Field Sampling Summary Report

(Phase 1 – Beard Street; Grids: 13/14b, 14a, 15, 16, 17a, 17b, 18)

FSSR Prepared for:

Red Hook Coastal Resiliency (RHCR)

NYCDDC Project #: SANDRDHK

Harold Ickes Playground, 149 Van Brunt Street, 160 Imlay Street, 131 Imlay Street, 155 Sullivan Street, 251 Conover Street, 417 Van Brunt Street, 64 Van Dyke Street, Basis Independent Brooklyn Upper School, 46 Beard Street, and Red Hook Field # 6

Brooklyn, New York 11231

New York City Department of Design and Construction

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Perfetto Contracting Company Inc.

152 41st Street, Brooklyn, NY 11232

FSSR Prepared By:

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FSSR Preparation Date:

October 27th, 2025

Revised: October 31st, 2025

Estimated Project Start and End Dates:

August 2025 — September 2029

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ACRONYMS

The following acronyms are referenced in this Field Sampling Summary Report (FSSR).

Item	Description
ADA	Americans with Disabilities Act
AOC	Area of Concern
BGS	Below Grade Surface
COC	Chain-of-custody
CSO	Combined Sewer Overflow
DNAPL	Dense Non-Aqueous Phase Liquid
DOT	Department of Transportation
EHASP	Environmental Health and Safety Plan
ELAP	Environmental Laboratory Approval Program
EPH	Extractable Petroleum Hydrocarbons
ESA	Environmental Site Assessment
FSP	Field Sampling Plan
FSSR	Field Sampling Summary Report
FUDS	Formerly Used Defense Sites
HSC	Health and Safety Coordinator
HSO	Health and Safety Officer
IHASP	Investigation Health and Safety Plan
MHP	Material Handling Plan
NAPL	Non-Aqueous Phase Liquid
NWI	National Wetlands Inventory
NYCDDC	New York City Department of Design and Construction
NYCDEP	New York City Department of Environmental Protection
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PCBs	Polychlorinated Biphenyls
PFAS	Per- and Polyfluoroalkyl Substances
PID	Photoionization detected
PPM	Parts Per Million
RAP	Remedial Action Plan
RCRA	Resource Conservation and Recovery Act
RHCR	Red Hook Coastal Resiliency
SCOs	Soil Cleanup Objectives
SVOCs	Semi-Volatile Organic Compounds
TAL	Target Analyte List
TAT	Turn-around time
TCLP	Toxicity Characteristic Leaching Procedure
TOGS	Total Organic Groundwater Standards
USFWS	US Fish and Wildlife Service
USTs	Underground Storage Tanks
VCP	Voluntary Cleanup Program
VOC	Volatile organic compound

REVISION LOG

The following revision log has been completed with the initial submission and subsequent revisions.

Date	Revision Number	Description
10/27/2025	FSSR-03-00	Initial submission for NYCDDC for review
10/31/2025	FSSR-03-01	Response to NYCDDC Comments

CERTIFICATION STATEMENT

Please see Section 8.

SECTION 1: INTRODUCTION AND PROJECT PURPOSE

1.1 General

At the request of Perfetto Contracting Company Inc. (of 152 41st St, Brooklyn, NY 11232), Factor Group Inc. (of 111 Town Square Pl, Ste 1203, Jersey City, NJ 07310) prepared this Field Sampling Summary Report (FSSR) for submittal to the New York City Department of Design and Construction (NYCDDC). This FSSR summarizes the in-situ soil sampling activities performed on October 2, 6 and 8, 2025. The soil sampling activities were performed to characterize subsurface soil to be generated during the Red Hook Coastal Resiliency (RHCR) (NYCDDC Project: #SANDRDHK) Project that will require off-site disposal. The soil sampling activities were performed in accordance with the NYCDDC Accepted Field Sampling Plan (FSP), dated September 16, 2025, and NYCDDC Specification Section 8.01 C2.

1.2 Purpose

The proposed construction activities primarily involve roadway and utility work. The project includes the installation of passive flood protection measures, such as flood walls, raised roadbeds, and flood gates, intended to reduce coastal impacts on the existing drainage system. Construction will include reconstruction and elevation of existing roadways, utility upgrades to meet current codes and standards, and integration of Americans with Disabilities Act (ADA)-compliant features. Improvements to stormwater management are anticipated as part of the drainage system enhancements, although no new outfalls are explicitly proposed in the current documentation. The project also includes streetscape improvements along the Brooklyn Waterfront Greenway corridor, which will enhance pedestrian and bicycle infrastructure while incorporating elements such as planting strips, safety striping, and street furniture.

The project has been divided into the following work areas:

Atlantic Basin

1. Area 1: Southwest along Van Brunt Street to Summit Street, northwest along Summit Street to Inlay Street, Southwest along Imlay Street to Bowne Street, southwest along Bowne Street
2. Area 2: Southwest along Bowne Street to Verona Street, southeast along Verona Street to Imlay Street, southwest along Imlay Street to Conover Street, southwest along Conover Street, northwest between King Street and Clinton Wharf
3. Area 3: Northwest between King Street and Clinton Wharf, southwest along Ferris Street, northwest portions of Sullivan Street and Wolcott Street

Beard Street

1. Area 1: Southwest along Conover Street to Reed Street, southeast along Reed Street to Van Brunt Street, northeast along Van Brunt Street to Beard Street
2. Area 2: Southeast along Beard Street to Dwight Street
3. Area 3: Southeast along Beard Street to Halleck Street, southeast along Halleck Street to Columbia Street, northeast along Columbia Street
4. Area 4: Street raising at intersection of Lorraine Street and Court Street, and a section of Bay Street between Clinton and Court Street to be regraded

As depicted in **Figure 2**, these work areas are further divided into twenty-three (23) excavation subsections based on various project drawings.

A total of approximately 23,000 cubic yards (34,500 tons) of soil/fill will be excavated during the project. Excavation in select areas is expected to occur below the groundwater table and localized construction dewatering will be required. During the sampling events referenced in this FSSR occurring on October 2, 6 and 8, 2025, groundwater was not encountered in Grid-13/14b, Grid 15, or grid 17b. Groundwater was encountered at depths as shallow as 6' bgs in Grid-14a. Groundwater was encountered at depths as shallow as 4.5' bgs in Grid-16. Groundwater was encountered at depths as shallow as 6' bgs in Grid-17a. Groundwater was encountered at depths as shallow as 7' bgs in Grid-18. Groundwater investigation was not included as part of this sampling event. This FSSR specifically addresses sampling performed to characterize approximately 6,800 cubic yards (10,200 tons) of soil/fill that will be generated from Beard Street Areas 1 & 2: Grids 13/14b, 14a, 15, 16, 17a, 17b, & 18.

1.3 Project Organization and Responsibilities

Prior to the start of the project, the overall responsibilities for project personnel and subcontractors were established, including the chain of command. The personnel and organizations critical to the performance of the site investigation activities at the site and their respective responsibilities are listed below.

Environmental Project Director – The Project Director will be responsible for communicating with the Client and have overall responsibility for the project.	Joel Rogers, PE, Factor Group Inc. 111 Town Square Pl, Ste 1203, Jersey City, NJ 07310 (201) 582-3334 joel@factorgrp.com
Environmental Project Manager - The Project Manager will have the overall responsibility of coordinating the project and will be responsible for assigning qualified field personnel, including the project support staff such as the Health and Safety Coordinator.	James Maniscalco, PE, Perfetto Contracting Co. Inc. 152 41st Street, Brooklyn, NY 11232 (718) 858-8600 jmaniscalco@perfettocontracting.com
Health and Safety Coordinator - The Health and Safety Coordinator (HSC) is responsible for developing the Investigation Health & Safety Plan (IHASP) and will be responsible for providing consultation on all health and safety related issues as they may arise in the field. Any alterations and/or modifications to the IHASP must be accepted by the HSC.	Luiz Oliveira, MS, MSc, CSP, CHST, Perfetto Contracting Co. Inc. 152 41st Street, Brooklyn, NY 11232 (718) 858-8600 loliveira@perfettocontracting.com

Site Health and Safety Officer - The Site Health and Safety Officer (HSO) will be primarily responsible for the implementation of the IHASP at the project site. The HSO will also assure that project personnel are aware of the provisions of the IHASP and are instructed in the safe work practices and emergency procedures; be present at the site at all times when the project work is going on unless the project task does not necessitate his presence; and communicate with the Project Manager and HSC for any changes and/or modifications required in the IHASP. The HSO has the responsibility and the authority to shut down unsafe operations as and when they arise.	Stephen Libert, Factor Group Inc. 111 Town Square Pl, Ste 1203, Jersey City, NJ 07310 (973) 907-0292 slibert@factorgrp.com	
Field Staff – List Field Staff (geologists, technicians, etc. separately.	Stephen Libert Safety Manager (973) 907-0292 slibert@factorgrp.com	Brian Connolly Senior Project Manager (917) 545-9226 bconnolly@factorgrp.com
	Factor Group Inc. 111 Town Square Pl, Ste 1203, Jersey City, NJ 07310	
Analytical Laboratories – The analytical laboratories to be utilized for soil and/or groundwater analysis	**Phoenix Environmental Laboratories** 587 E Middle Tpke, P.O. Box 370, Manchester, CT 06040 Michael Lapman, Client Manager (860) 512-4271 Michael@phoenixlabs.com **York Analytical Laboratories** 120 Research Drive, Stratford, CT 06615 Victor De Jesus, Login Team Lead / HSE Safety Rep (203) 325-1371 Victor.DeJesus@aslglobal.com	

1.4 Site History

Environmental history and concerns related to the scope of work can be found in the June 12, 2024 Remedial Action Plan (RAP), by CORE Environmental Consultants, Inc., which is included as **Appendix A**. Five (5) Areas of Concern (AOCs) were identified based on historical investigations, as summarized below:

AB-AOC-1

Several investigations were conducted at the Red Hook 3 and 4 Properties sites. At Red Hook 3, dense non-aqueous phase liquid (DNAPL) was identified as the primary contaminant source, with soil exceedances of commercial Soil Cleanup Objectives (SCOs) for semi-volatile organic compounds (SVOCs) and Metals. Groundwater testing revealed exceedances of standards for volatile organic compounds (VOCs) and SVOCs. At Red Hook 4, non-aqueous phase liquid (NAPL) was identified as the primary contaminant source, with DNAPL observed, with soil exceedances of commercial SCOs for VOCs, SVOCs, and Metals. Groundwater testing revealed exceedances of Total Organic Groundwater Standards (TOGs) for VOCs, SVOCs, and PFAS.

BB-AOC-1

A US Army Corps of Engineers Formerly Used Defense Sites (FUDS) Program Management Action Plan was found for the former Atlantic Basin Iron Works. Findings revealed the potential for the existence of Underground Storage Tanks (USTs) based on geophysical investigations from 2014 to 2015.

BB-AOC-2

Previous investigations and remedial designs at the former US Dredging Shipyard and current Ikea by Soil Mechanics Environmental Services revealed surficial soil impacted by SVOCs, VOCs, polychlorinated biphenyls (PCBs), and Metals attributed to imported fill material (ash, cinders, asphalt) and historic site usage. Residual contamination is assumed to be present beneath the Site Cap, extending 4 feet below ground surface.

BB-AOC-3

A US Army Corps of Engineers FUDS Program Management Action Plan was found for the Robins Drydock Site. No remedial investigations or measures were identified at this AOC.

BB-AOC-4

USEPA Brownfields Assessment Grant Profile website shows that a Phase I and Phase II Environmental Site Assessment (ESA) were completed in 2012 and 2013 at the triangular intersection of Columbia Street and Halleck Street (Todd Triangle), however these documents could not be located. No information was identified regarding potential contamination or remedial measures in this area.

A Limited Phase I and Phase II ESA were conducted specifically for the RHCR project between May 2021 and September 2023. The Limited Phase I ESA aimed to assess the broad environmental conditions of the Basins, including any past or present uses of the land that could have led to contamination. This assessment helped identify potential environmental concerns to be addressed during construction, including Federal Superfund Sites, Inactive Hazardous Waste Disposal Cleanup Sites, Brownfield Sites, Voluntary Cleanup Program (VCP) sites, Historical Auto Body Shops, Historical Dry Cleaners, and Formerly Used Defense Sites.

The Phase II ESA was conducted to characterize the subsurface soil and groundwater throughout the proposed flood improvement corridors, as well as further investigating potential concerns identified during the Limited Phase I ESA. The Phase II ESA revealed detections of elevated levels of VOCs, SVOCs, PCBs, and Metals, exceeding 6 NYCRR Part 375 Table 375-5.6(b) Restricted Use SCOs – Residential and Commercial Standards in certain areas. Although no gross contamination was observed, subsurface samples showed elevated concentrations of SVOCs and heavy metals, likely due to historic fill and the area's industrial history. The Phase II ESA highlighted the potential for hazardous materials impacts during construction excavation and dewatering, emphasizing the need for careful management of soil and groundwater.

While no gross contamination was observed during the subsurface investigation, subsurface soil and groundwater samples contained elevated concentrations of primarily semi-volatile organic compounds and heavy metals in the subsurface soil and groundwater. Numerous samples contained concentrations of these compounds exceeding applicable regulatory guidelines. The presence of these pollutants is most likely attributable to historic fill and the industrial and manufacturing history of the area.

SECTION 2: SCOPE OF WORK

2.1 Field Sampling Scope of Work

The site is located in the western and southern portions of the Red Hook neighborhood in Brooklyn, Kings County, New York. The proposed construction activities include roadway and utility work, installation of passive flood protection measures, improvements to stormwater management, and streetscape improvements. There will be no changes in future land use.

As indicated in the accepted FSP dated September 16, 2025, the sample areas are divided into approximately 500-cubic yard three-dimensional 'cells,' each one represented by a Sample Set. Each Sample Set consists of one (1) 5-point composite and one (1) VOC grab sample. Samples are collected from two (2) to five (5) investigatory test pits, advanced by the Contractor under oversight of the environmental field technician, to the estimated full depth of excavation. All samples are collected via hand tools which are decontaminated between sampling locations. This FSSR addresses field investigations performed on October 2, 6 and 8, 2025.

Twenty-seven (27) investigatory test pits were advanced to collect sixteen (16) Sample Sets – WC-18-1, WC-18-2, WC-18-3, WC-17a-1, WC-17a-2, WC-17b, WC-16-1, WC-16-2, WC-16-3, WC-15-1, WC-15-2, WC-15-3, WC-14a-1, WC14a-2, WC-13/14b-1, WC-13/14b-2 – from Grids 18, 17, 16, 15, 14, and 13/14b to characterize approximately 6,800 cubic yards (10,200 tons) of soil/fill for off-site disposal or reuse. No visual or olfactory evidence of potential pollutant-generating activities was observed at the site at the time of sampling.

2.2 Investigation Health and Safety Plan

The subject field sampling activities summarized in this report were performed in accordance with the requirements of the NYCDDC accepted Investigation Health and Safety Plan (IHASP) dated September 16, 2025.

SECTION 3: PHYSICAL SETTING

3.1 Project Area and Site Location Description

Project Name and Address

Project/ Site Name: Red Hook Coastal Resiliency (NYCDDC Project: #SANDRDHK)

Project Street/ Location: Harold Ickes Playground, 149 Van Brunt Street, 160 Imlay Street, 131 Imlay Street, 155 Sullivan Street, 251 Conover Street, 417 Van Brunt Street, 64 Van Dyke Street, Basis Independent Brooklyn Upper School, 46 Beard Street, and Red Hook Field # 6

City: Brooklyn

State: New York

Zip Code: 11231

Borough: Kings

Block(s) and Lot(s): N/A

DEC Region: 2

Business Days and hours for the project: Monday-Friday, 7:00am-3:30pm

Project Latitude/ Longitude

Latitude: 40.680258 ° N (Decimal degrees)

Longitude: -74.013459 ° W (Decimal degrees)

Latitude/longitude data source:

☒ MAP ☐ GPS ☐ OTHER (Please specify):

Horizontal Reference Datum: ☐ NAD 27 ☐ NAD 83 ☒ WGS 85

History of Construction Site *(check all that apply)*:

☒ Single-Family Residential ☒ Multi-Family Residential ☒ Commercial ☒ Industrial
☒ Institutional ☒ Highway or Road ☒ Utility ☐ Other:

General Site Description

The RHCR project is located in the Brooklyn neighborhood of Red Hook, within Community District 6. The area consists mainly of manufacturing districts, mixed-use and residential areas, and designated public parkland. Surrounding land uses include industrial and manufacturing facilities, parking lots, commercial and office buildings, as well as some residential buildings and open spaces. The neighborhood features low to medium-density residential areas, including attached houses, small multi-family buildings, and detached or semi-detached residences. Notable developments shaping Red Hook include the IKEA home furnishing store, Food Bazaar (formerly Fairway Market), and the Brooklyn Cruise Terminal at Atlantic Basin.

Size of Construction Site

Area of Property or Corridor Length	690,425.85 square feet (15.85 acres)

A Project Location Map is included as **Figure 1**. An Aerial View Map is included as **Figure 2**.

Site Limitations/Assessment

The Red Hook neighborhood is located in the Atlantic Ocean/Long Island Sound Watershed. The watershed drains 1,650 square miles of land areas within New York State including most of the New York City Metropolitan Area and Long Island, and encompasses all marine waters in New York Harbor, Long Island Sound, Block Island Sound, and along the South Shore of Long Island, as well as the fresh waters that drain into those areas. Surface runoff within Red Hook is collected by catch basins and sewers operated by the New York City Department of Environmental Protection (NYCDEP), which is serviced by the Red Hook Wastewater Treatment Plant. There are four combined sewer overflows (CSO) areas along Atlantic Basin, 12 along the Gowanus Canal, and additional CSOs at the termini of Wolcott, Van Brunt, Columbia, Creamer, and Sackett Streets, all of which empty into local waterways around Red Hook. The surrounding water bodies are characterized by the US Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) mainly as Estuarine and Marine Deepwater Wetlands classified as E1UBL, which are defined as open water estuaries, bars, sounds, and open oceans.

Prior to advancement of the test pits, the Contractor obtained all necessary permits for excavating into the sidewalks and streets such as Department of Transportation (DOT) road opening permits, utility mark outs, etc.

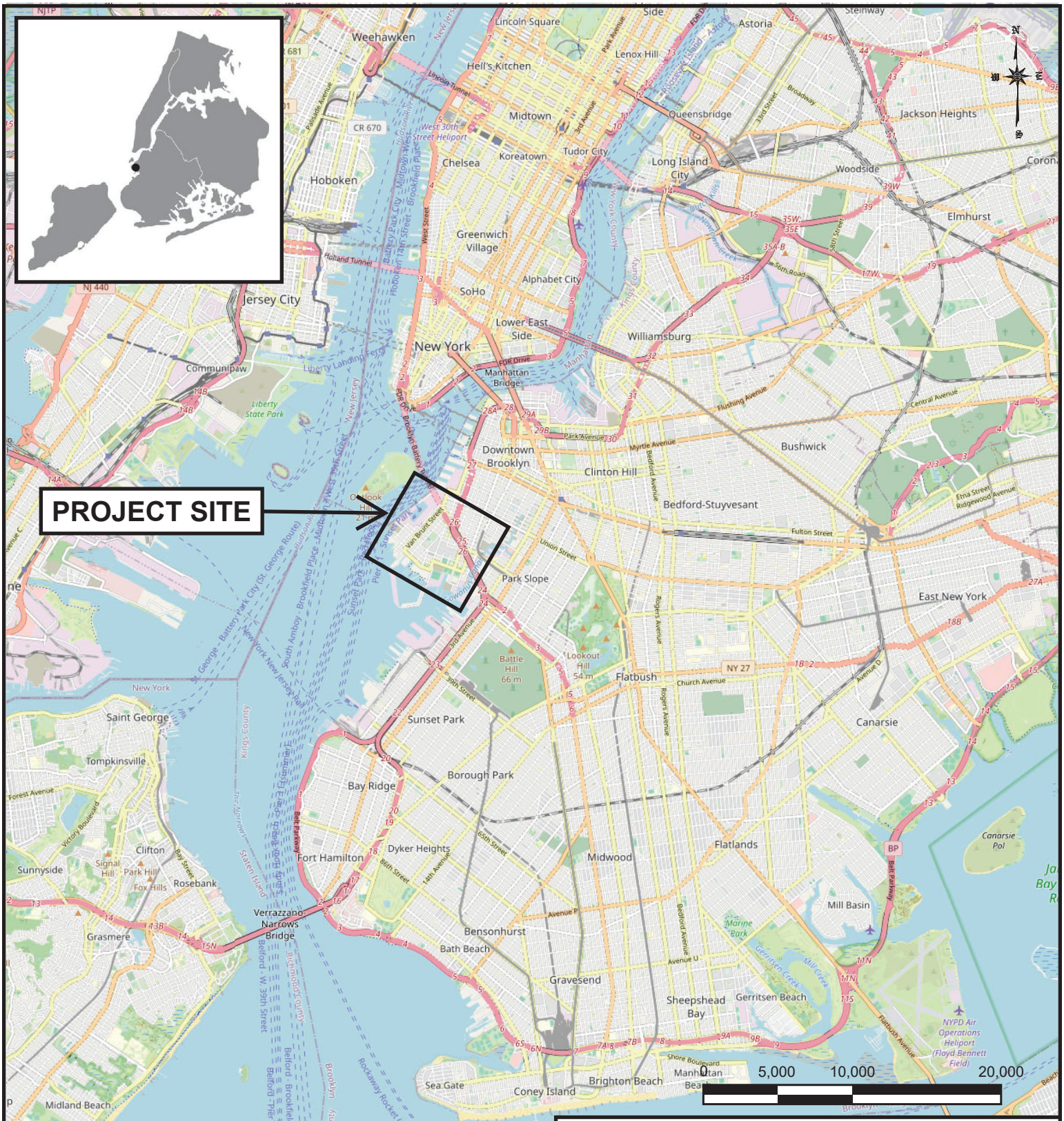
Known Soil Characteristics

According to the Phase II ESA, the geology of the area is reported to include urban fill over native soils. The native soils include organic silts and alternating layers of fine sands and silt/clay of glacial origin. Investigation revealed that subsurface soils included urban fill, brown sands, silty sands, and fill/gravel. Fill was generally encountered from grade to five feet below grade and consisted of silty sands with gravel fragments of concrete and brick. Bedrock was not encountered. Visual and olfactory evidence of petroleum contamination was observed in a small number of locations, but photo ionization detector (PID) readings were recorded in almost all borings. No gross contamination was observed during the subsurface investigation.

