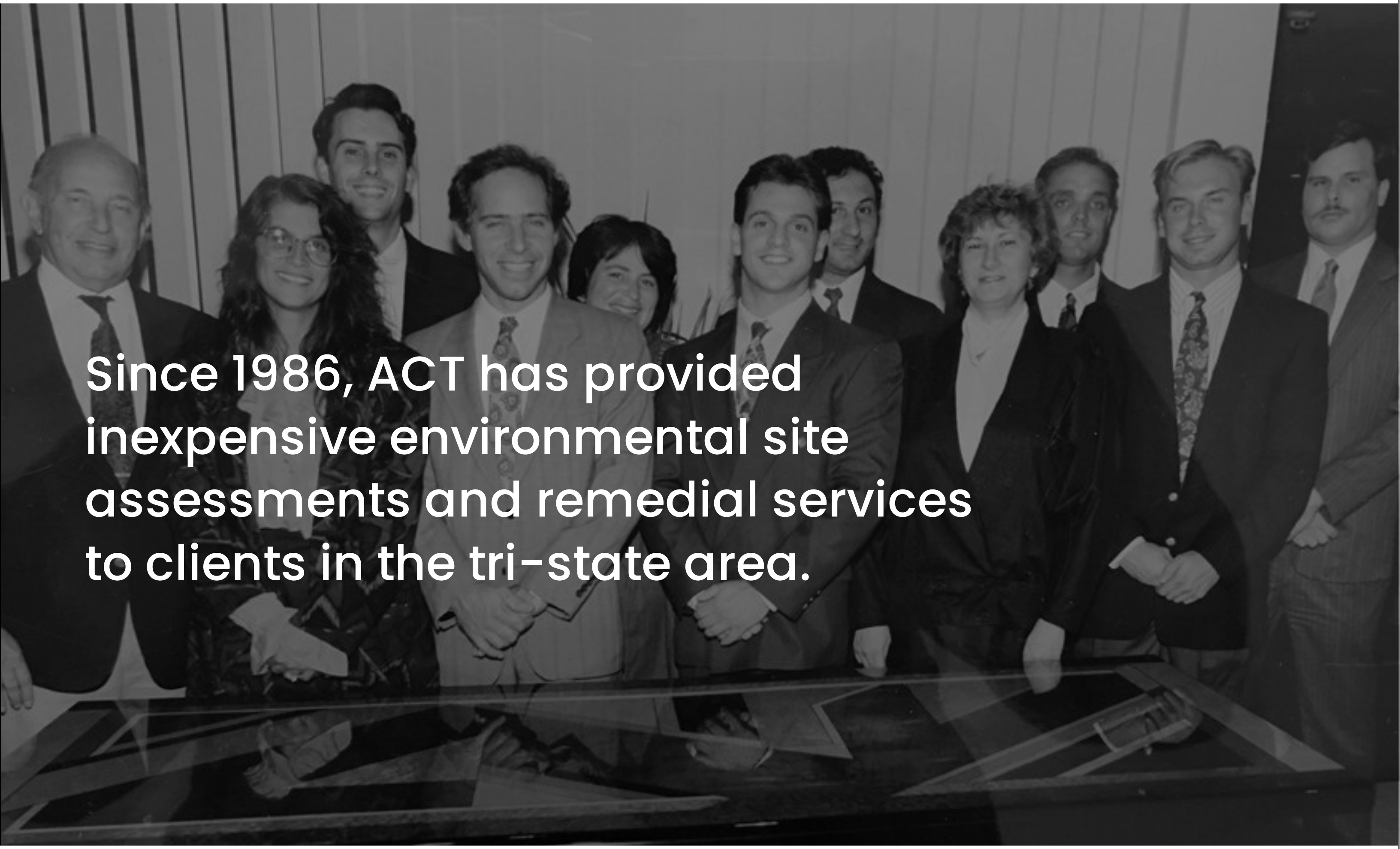
Advanced Cleanup Technologies Inc.

228 Park Ave S PMB 34864
New York, New York 10003

Phone: 516-441-5800

Email:
info@act.earth

Advanced
Cleanup
Technologies
Environmental Consultants



Since 1986, ACT has provided inexpensive environmental site assessments and remedial services to clients in the tri-state area.

Advanced Cleanup Technologies, Inc. (ACT) is an environmental consulting firm with an office at 115 Engineers Drive in Hicksville, New York. The company was formed in 1986 with the specific purpose of providing inexpensive environmental site assessments and remedial services to clients in the tri-state area. For 35 years, ACT has been providing rapid, cost effective solutions to environmental issues while maintaining financial security among our clients.

ACT can obtain clearance for regulatory issues which could impede real estate development such as hazardous materials “e” designations and open petroleum or hazardous waste spills. ACT is a qualified vendor for the NYC BIG Program. Through ACT’s expertise, we can expeditiously remediate a site and assist you with obtaining the monetary benefits being offered by the NYC Mayor’s Office of Environmental Remediation for remediating sites under this program.

ACT provides highly qualified staffing and in-house equipment for all of its environmental assessment and remediation projects. Our versatile approach allows us to handle both simple and complex projects with speed and efficiency. These features insure expeditious and cost effective solutions, placing ACT in the forefront of the environmental consulting profession.

Advanced Cleanup Technologies Inc.

228 Park Ave S PMB 34864
New York, New York 10003

Phone: 516-441-5800

Email:
info@act.earth

Advanced
Cleanup
Technologies
Environmental Consultants

Due Diligence Services

For over 35 years, ACT has provided due diligence services to financial institutions and private developers. Due diligence is commonly part of a real estate transaction and includes a site-specific inquiry into the environmental characteristics of a subject property. Due diligence begins with a Phase I Environmental Site Assessment (ESA), which is a preliminary environmental assessment designed to identify the presence or absence of recognized environmental conditions (RECs) at a subject property. Phase II ESAs are warranted for properties where RECs have been identified during the Phase I ESA. A Phase II ESA thoroughly investigates the specific areas of environmental concerns at a subject property through sample collection and analysis. Both Phase I and Phase II ESAs are performed in accordance with the active ASTM standards established by the industry. ACT also provides limited environmental assessments, such as Transaction Screens and Environmental Source Reviews, where Phase I and Phase II ESAs are not required.

Contact: Ray Buzeta, Environmental Scientist

Email: Rayb@act.earth

228 Park Avenue South, PMB 34864, New York, NY 10003

Tel: (516) 441-5800

Website Address: actenvirons.com

Phase I Environmental Site Assessments

A Phase I Environmental Site Assessment, or Phase I ESA, is a screening tool that determines whether a property's environmental quality may have been impacted by Recognized Environmental Conditions, defined as the presence, likely presence, or potential presence of hazardous substances or petroleum products in, on, or at a subject property due to the release to the environment, likely release to the environment, or a material threat of a future release the environment. When confirmed or suspected Recognized Environmental Conditions are identified, a follow-up Phase II Environmental Site Assessment is needed where environmental samples are collected, analyzed and compared to applicable regulatory standards.

The Phase I ESA was developed by the American Society for Testing and Materials in 1993 (ASTM E1527-93). There are currently two acceptable versions the ASTM Phase I Standard; the 2013 and 2021 standards. The 2013 version included the addition of a Tier I Vapor Encroachment Screen, which determines whether there actually is or is a potential for volatile organic vapors to encroach upon the subject property, producing a vapor encroachment condition. Some of the biggest changes to the 2021 standard includes redefining Recognized Environmental Conditions, the shelf life of a Phase I ESA report, and data gaps. While the 2021 standard has helped create conformity in the industry, our clients should not expect to see a significant difference in the quality or outcome of ACT's assessments using either the 2013 or 2021 standards.

ASTM INTERNATIONAL

ACT's Phase I ESA includes a thorough site inspection, a review of historical property information, a review of federal, state and municipal databases and preparation of a Phase I ESA report. A typical Phase I ESA takes three weeks to complete but can be completed in as little as 48-hours if required. As part of ACT's mission to provide inexpensive environmental site assessments and remedial services to clients, we pride ourselves in saving time and money by providing our clients the option of performing a Phase I ESA simultaneously with a Phase II ESA.

AUTOCAD

Need an updated Phase I ESA? ACT can prepare abbreviated assessments such as a Transaction Screen or an Environmental Source Review. Contact ACT for our free expertise in finding the right environmental assessment for your project.

Environmental Source Review

An Environmental Source Review includes a review of all state, federal and municipal environmental databases, historical city directories, as well as historical fire insurance maps and historical aerial photographs. Users commonly request Environmental Source Reviews to update recently outdated Phase I ESAs. Site inspections and interviews are not performed as part of this review. This provides a user the ability to understand potential environmental concerns at a subject property without having to step foot on to the subject property.

Transaction Screen

The Transaction Screen was designed as a less costly environmental assessment for properties not likely to have Recognized Environmental Conditions, such as private residences and commercial office buildings. Like the Phase I ESA, a Transaction Screen is intended to identify all confirmed or suspected RECs at a property.

While the ASTM Transaction Screen is very similar to the conventional Phase I ESA, it can only be used effectively on properties where there has been little or no known chemical usage

Advanced
Cleanup
Technologies
Environmental Consultants

Phase II Environmental Site Assessments

Since its founding in 1986, ACT has developed a Phase II Environmental Site Assessment (Phase II ESA) that thoroughly investigates the specific areas of environmental concern, while minimizing the time, cost and uncertainties to the parties involved. Our in-house staff and field crews are capable of collecting and analyzing environmental samples from every media without subcontractor costs and delays. We have performed thousands of Phase II ESAs for every type of land use and are experienced at identifying conditions that could impact upon a property's environmental quality.

The Phase II ESA is an environmental investigation designed to determine whether recognized environmental conditions identified during a Phase I ESA have physically impacted the environmental quality of a property. ASTM adopted a Standard Practice for Environmental Site Assessments: Phase II Process in 2019 (ASTM E1903-19). New York State Department of Environmental Conservation's technical regulations (NYSDEC DER-10, 6 NYCRR 375, NYSDOH VI Guidelines) provide formal procedures for conducting Phase II ESAs for regulatory approval. New York City Office of Environmental Remediation (NYCOER) has specific protocols for performing Phase II ESAs that consider the location and size or a property as well as its historical and planned future uses.

Whether there is a need to know the integrity of an underground storage tank or the quality of soil, soil vapor or groundwater, ACT has the personnel and equipment to get the job done as fast and inexpensively as possible. This professional quality allows ACT to efficiently identify indications of potentially harmful and expensive environmental impacts. That's why our Phase II ESAs are utilized by property owners, developers, financial institutions and regulatory agencies as valid proof of a property's environmental condition and value.

Standard ASTM Phase II ESAs

The standard Phase II ESA is intended to address issues raised in the Phase I ESA and usually includes the collection of soil, soil vapor and groundwater samples. Geophysical investigations using Ground-Penetrating Radar (GPR) and utility locating equipment are performed if underground structures such as buried gasoline or fuel oil tanks or drainage and septic systems are suspected of being present at a property. All samples are analyzed by certified laboratories and the results summarized in a Phase II Environmental Site Assessment Report.

NYCOER E-Designation Hazmat Investigations

Many properties in New York City are E-designated for hazardous materials testing. The New York City Mayor's Office of Environmental Remediation (NYCOER) has specific protocols for performing Phase II ESAs that take into account the location and size or a property as well as its historical and planned future uses. The NYCOER requires much more testing at higher cost than a standard Phase II ESA. But a Phase II ESA accepted by the NYCOER gives you the basis for a Notice To Proceed, building permit and high level of assurance that the property has been thoroughly investigated

NYC Office of Environmental Remediation

NYSDOH Soil Vapor Intrusion Studies

A Soil Vapor Intrusion (SVI) Study determines whether indoor air quality has been impacted by soil vapor beneath a building. SVI Studies include the simultaneous sampling of sub-slab soil vapor and indoor air in accordance with NYSDOH "Guidance for Evaluating Soil Vapor Intrusion in the State of New York." This sampling is also extremely non-intrusive and usually takes 4 to 8 hours for commercial and industrial buildings and 24 hours for residential buildings. The certified laboratory results can also be available within 24 hours.