During the sampling event referenced in this FSSR occurring on October 2, 6 and 8, 2025, Grid-13/14b was found to be underlain with historic fill extending to at least eight and a half (8.5) feet below grade surface (bgs). Grid-14a was found to be underlain with historic fill extending to at least ten (10) feet bgs. Grid-15 was found to be underlain with historic fill extending to at least eight and a half (8.5) feet bgs. Grid-16 was found to be underlain with historic fill extending to at least ten (10) feet bgs. Grid-17a was found to be underlain with historic fill extending to at least eight and a half (8.5) feet bgs. Grid-17b was found to be underlain with historic fill extending to at least five (5) feet bgs. Grid-18 was found to be underlain with historic fill extending to at least nine and a half (9.5) feet bgs. Waste characterization activities revealed that the subsurface soils consisted of varying amounts of silty sand, ash, slag, gravel, brick, wood and debris. Minor petroleum staining was encountered in TP-32 at seven (7) feet bgs. Associated PID readings were non-detect at 0.00 parts per million (ppm). Organic decomposition odors were encountered in TP-31 at seven (7) feet bgs. Associated PID readings were non-detect at 0.00 ppm. No visual or olfactory evidence of contamination was observed within any of the remaining test pits from this sampling area and no elevated PID readings were detected.

Known Groundwater Characteristics

According to the Phase II ESA, groundwater was typically encountered at five (5) feet below grade. The groundwater at the site is likely saline and under tidal influence. The groundwater was found to have a generally westerly flow. During the sampling events referenced in this FSSR occurring on October 2, 6 and 8, 2025, groundwater was not encountered in Grid-13/14b, Grid 15, or grid 17b. Groundwater was encountered at depths as shallow as 6' bgs in Grid-14a. Groundwater was encountered at depths as shallow as 4.5' bgs in Grid-16. Groundwater was encountered at depths as shallow as 6' bgs in Grid-17a. Groundwater was encountered at depths as shallow as 7' bgs in Grid-18. Groundwater investigation was not included as part of this sampling event.



Source: OpenStreetMap

FACTOR GROUP

NYC DDC Department of Design and Construction

PROJECT LOCATION MAP

Red Hook Coastal Resiliency (RHCR)
NYCDDC Project #SANDRDHK
Red Hook, Brooklyn, NY

SCALE: 1" = 8,800'

DATE: 10/3/2025

Factor Group Inc.
111 Town Square Place, Ste 1203, Jersey City, NJ 07310

FIGURE 1

3.2 Topography and Drainage

The Red Hook neighborhood is generally low-lying and flat, characterized by its proximity to the waterfront and a history of extensive landfilling and industrial development, which contributes to its vulnerability to flooding. The area is bounded by the working waterways on the East River. From west to east, Red Hook is surrounded by the Buttermilk Channel (a small tidal strait in Upper New York Bay, approximately one mile long and one-fourth of a mile wide which runs between Brooklyn and Governor's Island), Gowanus Bay, and the Gowanus Canal.

Historical flooding events have impacted much of the neighborhood. During Hurricane Sandy, water flooded Red Hook from all surrounding water bodies with local flood depths exceeding six feet. The Van Brunt Street Pumping Station was completely inundated, leaving the area without proper drainage and floodwaters mixed with sewage, oil, and trash from the street.

SECTION 4: SOIL QUALITY INVESTIGATION

(Check one that applies):
☒ Soil quality investigation was performed
☐ Not Applicable

In-Situ Soil Sampling (Soil Test Pits)

The purpose of the in-situ soil sampling activities performed was to characterize soils (to be excavated) for disposal (or potential reuse) options. According to findings of prior investigation activities, no gross contamination was observed during the subsurface investigation in the subsurface soil and groundwater samples collected. Results of the sampling revealed elevated concentrations of primarily semi-volatile organic compounds and heavy metals in the subsurface soil and groundwater. Numerous samples contained concentrations of these compounds exceeding the following NY Part 375 SCOs; Unrestricted, Residential, Restricted Residential, Protection of Ecological Resources, Commercial, Industrial and Protection of Groundwater. Hazardous levels of Lead were discovered in Grid 16 (WC-16-1), identified by TCLP Lead levels of 5.13 mg/L, exceeding EPA Tox 40 CFR 261.24, the EPA regulation that defines the toxicity characteristic for hazardous waste. The presence of these pollutants is most likely attributable to historic fill and the industrial and manufacturing history of the area.

All waste characterization soil sampling was performed in accordance with New York State Department of Environmental Conservation (NYSDEC) sampling guidelines and protocols and NYCDDC Specification Item 8.01 C2.1.

For the purposes of this FSSR, a total of 6,800 cubic yards of soil is anticipated to be excavated and transported off-site for disposal or on-site reuse. Sixteen (16) soil samples (collected from (two (2) to five (5) test pits) were collected at a rate of one sample for every 500 cubic yards. The test pits (identified as TP-20 through TP-46) were advanced strategically, to obtain optimal material representation, within the planned area of excavation as shown on **Figure 3**.

Test pits were installed to a depth of four (4) to ten (10) feet below grade surface (bgs) based on the planned depth of excavation. Each test pit was screened with a PID for potential signs of volatile contamination. One discrete VOC grab sample was collected from the 6-inch interval within the depth of the test pit exhibiting the highest PID reading and or visual/olfactory evidence of potential contamination for VOC analysis. If no signs of potential contamination were observed, the discrete VOC sample was collected from the 6-inch interval above the bottom of the proposed excavation or the 6-inch interval above the water table, if encountered. A 5-point composite sample from the remaining test pits was collected across various depths and analyzed for the remaining analytes listed below:

- SVOCs
- Pesticides
- Herbicides
- PCBs
- Extractable Petroleum Hydrocarbons (EPH)
- Target Analyte List (TAL) Metals (including Hexavalent Chromium and Cyanide)

- Resource Conservation and Recovery Act (RCRA) characteristics (including ignitability, corrosivity, reactivity (sulfide and cyanide)
- Toxicity Characteristic Leaching Procedure (TCLP) RCRA 8 Metals
- Paint Filter

A summary of the sample analyses to be performed (including location, frequency, and analytical methods) is included as **Table 1**.

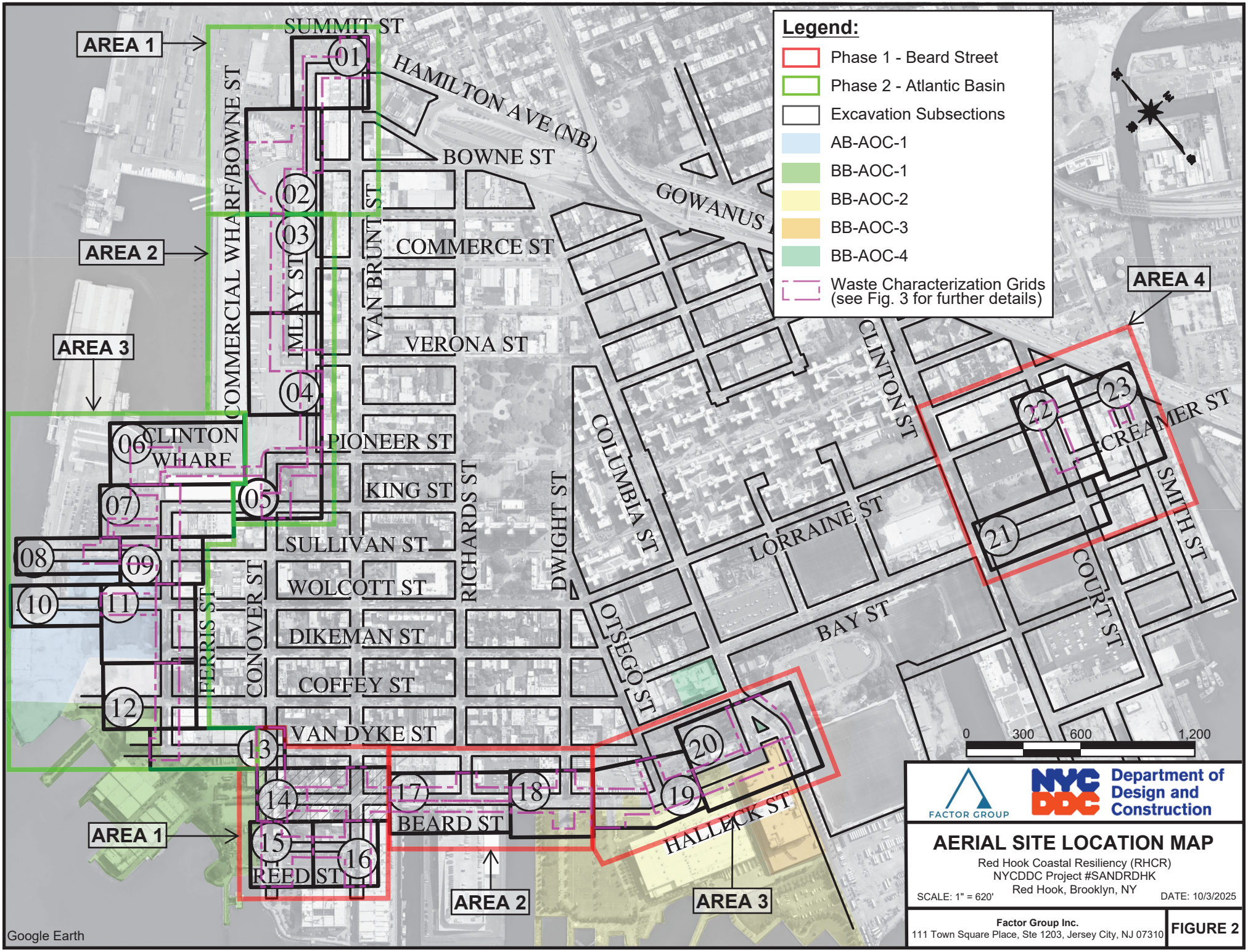
Perfetto Contracting Company Inc. contacted the NY Dig Safe Hotline (811) at least two but not more than ten working days, not including the date of the call, prior to the start of the soil test pit activities to request mark out underground utilities in the area and adhered to all requirements of 16 NYCRR Part 753 during test pits. Perfetto Contracting Company Inc. also acquired all necessary permits that were required to install the subject test pits. Each test pit location was cordoned off from pedestrian traffic via orange safety cones until the test pit activities were complete.

All sample containers were marked and identified with legible sample labels including project name, sample location, sample number, date and time of sampling, preservation method, and other information that may be useful in determining the sample characteristics. Chain-of-custody (COC) procedures were followed from laboratory issuance of the sample containers through laboratory receipt of the samples.

All sampling procedures and observations were recorded in a bound logbook. The field book will be turned over to NYCDDC in good condition upon completion of the work. A legible copy of the field book contents is included as **Appendix B** for reference. The following information was recorded in the field book:

- Sample identification number
- Sample location
- Field observations
- Sample type
- Required analyses
- Date/time of sample collection
- Collector's name
- Sampling procedures and equipment utilized
- Date sent to laboratory and name of laboratory

Only dedicated sampling equipment was utilized to collect the samples. All sampling equipment was decontaminated before being brought to the site and properly disposed of after use.



FACTOR GROUP

NYC DDC Department of Design and Construction

AERIAL SITE LOCATION MAP

Red Hook Coastal Resiliency (RHCR)
NYCDDC Project #SANDRDHK
Red Hook, Brooklyn, NY

SCALE: 1" = 620'

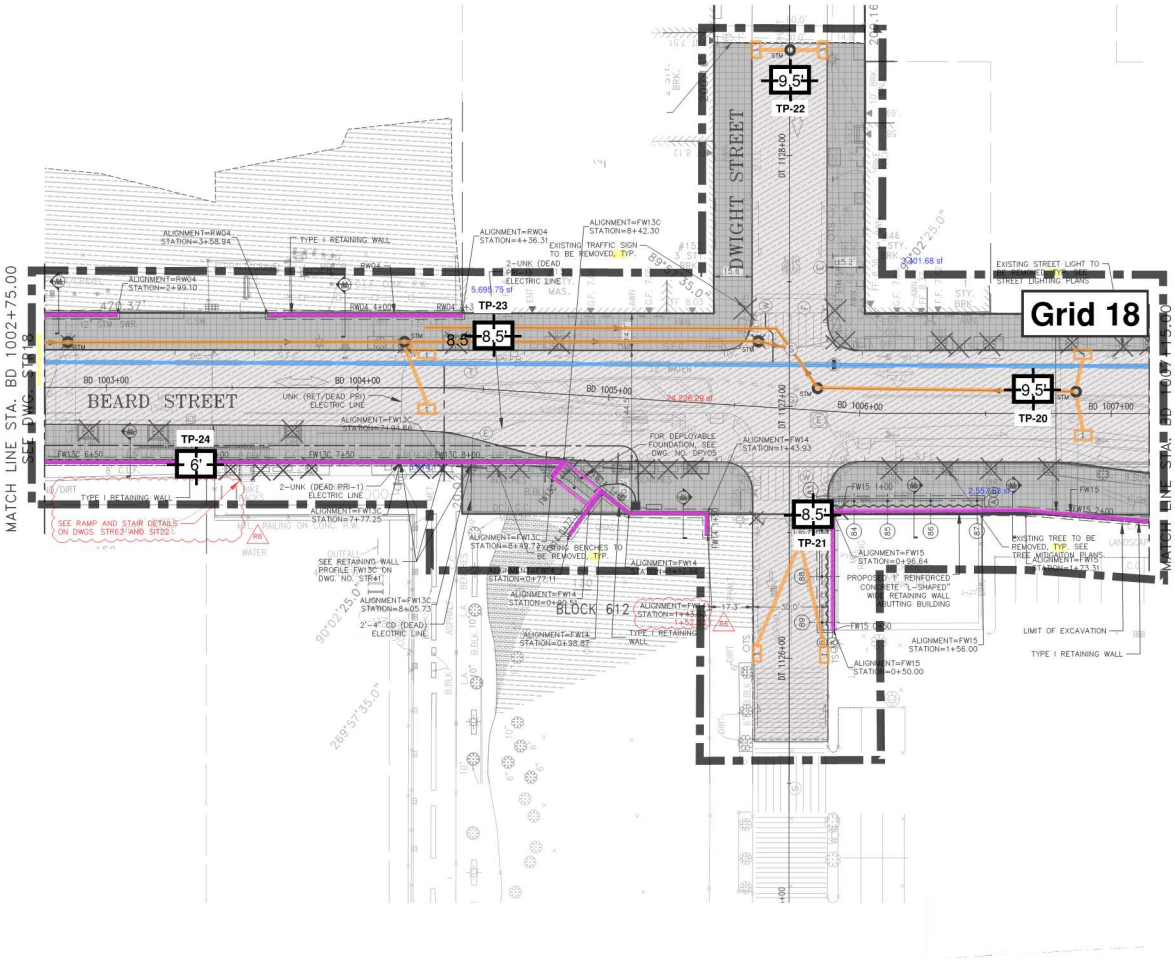
DATE: 10/3/2025

Factor Group Inc.
111 Town Square Place, Ste 1203, Jersey City, NJ 07310

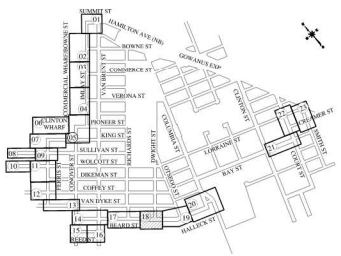
FIGURE 2

SECTION 5: GROUNDWATER QUALITY INVESTIGATION

(Check one that applies):
☐ Groundwater quality investigation was performed
☒ Not Applicable



PLAN
SCALE: 1"=20'



KEY PLAN

Legend:

- General Utility Excavation to ~10' bgs
- Water Main Utility Excavation to ~4' bgs
- Flood Wall Excavation to ~6' bgs
- Proposed Test Pit Locations (with depths)
- Waste Characterization Sampling Grids

Soil Sampling Summary:

1,400 CY	Soil Volume
1	# of Grids (18)
3	# of Vertical Tiers
3	# of Samples
5	# of Test Pits (20-24)

Grid:	Sample ID	Depths (ft)	Sample Type	Sample Locations
18	WC-18-1	0-3	5-Pnt Comp	TP-20 TP-21 TP-22 TP-23 TP-24
			VOC Grab	TBD
	WC-18-2	3-6	5-Pnt Comp	TP-20 TP-21 TP-22 TP-23 TP-24
			VOC Grab	TBD
	WC-18-3	6-10	5-Pnt Comp	TP-20 TP-21 TP-22 TP-23
			VOC Grab	TBD

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SAMPLE LOCATIONS MAP
Phase 1 (Beard Street Areas 1-4)

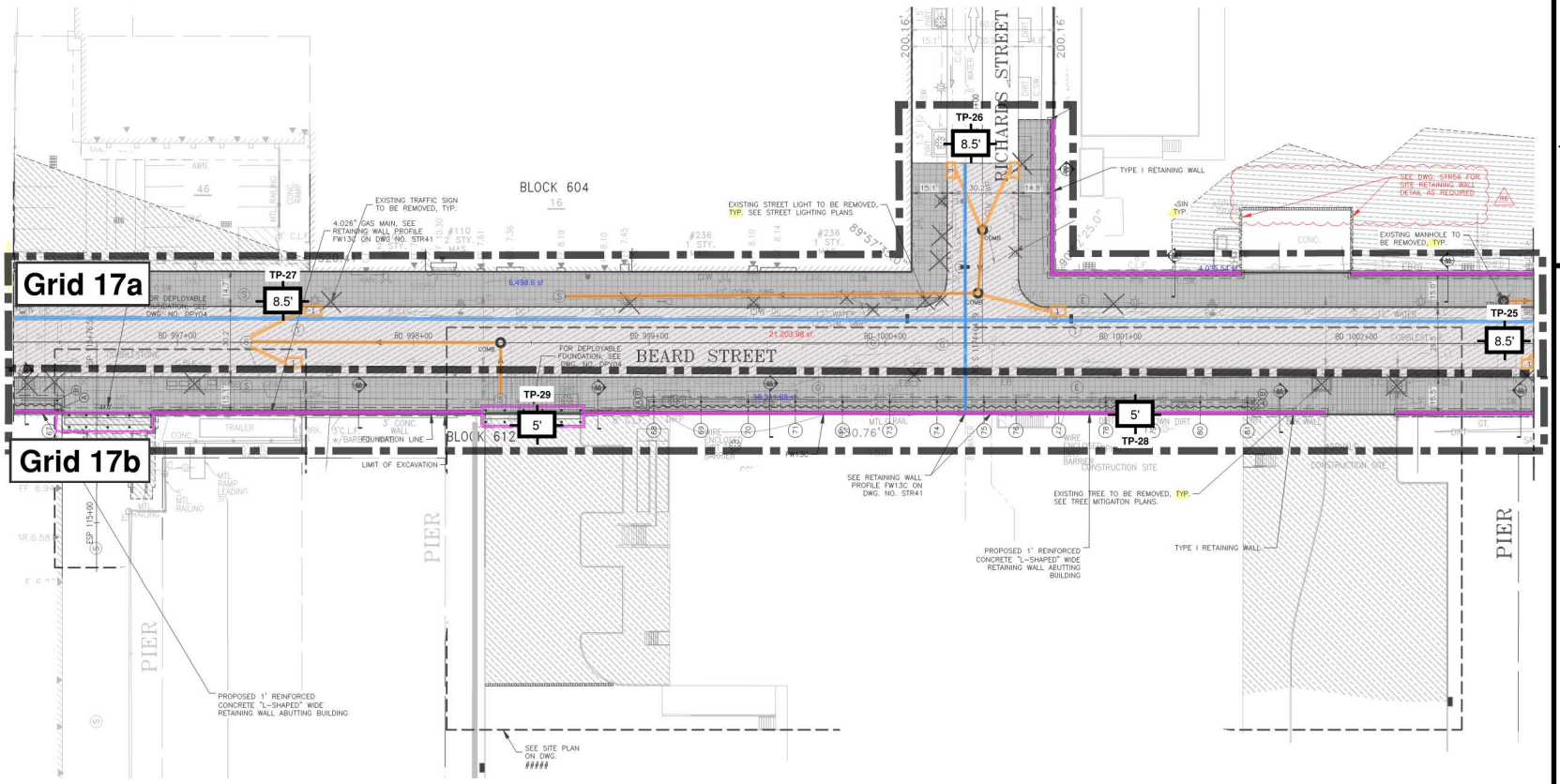
Red Hook Coastal Resiliency (RHCR)
NYCDDC Project #SANDRDHK
Red Hook, Brooklyn, NY
Date: 10/30/2025

EXCAVATION ZONE 6
SUBSECTION #18

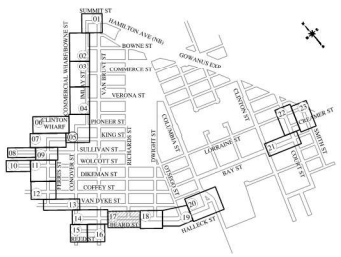
0' 20' 40' 60' 80'
HOR. SCALE: 1" = 20'

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FIGURE 3a



PLAN
SCALE: 1"=20'



KEY PLAN

Legend:

- General Utility Excavation to ~8.5' bgs
- Water Main Utility Excavation to ~4' bgs
- Flood Wall/Gates Excavation to ~5' bgs
- Proposed Test Pit Locations (with depths)
- Waste Characterization Sampling Grids

Soil Sampling Summary:

1,200 CY	Soil Volume
2	# of Grids (17a, 17b)
3	# of Vertical Tiers
3	# of Samples
5	# of Test Pits (25-29)

Grid:	Sample ID	Depths (ft)	Sample Type	Sample Locations
17a	WC-17a-1	0-5	5-Pnt Comp	TP-25 TP-26 TP-27
			VOC Grab	TBD
	WC-17a-2	5-8.5	5-Pnt Comp	TP-25 TP-26 TP-27
			VOC Grab	TBD
17b	WC-17b	0-5	5-Pnt Comp	TP-28 TP-29
			VOC Grab	TBD

Department of Design and Construction

SAMPLE LOCATIONS MAP
Phase 1 (Beard Street Areas 1-4)

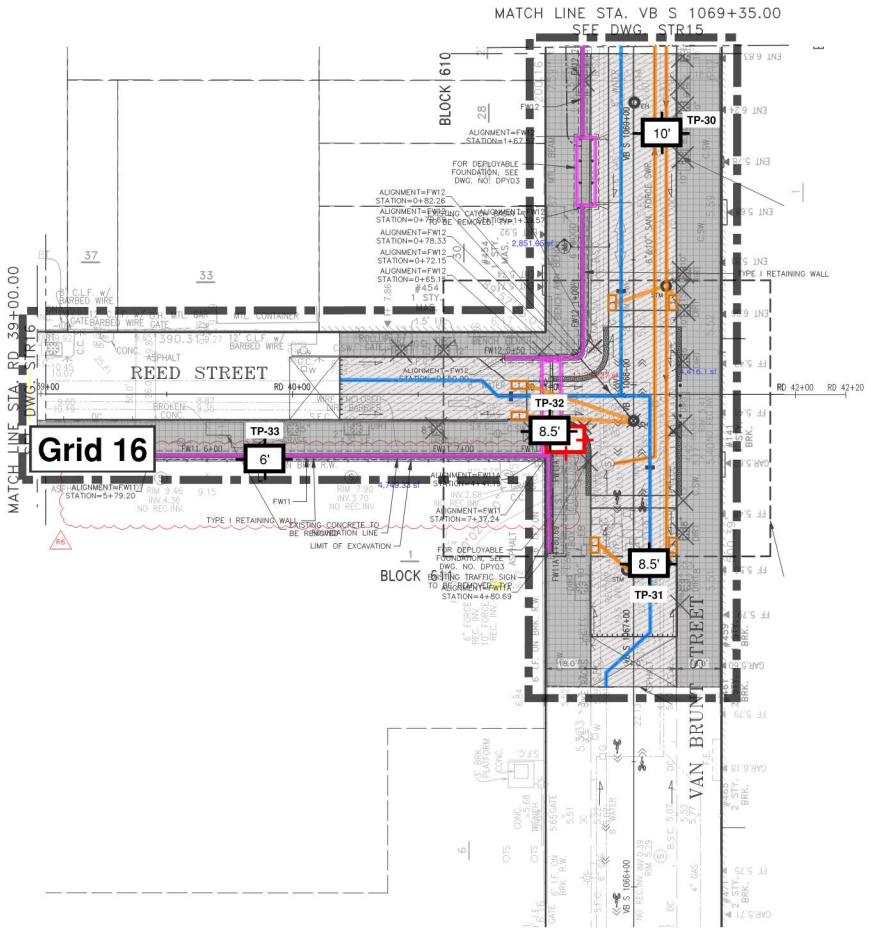
Red Hook Coastal Resiliency (RHCR)
NYCDDC Project #SANDRDHK
Red Hook, Brooklyn, NY
Date: 10/30/2025

EXCAVATION ZONE 7
SUBSECTION #17

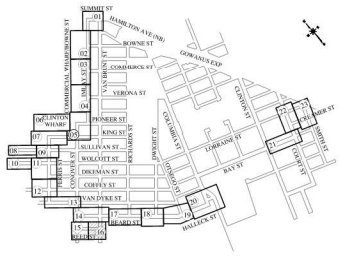
0' 20' 40' 60' 80'
HOR. SCALE: 1" = 20'

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FIGURE 3b



PLAN
SCALE: 1"=20'



KEY PLAN

Legend:

- General Utility Excavation to ~10' bgs
- Water Main Utility Excavation to ~4' bgs
- Flood WallGates Excavation to ~6' bgs
- Proposed Test Pit Locations (with depths)
- Waste Characterization Sampling Grids

Soil Sampling Summary:

1,300 CY	Soil Volume
1	# of Grids (16)
3	# of Vertical Tiers
3	# of Samples
4	# of Test Pits (30-33)

Grid:	Sample ID	Depths (ft)	Sample Type	Sample Locations
16	WC-16-1	0-3	5-Pnt Comp	TP-30 TP-31 TP-32 TP-33
			VOC Grab	TBD
	WC-16-2	3-6	5-Pnt Comp	TP-30 TP-31 TP-32 TP-33
			VOC Grab	TBD
	WC-16-3	6-10	5-Pnt Comp	TP-30 TP-31 TP-32
			VOC Grab	TBD

NYC DDC Department of Design and Construction

SAMPLE LOCATIONS MAP
Phase 1 (Beard Street Areas 1-4)

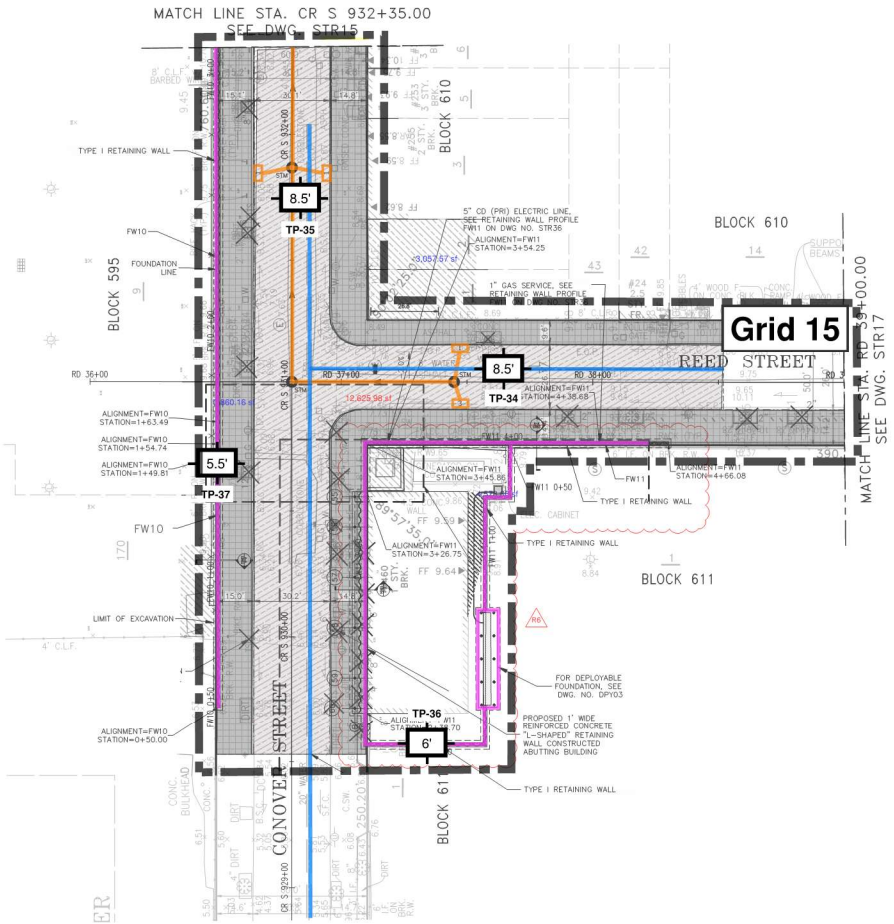
Red Hook Coastal Resiliency (RHCR)
NYCDDC Project #SANDRDHK
Red Hook, Brooklyn, NY
Date: 10/30/2025

EXCAVATION ZONE 8
SUBSECTION #16

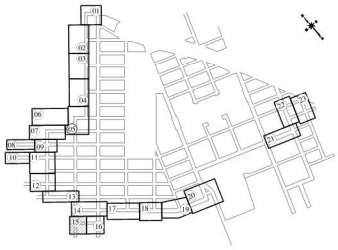
0' 20' 40' 60' 80'
HOR. SCALE: 1" = 20'

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FIGURE 3c



PLAN
SCALE: 1"=20'



KEY PLAN

Legend:

- General Utility Excavation to ~8.5' bgs
- Water Main Utility Excavation to ~4' bgs
- Flood Wall/Gate Excavation to ~6' bgs
- Proposed Test Pit Locations (with depths)
- Waste Characterization Sampling Grids

Soil Sampling Summary:

1,100 CY	Soil Volume
1	# of Grids (15)
3	# of Vertical Tiers
3	# of Samples
4	# of Test Pits (34-37)

Grid:	Sample ID	Depths (ft)	Sample Type	Sample Locations
15	WC-15-1	0-3	5-Pnt Comp	TP-34 TP-35 TP-36 TP-37
			VOC Grab	TBD
	WC-15-2	3-6	5-Pnt Comp	TP-34 TP-35 TP-36 TP-37
			VOC Grab	TBD
	WC-15-3	6-8.5	5-Pnt Comp	TP-34 TP-35
			VOC Grab	TBD

NYC DDC Department of Design and Construction

SAMPLE LOCATIONS MAP
Phase 1 (Beard Street Areas 1-4)

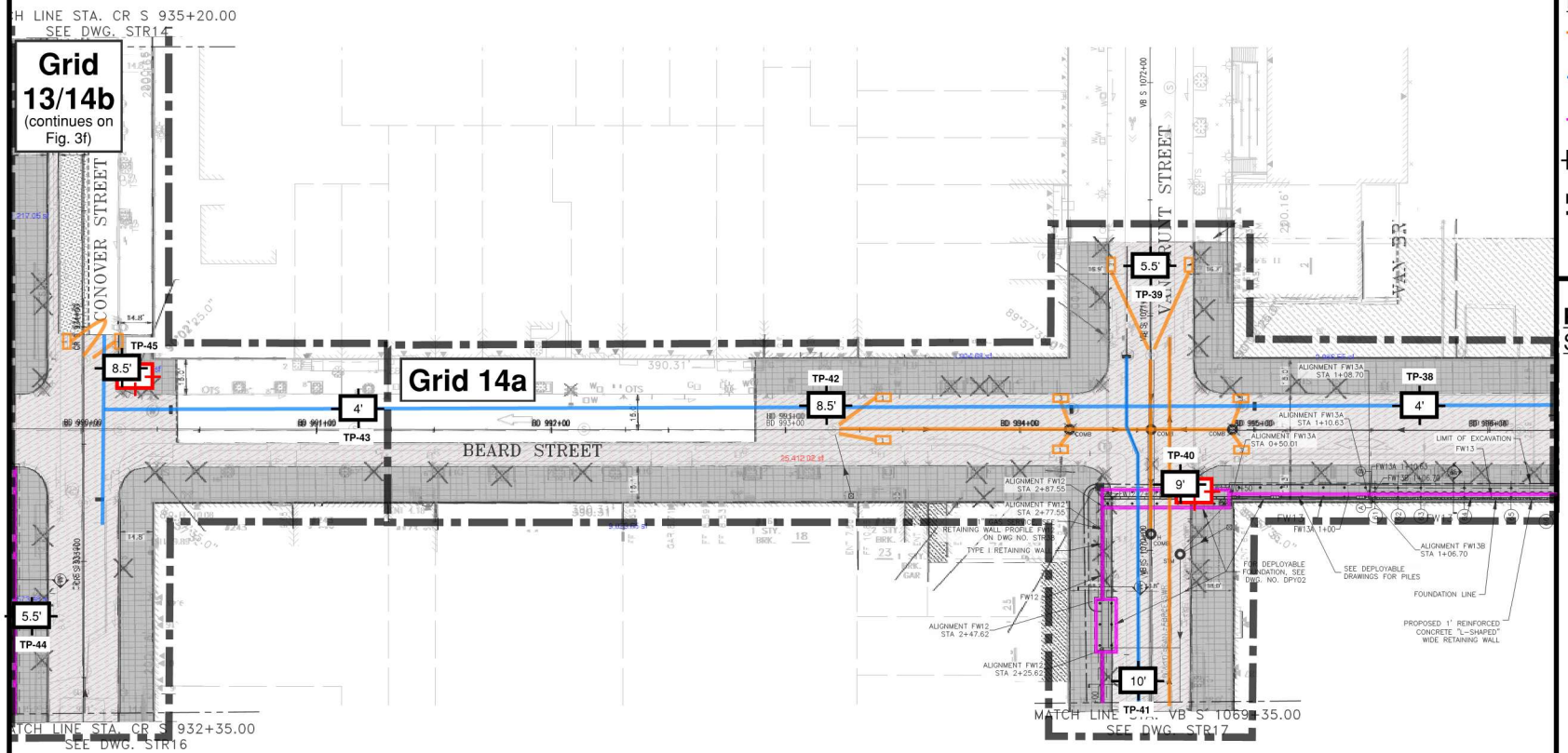
Red Hook Coastal Resiliency (RHCR)
NYCDDC Project #SANDRDHK
Red Hook, Brooklyn, NY
Date: 10/30/2025

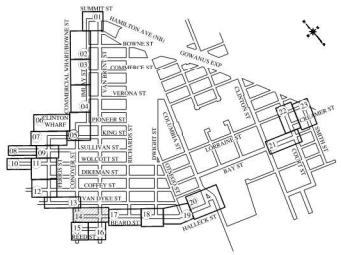
EXCAVATION ZONE 9
SUBSECTION #15

0' 20' 40' 60' 80'
HOR. SCALE: 1" = 20'

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Jersey City, NJ 07310

FIGURE 3d





KEY PLAN

PLAN
SCALE: 1"=20'

Legend:

- General Utility Excavation to ~10' bgs
- Water Main Utility Excavation to ~4' bgs
- Flood Wall/Gate Excavation to ~5.5' bgs
- Proposed Test Pit Locations (with depths)
- Waste Characterization Sampling Grids

Phase 1 Soil Sampling Summary (continues on Fig 3f):

1,800 CY	Soil Volume
2	# of Grids (14a, 13/14b)
2	# of Vertical Tiers
4	# of Samples
9	# of Test Pits (38-46)

Grid:	Sample ID	Depths (ft)	Sample Type	Sample Locations
14a	WC-14a-1	0-5.5	5-Pnt Comp	TP-38 TP-39 TP-40 TP-41 TP-42
			VOC Grab	TBD
	WC-14a-2	5.5-10	5-Pnt Comp	TP-40 TP-41 TP-42
			VOC Grab	TBD
13/ 14b	WC-13/ 14b-1	0-5.5	5-Pnt Comp	TP-43 TP-44 TP-45 TP-46
			VOC Grab	TBD
	WC-13/ 14b-2	5.5-8.5	5-Pnt Comp	TP-45 TP-46
			VOC Grab	TBD

NYC DDC Department of Design and Construction

SAMPLE LOCATIONS MAP
Phase 1 (Beard Street Areas 1-4)

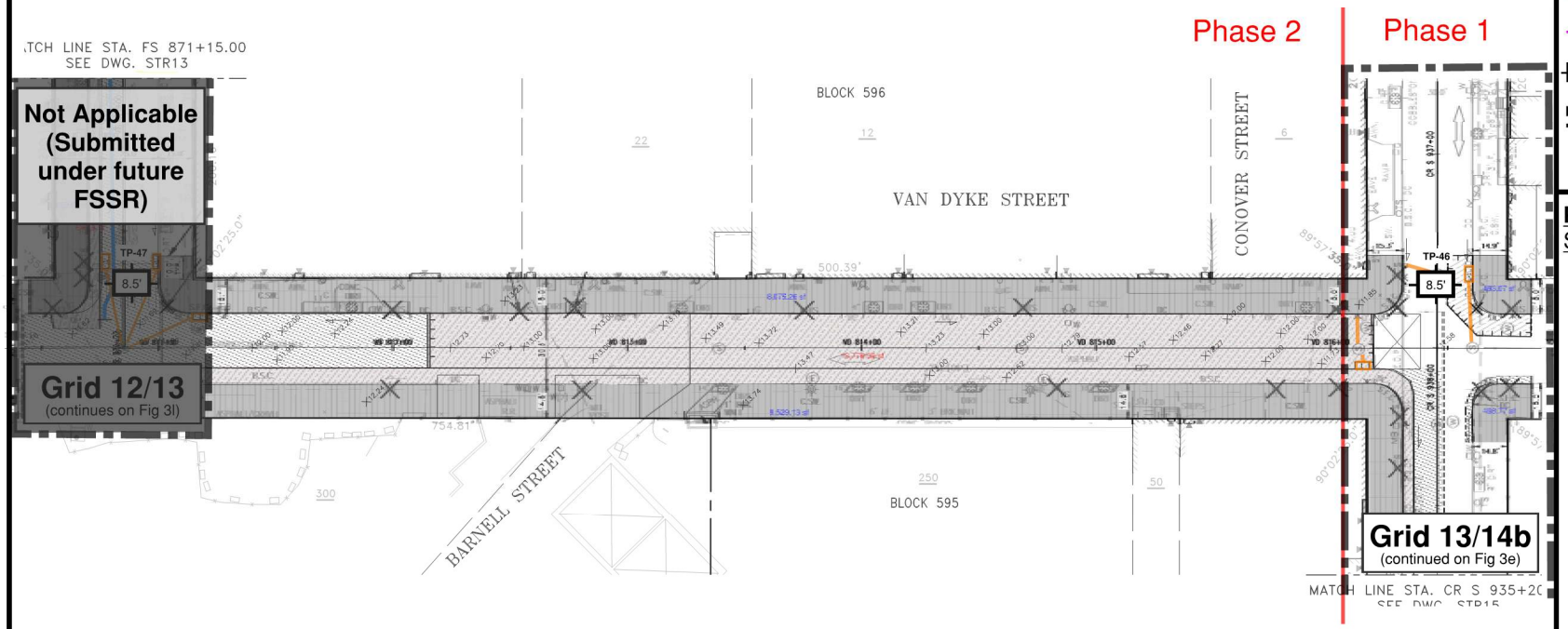
Red Hook Coastal Resiliency (RHCR)
NYCDDC Project #SANDRDHK
Red Hook, Brooklyn, NY
Date: 10/30/2025

EXCAVATION ZONE 10
SUBSECTION #14

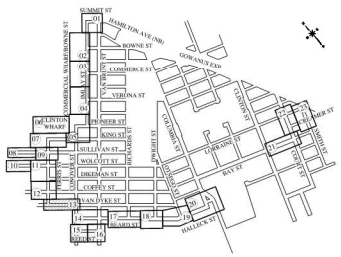
0' 20' 40' 60' 80'
HOR. SCALE: 1" = 20'

FACTOR GROUP
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111 Town Square Place, Ste 1203
Jersey City, NJ 07310

FIGURE 3e



PLAN
SCALE: 1"=20'



KEY PLAN

Legend:

- General Utility Excavation to ~8.5' bgs
- Water Main Utility Excavation to ~4' bgs
- Flood Wall/Gate Excavation N/A
- Proposed Test Pit Locations (with depths)
- Waste Characterization Sampling Grids

Phase 1 Soil Sampling Summary (continued on Fig 3e)

1,800 CY	Soil Volume
2	# of Grids (14a, 13/14b)
2	# of Vertical Tiers
4	# of Samples
9	# of Test Pits (38-46)

Department of Design and Construction

SAMPLE LOCATIONS MAP

Phase 1 (Beard Street Areas 1-4)
Phase 2 (Atlantic Basin Areas 1-3)

Red Hook Coastal Resiliency (RHCR)
NYCDDC Project #SANDRDHK
Red Hook, Brooklyn, NY

Date: 10/30/2025

EXCAVATION ZONE 11
SUBSECTION #13

0' 20' 40' 60' 80'
HOR. SCALE: 1" = 20'

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FIGURE 3f

SECTION 6: LABORATORY ANALYSIS

6.1 Lab Qualifications/Certifications

Soil samples were analyzed by Phoenix Environmental Laboratories. The laboratory's contact information is as follows:

Laboratory Name: Phoenix Environmental Laboratories

Laboratory Address: 587 Middle Tpke E, Manchester, CT 06040

Laboratory Contact Name: Michael Lapman

Laboratory Contact Phone Number: (860) 645-1102

As required by contract specifications, Phoenix Environmental Laboratories is a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) certified laboratory (NY ELAP No. 11301). Copies of Phoenix Environmental Laboratories laboratory certifications are included in **Appendix C** for reference.