NYSDEC Site Characterizations and Remedial Investigations

To obtain a "No Further Action" letter, the NYSDEC requires an investigation known as a Site Characterization that meets technical requirements of NYSDEC's technical regulations, DER-10. The scope and cost of a Site Characterization depends upon the type of contamination and geology that may present, historical uses of the property and surrounding neighborhood. If contamination is confirmed, a more comprehensive Remedial Investigation may be required to determine the need for remedial activities and their cost.

NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

Advanced
Cleanup
Technologies
Environmental Consultants

Regulatory Services

Our regulatory compliance services address the gamut of city, state and federal regulatory requirements. From enforcement actions or consent decrees under state or federal Superfund laws to the city and state Volunteer and Brownfield Cleanup Program during property re-development, ACT has the expertise to deal with all your regulatory compliance requirements.

Contact: Joseph Sgueglia, Senior Project Manager
Email: Josephs@act.earth
228 Park Avenue South, PMB 34864, New York, NY 10003
Tel: (516) 441-5800
Website Address: actenvirons.com

Advanced
Cleanup
Technologies
Environmental Consultants

Enforcement Assistance

ACT's staff of engineers and environmental scientists specialize in Superfund Amendments and Reauthorization Act (SARA), Resource Conservation and Recovery Act (RCRA), National Pollutant Discharge Elimination System (NPDES) and other permitting frameworks. Our personnel have years of practical experience working with the regulatory community to find ways of settling differences. If enforcement action has already commenced, we can rapidly bring the client into regulatory compliance.

Companies can also be thrust into an enforcement crisis because of mandated closure of chemical storage facilities, pipelines or drainage basins. Hardships from regulatory compliance can be avoided by meeting with regulators and establishing compliance guidelines.

ACT has the resources to produce evidence of environmental compliance. Discharge monitoring, end point sampling and construction documentation guarantee compliance with the most stringent governmental regulations. ACT can also assist in meeting any compliance schedule or seeking necessary extensions. We will work with the regulatory community to insure that your interests are protected.

Advanced Cleanup Technologies
Environmental Consultants

New York City Office of Environmental Remediation Volunteer Cleanup Program

Many properties in re-zoned districts throughout New York City have received an E-designation for hazardous materials by the New York City Mayor's Office of Environmental Remediation (NYCOER). A Notice to Proceed from the NYCOER is required to receive building permits from the New York City Department of Buildings for an E-designated property.

To receive a Notice to Proceed, the NYCOER offers developers enrollment into NYC's Volunteer Cleanup Program (VCP) with assistance from an environmental consulting firm, like ACT. Admission into the VCP begins with the performance of a comprehensive remedial investigation designed to meet NYCOER's specific protocols for conducting environmental testing that considers a property's size and location as well as the historical and planned future uses. The results of the remedial investigation are used to prepare a P.E. Certified Remedial Action Plan, which details the design and proposed implementation of engineering and institutional controls, or protective measures, included in the redevelopment.

ACT provides the following services to property developers aiming to obtain a Hazardous Materials Notice to Proceed from the NYCOER:

- Performance of Phase I Environmental Site Assessments
- Preparation of Remedial Investigation Work Plans
- Performance of Remedial Investigations and preparation of a Remedial Investigation Report
- Preparation of a P.E. Certified Remedial Action Plans
- Design and P.E. Certification of Sub-Slab Depressurization Systems
- Preparation of Construction Health and Safety Plans
- Preparation of Community Air Monitoring Plans
- Preparation and submission of VCP Applications and Agreements
- Attendance of NYCOER required meetings

Before Redevelopment

After Redevelopment

ACT can also help developers obtain approval letters from soil disposal facilities. ACT has experience coordinating soil disposal with several of the largest facilities in the Tri-State Area. Coordination begins with the collection of waste characterization samples to identify the type of soil to be excavated from a development site. The Results are shared with the disposal facilities as part of a comprehensive package including NYCOER's Historic Fill & Soil Disposal Notification Form, laboratory reports, and soil profile applications.

Once a building permit is issued, construction can begin with ACT oversight. Daily, weekly, and monthly status reports are prepared and submitted by ACT to NYCOER. These status reports provide OER with updates on soil quality, excavation, and loading, community air monitoring data, and the installation of the engineering controls and building development. All inspections are performed under the direction of ACT's in-house Professional Engineer. After the building is constructed, the NYCOER requires submission of a P.E. Certified Remedial Action Report summarizing the remedial activities performed during development. Once approved, NYCOER issues a Notice of Satisfaction, which allows developers to receive their Certificate of Occupancy.

ACT provides the following construction-related services to obtain a Notice of Satisfaction:

- Coordination and obtainment of approval letters from soil disposal facilities
- Oversight of Soil Loading
- Community Air Monitoring
- Preparation of Daily, Weekly, and Monthly Status Reports to NYCOER
- QEP and P.E. Inspections of engineering controls during building development
- Preparation of a P.E. Certified Remedial Action/Closure Reports

ACT is a Qualified Vendor and has successfully completed dozens of NYCOER projects. We would be happy to provide you with a free cost estimate to comply with all NYCOER requirements to obtain a Notice to Proceed and Notice of Satisfaction for your projects.