Phoenix Environmental Laboratories provided analytical results in a standard 7-10 day turn-around time (TAT).

Final analytical data reports for the soil samples collected are included in **Appendix D**.

SECTION 7: RESULTS AND CONCLUSIONS

7.1 Soil Sample Results

(Check one that applies):
☒ Soil sample results collected
☐ Not Applicable

During the sampling event referenced in this FSSR occurring on October 2, 6 and 8, 2025, Grid-13/14b was found to be underlain with historic fill extending to at least eight and a half (8.5) feet below grade surface (bgs). Grid-14a was found to be underlain with historic fill extending to at least ten (10) feet bgs. Grid-15 was found to be underlain with historic fill extending to at least eight and a half (8.5) feet bgs. Grid-16 was found to be underlain with historic fill extending to at least ten (10) feet bgs. Grid-17a was found to be underlain with historic fill extending to at least eight and a half (8.5) feet bgs. Grid-17b was found to be underlain with historic fill extending to at least five (5) feet bgs. Grid-18 was found to be underlain with historic fill extending to at least nine and a half (9.5) feet bgs. Waste characterization activities revealed that the subsurface soils consisted of varying amounts of silty sand, ash, slag, gravel, brick, wood and debris. Minor petroleum staining was encountered in TP-32 at seven (7) feet bgs. Associated PID readings were non-detect at 0.00 parts per million (ppm). Organic decomposition odors were encountered in TP-31 at seven (7) feet bgs. Associated PID readings were non-detect at 0.00 ppm. No visual or olfactory evidence of contamination was observed within any of the remaining test pits from this sampling area and no elevated PID readings were detected.

As shown in Table 2:

The following exceeded NY Part 375 Unrestricted criteria:

- VOCs - 1,2-Dichloroethane
- SVOCs - Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene
- Pesticides - 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, Dieldrin
- Metals – Arsenic, Copper, Lead, Mercury, Nickel, Trivalent Chromium, Zinc

The following exceeded NY Part 375 Environmental Restoration Program:

- SVOCs - Benzo(a)pyrene
- Pesticides - 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, Dieldrin
- Metals – Arsenic, Copper, Lead, Mercury, Nickel, Trivalent Chromium, Zinc

The following exceeded NY Part 375 Residential criteria:

- SVOCs - Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene
- Metals - Arsenic, Lead, Mercury, Nickel, Trivalent Chromium

The following exceeded NY Part 375 Residential Restricted criteria:

- SVOCs - Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene
- Metals – Arsenic, Lead, Mercury, Nickel

The following exceeded NY Part 375 Commercial criteria:

- SVOCs - Benzo(a)pyrene, Dibenz(a,h)anthracene
- Metals – Arsenic, Lead, Mercury, Nickel

The following exceeded NY Part 375 Industrial criteria:

- SVOCs - Benzo(a)pyrene
- Metals – Arsenic, Mercury

The following exceeded NY Part 375 Protection of Groundwater criteria:

- VOCs - 1,2-Dichloroethane
- SVOCs - Benz(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene
- Metals – Arsenic, Lead, Mercury, Nickel

The following exceeded EPA Tox 40 CFR 261.24 criteria:

- Metals - Lead

Please refer to **Table 2** for the specific samples associated with the referenced exceedances.

The contaminants detected are likely associated with historic fill and the area's industrial history.

The locations of each soil sample collected are shown on **Figure 3**. Soil sample analytical results are summarized in **Table 2**. Laboratory soil analytical reports are included in **Appendix E**. Regulatory cleanup criteria tables are included in **Appendix F**.

7.2 Groundwater Sample Results

(Check one that applies):
☐ Groundwater sample results collected
☒ Not Applicable

7.3 Conclusions

Based on the field observations at the time of sampling and laboratory analysis of the soil samples collected from the subject area, the material excavated from Grids 13/14b, 14a, 15, 17a, 17b, & 18 appear to be classified as non-hazardous contaminated soil/fill. Material excavated from Grid 16 (WC-16-1) appears to be classified as hazardous contaminated soil/fill due to TCLP Lead levels

of 5.13 mg/L, exceeding EPA Tox 40 CFR 261.24. The excavated soil/fill should be disposed of at facilities permitted to accept such material and should be managed according to the Material Handling Plan (MHP) and Environmental Health and Safety Plan (EHASP). The physical characteristics of the soil may preclude the materials acceptance at select disposal facilities. Additional sampling may be required by select disposal facilities prior to approval. The total expected volume of excavated soil intended for off-site disposal is approximately 6,800 cubic yards.

SECTION 8: REPORT CERTIFICATION

Certification Statement

Report Certification by Factor Group Inc

1. Factor Group Inc. certifies that this FSSR dated October 31st, 2025 and all information included is true, accurate, and complete to the best of my professional knowledge and judgement; and

2. This FSSR has been prepared in accordance with all applicable statutes and regulations; and

3. This FSSR has been prepared in conformance with NYCDDC Specifications for Handling, Transportation, and Disposal of Potential and Identified Contaminated and Hazardous Materials (Item 8.01)



Joel Rogers, P.E.

Factor Group Inc.

October 31st, 2025

TABLE 1
Sampling Summary
Phase 1, Area 1 & 2
Red Hook Coastal Resiliency (RHCR)

AOC	Test Pit ID	Location	Sample ID	Sample Depth (ft)	Parameter (Methodology)
Phase 1, Area 2	TP-20 to TP-24	Excavation Zone 6 (Grid 18)	WC-18-1	0-3	VOCs, SVOCs, Pesticides, Herbicides, PCBs, EPH, TAL Metals, TCLP RCRA 8 Metals, RCRA Characteristics, Paint Filter
	TP-20 to TP-24		WC-18-2	3-6	VOCs, SVOCs, Pesticides, Herbicides, PCBs, EPH, TAL Metals, TCLP RCRA 8 Metals, RCRA Characteristics, Paint Filter
	TP-20 to TP-23		WC-18-3	6-10	VOCs, SVOCs, Pesticides, Herbicides, PCBs, EPH, TAL Metals, TCLP RCRA 8 Metals, RCRA Characteristics, Paint Filter
Phase 1, Area 2	TP-25 to TP-27	Excavation Zone 7 (Grid 17a)	WC-17a-1	0-5	VOCs, SVOCs, Pesticides, Herbicides, PCBs, EPH, TAL Metals, TCLP RCRA 8 Metals, RCRA Characteristics, Paint Filter
	TP-25 to TP-27		WC-17a-2	5-8.5	VOCs, SVOCs, Pesticides, Herbicides, PCBs, EPH, TAL Metals, TCLP RCRA 8 Metals, RCRA Characteristics, Paint Filter
Phase 1, Area 2	TP-28 to TP-29	Excavation Zone 2 (Grid 17b)	WC-17b	0-5	VOCs, SVOCs, Pesticides, Herbicides, PCBs, EPH, TAL Metals, TCLP RCRA 8 Metals, RCRA Characteristics, Paint Filter
Phase 1, Area 1	TP-30 to TP-33	Excavation Zone 8 (Grid 16)	WC-16-1	0-3	VOCs, SVOCs, Pesticides, Herbicides, PCBs, EPH, TAL Metals, TCLP RCRA 8 Metals, RCRA Characteristics, Paint Filter
	TP-30 to TP-33		WC-16-1	3-6	VOCs, SVOCs, Pesticides, Herbicides, PCBs, EPH, TAL Metals, TCLP RCRA 8 Metals, RCRA Characteristics, Paint Filter
	TP-30 to TP-32		WC-16-2	6-10	VOCs, SVOCs, Pesticides, Herbicides, PCBs, EPH, TAL Metals, TCLP RCRA 8

					Metals, RCRA Characteristics, Paint Filter
Phase 1, Area 1	TP-34 to TP-37	Excavation Zone 9 (Grid 15)	WC-15-1	0-3	VOCs, SVOCs, Pesticides, Herbicides, PCBs, EPH, TAL Metals, TCLP RCRA 8 Metals, RCRA Characteristics, Paint Filter
	TP-34 to TP-37		WC-15-2	3-6	VOCs, SVOCs, Pesticides, Herbicides, PCBs, EPH, TAL Metals, TCLP RCRA 8 Metals, RCRA Characteristics, Paint Filter
	TP-34 to TP-35		WC-15-3	6-8.5	VOCs, SVOCs, Pesticides, Herbicides, PCBs, EPH, TAL Metals, TCLP RCRA 8 Metals, RCRA Characteristics, Paint Filter
Phase 1, Area 1	TP-38 to TP-42	Excavation Zone 10 (Grid 14a)	WC-14a-1	0-5.5	VOCs, SVOCs, Pesticides, Herbicides, PCBs, EPH, TAL Metals, TCLP RCRA 8 Metals, RCRA Characteristics, Paint Filter
	TP-40 to TP-42		WC-14a-2	5.5-10	VOCs, SVOCs, Pesticides, Herbicides, PCBs, EPH, TAL Metals, TCLP RCRA 8 Metals, RCRA Characteristics, Paint Filter
Phase 1, Area 1	TP-43 to TP-46	Excavation Zone 10 & 11 (Grid 13/14b)	WC-13/14b-1	0-5.5	VOCs, SVOCs, Pesticides, Herbicides, PCBs, EPH, TAL Metals, TCLP RCRA 8 Metals, RCRA Characteristics, Paint Filter
	TP-45 to TP-46		WC-13/14b-2	5.5-8.5	VOCs, SVOCs, Pesticides, Herbicides, PCBs, EPH, TAL Metals, TCLP RCRA 8 Metals, RCRA Characteristics, Paint Filter

TABLE 2 (Summary Tables)

TABLE 2
Soil Analytical Results
Phase 1, Area 1 & 2
Red Hook Coastal Resiliency (RHCR) Booklyn, NY 11231

Client Id															WC-13/14B-1	WC-13/14B-2	WC-14A-1	WC-14A-2	WC-15-1	WC-15-2	WC-15-3	WC-16-1	WC-16-2	WC-16-3	WC-17A-1	WC-17A-2	WC-17B	WC-18-1	WC-18-2	WC-18-3
Collection Date															10/08/2025	10/08/2025	10/08/2025	10/08/2025	10/06/2025	10/06/2025	10/06/2025	10/06/2025	10/06/2025	10/06/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025
Lab Sample Id															SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Matrix															CU45773	CU45774	CU45775	CU45776	CU45645	CU45646	CU45647	CU45642	CU45643	CU45644	CU42003	CU42004	CU42005	CU42006	CU42007	CU42008
SDG: GCU45773, GCU45642, GCU42003	Units	EPA Tox 40 CFR 261.24	NY 375 - Unrestricted	NY 375 - PGW	NY 375 - ERP	NY 375 - Industrial	NY 375 - Commercial	NY 375 - Res Restricted	NY 375 - Residential	NJ SR-MGW	NJ SR-R-I	NJ SR-R-ID	PA CF MSCs	PA RF MSCs	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Volatiles (TCL) - SW8260D																														
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	18000	18000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ug/kg	--	680	680	--	1000000	500000	100000	100000	12000	--	160000000	7200	7200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	5	--	3500	26	130	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	5	--	12000	150	150	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/kg	--	270	270	--	480000	240000	26000	19000	110	--	120000	750	3900	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ug/kg	--	330	330	--	1000000	500000	100000	100000	210	52000	11000	190	190	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	63	94000	780000	27000	27000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	ug/kg	--	3600	3600	--	380000	190000	52000	47000	--	--	780000	73000	300000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	5	26	870	9.2	9.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	5	85	350	1.2	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ug/kg	--	1100	1100	--	1000000	500000	100000	100000	3900	--	6700000	59000	59000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/kg	--	20	20	10000	60000	30000	3100	2300	5	71000	5800	100	100	ND	ND	ND	ND	ND	ND	ND	34	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	5.3	5700	19000	110	110	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	ug/kg	--	8400	8400	--	380000	190000	52000	47000	--	--	--	23000	93000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ug/kg	--	2400	2400	--	560000	280000	49000	17000	92	--	6700000	61000	61000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ug/kg	--	1800	1800	20000	250000	130000	13000	9800	270	--	780000	10000	10000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	150	1000000	390000	1600	6400	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	43000	120000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	ug/kg	--	50	50	2200	1000000	500000	100000	100000	19000	--	70000000	350000	980000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	0.47	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	10	51	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/kg	--	60	60	70000	89000	44000	4800	2900	4.2	2200	3000	130	130	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1600	1600	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	5	--	11000	2700	2700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ug/kg	--	--	--	--	--	--	--	--	33	--	88000	3500	3500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	43	18000	110000	540	540	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	ug/kg	--	--	--	--	--	--	--	--	3700	--	--	130000	530000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ug/kg	--	760	760	--	44000	22000	2400	1400	7.5	1400	7600	260	260	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/kg	--	1100	1100	40000	1000000	500000	100000	100000	640	--	510000	6100	6100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	450000	1900000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ug/kg	--	370	370	12000	700000	350000	49000	10000	330	590000	780000	2000	2000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/kg	--	--	--	--	--	--	--	--	--	270000	--	380	380	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ug/kg	--	250	250	--	1000000	500000	100000	59000	56	--	780000	1600	1600	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1700000	6900000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	5	--	8300	2500	2500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	38000	--	16000000	100000	100000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/kg	--	1000	1000	--	780000	390000	41000	30000	3300	10000	7800000	46000	46000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	22000	--	7800000	600000	2500000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m&p-Xylene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone	ug/kg	--	120	120	100000	1000000	500000	100000	100000	14000	--	47000000	76000	76000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl t-butyl ether (MTBE)	ug/kg	--	930	930	--	1000000	500000	100000	62000	250	140000	780000	280	280	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylacetate	ug/kg	--	--	--	--	--	--	--	--	22000	--	78000000	650000	1800000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	ug/kg	--	50	50	12000	1000000	500000	100000	51000	26	1400000	50000	76	76	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/kg	--	--	--	--	--	--	--	--	2100	--	16000000	24000	24000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert-butyl alcohol	ug/kg	--	--	--	--	--	--	--	--	320	--	1400000	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ug/kg	--	1300	1300	2000	300000	150000	19000	5500	5	47000	330000	430	430	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/kg	--	700	700	36000	1000000	500000	100000	100000	7800	--	6300000	44000	44000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ug/kg	--	260	1600	260	--	--	100000	--	19000	--	12000000	990000	990000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ug/kg	--	190	190	--	1000000	500000	100000	100000	56	--	1300000	2300	2300	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ug/kg	--	470	470	2000	400000	200000	21000	10000	5	3000	15000	170	170	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	ug/kg	--	--	--	--	--	--	--	--	29000	--	23000000	87000	87000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorotrifluoroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	3400000	10000000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	5000	21000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ug/kg	--	20	20	--	27000	13000	900	210	5	1400	970	27	27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-dioxane - SW8260D																														
1,4-dioxane	ug/kg	--	100	100	100	250000	130000	13000	9800	67	45000	7000	85	350	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 2
Soil Analytical Results
Phase 1, Area 1 & 2
Red Hook Coastal Resiliency (RHCR) Booklyn, NY 11231

Client Id																WC-13/14B-1	WC-13/14B-2	WC-14A-1	WC-14A-2	WC-15-1	WC-15-2	WC-15-3	WC-16-1	WC-16-2	WC-16-3	WC-17A-1	WC-17A-2	WC-17B	WC-18-1	WC-18-2	WC-18-3
Collection Date																10/08/2025	10/08/2025	10/08/2025	10/08/2025	10/06/2025	10/06/2025	10/06/2025	10/06/2025	10/06/2025	10/06/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025
Lab Sample Id																SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Matrix																CU45773	CU45774	CU45775	CU45776	CU45645	CU45646	CU45647	CU45642	CU45643	CU45644	CU42003	CU42004	CU42005	CU42006	CU42007	CU42008
SDG: GCU45773, GCU45642, GCU42003	Units	EPA Tox 40 CFR 261.24	NY 375 - Unrestricted	NY 375 - PGW	NY 375 - ERP	NY 375 - Industrial	NY 375 - Commercial	NY 375 - Res Restricted	NY 375 - Residential	NJ SR-MGW	NJ SR-R-I	NJ SR-R-ID	PA CF MSCs	PA RF MSCs		Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Semivolatiles - SW8270E																															
1,1-Biphenyl	ug/Kg	--	--	--	--	--	--	--	--	1000	--	87000	370	1500		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Diphenylhydrazine	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	39	190		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4,5-Tetrachlorobenzene	ug/Kg	--	--	--	--	--	--	--	--	--	--	23000	4600	13000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2'-Oxybis(1-Chloropropane)	ug/Kg	--	--	--	--	--	--	--	--	1900	--	3100000	8000	8000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,6-tetrachlorophenol	ug/Kg	--	--	--	--	--	--	--	--	26000	--	1900000	1600000	4500000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ug/Kg	--	--	--	--	--	--	--	--	68000	--	6300000	2100000	5900000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ug/Kg	--	--	--	--	--	--	--	--	200	--	49000	10000	28000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ug/Kg	--	--	--	--	--	--	--	--	190	--	190000	1000	1000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ug/Kg	--	--	--	--	--	--	--	--	2300	--	13000000	30000	83000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	ug/Kg	--	--	--	--	--	--	--	--	330	--	130000	780	2100		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	50	210		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	13	53		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ug/Kg	--	--	--	--	--	--	--	--	--	--	4800000	6000000	17000000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ug/Kg	--	--	--	--	--	--	--	--	760	--	390000	4400	4400		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ug/Kg	--	--	--	--	--	--	--	--	3100	--	240000	25000	100000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol (o-cresol)	ug/Kg	--	330	330	--	1000000	500000	100000	100000	770	--	320000	28000	81000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	2	7.3		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	5700	16000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3&4-Methylphenol (m&p-cresol)	ug/Kg	--	330	--	--	--	--	--	--	--	--	--	--	--		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ug/Kg	--	--	--	--	--	--	--	--	680	--	1200	7700	33000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	210	590		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl phenyl ether	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	720000	2000000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	ug/Kg	--	--	--	--	--	--	--	--	170	--	2700	420	1800		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	ug/Kg	--	--	--	--	--	--	--	--	--	--	27000	490	2100		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	4100	4100		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ug/Kg	--	20000	98000	20000	1000000	500000	100000	100000	--	--	3600000	2600000	4700000		ND	ND	ND	ND	ND	ND	ND	420	290	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ug/Kg	--	100000	107000	--	1000000	500000	100000	100000	--	--	--	2400000	6600000		ND	ND	ND	ND	ND	ND	ND	520	ND	ND	ND	ND	ND	ND	ND	ND
Acetophenone	ug/Kg	--	--	--	--	--	--	--	--	3600	--	7800000	190000	520000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aniline	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	120	520		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	ug/Kg	--	100000	1000000	--	1000000	500000	100000	100000	--	--	18000000	350000	350000		420	ND	340	ND	ND	ND	ND	ND	1500	930	ND	ND	ND	ND	ND	ND
Atrazine	ug/Kg	--	--	--	--	--	--	--	--	330	--	220000	130	130		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benz(a)anthracene	ug/Kg	--	1000	1000	--	11000	5600	1000	1000	710	78000000	5100	6100	130000		1300	ND	1100	ND	ND	400	ND	4500	2900	ND	ND	ND	ND	ND	ND	ND
Benzoic Acid	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	2700000	7500000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzaldehyde	ug/Kg	--	--	--	--	--	--	--	--	--	--	170000	--	--		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	ug/Kg	--	1000	22000	2600	1100	1000	1000	1000	--	3500000	510	4200	46000		2900	720	2000	ND	ND	380	ND	6100	3800	1300	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ug/Kg	--	1000	1700	--	11000	5600	1000	1000	--	78000000	5100	3500	76000		3400	890	2300	320	300	510	ND	8300	4700	1500	ND	ND	ND	260	ND	ND
Benzo(ghi)perylene	ug/Kg	--	100000	1000000	--	1000000	500000	100000	100000	--	--	--	180000	180000		2900	860	2000	260	ND	ND	340	4200	2500	1500	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ug/Kg	--	800	1700	--	110000	56000	3900	3900	--	780000000	51000	3500	76000		3400	ND	730	ND	ND	ND	ND	2500	1400	ND	ND	ND	ND	ND	ND	ND
Benzyl Alcohol	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	130000	350000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzyl butyl phthalate	ug/Kg	--	--	--	--	--	--	--	--	5200	--	290000	2900000	10000000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-chloroethoxy)methane	ug/Kg	--	--	--	--	--	--	--	--	--	--	190000	2600	7600		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-chloroethyl)ether	ug/Kg	--	--	--	--	--	--	--	--	330	--	630	4.5	23		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	ug/Kg	--	--	--	--	--	--	--	--	14000	--	39000	130000	130000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Caprolactam	ug/Kg	--	--	--	--	--	--	--	--	16000	290000	32000000	--	--		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	21000	89000		ND	ND	ND	ND	ND	ND	ND	550	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	ug/Kg	--	1000	1000	--	110000	56000	3900	1000	--	--	510000	35000	230000		1300	ND	1100	ND	ND	380	ND	4400	2700	ND	ND	ND	ND	ND	ND	ND
Di-n-butylphthalate	ug/Kg	--	--	--	--	--	--	--	--	--	--	6300000	1400000	4000000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octylphthalate	ug/Kg	--	--	--	--	--	--	--	--	--	--	630000	2200000	10000000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz[a,h]anthracene	ug/Kg	--	330	1000000	--	1100	560	330	330	--	7800000	510	1000	22000		440	ND	330	ND	ND	ND	230	870	560	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	ug/Kg	--	7000	210000	--	1000000	350000	59000	14000	--	--	--	90000	250000		ND	ND	ND	ND	ND	ND	ND	270	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	ug/Kg	--	--	--	--	--	--	--	--	44000	--	51000000	880000	2400000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethylphthalate	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ug/Kg	--	100000	1000000	--	1000000	500000	100000	100000	--	--	2400000	3200000	3200000		2500	450	2000	ND	ND	440	800	ND	6800	5200	760	ND	ND	360	310	450	ND
Fluorene	ug/Kg	--	30000	386000	30000	1000000	500000	100000	100000	--	--	2400000	2800000	3800000		ND	ND	ND	ND	ND	ND	ND	ND	530	350	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ug/Kg	--	330	3200	--	12000	6000	1200	330	170	--	430	960	960		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ug/Kg	--	--	--	--	--	--	--	--	170	--	8900	10000	42000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ug/Kg	--	--	--	--	--	--	--	--	2500	2700	470000	91000	91000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ug/Kg	--	--	--	--	--	--	--	--	170	--	17000	560	560		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ug/Kg	--	500	8200	--	11000	5600	500	500	--	78000000	5100	3500	76000		2800	830	1800	260	ND	ND	310	4100	2600	1400	ND	ND	ND	ND	ND	ND
Isophorone	ug/Kg	--	--	--	--	--	--	--	--	230	--	570000	1900	1900		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodi-n-propylamine	ug/Kg	--	--	--	--	--	--	--	--	170	--	170	0.35	1.8		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodimethylamine	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	0.019	0.24		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ug/Kg	--	--	--	--	--	--	--	--	1100	--	110000	3000	15000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ug/Kg	--	12000	12000	--	1000000	500000	100000	100000	19000	5700	2500000	13000	25000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ug/Kg	--	--	--	--	--	--	--	--	170	7500	160000	52	270		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	ug/Kg	--	800	800	800	55000	6700	6700	2400	330	--	1000	5000	5000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ug/Kg	--	100000	1000000	--	1000000	500000	100000	100000	--	--	--	10000000	10000000		1100	ND	810	ND	ND	280	460	ND	4400	3000	ND	ND	ND	ND	ND	ND
Phenol	ug/Kg	--	330	330	30000	1000000	500000	100000	100000	21000	39000000	19000000	33000	33000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	ug/Kg	--	100000	--	1000000	--	1000000	500000	100000	100000	--	--	1800000	2200000	2200000	2500	430	2000	ND	440	720	270	6800	5000	ND	ND	ND	ND	320	300	520	ND

TABLE 2
Soil Analytical Results
Phase 1, Area 1 & 2
Red Hook Coastal Resiliency (RHCR) Booklyn, NY 11231

Client Id															WC-13/14B-1	WC-13/14B-2	WC-14A-1	WC-14A-2	WC-15-1	WC-15-2	WC-15-3	WC-16-1	WC-16-2	WC-16-3	WC-17A-1	WC-17A-2	WC-17B	WC-18-1	WC-18-2	WC-18-3
Collection Date															10/08/2025	10/08/2025	10/08/2025	10/08/2025	10/06/2025	10/06/2025	10/06/2025	10/06/2025	10/06/2025	10/06/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025
Lab Sample Id															SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Matrix															CU45773	CU45774	CU45775	CU45776	CU45645	CU45646	CU45647	CU45642	CU45643	CU45644	CU42003	CU42004	CU42005	CU42006	CU42007	CU42008
SDG: GCU45773, GCU45642, GCU42003	Units	EPA Tox 40 CFR 261.24	NY 375 - Unrestricted	NY 375 - PGW	NY 375 - ERP	NY 375 - Industrial	NY 375 - Commercial	NY 375 - Res Restricted	NY 375 - Residential	NJ SR-MGW	NJ SR-R-I	NJ SR-R-ID	PA CF MSCs	PA RF MSCs	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Polychlorinated Biphenyls - SW8082A																														
PCB-1016	ug/Kg	--	100	3200	1000	25000	1000	1000	1000	1600	--	250	15000	190000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB-1221	ug/Kg	--	100	3200	1000	25000	1000	1000	1000	1600	--	250	160	680	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB-1232	ug/Kg	--	100	3200	1000	25000	1000	1000	1000	1600	--	250	130	540	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB-1242	ug/Kg	--	100	3200	1000	25000	1000	1000	1000	1600	--	250	4000	17000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB-1248	ug/Kg	--	100	3200	1000	25000	1000	1000	1000	1600	--	250	9300	46000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB-1254	ug/Kg	--	100	3200	1000	25000	1000	1000	1000	1600	--	250	4400	64000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB-1260	ug/Kg	--	100	3200	1000	25000	1000	1000	1000	1600	--	250	9300	46000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB-1262	ug/Kg	--	100	3200	1000	25000	1000	1000	1000	1600	--	250	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB-1268	ug/Kg	--	100	3200	1000	25000	1000	1000	1000	1600	--	250	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	ug/Kg	--	100	3200	1000	25000	1000	1000	1000	1600	--	250	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 2
Soil Analytical Results
Phase 1, Area 1 & 2
Red Hook Coastal Resiliency (RHCR) Booklyn, NY 11231

Client Id															WC-13/14B-1	WC-13/14B-2	WC-14A-1	WC-14A-2	WC-15-1	WC-15-2	WC-15-3	WC-16-1	WC-16-2	WC-16-3	WC-17A-1	WC-17A-2	WC-17B	WC-18-1	WC-18-2	WC-18-3
Collection Date															10/08/2025	10/08/2025	10/08/2025	10/08/2025	10/06/2025	10/06/2025	10/06/2025	10/06/2025	10/06/2025	10/06/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025
Lab Sample Id															SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Matrix															CU45773	CU45774	CU45775	CU45776	CU45645	CU45646	CU45647	CU45642	CU45643	CU45644	CU42003	CU42004	CU42005	CU42006	CU42007	CU42008
SDG: GCU45773, GCU45642, GCU42003	Units	EPA Tox 40 CFR 261.24	NY 375 - Unrestricted	NY 375 - PGW	NY 375 - ERP	NY 375 - Industrial	NY 375 - Commercial	NY 375 - Res Restricted	NY 375 - Residential	NJ SR-MGW	NJ SR-R-I	NJ SR-R-ID	PA CF MSCs	PA RF MSCs	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Pesticides - Soil - SW8081B																														
4,4'-DDD	ug/Kg	--	3.3	14000	3.3	180000	92000	13000	2600	470	--	2300	30000	120000	ND	ND	ND	ND	ND	9.2	ND	21	25	170	ND	ND	ND	ND	ND	ND
4,4'-DDE	ug/Kg	--	3.3	17000	3.3	120000	62000	8900	1800	940	--	2000	41000	170000	ND	ND	3.8	ND	13	10	ND	27	25	94	ND	ND	ND	ND	ND	ND
4,4'-DDT	ug/Kg	--	3.3	136000	3.3	94000	47000	7900	1700	670	--	1900	55000	270000	ND	ND	ND	ND	21	14	ND	16	15	53	ND	ND	ND	ND	ND	ND
a-BHC	ug/Kg	--	20	20	40	6800	3400	480	97	2.3	--	86	46	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
a-Chlordane	ug/Kg	--	94	2900	1300	47000	24000	4200	910	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11	ND	ND
Aldrin	ug/Kg	--	5	190	140	1400	680	97	19	66	--	41	460	1900	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
b-BHC	ug/Kg	--	36	90	600	14000	3000	360	72	2.3	--	300	210	880	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	ug/Kg	--	--	--	--	--	--	--	--	540	--	270	49000	49000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	44	ND	ND
d-BHC	ug/Kg	--	40	250	40	1000000	500000	100000	100000	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	ug/Kg	--	3.3	100	6	2800	1400	200	39	16	--	34	110	470	ND	ND	ND	ND	ND	ND	ND	12	5.6	34	ND	ND	ND	ND	ND	ND
Endosulfan I	ug/Kg	--	2400	102000	--	920000	200000	24000	4800	--	--	--	110000	260000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	ug/Kg	--	2400	102000	--	920000	200000	24000	4800	--	--	--	120000	260000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	ug/Kg	--	2400	1000000	--	920000	200000	24000	4800	--	--	--	70000	70000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	ug/Kg	--	14	60	14	410000	89000	11000	2200	1600	--	19000	5500	5500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin aldehyde	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin ketone	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
g-BHC	ug/Kg	--	100	100	6000	23000	9200	1300	280	3.5	--	570	72	72	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
g-Chlordane	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6	ND	ND
Heptachlor	ug/Kg	--	42	380	140	29000	15000	2100	420	33	--	150	680	680	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	ug/Kg	--	--	--	--	--	--	--	--	81	--	76	1100	1100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	ug/Kg	--	--	--	--	--	--	--	--	110	--	320000	630000	630000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	ug/Kg	--	--	--	--	--	--	--	--	3700	--	490	1200	1200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorinated Herbicides - SW8151A																														
2,4,5-T	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	1500	1500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-TP (Silvex)	ug/Kg	--	3800	3800	--	1000000	500000	100000	58000	--	--	--	22000	22000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-D	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	1800	1800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-DB	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dalapon	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	5300	5300	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dicamba	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	45000	45000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloroprop	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dinoseb	ug/Kg	--	--	--	--	--	--	--	--	--	--	--	290	290	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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Phase 1, Area 1 & 2
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Client Id																WC-13/14B-1	WC-13/14B-2	WC-14A-1	WC-14A-2	WC-15-1	WC-15-2	WC-15-3	WC-16-1	WC-16-2	WC-16-3	WC-17A-1	WC-17A-2	WC-17B	WC-18-1	WC-18-2	WC-18-3
Collection Date																10/08/2025	10/08/2025	10/08/2025	10/08/2025	10/06/2025	10/06/2025	10/06/2025	10/06/2025	10/06/2025	10/06/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025
Lab Sample Id																SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Matrix																CU45773	CU45774	CU45775	CU45776	CU45645	CU45646	CU45647	CU45642	CU45643	CU45644	CU42003	CU42004	CU42005	CU42006	CU42007	CU42008
SDG: GCU45773, GCU45642, GCU42003	Units	EPA Tox 40 CFR 261.24	NY 375 - Unrestricted	NY 375 - PGW	NY 375 - ERP	NY 375 - Industrial	NY 375 - Commercial	NY 375 - Res Restricted	NY 375 - Residential	NJ SR-MGW	NJ SR-R-I	NJ SR-R-ID	PA CF MSCs	PA RF MSCs		Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Metals Total																															
Aluminum	mg/Kg	--	--	--	--	--	--	--	--	--	--	78000	190000	190000		4690	5180	4390	5360	4910	5250	3930	5210	7830	6270	4560	4590	4030	5140	5290	1360
Antimony	mg/Kg	--	--	--	--	--	--	--	--	5.4	--	31	27	27		ND	ND	ND	ND	ND	ND	ND	ND	12	8.2	ND	ND	ND	ND	ND	ND
Arsenic	mg/Kg	--	13	16	13	16	16	16	16	19	1100	19	11	29		2.58	3.33	3.31	2.29	82.7	8.15	1.71	6.78	14.2	22.4	2.47	2.53	3.15	7.09	4.6	ND
Barium	mg/Kg	--	350	820	433	10000	400	400	350	2100	870000	16000	8200	8200		47.9	36.2	28.4	32.5	73.2	58	27.3	67.5	170	289	32.7	29.6	20	197	38.1	6.86
Beryllium	mg/Kg	--	7.2	47	10	2700	590	72	14	0.7	2000	160	320	320		0.29	0.32	0.27	0.29	0.34	0.41	ND	ND	0.58	0.53	0.34	ND	0.28	0.43	0.52	ND
Boron	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	1900	1900		4.7	5.3	21.1	4.9	5.8	7.4	5	2.8	3.9	6.2	3.2	3.2	8.3	5.2	4.3	ND
Cadmium	mg/Kg	--	2.5	7.5	4	60	9.3	4.3	2.5	1.9	2600	71	38	38		ND	ND	0.37	ND	0.44	0.52	ND	ND	0.64	0.71	ND	ND	ND	ND	ND	ND
Calcium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--		5560	2170	6130	4680	4770	4010	2130	7680	16900	6430	4820	2900	2330	6270	4010	486
Chromium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--		22.4	42.3	29.1	23.2	36.1	43.3	31.4	13.6	20.4	34.1	15.1	13	38.9	16.3	16.3	4.16
Cobalt	mg/Kg	--	--	--	--	--	--	--	--	16	520	23	45	130		10.9	16.1	25.8	17.4	19.7	34.6	15.2	6.09	8.54	12.4	9.05	5.2	14.4	7.05	7.44	1.62
Cooper	mg/Kg	--	50	1720	50	10000	270	270	270	910	--	3100	7200	43000		49.7	30.1	27	28.8	43.1	36.7	20	52.8	137	170	15.8	12.6	19.6	37.7	34.5	4
Iron	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	150000	190000		12700	16000	20000	13800	16700	25700	13100	14600	22100	24700	11500	10200	18000	15800	15100	3660
Lead	mg/Kg	--	63	450	63	3900	1000	400	400	90	--	200	450	450		142	54.1	54.5	35.9	165	93.8	54.6	721	1480	663	16.3	13.5	11.5	77.2	36.1	4.11
Magnesium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--		17000	28100	47900	17400	29000	40400	24200	3340	8060	5980	5470	6160	44600	3060	6750	1140
Manganese	mg/Kg	--	1600	2000	1600	10000	10000	2000	2000	--	87000	1900	2000	2000		192	258	253	221	394	481	270	181	277	154	99.1	119	245	248	412	32
Mercury	mg/Kg	--	0.18	0.73	0.18	5.7	2.8	0.81	0.81	0.105	520000	23	10	10		0.39	0.03	0.12	0.03	1	0.29	0.15	2.27	2.67	0.61	ND	ND	0.03	0.28	0.07	ND
Molybdenum	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	650	650		ND	ND	0.42	ND	0.6	ND	ND	0.52	1.35	3.56	ND	ND	ND	0.76	ND	ND
Nickel	mg/Kg	--	30	130	30	10000	310	310	140	48	20000	1600	650	650		109	277	122	185	147	153	100	20.1	29.7	73.7	72.9	67.3	479	28	50.3	10.8
Potassium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--		897	912	846	1030	1150	1230	1030	618	1530	1120	1070	1840	1090	1380	1700	354
Selenium	mg/Kg	--	3.9	4	3.9	6800	1500	180	36	11	--	390	26	26		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	mg/Kg	--	2	8.3	2	6800	1500	180	36	0.5	--	390	84	84		ND	ND	ND	ND	ND	ND	ND	ND	ND	1.18	ND	ND	ND	ND	ND	ND
Sodium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--		474	495	613	535	433	460	530	523	776	1390	489	688	421	572	329	59.1
Thallium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	2.2	14		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Hex. (SW3060A digestion)	mg/Kg	--	1	19	1	800	400	110	22	--	--	--	37	180		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trivalent Chromium	mg/Kg	--	30	--	41	6800	1500	180	36	--	--	--	190000	190000		22.4	42.3	29.1	23.2	36.1	43.3	31.4	13.6	20.4	34.1	15.1	13	38.9	16.3	16.3	4.16
Vanadium	mg/Kg	--	--	--	--	--	--	--	--	--	170000	390	1100	16000		14.3	15.5	13.5	16	20.9	23	14	20.7	24.8	29.7	15	16.7	16.3	19.9	21.6	4.95
Zinc	mg/Kg	--	109	2480	109	10000	10000	10000	2200	930	--	23000	12000	12000		64.5	52.8	75.9	42	103	95.5	38.8	87.6	247	172	34.5	26.6	32.4	54.4	73.8	11.6
NJ EPH Category 2 - NJEPH 10-08 R3																															
Total EPH (C9-C40)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--		180	ND	ND	ND	29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 2
Soil Analytical Results
Phase 1, Area 1 & 2
Red Hook Coastal Resiliency (RHCR) Booklyn, NY 11231

Client Id															WC-13/14B-1	WC-13/14B-2	WC-14A-1	WC-14A-2	WC-15-1	WC-15-2	WC-15-3	WC-16-1	WC-16-2	WC-16-3	WC-17A-1	WC-17A-2	WC-17B	WC-18-1	WC-18-2	WC-18-3
Collection Date															10/08/2025	10/08/2025	10/08/2025	10/08/2025	10/06/2025	10/06/2025	10/06/2025	10/06/2025	10/06/2025	10/06/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025
Lab Sample Id															SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Matrix															CU45773	CU45774	CU45775	CU45776	CU45645	CU45646	CU45647	CU45642	CU45643	CU45644	CU42003	CU42004	CU42005	CU42006	CU42007	CU42008
SDG: GCU45773, GCU45642, GCU42003	Units	EPA Tox 40 CFR 261.24	NY 375 - Unrestricted	NY 375 - PGW	NY 375 - ERP	NY 375 - Industrial	NY 375 - Commercial	NY 375 - Res Restricted	NY 375 - Residential	NJ SR-MGW	NJ SR-R-I	NJ SR-R-ID	PA CF MSCs	PA RF MSCs	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Miscellaneous/Inorganics																														
Ammonia as Nitrogen	me/Ke	--	--	--	--	--	--	--	--	--	--	--	360	360	ND	ND	122	313	ND	ND	ND	ND	ND	ND	161	ND	96.6	194	ND	ND
Corrosivity	Pos/Neg	--	--	--	--	--	--	--	--	--	--	--	--	--	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative
Flash Point	Degree F	--	--	--	--	--	--	--	--	--	--	--	--	--	>200	>200	>200	>200	>200	>200	>200	>200	>200	>200	>200	>200	>200	>200	>200	>200
Fluoride	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	44	44	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ignitability	degree F	--	--	--	--	--	--	--	--	--	--	--	--	--	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed
pH at 22C - Soil	pH Units	>2: <12.5	--	--	--	--	--	--	--	--	--	--	--	--	9.46	8.88	10.3	8.91	8.86	8.69	8.94	8.9	8.96	8.98	11.2	11.7	8.75	8.19	8.1	7.64
Reactivity	Pos/Neg	--	--	--	--	--	--	--	--	--	--	--	--	--	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative
Reactivity Cyanide	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Reactivity Sulfide	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Redox Potential	mV	--	--	--	--	--	--	--	--	--	--	--	--	--	119	161	139	167	219	264	297	219	223	185	173	115	197	235	228	242
SPLP Chloride	me/L	--	--	--	--	--	--	--	--	--	--	--	--	--	3.4	5.7	2.9	6.5	3.2	2.5	8.5	9.9	10.4	34.9	5.4	23.8	2	27.3	21.6	1.7
SPLP Sulfate	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	7.2	ND	5.6	ND	3.8	3.6	ND	5.8	6.4	7.1	4.9	6.2	5	8.1	6.8	4.1
Total Cyanide (SW9010C Distill.)	mg/Kg	--	27	40	--	10000	27	27	27	1	--	47	130	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals TCLP																														
TCLP Arsenic	mg/L	5	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TCLP Barium	mg/L	100	--	--	--	--	--	--	--	--	--	--	--	--	0.38	0.26	0.39	0.23	0.8	0.82	0.34	1.11	0.8	0.77	0.17	0.32	0.39	0.92	0.51	0.29
TCLP Cadmium	mg/L	1	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TCLP Chromium	mg/L	5	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TCLP Lead	mg/L	5	--	--	--	--	--	--	--	--	--	--	--	--	0.12	ND	0.27	ND	0.51	0.4	0.25	5.33	3.27	1.76	ND	ND	ND	ND	ND	ND
TCLP Mercury	mg/L	0.2	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TCLP Selenium	me/L	1	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TCLP Silver	mg/L	5	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Footnotes:

25 Indicates an exceedance of one or more of the comparison criteria

Part 375 Unrestricted: New York NYCRR Part 375 New York Unrestricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.