NYSDEC Brownfield Cleanup Program

Contaminated properties requiring cleanup in NYS can enter a voluntary program known as the New York State Brownfield Cleanup Program to encourage cleanup during a property's redevelopment. The NYSBCP is very easy to enter if certain conditions are met. The benefits of entering the NYSBCP include receiving a certification at the completion of the project that:

- The property is safe and requires no further remedial action.
- The property owner is free and clear of liability for any remaining contamination at or in the vicinity of the property.
- The property owner is eligible for extensive tax credits following completion of remedial activities based upon (a) the cost of remedial activities, (b) if the development includes low-income housing, and (c) if the property is in an "Enzone" or other specially designated district.

Once accepted into the NYSBCP, a thorough investigation of the property is performed. All investigations and remedial activities are coordinated with the NYSDEC and NYSDOH.

ACT's engineers, scientists and accountants can help you identify the most cost-effective way of developing a contaminated property into a model of sustainability for the community. Please contact ACT to inquire into ways we can be of assistance in your development project.

Coordination with NYSDEC and NYSDOH

Undeground Storage Tank(UST) Removal

Advanced
Cleanup
Technologies
Environmental Consultants

Remedial Services

ACT's Remedial Services provide customers access to innovative technologies to control and eliminate the sources and impacts of contamination. ACT combines tried-and-true methods with state-of-the-art technologies to design the most cost-effective remedial systems available.

ACT uses remedial systems that operate themselves, allowing customers to eliminate costs and liabilities well before remediation is complete. Monitoring costs are kept to a minimum using wireless remote monitoring systems that provide real-time critical system parameters and alarms on a 24/7/365 basis.

From simple underground storage tank removals to complex soil, soil vapor and groundwater restoration, our staff can plan, design and construct remedial systems that are tailored to the client's project scope and budget. ACT can implement the most cost-effective remedy for your project's requirements.

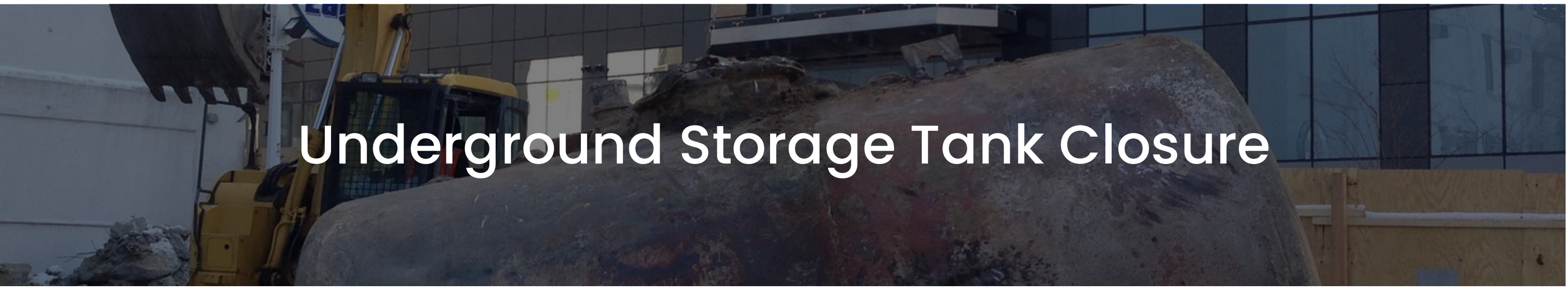
Contact: Jason Stewart P.E., Senior Project Manager

Email:Jasons@act.earth

228 Park Avenue South, PMB 34864, New York, NY 10003

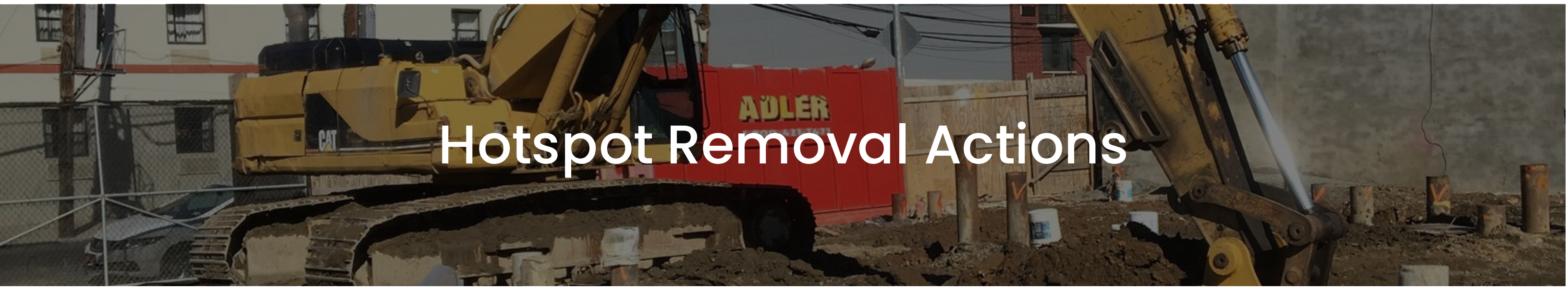
Tel: (516) 441-5800

Website Address: actenvirons.com



Underground Storage Tank Closure

Underground storage tanks are commonly found during due diligence inquiries in real estate transactions or property redevelopment. They require closure in accordance with federal, state and municipal regulations, which include tank registration, removal or filling with foam, sand or concrete. Since 1998, soil sampling is required beneath or adjacent to the tank pit. A Tank Closure Report should also document all closure activities including waste manifests.