Part 375 Residential: New York NYCRR Part 375 Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.

Part 375 Restricted Residential: New York NYCRR Part 375 Restricted-Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.

Part 375 Protection of Ecological Resources: New York NYCRR Part 375 Protection of Ecological Resources, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.

Part 375 Commercial: New York NYCRR Part 375 Commercial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.

Part 375 Industrial: New York NYCRR Part 375 Industrial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.

Part 375 Groundwater: New York NYCRR Part 375 Groundwater Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.

NJ RI: New Jersey 2021 Residential Inhalation Exposure Pathway Soil Remediation Standards Criteria per Remediation Standards, last amended May 17, 2021.

NJ RID: New Jersey 2021 Residential Ingestion-Dermal Exposure Pathway Soil Remediation Standards Criteria per Remediation Standards, last amended May 17, 2021.

NJ MGW: New Jersey 2021 Migration to Groundwater Exposure Gateway Pathway Soil Remediation Standards Criteria per Remediation Standards, last amended May 17, 2021.

PA Clean: Pennsylvania Clean Fill Concentration Limits Criteria per Waste Management Regulations effective January 1, 2020.

PA Reg: Pennsylvania Regulated Fill Concentration Limits Criteria per Waste Management Regulations effective January 1, 2020.

VOCs - Volatile Organic Compounds

SVOCs - Semi-Volatile Organic Compounds

PCBs - Polychlorinated biphenyls

ug/Kg - microgram per kilogram (ppb)

mg/kg - milligrams per kilogram (ppm)

mg/L - killigram per liter (ppm)

ND: Non-detect

-- No Criteria

Appendix A

Historic Site Investigation Documents

Note: Submitted under separate cover due to the large file size

Appendix B

Field Book Contents

FACTOR GROUP

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Project:	00379
Test Pit ID:	TP-41
Date:	10/8/2025
Weather:	67 °F Overcast, Rain
Notes:	Waste Charertisation to 10 ft bgs accessed as part of 5-point composite sampling. VOC sample was colected.

Site Name:	East Side Coastal Resiliency		
Site Location:	Beard & Van Dyke Streets, Red Hook, New York		
Test Pit Location:	Phase I, Excavation Zone 10, Subsection # 14, Grid 14a		
Geologist:	Brian Connolly	Excavation Co:	PCC
Operator Co:	PCC	GW Encountered:	NA
Total Depth:	10 ft bgs	Date Completed:	10/8/2025

Depth (ft.)	Sample ID and Depth	PID Reading	SOIL/GEOLOGIC DESCRIPTION
1		**0.0**	Roadway. 3x6-inches of granite blocks. 4-inches of Concrete.
2	**WC-14a-1 COMP (2')**	**0.0**	Brown Fill with sandy Silt, some brick, and some fine-med. gravel.
3		**0.0**	
4		**0.0**	
5		**0.0**	
6		**0.0**	Brown Fill with sandy Silt, some fine-med. gravel.
7	**WC-14a-2 COMP (7')**	**0.0**	
8		**0.0**	
9		**0.0**	
10	**WC-14a-2 COMP and VOC GRAB (10')**	**0.0**	

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling, samples were collected from five (5) test pits (TP-38, TP-39, TP-40, TP-41 and TP-42) within Zone 10, Subsection 14 as a part of waste characterisation samples, WC-14a-1 (0-5.5'), and WC-14a-2 (5.5-10').

Composite samples were collected at 2, 7 & 10 ft bgs. from test pit TP-41 (0-10').

VOC sample was collected from 10 ft bgs for waste characterisation sample, WC-14a-2 (5.5-10').

FACTOR GROUP

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Project:	00379
Test Pit ID:	TP-42
Date:	10/8/2025
Weather:	67 °F Overcast, Rain
Notes:	Waste Charertisation to 8.5 ft bgs accessed as part of 5-point composite sampling.

Site Name:	East Side Coastal Resiliency		
Site Location:	Beard & Van Dyke Streets, Red Hook, New York		
Test Pit Location:	Phase I, Excavation Zone 10, Subsection # 14, Grid 14a		
Geologist:	Brian Connolly	Excavation Co:	PCC
Operator Co:	PCC	GW Encountered:	NA
Total Depth:	8.5 ft bgs	Date Completed:	10/8/2025

Depth (ft.)	Sample ID and Depth	PID Reading	SOIL/GEOLOGIC DESCRIPTION
1		**0.0**	Roadway. 3x6-inches of granite blocks. 4-inches of Concrete.
2		**0.0**	Brown/Gray Sand with trace silt. Appeared to outwash sands.
3	**WC-14a-1 COMP (3')**	**0.0**	
4		**0.0**	
5		**0.0**	
6		**0.0**	
7		**0.0**	
8	**WC-14a-2 COMP (8')**	**0.0**	
8.5		**0.0**	

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling, samples were collected from five (5) test pits (TP-38, TP-39, TP-40, TP-41 and TP-42) within Zone 10, Subsection 14 as a part of waste characterisation samples, WC-14a-1 (0-5.5'), and WC-14a-2 (5.5-10').

Composite samples were collected at 3 & 8 ft bgs. from test pit TP-42 (0-8.5').

FACTOR GROUP

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Project:	00379
Test Pit ID:	TP-39
Date:	10/8/2025
Weather:	67 °F Overcast, Rain
Notes:	Waste Charertisation to 5.5 ft bgs accessed as part of 5-point composite sampling.

Site Name:	East Side Coastal Resiliency		
Site Location:	Beard & Van Dyke Streets, Red Hook, New York		
Test Pit Location:	Phase I, Excavation Zone 10, Subsection # 14, Grid 14a		
Geologist:	Brian Connolly	Excavation Co:	PCC
Operator Co:	PCC	GW Encountered:	NA
Total Depth:	5.5 ft bgs	Date Completed:	10/8/2025

Depth (ft.)	Sample ID and Depth	PID Reading	SOIL/GEOLOGIC DESCRIPTION
1		**0.0**	Roadway. 2-inches of Asphalt. 6-inches of Concrete.
2		**0.0**	Brown Fill with sandy Silt, a little brick, and some fine-med. gravel.
3		**0.0**	
4		**0.0**	Hit fiber optic line at 4'. Observe gas line.
5		**0.0**	Brown/Gray Fill with sandy Silt, a little clay, and some fine-med. gravel.
5.5	**WC-14a-1 COMP (5.5')**	**0.0**	

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling, samples were collected from five (5) test pits (TP-38, TP-39, TP-40, TP-41 and TP-42) within Zone 10, Subsection 14 as a part of waste characterisation samples, WC-14a-1 (0-5.5'), and WC-14a-2 (5.5-10').

Composite sample was collected at 5.5 ft bgs. from test pit TP-39 (0-5.5').

FACTOR GROUP

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Project:	00379
Test Pit ID:	TP-40
Date:	10/8/2025
Weather:	67 °F Overcast, Rain
Notes:	Waste Charertisation to 9 ft bgs accessed as part of 5-point composite sampling. VOC sample was colected.

Site Name:	East Side Coastal Resiliency		
Site Location:	Beard & Van Dyke Streets, Red Hook, New York		
Test Pit Location:	Phase I, Excavation Zone 10, Subsection # 14, Grid 14a		
Geologist:	Brian Connolly	Excavation Co:	PCC
Operator Co:	PCC	GW Encountered:	6 ft bgs
Total Depth:	9 ft bgs	Date Completed:	10/8/2025

Depth (ft.)	Sample ID and Depth	PID Reading	SOIL/GEOLOGIC DESCRIPTION
1		**0.0**	Roadway. 3-inches of Asphalt. 3x6-inches of granite blocks.
2		**0.0**	Brown/Black Fill with sandy Silt, a little brick brick, and some fine-med.
3	**WC-14a-1 COMP and VOC GRAB (2.5')**	**0.0**	gravel. 2-inch gas line.
4		**0.0**	Brown Fill with sandy Silt.
5		**0.0**	
6	**WC-14a-2 COMP (6')**	**0.0**	Groundwater.
7		**0.0**	Brown Sand with trace silt.
8		**0.0**	
9	**WC-14a-2 COMP (9')**	**0.0**	

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling, samples were collected from five (5) test pits (TP-38, TP-39, TP-40, TP-41 and TP-42) within Zone 10, Subsection 14 as a part of waste characterisation samples, WC-14a-1 (0-5.5'), and WC-14a-2 (5.5-10').

Composite samples were collected at 3, 6, 7 & 8.5 ft bgs. from test pit TP-40 (0-9').

VOC sample was collected from 2.5 ft bgs for waste characterisation sample, WC-14a-1 (0-5.5').

FACTOR GROUP

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Project:	00379
Test Pit ID:	TP-38
Date:	10/8/2025
Weather:	67 °F Overcast, Rain
Notes:	Waste Charertisation to 4 ft bgs accessed as part of 5-point composite sampling.

Site Name:	East Side Coastal Resiliency		
Site Location:	Beard & Van Dyke Streets, Red Hook, New York		
Test Pit Location:	Phase I, Excavation Zone 10, Subsection # 14, Grid 14a		
Geologist:	Brian Connolly	Excavation Co:	PCC
Operator Co:	PCC	GW Encountered:	NA
Total Depth:	4 ft bgs	Date Completed:	10/8/2025

Depth (ft.)	Sample ID and Depth	PID Reading	SOIL/GEOLOGIC DESCRIPTION
1		**0.0**	Roadway. 1-inch of Asphalt. 3x6-inches of granite blocks.
2		**0.0**	Brown Fill with sandy Silt, a little brick, and some fine-med. gravel.
3		**0.0**	
4	**WC-14a-1 COMP (4')**	**0.0**	

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling, samples were collected from five (5) test pits (TP-38, TP-39, TP-40, TP-41 and TP-42) within Zone 10, Subsection 14 as a part of waste characterisation samples, WC-14a-1 (0-5.5'), and WC-14a-2 (5.5-10').

Composite sample was collected at 4 ft bgs. from test pit TP-38 (0-4').

FACTOR GROUP

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Project:	00379
Test Pit ID:	TP-46
Date:	10/8/2025
Weather:	67 °F Overcast, Rain
Notes:	Waste Charertisation to 8.5 ft bgs accessed as part of 5-point composite sampling.

Site Name:	East Side Coastal Resiliency		
Site Location:	Van Dyke Street, Red Hook, New York		
Test Pit Location:	Phase I, Excavation Zone 11, Subsection # 13, Grid 13/14b		
Geologist:	Brian Connolly	Excavation Co:	PCC
Operator Co:	PCC	GW Encountered:	NA
Total Depth:	8.5 ft bgs	Date Completed:	10/8/2025

Depth (ft.)	Sample ID and Depth	PID Reading	SOIL/GEOLOGIC DESCRIPTION
1		**0.0**	Roadway. 3x6-inches of granite blocks. 4-inches of Concrete.
2	**WC-13/14b-1 COMP (2')**	**0.0**	Brown Fill with sandy Silt, and some fine-med. gravel.
3		**0.0**	Yellow Sand (utilities) for water service.
4	**WC-13/14b-1 COMP (4')**	**0.0**	
5		**0.0**	
6		**0.0**	
7	**WC-13/14b-2 COMP (6.5')**	**0.0**	
8	**WC-13/14b-2 COMP (7.5')**	**0.0**	
8.5	**WC-13/14b-2 COMP (8')**	**0.0**	

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling, samples were collected from four (4) test pits (TP-43, TP-44, TP-45 and TP-46) within Zone 11, Subsection 13 as a part of waste characterisation samples, WC-13/14b-1 (0-5.5'), and WC-13/14b-2 (5.5-8.5').

Composite samples were collected at 2, 4, 6.5, 7.5 & 8 ft bgs. from test pit TP-46 (0-8.5').

FACTOR GROUP

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Project:	00379
Test Pit ID:	TP-44
Date:	10/8/2025
Weather:	67 °F Overcast, Rain
Notes:	Waste Charertisation to 5.5 ft bgs accessed as part of 5-point composite sampling. VOC sample was colected.

Site Name:	East Side Coastal Resiliency		
Site Location:	Van Dyke Street, Red Hook, New York		
Test Pit Location:	Phase I, Excavation Zone 10, Subsection # 14, Grid 13/14b		
Geologist:	Brian Connolly	Excavation Co:	PCC
Operator Co:	PCC	GW Encountered:	NA
Total Depth:	5.5 ft bgs	Date Completed:	10/8/2025

Depth (ft.)	Sample ID and Depth	PID Reading	SOIL/GEOLOGIC DESCRIPTION
1		**0.0**	Sidewalk. 4-inches of Concrete.
2		**0.0**	Brown Fill with sandy Silt, some brick, and some fine-med. gravel.
3		**0.0**	
4		**0.0**	
5	**WC-13/14b-1 COMP (5')**	**0.0**	
5.5	**WC-13/14b-1 GRAB (5.5')**	**0.0**	

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling, samples were collected from four (4) test pits (TP-43, TP-44, TP-45 and TP-46) within Zone 10, Subsection 14 as a part of waste characterisation samples, WC-13/14b-1 (0-5.5'), and WC-13/14b-2 (5.5-8.5').

Composite sample was collected at 5 ft bgs. from test pit TP-44 (0-5.5').

VOC sample was collected from 5.5 ft bgs for waste characterisation sample, WC-13/14b-1 (0-5.5').

FACTOR GROUP

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Project:	00379
Test Pit ID:	TP-46
Date:	10/8/2025
Weather:	67 °F Overcast, Rain
Notes:	Waste Charertisation to 8.5 ft bgs accessed as part of 5-point composite sampling. VOC sample was colected.

Site Name:	East Side Coastal Resiliency		
Site Location:	Van Dyke Street, Red Hook, New York		
Test Pit Location:	Phase I, Excavation Zone 11, Subsection # 13, Grid 13/14b		
Geologist:	Brian Connolly	Excavation Co:	PCC
Operator Co:	PCC	GW Encountered:	NA
Total Depth:	8.5 ft bgs	Date Completed:	10/8/2025

Depth (ft.)	Sample ID and Depth	PID Reading	SOIL/GEOLOGIC DESCRIPTION
1		**0.0**	Roadway. 3x6-inches of granite blocks. 4-inches of Concrete.
2		**0.0**	Brown Fill with sandy Silt, some brick, and some fine-med. gravel.
3	**WC-13/14b-1 COMP (3')**	**0.0**	
4		**0.0**	
5		**0.0**	
6	**WC-13/14b-2 COMP (6')**	**0.0**	
7	**WC-13/14b-2 COMP (7')**	**0.0**	
8		**0.0**	
8.5	**WC-13/14b-2 COMP & VOC GRAB (8.5')**	**0.0**	

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling, samples were collected from four (4) test pits (TP-43, TP-44, TP-45 and TP-46) within Zone 11, Subsection 13 as a part of waste characterisation samples, WC-13/14b-1 (0-5.5'), and WC-13/14b-2 (5.5-8.5').

Composite samples were collected at 3, 6, 7 & 8.5 ft bgs. from test pit TP-45 (0-8.5').

VOC sample was collected from 8.5 ft bgs for waste characterisation sample, WC-13/14b-2 (5.5-8.5').

FACTOR GROUP

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Project:	00379
Test Pit ID:	TP-43
Date:	10/8/2025
Weather:	67 °F Overcast, Rain
Notes:	Waste Charertisation to 4 ft bgs accessed as part of 5-point composite sampling.

Site Name:	East Side Coastal Resiliency		
Site Location:	Van Dyke Street, Red Hook, New York		
Test Pit Location:	Phase I, Excavation Zone 10, Subsection # 14, Grid 13/14b		
Geologist:	Brian Connolly	Excavation Co:	PCC
Operator Co:	PCC	GW Encountered:	NA
Total Depth:	5.5 ft bgs	Date Completed:	10/8/2025

Depth (ft.)	Sample ID and Depth	PID Reading	SOIL/GEOLOGIC DESCRIPTION
1	**WC-13/14b-1 COMP (1')**	**0.0**	Roadway. 3x6-inches of granite blocks. 4-inches of Concrete.
2		**0.0**	Brown Fill with sandy Silt, some brick, and some fine-med. gravel.
3		**0.0**	
4		**0.0**	

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling, samples were collected from four (4) test pits (TP-43, TP-44, TP-45 and TP-46) within Zone 10, Subsection 14 as a part of waste characterisation samples, WC-13/14b-1 (0-5.5'), and WC-13/14b-2 (5.5-8.5').

Composite sample was collected at 1 ft bgs. from test pit TP-43 (0-4').

FACTOR GROUP

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Project:	00379
Test Pit ID:	TP-34
Date:	10/6/2025
Weather:	78 °F Sunny
Notes:	Waste Charertisation to 8.5 ft bgs accessed as part of 5-point composite sampling. VOC samples were colected.

Site Name:	East Side Coastal Resiliency		
Site Location:	Beard Street, Red Hook, New York		
Test Pit Location:	Phase I, Excavation Zone 9, Subsection # 15		
Geologist:	Brian Connolly	Excavation Co:	PCC
Operator Co:	PCC	GW Encountered:	N/A
Total Depth:	8.5 ft bgs	Date Completed:	10/6/2025

Depth (ft.)	Sample ID and Depth	PID Reading	SOIL/GEOLOGIC DESCRIPTION
1		**0.0**	Roadway. 4-inches of Asphalt. 5-inches of Concrete.
2	**WC-15-1 COMP (2')**	**0.0**	Brown Fill with sandy Silt, a little brick, and some fine-med. gravel.
3		**0.0**	
4	**WC-15-2 COMP (4')**	**0.0**	
5		**0.0**	
6		**0.0**	
7		**0.0**	
8		**0.0**	Brown Fill with Sand, trace silt.
8.5	**WC-15-3 COMP (8.5')**	**0.0**	

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling, samples were collected from four (4) test pits (TP-34, TP-35, TP-36 and TP-37) within Zone 9, Subsection 15 as a part of waste characterisation samples, WC-15-1 (0-3'), WC-15-2 (3-6'), and WC-15-3 (6-8.5').