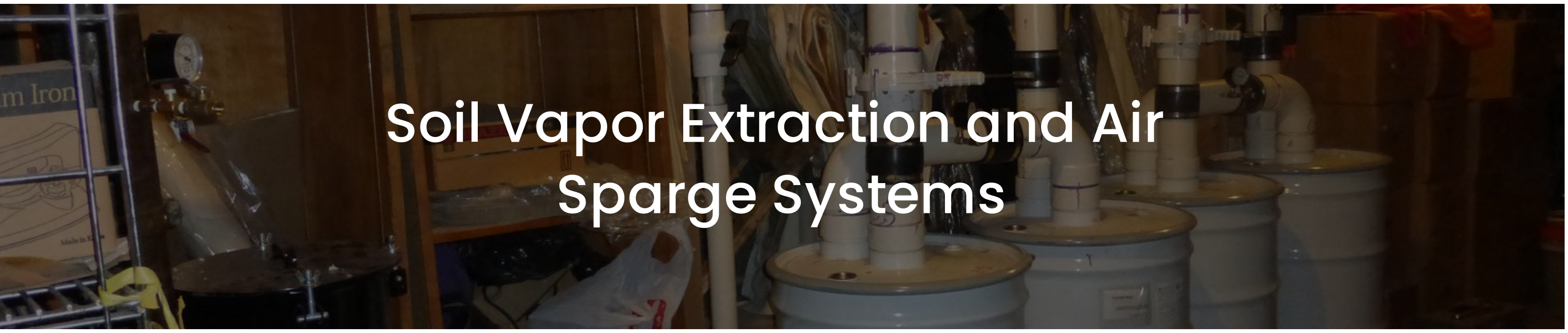


Hotspot Removal Actions

Localized areas of contamination, known as "Hot Spots", require special handling and regulatory reporting, especially if discovered during property redevelopment. In many instances, an Interim Remedial Measure Work Plan can be submitted to the regional regulatory office so the Hot Spot can be removed and development continued without significant delay.

In-Situ Chemical and Biological Remediation

Where excavation cannot remove all contaminated soil, chemical and biological remediation has become the most expeditious means of obtaining a no further action letter in a short timeframe. The area of contamination is gridded out and a mixture of chemical oxidizer and biological nutrients is injected into the ground to oxidize the contamination and spur natural biodegradation



Soil Vapor Extraction and Air Sparge Systems

Volatile organic compounds or VOCs such as gasoline, dry cleaning fluid and other industrial chemicals can be efficiently removed from the ground as vapors rather than in dissolved groundwater. Soil vapor extraction systems create vacuums around contaminated areas, which efficiently remove VOCs from of the ground. For significant groundwater contamination, air sparge systems force pressurized air under the VOC plume so they can be vacuumed from the ground.

Groundwater Recovery

Chemical releases that are not amenable by other technologies may require remediation through classic groundwater recovery and treatment, which can contain and remove dissolved or separate-phase contamination over time. Groundwater recovery and treatment systems require several years to show significant improvements in groundwater quality. Wireless telemetry systems are an excellent way of eliminating expensive long-term monitoring charges.

Advanced Cleanup Technologies
Environmental Consultants

Sub-Slab Depressurization Systems

Like soil vapor extraction, Sub-Slab Depressurization Systems (SSDS) produce vacuums under buildings to prevent soil vapor from entering air inside the buildings. Unlike soil vapor extraction systems, the SSDS produces acceptable air quality inside the building and without removing contaminated soil vapor requiring treatment that may require expensive treatment.

Patent-pending "Automatic Drainage System for Moisture Separator" keeps SSDS operating and avoids costly equipment replacement and maintenance

Advanced Cleanup Technologies Inc.

228 Park Ave S PMB 34864
New York, New York 10003

Phone: 516-441-5800

Email:
info@act.earth

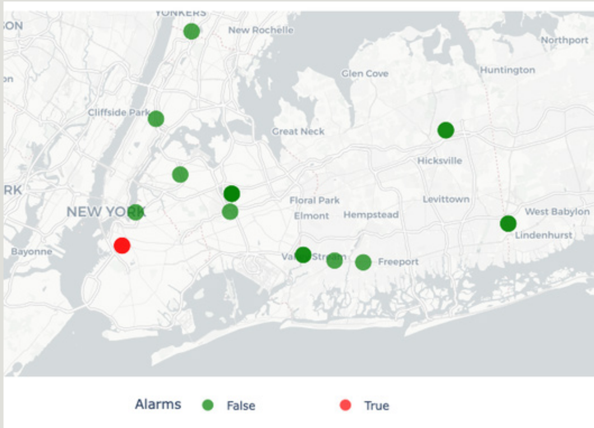
Advanced
Cleanup
Technologies
Environmental Consultants

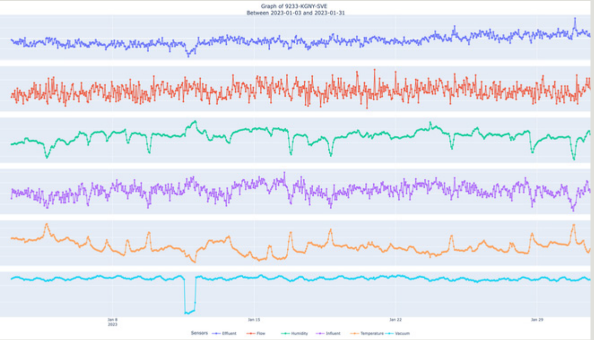
High Performance Blower and Telemetry Solutions

ACT produces advanced in-house telemetry vacuum blower solutions for sub-slab depressurization systems(SSDS) and soil vapor extractions system(SVES).

Advanced Analytics and Reporting

Real-time 24/7 reporting, alarms, and custom dashboards reduce monitoring costs and guarantee continued operation of all your systems.





Advanced Cleanup Technologies Inc.

228 Park Ave S PMB 34864
New York, New York 10003

Phone: 516-441-5800

Email:
info@act.earth

Advanced
Cleanup
Technologies
Environmental Consultants

Paul P. Stewart, J.D., M.S., QEP

President

Contact

Phone
(516) 441-5800

Email
pauls@act.earth

Education

1996 - 1999, Professor
Environmental Law & Regulations
Polytechnic Institute, NY

1982
J.D., Environmental Law
Vermont Law School, VT

1979
M.S., Environmental Health Engineering
Tufts University, MA

1978
B.S., Environmental Science
Boston University, MA

Certifications & Licenses

- NJ Certification in Subsurface Evaluations
- Approved ASTM Instructor on Environmental Site Assessments
- Portable Gas Chromatography Chemist

Affiliations

- American Chemical Society
- American Society of Testing & Materials

Select Presentations

- The Scene of the Accident: Forensic Engineering in Hazardous Waste Litigation, Purdue University Industrial Waste Symposium, IN - May 1988
- A Case Study of Petroleum Contamination, Environmental Claim Seminar, St. Paul, MN - May 1990

Experience

President

1989 - Present

Advanced Cleanup Technologies, Inc.

Joined the firm in February 1989, with extensive expertise in the investigation of environmental contamination incidents. Has been employed by industrial facilities, retail petroleum distributors, insurance companies, and financial institutions to investigate past and present chemical handling practices and conditions at subject locations.

Mr. Stewart has developed a Forensics department which directs all investigations into the occurrence of contamination and sources of its release. These services are geared towards identifying the nature, extent, and causes of environmental contamination. He is also affiliated with Polytechnic Institute of New York where he is engaged in joint research into groundwater flow, chemical transport modeling, and remediation as applied to major chemical releases.

Associate Attorney

1985 - 1989

Rivkin, Radler, Dunne, & Bayh
Uniondale, NY

A member of the Science-Causation Team and Environmental Practice Group with extensive experience in groundwater investigations and major environmental litigation. He coordinated the development of major scientific and technical issues involved in complex hazardous waste and toxic tort law suits including Agent Orange, Shell, and many others.

His responsibilities included the allocation of liabilities and costs for the release of chemicals into the environment and developing appropriate levels of remedial action. He was also responsible for researching and evaluating evidence of property damage and environmental exposure in conjunction with the Real Estate Department, where he developed environmental due diligence procedures for commercial real estate transactions.

His additional responsibilities included investigating companies, chemical handling, transport and disposal practices and impacts on their regulatory requirements. This work involved surveying industrial activities and chemical release incidents at numerous facilities including literature research, public agency records review, and the coordination of appropriate soil, soil vapor, and ground water investigations. He also made appearances before federal, state, and local regulatory agencies and successfully negotiated the resolution of regulatory compliance issues under numerous statutory frameworks.

Intern Examiner

1981

U.S. Patent & Trademark Office
Washington, D.C.

Screened applications for statutory compliance. Prepared legal memoranda in support of official determinations in pending actions.

PAUL P. STEWART, J. D., MS, QEP

PUBLICATIONS

Numerous technical reports and articles on environmental health engineering and science including the following:

- Evaluation of an Ecological Habitat in an Urban New England Environment, 1978.
- Environmental Impact Analysis, Construction of the Kennedy Memorial Library, 1978.
- Pretreatment of Chromium Waste Sludge from Metal Plating Facility, 1979.
- Environmental hnpact Analysis, Expansion of the Block Island Sewage Treatment Plant, 1979.
- Environmental Report, 11th Annual ALI-ABA Conference on Environmental Law, Vermont Law School Forum, 1981.
- Official Comments, Final Environmental Impact Statement, Proposed Runaway Extension and Industrial Park Development, Lebanon Municipal Airport, Lebano, New Hampshire, 1982.
- Laboratory Scale Design, Treatment of Wastewater from Soda Manufacturing, 1985.
- Development of a Groundwater Evaluation Program, Hazardous Waste and Toxic Torts Law and Strategy, 1985.
- The scene of the Accident: Forensic Engineering in Hazardous Waste Litigation, Journal of the Industrial Waste Symposium, Prudue University, 1988.
- History of Commercial use of Methyl tert-Butyl Ether in gasoline products, 1990.
- A Case Study of Petroleum Contamination, April 16, 1990.
- Effect ofBentonite Diversion Wall on the Migration of Wastes at a Hazardous Waste Landfill, Sato, C., A. Protopapas, P. Stewart, June, 1991.

RELATED PROJECT EXPERIENCE

Beekman, New York

Performance of an environmental services audit of on-going groundwater remediation project.

Bellmore, New York

The investigation of soil and groundwater contamination associated with retail gasoline distribution facilities.

Brockton, Massachusetts

Performance of a soil, soil vapor and groundwater investigation associated with a retail dry cleaning facilities.

Falls Village, Connecticut

The investigation and remediation of soil and groundwater contamination associated with the release of fuel oil from an underground storage tank.

Garden City, New York

The investigation and remediation of chlorinated solvent contamination associated with printing industry wastes.

Pineola, North Carolina

The investigation of soil and groundwater contamination associated with the release of petroleum from a retail gasoline and bulk petroleum distribution facility.

Ridgefield, Connecticut

The investigation and remediation of soil and groundwater contamination associated with the release of fuel oil from an above ground petroleum storage facility.

Advanced
Cleanup
Technologies
Environmental Consultants

Karen Friedman, B.B.A., CPA

Vice President

Karen Friedman is a Certified Public Accountant with a Bachelor of Business Administration from the Ross School of Business at the University of Michigan and a post graduate degree in business management.

She specializes in the planning, budgeting and scheduling of major construction projects, utilizing PERT, CPM and other project management tools to maintain control over costs and scheduling. Prior to her long-time stay at ACT, Ms. Friedman gained widespread experience as a cost control accountant for major construction firms in New York City and throughout the United States.

Contact

Phone
(516) 441-5800

Email
karenf@act.earth

Education

B.S., Business Administration
University of Michigan

Experience

Vice President

May 1986 - Present

Advanced Cleanup Technologies, Inc.

Ms. Friedman is well suited and qualified to manage all budgeting and scheduling requirements, including cost estimation of proposed investigations, remedial designs, and subcontractor compensation.

Ms. Friedman has managed and audited accounts associated with multimillion dollar remediation projects. She adds a unique and significant facet to our project team to insure the efficient and successful performance of investigative and remedial activities over the duration of a project, a quality which is lacking in most competing firms.