Composite samples were collected at 2, 4, & 8.5 ft bgs. from test pit TP-34 (0-8.5').

VOC samples were collected from 3 & 6 ft bgs for waste characterisation sample, WC-15-1 (0-3') and WC-15-2 (3-6').

FACTOR GROUP

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Project:	00379
Test Pit ID:	TP-36
Date:	10/6/2025
Weather:	78 °F Sunny
Notes:	Waste Charertisation to 6 ft bgs accessed as part of 5-point composite sampling.

Site Name:	East Side Coastal Resiliency		
Site Location:	Beard Street, Red Hook, New York		
Test Pit Location:	Phase I, Excavation Zone 9, Subsection # 15		
Geologist:	Brian Connolly	Excavation Co:	PCC
Operator Co:	PCC	GW Encountered:	N/A
Total Depth:	8.5 ft bgs	Date Completed:	10/6/2025

Depth (ft.)	Sample ID and Depth	PID Reading	SOIL/GEOLOGIC DESCRIPTION
1	**WC-15-1 COMP (1')**	**0.0**	Tree planter. 4-inches of Concrete.
2	**WC-15-1 COMP (2')**	**0.0**	Brown Fill with sandy Silt (planting top soil).
3	**WC-15-2 COMP (3')**	**0.0**	
4		**0.0**	
5	**WC-15-2 COMP (4.5')**	**0.0**	
6		**0.0**	Brown Fill with sandy Silt, trace fine-med. gravel.

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling, samples were collected from four (4) test pits (TP-34, TP-35, TP-36 and TP-37) within Zone 9, Subsection 15 as a part of waste characterisation samples, WC-15-1 (0-3'), WC-15-2 (3-6'), and WC-15-3 (6-8.5').

Composite samples were collected at 1, 2, 3 & 4.5 ft bgs. from test pit TP-36 (0-8.5').

FACTOR GROUP

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Project:	00379
Test Pit ID:	TP-37
Date:	10/6/2025
Weather:	78 °F Sunny
Notes:	Waste Charertisation to 5.5 ft bgs accessed as part of 5-point composite sampling. VOC sample were colected.

Site Name:	East Side Coastal Resiliency		
Site Location:	Beard Street, Red Hook, New York		
Test Pit Location:	Phase I, Excavation Zone 9, Subsection # 15		
Geologist:	Brian Connolly	Excavation Co:	PCC
Operator Co:	PCC	GW Encountered:	N/A
Total Depth:	5.5 ft bgs	Date Completed:	10/6/2025

Depth (ft.)	Sample ID and Depth	PID Reading	SOIL/GEOLOGIC DESCRIPTION
1		**0.0**	Sidewalk. 4-inches of Concrete.
2	**WC-16-1 COMP (1.5')**	**0.0**	Brown Fill with sandy Silt, some brick, a little metal, and some
3		**0.0**	fine-med. gravel. Hand excavate to 8.5 ft.
4		**0.0**	
5	**WC-16-2 COMP (5')**	**0.0**	
5.5	**WC-16-2 COMP (5.5')**	**0.0**	

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling, samples were collected from four (4) test pits (TP-34, TP-35, TP-36 and TP-37) within Zone 9, Subsection 15 as a part of waste characterisation samples, WC-15-1 (0-3'), WC-15-2 (3-6'), and WC-15-3 (6-8.5').

Composite samples were collected at 1.5, 5 & 5.5 ft bgs. from test pit TP-37 (0-5.5').

FACTOR GROUP

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Project:	00379
Test Pit ID:	TP-35
Date:	10/6/2025
Weather:	78 °F Sunny
Notes:	Waste Charertisation to 5 ft bgs accessed as part of 8.5-point composite sampling. VOC sample were colected.

Site Name:	East Side Coastal Resiliency		
Site Location:	Beard Street, Red Hook, New York		
Test Pit Location:	Phase I, Excavation Zone 9, Subsection # 15		
Geologist:	Brian Connolly	Excavation Co:	PCC
Operator Co:	PCC	GW Encountered:	N/A
Total Depth:	8.5 ft bgs	Date Completed:	10/6/2025

Depth (ft.)	Sample ID and Depth	PID Reading	SOIL/GEOLOGIC DESCRIPTION
1		**0.0**	Roadway. 3x6-inches of granite blocks.
2		**0.0**	Brown/Gray Fill with silty Sand, a little brick.
3	**WC-15-1 COMP (3')**	**0.0**	Encounter 12-inch water main at 3.5 ft.
4		**0.0**	Hand excavate to end of test pit.
5			Gray Fill with Sand, and trace silt.
6	**WC-15-2 COMP (6')**	**0.0**	
7			
8	**WC-15- 3 COMP (8')**		
8.5		**0.0**	

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling, samples were collected from four (4) test pits (TP-34, TP-35, TP-36 and TP-37) within Zone 9, Subsection 15 as a part of waste characterisation samples, WC-15-1 (0-3'), WC-15-2 (3-6'), and WC-15-3 (6-8.5').

Composite samples were collected at 3, 6 & 8 ft bgs. from test pit TP-35 (0-8.5').

FACTOR GROUP

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Project:	00379
Test Pit ID:	TP-34
Date:	10/6/2025
Weather:	78 °F Sunny
Notes:	Waste Charertisation to 8.5 ft bgs accessed as part of 5-point composite sampling. VOC samples were colected.

Site Name:	East Side Coastal Resiliency		
Site Location:	Beard Street, Red Hook, New York		
Test Pit Location:	Phase I, Excavation Zone 9, Subsection # 15		
Geologist:	Brian Connolly	Excavation Co:	PCC
Operator Co:	PCC	GW Encountered:	N/A
Total Depth:	8.5 ft bgs	Date Completed:	10/6/2025

Depth (ft.)	Sample ID and Depth	PID Reading	SOIL/GEOLOGIC DESCRIPTION
1		**0.0**	Roadway. 4-inches of Asphalt. 5-inches of Concrete.
2	**WC-15-1 COMP (2')**	**0.0**	Brown Fill with sandy Silt, a little brick, and some fine-med. gravel.
3		**0.0**	
4	**WC-15-2 COMP (4')**	**0.0**	
5		**0.0**	
6		**0.0**	
7		**0.0**	
8		**0.0**	Brown Fill with Sand, trace silt.
8.5	**WC-15-3 COMP (8.5')**	**0.0**	

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling, samples were collected from four (4) test pits (TP-34, TP-35, TP-36 and TP-37) within Zone 9, Subsection 15 as a part of waste characterisation samples, WC-15-1 (0-3'), WC-15-2 (3-6'), and WC-15-3 (6-8.5').

Composite samples were collected at 2, 4, & 8.5 ft bgs. from test pit TP-34 (0-8.5').

VOC samples were collected from 3 & 6 ft bgs for waste characterisation sample, WC-15-1 (0-3') and WC-15-2 (3-6').

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Project:	00379
Test Pit ID:	TP-36
Date:	10/6/2025
Weather:	78 °F Sunny
Notes:	Waste Charertisation to 6 ft bgs accessed as part of 5-point composite sampling.

Site Name:	East Side Coastal Resiliency		
Site Location:	Beard Street, Red Hook, New York		
Test Pit Location:	Phase I, Excavation Zone 9, Subsection # 15		
Geologist:	Brian Connolly	Excavation Co:	PCC
Operator Co:	PCC	GW Encountered:	N/A
Total Depth:	8.5 ft bgs	Date Completed:	10/6/2025

Depth (ft.)	Sample ID and Depth	PID Reading	SOIL/GEOLOGIC DESCRIPTION
1	**WC-15-1 COMP (1')**	**0.0**	Tree planter. 4-inches of Concrete.
2	**WC-15-1 COMP (2')**	**0.0**	Brown Fill with sandy Silt (planting top soil).
3	**WC-15-2 COMP (3')**	**0.0**	
4		**0.0**	
5	**WC-15-2 COMP (4.5')**	**0.0**	
6		**0.0**	Brown Fill with sandy Silt, trace fine-med. gravel.

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling, samples were collected from four (4) test pits (TP-34, TP-35, TP-36 and TP-37) within Zone 9, Subsection 15 as a part of waste characterisation samples, WC-15-1 (0-3'), WC-15-2 (3-6'), and WC-15-3 (6-8.5').

Composite samples were collected at 1, 2, 3 & 4.5 ft bgs. from test pit TP-36 (0-8.5').

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Project:	00379
Test Pit ID:	TP-37
Date:	10/6/2025
Weather:	78 °F Sunny
Notes:	Waste Charertisation to 5.5 ft bgs accessed as part of 5-point composite sampling. VOC sample were colected.

Site Name:	East Side Coastal Resiliency		
Site Location:	Beard Street, Red Hook, New York		
Test Pit Location:	Phase I, Excavation Zone 9, Subsection # 15		
Geologist:	Brian Connolly	Excavation Co:	PCC
Operator Co:	PCC	GW Encountered:	N/A
Total Depth:	5.5 ft bgs	Date Completed:	10/6/2025

Depth (ft.)	Sample ID and Depth	PID Reading	SOIL/GEOLOGIC DESCRIPTION
1		**0.0**	Sidewalk. 4-inches of Concrete.
2	**WC-16-1 COMP (1.5')**	**0.0**	Brown Fill with sandy Silt, some brick, a little metal, and some
3		**0.0**	fine-med. gravel. Hand excavate to 8.5 ft.
4		**0.0**	
5	**WC-16-2 COMP (5')**	**0.0**	
5.5	**WC-16-2 COMP (5.5')**	**0.0**	

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling, samples were collected from four (4) test pits (TP-34, TP-35, TP-36 and TP-37) within Zone 9, Subsection 15 as a part of waste characterisation samples, WC-15-1 (0-3'), WC-15-2 (3-6'), and WC-15-3 (6-8.5').

Composite samples were collected at 1.5, 5 & 5.5 ft bgs. from test pit TP-37 (0-5.5').

FACTOR GROUP

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Project:	00379
Test Pit ID:	TP-35
Date:	10/6/2025
Weather:	78 °F Sunny
Notes:	Waste Charertisation to 5 ft bgs accessed as part of 8.5-point composite sampling. VOC sample were colected.

Site Name:	East Side Coastal Resiliency		
Site Location:	Beard Street, Red Hook, New York		
Test Pit Location:	Phase I, Excavation Zone 9, Subsection # 15		
Geologist:	Brian Connolly	Excavation Co:	PCC
Operator Co:	PCC	GW Encountered:	N/A
Total Depth:	8.5 ft bgs	Date Completed:	10/6/2025

Depth (ft.)	Sample ID and Depth	PID Reading	SOIL/GEOLOGIC DESCRIPTION
1		**0.0**	Roadway. 3x6-inches of granite blocks.
2		**0.0**	Brown/Gray Fill with silty Sand, a little brick.
3	**WC-15-1 COMP (3')**	**0.0**	Encounter 12-inch water main at 3.5 ft.
4		**0.0**	Hand excavate to end of test pit.
5			Gray Fill with Sand, and trace silt.
6	**WC-15-2 COMP (6')**	**0.0**	
7			
8	**WC-15- 3 COMP (8')**		
8.5		**0.0**	

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling, samples were collected from four (4) test pits (TP-34, TP-35, TP-36 and TP-37) within Zone 9, Subsection 15 as a part of waste characterisation samples, WC-15-1 (0-3'), WC-15-2 (3-6'), and WC-15-3 (6-8.5').

Composite samples were collected at 3, 6 & 8 ft bgs. from test pit TP-35 (0-8.5').

FACTOR GROUP

		Site Name:	Red Hook Coastal Resiliency
		Site Address:	Red Hook, Brooklyn NY
		Project No.:	00379
		Date:	10/2/2025
		Weather:	Sunny
Test Pit ID:	TP-25	Notes:	Excavated test pit (0-8.5') as part of 5-point composite sampling
Total Depth:	8.5 ft bgs	GW Encountered:	N/A
Geologist:	Janine Hlavaty	Drill Rig:	Excavator
Operator Co:	PCC	Sampler Type:	N/A

Depth (ft.)	Sample ID and Depth	PID	DESCRIPTION
1			Asphalt
2	WC-17a-1		F-M grained reddish-brown silty sand, trace gravel, trace clay, moist, no odor, no staining
3			
4	WC-17a-1		
5		0.0	
6			F-M grained reddish-brown silty sand, trace gravel, trace clay, wet, no odor, no staining
7	WC-17a-2		
8			
8.5			

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling for this area of soil disturbance, two (2) grab samples were collected at 2 ft and 4 ft bgs for WC-17a-1, one (1) grab sample was collected at 7 ft bgs for WC-17a-2, and one (1) grab sample was collected at 9.5 ft bgs for WC-18-3.

FACTOR GROUP

		Site Name:	Red Hook Coastal Resiliency
		Site Address:	Red Hook, Brooklyn NY
		Project No.:	00379
		Date:	10/2/2025
		Weather:	Sunny
Test Pit ID:	TP-26	Notes:	Excavated test pit (0-8.5') as part of 5-point composite sampling
Total Depth:	8.5 ft bgs	GW Encountered:	N/A
Geologist:	Janine Hlavaty	Drill Rig:	Excavator
Operator Co:	PCC	Sampler Type:	N/A

Depth (ft.)	Sample ID and Depth	PID	DESCRIPTION
1			Asphalt
2			F-M grained light brown sand, moist, no odor, no staining
3	WC-17a-1		
4			F-M grained light brown sand with some ash, moist, no odor, no staining
5		0.0	
6	WC-17a-2		F-M grained brown sand, wet, no odor, no staining
7			
8	VOC Grab		
8.5	WC-17a-2		

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling for this area of soil disturbance, one (1) grab sample was collected at 3 ft bgs for WC-17a-1,and two (2) grab samples were collected at 6 ft and 8.5 ft bgs for WC-17a-2. One (1) VOC grab sample was collected at 8 ft bgs for WC-17a-2.

FACTOR GROUP		Site Name:	Red Hook Coastal Resiliency
		Site Address:	Red Hook, Brooklyn NY
		Project No.:	00379
		Date:	10/2/2025
		Weather:	Sunny
Test Pit ID:	TP-27	Notes:	Excavated test pit (0-8.5') as part of 5-point composite sampling
Total Depth:	8.5 ft bgs	GW Encountered:	6 ft
Geologist:	Janine Hlavaty	Drill Rig:	Excavator
Operator Co:	PCC	Sampler Type:	N/A

Depth (ft.)	Sample ID and Depth	PID	DESCRIPTION
1	WC-17a-1	0.0	Concrete
2			F-M grained brown sand, trace gravel, moist, no odor, no staining
3			
4	VOC Grab		
5	WC-17a-1		
6	WC-17a-2		F-M grained brown sand, wet, petroleum odor, no staining
7			
8	WC-17a-2		
8.5			

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling for this area of soil disturbance, two (2) grab samples were collected at 1.5 ft and 5 ft bgs for WC-17a-1, and two (2) grab samples were collected at 6 ft and 8 ft bgs for WC-17a-2. One (1) VOC grab sample was collected at 4 ft bgs for WC-17a-1.

FACTOR GROUP

		Site Name:	Red Hook Coastal Resiliency
		Site Address:	Red Hook, Brooklyn NY
		Project No.:	00379
		Date:	10/2/2025
		Weather:	Sunny
Test Pit ID:	TP-28	Notes:	Excavated test pit (0-5') as part of 5-point composite sampling
Total Depth:	5 ft bgs	GW Encountered:	N/A
Geologist:	Janine Hlavaty	Drill Rig:	Excavator
Operator Co:	PCC	Sampler Type:	N/A

Depth (ft.)	Sample ID and Depth	PID	DESCRIPTION
1		0.0	Concrete
2	WC-17b		F-M grained brown sand, trace gravel, moist, no odor, no staining
3			
4	WC-17b		
5	WC-17b		

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling for this area of soil disturbance, three (3) grab samples were collected at 2 ft, 4 ft, and 5 ft bgs for WC-17b.

FACTOR GROUP

		Site Name:	Red Hook Coastal Resiliency
		Site Address:	Red Hook, Brooklyn NY
		Project No.:	00379
		Date:	10/2/2025
		Weather:	Sunny
Test Pit ID:	TP-29	Notes:	Excavated test pit (0-5') as part of 5-point composite sampling
Total Depth:	5 ft bgs	GW Encountered:	N/A
Geologist:	Janine Hlavaty	Drill Rig:	Excavator
Operator Co:	PCC	Sampler Type:	N/A

Depth (ft.)	Sample ID and Depth	PID	DESCRIPTION
1		0.0	Concrete
2	WC-17b		F-M grained brown sand, trace gravel, moist, no odor, no staining
3	WC-17b		
4			
5	VOC Grab		

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling for this area of soil disturbance, two (2) grab samples were collected at 2.5 ft and 3 ft bgs for WC-17b. One (1) VOC grab sample was collected at 5 ft bgs for WC-17b.

FACTOR GROUP

		Site Name:	Red Hook Coastal Resiliency
		Site Address:	Red Hook, Brooklyn NY
		Project No.:	00379
		Date:	10/2/2025
		Weather:	Sunny
Test Pit ID:	TP-20	Notes:	Excavated test pit (0-9.5') as part of 5-point composite sampling
Total Depth:	9.5 ft bgs	GW Encountered:	N/A
Geologist:	Janine Hlavaty	Drill Rig:	Excavator
Operator Co:	PCC	Sampler Type:	N/A

Depth (ft.)	Sample ID and Depth	PID	DESCRIPTION
1			Asphalt
2			
3	WC-18-1		F-M grained reddish-brown silty sand, moist, no odor, no staining
4			
5		0.0	
6	WC-18-2		
7			
8			
9			
9.5	WC-18-3		F-M grained reddish-brown silty sand, wet, no odor, no staining

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling for this area of soil disturbance, one (1) grab sample was collected at 3 ft WC-18-1, one (1) grab sample was collected at 6 ft bgs for WC-18-2, and one (1) grab sample was collected at 9.5 ft bgs for WC-18-3.

FACTOR GROUP

		Site Name:	Red Hook Coastal Resiliency
		Site Address:	Red Hook, Brooklyn NY
		Project No.:	00379
		Date:	10/2/2025
		Weather:	Sunny
Test Pit ID:	TP-21	Notes:	Excavated test pit (0-8.5') as part of 5-point composite sampling
Total Depth:	8.5 ft bgs	GW Encountered:	N/A
Geologist:	Janine Hlavaty	Drill Rig:	Excavator
Operator Co:	PCC	Sampler Type:	N/A

Depth (ft.)	Sample ID and Depth	PID	DESCRIPTION
1			Asphalt
2	WC-18-1		F-M grained red sand with some silt and clay, moist, no odor, no staining
3			
4	WC-18-2		
5		0.0	
6	VOC Grab		
7			F-M grained red sand with some silt and clay, wet, no odor, no staining
8			
8.5	WC-18-3		

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling for this area of soil disturbance, one (1) grab sample was collected at 2 ft bgs for WC-18-1, one (1) grab sample was collected at 4 ft bgs for WC-18-2, and one (1) grab sample was collected at 8.5 ft bgs for WC-18-3. One (1) VOC grab sample was collected at 6 ft bgs for WC-18-2.

FACTOR GROUP

		Site Name:	Red Hook Coastal Resiliency
		Site Address:	Red Hook, Brooklyn NY
		Project No.:	00379
		Date:	10/2/2025
		Weather:	Sunny
Test Pit ID:	TP-22	Notes:	Excavated test pit (0-9.5') as part of 5-point composite sampling
Total Depth:	9.5 ft bgs	GW Encountered:	7 ft
Geologist:	Janine Hlavaty	Drill Rig:	Excavator
Operator Co:	PCC	Sampler Type:	N/A

Depth (ft.)	Sample ID and Depth	PID	DESCRIPTION
1			Asphalt
2	WC-18-1		F-M grained dark brown sand, moist, no odor, no staining
3	VOC Grab		
4			
5	WC-18-2	0.0	
6			
7	WC-18-3		F-M grained dark brown sand, wet, no odor, no staining
8	WC-18-3		
9			
9.5			

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling for this area of soil disturbance, one (1) grab sample was collected at 2.5 ft bgs for WC-18-1, one (1) grab sample was collected at 5 ft bgs for WC-18-2, and two (2) grab samples were collected at 7 ft and 8 ft bgs for WC-18-3. One (1) VOC grab sample was collected at 3 ft bgs for WC-18-1.