Advanced Cleanup Technologies
Environmental Consultants

Jason Stewart, P.E.

Senior Project Manager/
Professional Engineer

Contact

Phone
(516) 441-5800

Email
jasons@act.earth

Education

2017 - 2019
MSE, Mechanical Engineering
University of Michigan, Rackham Graduate School

2012 - 2016
B.S., Mechanical Engineering
Vanderbilt University

License

- **New York State Professional Engineer - Environmental Engineering**

JASON BRUCE STEWART
105632

Skills

- AutoCAD
- GIS
- Technical Writing

Experience

Senior Project Manager/Professional Engineer

August 2019 - Present

Advanced Cleanup Technologies, Inc.

- Manages fieldwork for and design of Sub-slab Depressurization System (SSDS) Installations
- Professional Report Writing
- Manages fieldwork and reporting for Brownfield and Superfund projects
- Performs Professional Engineering Services for OER and NYSDEC projects
- Research and Development for new remedial technologies

Ford Motor Company

July 2016 - August 2019

- Core Calibration Engineer (5 months)
    - Assisted electrified powertrain calibration teams with data analysis
- PMT Engineer (5 months)
- Electric Motor Calibration Engineer (7 months)
- Core Calibration Engineer (9 months)
- Systems Engineer (7 months)
- D&R Engineer (7 months)

Pipelayer Product Platform Intern

January - June 2015

Volvo Construction Equipment

Shippensburg, PA

- Modeled lightweight digital mock-ups for two pipelayer machines
- Designed and analyzed new boom designs for a future concept vehicle using FEA
- Proposed various cost and weight reduction projects on structural components with potential savings of over $3000 per unit
- Developed SQL-based phone load chart calculator application for the sales team and customers Performed several investigations on machine load performance and developed a machine performance calculator
- Supported the sales and marketing team with requests for machine and competitor information and analysis
- 3D printed a full vehicle scale model concept machine with inter changeable parts and several degrees of freedom
- Drafted 2D part, assembly, and weldment engineering drawings according to corporate standards

Research Assistant

January - May 2014

Vanderbilt University

Greater Nashville Area

- Assisted with ongoing project development
- Developed and machined prototypes for a patentable Device for geriatrics

Research & Development Assistant

September 2009 - May 2014

Advanced Cleanup Technologies, Inc.

Port Washington, NY

- Performed research on remote telemetry systems using Lab view and microcontrollers
- Supervised a group of interns developing remote telemetry systems that reduced costs by 80% from comparable commercial systems and added flexibility
- Improved the efficiency of report writing by 40% with visual basic computer-aided macro

Advanced
Cleanup
Technologies
Environmental Consultants

Yisong Yang, Ph.D., REP

Environmental Engineer, REP

Mr. Yang comes to ACT with a wealth of experience from his time spent as a practicing engineer and in academia. Mr. Yang received his Bachelor of Engineering and Ph.D. in Fluid Mechanics and Fluid Engineering from Wuhan University in China. where he also taught as an Associate Professor. He has taught and conducted research at universities for nearly two decades and went on to earn a second Ph.D. in Civil Engineering and Environmental Engineering from the University of Western Ontario.

Experience

Environmental Engineer, REP

February 2009 - Present

Advanced Cleanup Technologies, Inc.

As an Engineer, Mr. Yang has worked on projects ranging from the ship lock discharge system for the Three Gorges Dam to precise forensic analysis of groundwater contamination using state-of-the-art modeling techniques

Mr. Yang is proficient in data processing, statistical analysis, computational fluid dynamics (CFD). has developed a number of fluid and gas flow modeling algorithms. While at ACT, Mr. Yang has an expertise in the investigation of environmental fields primarily in the greater New York Metropolitan Area. His work has included Phase I, Phase II Environmental Site Assessments, and remediations activities for retail gasoline service stations, auto repair services, dry-cleaner services, and commercial and residential properties

He is highly experienced in performing environmental site inspections reviewing historical and environmental data, oversight for underground oil tank removal, oversight of soil excavation and removal at NYSDEC and NYCOER job sites. He is also experienced in preparing reports and site summary diagrams, conducting environmental surveys, and the installation, inspection, and testing of remediation systems.

Contact

Phone
(516) 441-5800

Email
yisongy@act.earth

Education

Ph.D., Civil and Environmental Engineering
University of Western Ontario

Ph.D., Fluid Mechanics and Fluid Engineering
Wuhan University

M.O.E., Fluid Mechanics and Fluid Engineering
Wuhan University

B.S., Hydraulic Engineering
Wuhan University

Certifications

OSHA in Hazardous Waste Operations and Emergency Response (HAZWOPER) since 2010

OSHA Construction since 2021

National Registry of Environmental Professionals: Registered Environmental Professional (REP) since 2020

ACT Licenses

- Qualified Environmental Professional (QEP)
- Professional Engineer
- Certified Professional Accountant
- Juris Doctorate New York State
- NYC Office of Environmental Remediation-Certified Gold Professional
- ASTM Technical & Professional Training - Environmental Site Assessments of Commercial Real Estate - 1527-17
- ASTM Technical & Professional – Vapor Encroachment Screening Standard:

History & Rationale – 2600-10

- GSSI – Certified Ground Penetrating Radar
- OSHA Certification
- New Jersey Society of Professional Engineers – Certification Underground Storage Tanks

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 9/6/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
PG Genatt Group LLC
3333 NEW HYDE PARK RD
SUITE 409
NEW HYDE PARK NY 11042

CONTACT NAME: ALYSON GRAZIOSI
PHONE (A/C, No, Ext): 516-869-8788 **FAX (A/C, No):** 1-516-470-0338
E-MAIL ADDRESS: AGRAZIOSI@CRPGRP.COM

INSURED
Advanced Cleanup Technologies Inc
115 Engineers Drive
Hicksville, NY 11801

	INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A :	Merchants Mutual Insurance Company	23329
INSURER B :	Berkley Insurance Company	32603
INSURER C :		
INSURER D :		
INSURER E :		
INSURER F :		

COVERAGES **CERTIFICATE NUMBER:** 157705116 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
B	☒ **COMMERCIAL GENERAL LIABILITY**			FEI-ECC-16446-10	7/9/2023	7/9/2024	EACH OCCURRENCE	$ 2,000,000
	☐ CLAIMS-MADE ☒ OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 50,000
	☒ BI/PD						MED EXP (Any one person)	$ 5,000
	☒ Deducible $5,000						PERSONAL & ADV INJURY	$ 2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 2,000,000
	☐ POLICY ☐ PRO-JECT ☐ LOC						PRODUCTS - COMP/OP AGG	$ 2,000,000
	OTHER:							$
A	**AUTOMOBILE LIABILITY**			CAPI041608	7/9/2023	7/9/2024	COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	☒ ANY AUTO						BODILY INJURY (Per person)	$
	☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	☒ HIRED AUTOS ONLY ☒ NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
	☐ ☐							$
B	☐ **UMBRELLA LIAB** ☐ OCCUR			FEI-EXS-16447-10	7/9/2023	7/9/2024	EACH OCCURRENCE	$ 5,000,000
	☒ **EXCESS LIAB** ☒ CLAIMS-MADE						AGGREGATE	$ 5,000,000
	☐ DED ☐ RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBEREXCLUDED? ☐ **(Mandatory in NH)** If yes, describe under DESCRIPTION OF OPERATIONS below	N / A					☐ PER STATUTE ☐ OTH-ER	
							E.L. EACH ACCIDENT	$
							E.L. DISEASE - EA EMPLOYEE	$
							E.L. DISEASE - POLICY LIMIT	$
B	POLLUTION CONTRACTORS PROFESSIONAL LIAB			FEI-ECC-16446-10	7/9/2023	7/9/2024	$2,000,000 $2,000,000	$5,000 DED $5,000 DED

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
** Evidence of Insurance **

CERTIFICATE HOLDER

Evidence of Insurance
*
* * *

CANCELLATION 30 day notice applies

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Current References

Amerasia Bank
41-06 Main Street
Flushing, NY 11355
Ms. Diane Lee
(718) 463- 3600
dlee@amerasiabankny.com

New Empire Corp.
4918 3rd Avenue
Brooklyn, NY 11220
Mr. Bentley Zhao
bentley@usnere.com

Cathay Bank
41-48 Main Street
Flushing, NY 11355
Mr. Charles Lin
(718) 866-2321
Charles.Lin@cathaybank.com

CTBC Bank
521 Fifth Avenue, 11th Fl
New York, NY 10175
Ms. Vicky Liu
(212) 457-8914
vicky.liu.liu@ctbcbank.com

Eastone Capital LLC
1979 Marcus Avenue, Suite 218
Lake Success, NY 11042
Mr. Gary Chen
(516) 519-8877
garychenfishing@yahoo.com

Industrial and Commercial Bank of China (USA) NA
1185 Avenue of the
Americas,16th Floor
New York, NY 10036
Mr. Samuel Mui
MuiS@us.icbc.com.cn

Emigrant Funding
6 East 43rd Street, 10th Fl
New York, NY 10017
Mr. Joel Halper
halperj@emigrant.com

Flushing Bank
220 RXR Plaza
Uniondale, NY 11556
Ms. Gloria Rodriguez
(718)-512-2959
GRodriguez@flushingbank.com

Land Bank of Taiwan
88 Pine Street, Suite 1500
New York, NY 10005
Mr. Tom Kao
tomkao@landbank.com.tw

Rettner Management
130 Church Street, Suite 4
New Rochelle, NY 10801
Mr. Matthew Rettner
matt@rettnerrealty.com

Neighborhood Renewal HDFC
150 Broadway, Suite 2101
New York, NY 10038
Ms. Rebekah Taft
rtaft@neighborhoodrestore.org

Prestige Management Inc.
1776 Eastchester Road, Suite 210
Bronx, NY 10461
Mr. John Chen
jchen@prestigemgt.com

Signature Bank
900 Stewart Avenue, Suite 302
Garden City, NY 11530
Mr. Brady Hosley
BHosley@signatureny.com

Appendix E Adjacent Property Owners

BASE MAP

Daisy French Cleaners Site
1 Franklin Avenue
North Lynbrook, New York 11563

Legend:

▬ Site Property Boundary

Corresponding page
lists adjacent property owners by
letter A – J

N

All feature locations are approximate. This map is intended as a schematic to be used in conjunction with associated Application and Support Information, and should not be relied upon as a survey for planning and other activities.

April 2024
Source: Nassau County LRV Viewer
Scale: 1” = 100’ approximately

Number	Property Owner(s) Name(s)	Property Address	Section-Block-Lot
1	Billcarol Realty Corp.	1 Franklin Avenue	37-229-519
2	Billcarol Realty Corp.	1 Franklin Avenue	37-229-520

Letter	Adjacent Property Owner(s) Name(s)	Property Address	Section-Block-Lot
A	13 Hendrickson, LLC	13 Hendrickson Avenue	37-229-111
B	Patrick Cully and Carol Caltleri	6 Edward Street	37-229-203
C	John Gonzalez and Lenora Ochoa	4 Edward Street	37-229-201
D	3 Edward Street LLC	7 Franklin Avenue	37-229-521
E	2 Franklin Avenue LLC	2 Franklin Avenue	37-E-438
F	Robert Rossi	246 Hempstead Avenue	38-086-131
G	Dieman Realty, LLC	1 Lakeview Avenue	38-086-63
H	BB Lynbrook, Inc.	2 Hendrickson Avenue	37-231-366
I	Fatima Hussain and Muhammad Ibrahum	62 North Rockaway Avenue	37-231-360
J	Hayela Klein	61 Rockaway Avenue	37-232-342