FACTOR GROUP		Site Name:	Red Hook Coastal Resiliency
		Site Address:	Red Hook, Brooklyn NY
		Project No.:	00379
		Date:	10/2/2025
		Weather:	Sunny
Test Pit ID:	TP-23	Notes:	Excavated test pit (0-8.5') as part of 5-point composite sampling
Total Depth:	8.5 ft bgs	GW Encountered:	7 ft
Geologist:	Janine Hlavaty	Drill Rig:	Excavator
Operator Co:	PCC	Sampler Type:	N/A

Depth (ft.)	Sample ID and Depth	PID	DESCRIPTION
1	WC-18-1	0.0	Asphalt
2			F-M grained brown silty sand, trace gravel, moist, no odor, no staining
3			
4	WC-18-2		
5			
6	WC-18-3		
7			F-M grained brown silty sand, trace gravel, wet, no odor, no staining
8			
8.5	VOC Grab		

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling for this area of soil disturbance, one (1) grab sample was collected at 1.5 ft bgs for WC-18-1, one (1) grab sample was collected at 4.5 ft bgs for WC-18-2, and one (1) grab sample was collected at 6 ft bgs for WC-18-3. One (1) VOC grab sample was collected at 8.5 ft bgs for WC-18-3.

FACTOR GROUP

		Site Name:	Red Hook Coastal Resiliency
		Site Address:	Red Hook, Brooklyn NY
		Project No.:	00379
		Date:	10/2/2025
		Weather:	Sunny
Test Pit ID:	TP-24	Notes:	Excavated test pit (0-6') as part of 5-point composite sampling
Total Depth:	6 ft bgs	GW Encountered:	N/A
Geologist:	Janine Hlavaty	Drill Rig:	Excavator
Operator Co:	PCC	Sampler Type:	N/A

Depth (ft.)	Sample ID and Depth	PID	DESCRIPTION
1	WC-18-1	0.0	F-M grained red silty sand, moist, no odor, no staining
2			
3	WC-18-2		
4			
5			
6			

END OF TEST PIT

SAMPLE COLLECTION:

As part of the 5-point composite sampling for this area of soil disturbance, one (1) grab sample was collected at 1 ft bgs for WC-18-1, and one (1) grab sample was collected at 3 ft bgs for WC-18-2.

Appendix C

Laboratory Qualifications

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2026
Issued April 01, 2025

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. PHYLLIS SHILLER
PHOENIX ENVIRONMENTAL LABS
587 EAST MIDDLE TURNPIKE
MANCHESTER, CT 06040

NY Lab Id No: 11301

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2016) for the category ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Bacteriology

Coliform, Total / E. coli (Qualitative)	SM 21, 23 9222A,B,C
	SM 20, 21-23 9223B (-04) (Colilert)
E. coli (Enumeration)	SM 21, 23 9222A,B,C
	SM 20, 21-23 9223B (-04) (Colilert)
Enterococci	SM 23 9230D (Enterolert)
Heterotrophic Plate Count	SM 20, 21-23 9215B (-04)

Chlorinated Acids

2,4,5-TP (Silvex)	EPA 515.3
2,4-D	EPA 515.3
Dalapon	EPA 515.3
Dicamba	EPA 515.3
Dinoseb	EPA 515.3
Pentachlorophenol	EPA 515.3
Picloram	EPA 515.3

Disinfection By-products

Bromochloroacetic acid	EPA 552.2
Dibromoacetic acid	EPA 552.2
Dichloroacetic acid	EPA 552.2
Monobromoacetic acid	EPA 552.2
Monochloroacetic acid	EPA 552.2
Trichloroacetic acid	EPA 552.2

Fuel Additives

Methyl tert-butyl ether	EPA 524.2
Naphthalene	EPA 524.2

Metals I

Arsenic, Total	SM 19, 21-23 3113B (-04,-10)

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Metals I

Arsenic, Total	EPA 200.9 Rev. 2.2
	EPA 200.8 Rev. 5.4
Barium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Cadmium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Chromium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Copper, Total	EPA 200.5
	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Iron, Total	EPA 200.7 Rev. 4.4
Lead, Total	EPA 200.5
	SM 19, 21-23 3113B (-04,-10)
	EPA 200.9 Rev. 2.2
	EPA 200.8 Rev. 5.4
Manganese, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Mercury, Total	EPA 245.1 Rev. 3.0
Selenium, Total	SM 19, 21-23 3113B (-04,-10)
	EPA 200.9 Rev. 2.2
	EPA 200.8 Rev. 5.4
Silver, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Zinc, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4

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Metals II

Aluminum, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Antimony, Total	SM 19, 21-23 3113B (-04,-10)
	EPA 200.9 Rev. 2.2
	EPA 200.8 Rev. 5.4
Beryllium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Molybdenum, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Nickel, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Thallium, Total	SM 19, 21-23 3113B (-04,-10)
	EPA 200.9 Rev. 2.2
	EPA 200.8 Rev. 5.4
Vanadium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4

Metals III

Boron, Total	EPA 200.7 Rev. 4.4
Calcium, Total	EPA 200.7 Rev. 4.4
Magnesium, Total	EPA 200.7 Rev. 4.4
Potassium, Total	EPA 200.7 Rev. 4.4
Sodium, Total	EPA 200.7 Rev. 4.4
Uranium (Mass)	EPA 200.8 Rev. 5.4

Methylcarbamate Pesticides

3-Hydroxy Carbofuran	EPA 531.2
Aldicarb	EPA 531.2

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Methylcarbamate Pesticides

Aldicarb Sulfone	EPA 531.2
Aldicarb Sulfoxide	EPA 531.2
Carbaryl	EPA 531.2
Carbofuran	EPA 531.2
Methomyl	EPA 531.2
Oxamyl	EPA 531.2

Microextractables

1,2,3-Trichloropropane, Low Level	EPA 504.1
1,2-Dibromo-3-chloropropane, Low Le	EPA 504.1
1,2-Dibromoethane, Low Level	EPA 504.1

Miscellaneous

1,4-Dioxane	EPA 522
Benzo(a)pyrene	EPA 525.3
Bis(2-ethylhexyl) phthalate	EPA 525.3
Di (2-ethylhexyl) adipate	EPA 525.3
Diquat	EPA 549.2
Glyphosate	EPA 547
Hexachlorobenzene	EPA 525.3
Hexachlorocyclopentadiene	EPA 525.3
Odor	SM 21-23 2150 B (-97)
Organic Carbon, Dissolved	SM 21-23 5310B (-00)
Organic Carbon, Total	SM 21-23 5310B (-00)
Surfactant (MBAS)	SM 21-23 5540C (-00)
Turbidity	SM 21-23 2130 B (-01)
UV 254	SM 21-23 5910B (-00,-11)

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Non-Metals

Alkalinity	SM 21-23 2320B (-97)
Calcium Hardness	EPA 200.7 Rev. 4.4
	SM 18-22 2340B (-97)
Chloride	EPA 300.0 Rev. 2.1
	SM 21-22 4500-Cl- E (-97)
Color	SM 21-23 2120B (-01)
Cyanide	EPA 335.4 Rev. 1.0
Fluoride, Total	EPA 300.0 Rev. 2.1
	SM 21-23 4500-F C (-97)
Nitrate (as N)	EPA 353.2 Rev. 2.0
	EPA 300.0 Rev. 2.1
Nitrite (as N)	EPA 353.2 Rev. 2.0
	EPA 300.0 Rev. 2.1
Orthophosphate (as P)	SM 19, 21-23 4500-P F (-99)
	SM 19, 21-23 4500-P E (-99)
Solids, Total Dissolved	SM 21-23 2540C (-97)
Specific Conductance	SM 21-23 2510B (-97)
Sulfate (as SO4)	EPA 300.0 Rev. 2.1

Organohalide Pesticides

Alachlor	EPA 525.3
Aldrin	EPA 525.3
Atrazine	EPA 525.3
Butachlor	EPA 525.3
Chlordane Total	EPA 525.3
Dieldrin	EPA 525.3
Endrin	EPA 525.3
Heptachlor	EPA 525.3

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Organohalide Pesticides

Heptachlor epoxide	EPA 525.3
Lindane	EPA 525.3
Methoxychlor	EPA 525.3
Metolachlor	EPA 525.3
Metribuzin	EPA 525.3
Propachlor	EPA 525.3
Simazine	EPA 525.3
Toxaphene	EPA 525.3

Polychlorinated Biphenyls

PCB Screen	EPA 508

Trihalomethanes

Bromodichloromethane	EPA 524.2
Bromoform	EPA 524.2
Chloroform	EPA 524.2
Dibromochloromethane	EPA 524.2
Total Trihalomethanes	EPA 524.2

Volatile Aromatics

1,2,3-Trichlorobenzene	EPA 524.2
1,2,4-Trichlorobenzene	EPA 524.2
1,2,4-Trimethylbenzene	EPA 524.2
1,2-Dichlorobenzene	EPA 524.2
1,3,5-Trimethylbenzene	EPA 524.2
1,3-Dichlorobenzene	EPA 524.2
1,4-Dichlorobenzene	EPA 524.2
2-Chlorotoluene	EPA 524.2
4-Chlorotoluene	EPA 524.2

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Volatile Aromatics

Benzene	EPA 524.2
Bromobenzene	EPA 524.2
Chlorobenzene	EPA 524.2
Ethyl benzene	EPA 524.2
Hexachlorobutadiene	EPA 524.2
Isopropylbenzene	EPA 524.2
n-Butylbenzene	EPA 524.2
n-Propylbenzene	EPA 524.2
p-Isopropyltoluene (P-Cymene)	EPA 524.2
sec-Butylbenzene	EPA 524.2
Styrene	EPA 524.2
tert-Butylbenzene	EPA 524.2
Toluene	EPA 524.2
Total Xylenes	EPA 524.2

Volatile Halocarbons

1,1,1,2-Tetrachloroethane	EPA 524.2
1,1,1-Trichloroethane	EPA 524.2
1,1,2,2-Tetrachloroethane	EPA 524.2
1,1,2-Trichloroethane	EPA 524.2
1,1-Dichloroethane	EPA 524.2
1,1-Dichloroethene	EPA 524.2
1,1-Dichloropropene	EPA 524.2
1,2,3-Trichloropropane	EPA 524.2
1,2-Dichloroethane	EPA 524.2
1,2-Dichloropropane	EPA 524.2
1,3-Dichloropropane	EPA 524.2
2,2-Dichloropropane	EPA 524.2

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Volatile Halocarbons

Bromochloromethane	EPA 524.2
Bromomethane	EPA 524.2
Carbon tetrachloride	EPA 524.2
Chloroethane	EPA 524.2
Chloromethane	EPA 524.2
cis-1,2-Dichloroethene	EPA 524.2
cis-1,3-Dichloropropene	EPA 524.2
Dibromomethane	EPA 524.2
Dichlorodifluoromethane	EPA 524.2
Methylene chloride	EPA 524.2
Tetrachloroethene	EPA 524.2
trans-1,2-Dichloroethene	EPA 524.2
trans-1,3-Dichloropropene	EPA 524.2
Trichloroethene	EPA 524.2
Trichlorofluoromethane	EPA 524.2
Vinyl chloride	EPA 524.2

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All approved analytes are listed below:

Acrylates

Acrolein (Propenal)	EPA 8260D
	EPA 624.1
Acrylonitrile	EPA 8260D
	EPA 624.1

Amines

1,2-Diphenylhydrazine	EPA 625.1
	EPA 8270E
2-Nitroaniline	EPA 8270D
	EPA 8270E
3-Nitroaniline	EPA 8270E
4-Chloroaniline	EPA 8270E
4-Nitroaniline	EPA 8270E
Aniline	EPA 625.1
	EPA 8270E
Carbazole	EPA 625.1
	EPA 8270E
Pyridine	EPA 625.1
	EPA 8270E

Bacteriology

Coliform, Fecal	SM 9222D-2015
	Colilert-18
Coliform, Total	SM 9222B-2015
E. coli (Enumeration)	m-Coliblue24
	Colilert-24
	SM 9223B-2016
	Colilert-18

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All approved analytes are listed below:

Bacteriology

Enterococci	SM 9230D-2013 (Enterolert)
Heterotrophic Plate Count	SM 18-21 9215B

Benzidines

3,3'-Dichlorobenzidine	EPA 625.1
	EPA 8270E
Benzidine	EPA 625.1
	EPA 8270E

Chlorinated Hydrocarbon Pesticides

4,4'-DDD	EPA 8081B
	EPA 608.3
4,4'-DDE	EPA 8081B
	EPA 608.3
4,4'-DDT	EPA 8081B
	EPA 608.3
Aldrin	EPA 8081B
	EPA 608.3
alpha-BHC	EPA 8081B
	EPA 608.3
alpha-Chlordane	EPA 8081B
beta-BHC	EPA 8081B
	EPA 608.3
Chlordane Total	EPA 8081B
	EPA 608.3
delta-BHC	EPA 8081B
	EPA 608.3
Dieldrin	EPA 8081B

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Chlorinated Hydrocarbon Pesticides

Dieldrin	EPA 608.3
Endosulfan I	EPA 8081B
	EPA 608.3
Endosulfan II	EPA 8081B
	EPA 608.3
Endosulfan sulfate	EPA 8081B
	EPA 608.3
Endrin	EPA 8081B
	EPA 608.3
Endrin aldehyde	EPA 8081B
	EPA 608.3
Endrin Ketone	EPA 8081B
gamma-Chlordane	EPA 8081B
Heptachlor	EPA 8081B
	EPA 608.3
Heptachlor epoxide	EPA 8081B
	EPA 608.3
Lindane	EPA 8081B
	EPA 608.3
Methoxychlor	EPA 8081B
	EPA 608.3
PCNB	EPA 8270E
Toxaphene	EPA 8081B
	EPA 608.3

Chlorinated Hydrocarbons

1,2,4,5-Tetrachlorobenzene	EPA 8270E
1,2,4-Trichlorobenzene	EPA 625.1

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Chlorinated Hydrocarbons

1,2,4-Trichlorobenzene	EPA 8270E
2-Chloronaphthalene	EPA 625.1
	EPA 8270E
Hexachlorobenzene	EPA 8081B
	EPA 625.1
	EPA 8270E
Hexachlorobutadiene	EPA 625.1
	EPA 8270E
Hexachlorocyclopentadiene	EPA 625.1
	EPA 8270E
Hexachloroethane	EPA 625.1
	EPA 8270E

Chlorophenoxy Acid Pesticides

2,4,5-T	EPA 8151A
2,4,5-TP (Silvex)	EPA 8151A
2,4-D	EPA 8151A
2,4-DB	EPA 8151A
Dalapon	EPA 8151A
Dicamba	EPA 8151A
Dichloroprop	EPA 8151A
Dinoseb	EPA 8151A
Pentachlorophenol	EPA 8151A

Demand

Biochemical Oxygen Demand	SM 5210B-2016
Carbonaceous BOD	SM 5210B-2016
Chemical Oxygen Demand	SM 5220D-2011

Serial No.: 70415

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NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2026
Issued April 01, 2025

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. PHYLLIS SHILLER
PHOENIX ENVIRONMENTAL LABS
587 EAST MIDDLE TURNPIKE
MANCHESTER, CT 06040

NY Lab Id No: 11301

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2016) for the category ENVIRONMENTAL ANALYSES NON POTABLE WATER
All approved analytes are listed below:

Fuel Oxygenates

Di-isopropyl ether	EPA 8260D
Ethanol	EPA 8260D
	EPA 8015D
Methyl tert-butyl ether	EPA 8260D
	EPA 624.1
tert-amyl alcohol	EPA 8260D
tert-amyl methyl ether (TAME)	EPA 8260D
tert-butyl alcohol	EPA 8260D
tert-butyl ethyl ether (ETBE)	EPA 8260D

Haloethers

2,2'-Oxybis(1-chloropropane)	EPA 625.1
	EPA 8270E
4-Bromophenylphenyl ether	EPA 625.1
	EPA 8270E
4-Chlorophenylphenyl ether	EPA 625.1
	EPA 8270E
Bis(2-chloroethoxy)methane	EPA 625.1
	EPA 8270E
Bis(2-chloroethyl)ether	EPA 625.1
	EPA 8270E

Low Level Halocarbons

1,2,3-Trichloropropane, Low Level	EPA 8011
1,2-Dibromo-3-chloropropane, Low Le	EPA 8011
1,2-Dibromoethane, Low Level	EPA 8011

Low Level Polynuclear Aromatics

Acenaphthene Low Level	EPA 8270E SIM

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Low Level Polynuclear Aromatics

Acenaphthylene Low Level	EPA 8270E SIM
Anthracene Low Level	EPA 8270E SIM
Benzo(a)anthracene Low Level	EPA 8270E SIM
Benzo(a)pyrene Low Level	EPA 8270E SIM
Benzo(b)fluoranthene Low Level	EPA 8270E SIM
Benzo(g,h,i)perylene Low Level	EPA 8270E SIM
Benzo(k)fluoranthene Low Level	EPA 8270E SIM
Chrysene Low Level	EPA 8270E SIM
Dibenzo(a,h)anthracene Low Level	EPA 8270E SIM
Fluoranthene Low Level	EPA 8270E SIM
Fluorene Low Level	EPA 8270E SIM
Indeno(1,2,3-cd)pyrene Low Level	EPA 8270E SIM
Naphthalene Low Level	EPA 8270E SIM
Phenanthrene Low Level	EPA 8270E SIM
Pyrene Low Level	EPA 8270E SIM

Metals I

Barium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Cadmium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 7010
	SM 3113B-2010
	EPA 200.8, Rev. 5.4 (1994)
Calcium, Total	EPA 200.7, Rev. 4.4 (1994)

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Metals I

Calcium, Total	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Chromium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Copper, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Iron, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Lead, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 7010
	SM 3113B-2010
	EPA 200.8, Rev. 5.4 (1994)
Magnesium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Manganese, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D

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Metals I

Manganese, Total	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Nickel, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Potassium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Silver, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 7010
	SM 3113B-2010
	EPA 200.8, Rev. 5.4 (1994)
Sodium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Strontium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 200.8, Rev. 5.4 (1994)

Metals II

Aluminum, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B

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Metals II

Aluminum, Total	EPA 200.8, Rev. 5.4 (1994)
Antimony, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 7010
	SM 3113B-2010
	EPA 200.8, Rev. 5.4 (1994)
Arsenic, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 7010
	SM 3113B-2010
	EPA 200.8, Rev. 5.4 (1994)
Beryllium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Chromium VI	EPA 7196A
	SM 3500-Cr B-2011
Mercury, Total	EPA 245.1, Rev. 3.0 (1994)
	EPA 7470A
	EPA 7473
Selenium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 7010
	SM 3113B-2010

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Metals II

Selenium, Total	EPA 200.8, Rev. 5.4 (1994)
Vanadium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Zinc, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)

Metals III

Cobalt, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Gold, Total	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Molybdenum, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Thallium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 7010
	SM 3113B-2010
	EPA 200.9 Rev. 2.2 (1994)
	EPA 200.8, Rev. 5.4 (1994)

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Metals III

Tin, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Titanium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)

Mineral

Acidity	SM 2310B-2011
Alkalinity	SM 2320B-2011
Calcium Hardness	SM 2340B-2011
Chloride	EPA 300.0, Rev. 2.1 (1993)
	SM 4500-Cl- E-2011
Hardness, Total	SM 2340B-2011
Sulfate (as SO4)	EPA 300.0, Rev. 2.1 (1993)

Miscellaneous

Boron, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
Bromide	EPA 300.0, Rev. 2.1 (1993)
Color	SM 2120B-2011
Cyanide, Total	EPA 335.4, Rev. 1.0 (1993)
	EPA 9012B
Formaldehyde	EPA 8315A
non-Polar Extractable Material (TPH)	EPA 1664A
Oil and Grease Total Recoverable	EPA 1664A

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Miscellaneous

Oil and Grease Total Recoverable	EPA 1664B
	EPA 9070A (Solvent:Hexane)
Organic Carbon, Total	SM 5310B-2014
Phenols	EPA 420.4, Rev. 1.0 (1993)
Specific Conductance	SM 2510B-2011
Sulfide (as S)	SM 4500-S2- D-2011
Surfactant (MBAS)	SM 5540C-2011
Turbidity	SM 2130 B-2011

Nitroaromatics and Isophorone

2,4-Dinitrotoluene	EPA 625.1
	EPA 8270E
2,6-Dinitrotoluene	EPA 625.1
	EPA 8270E
Isophorone	EPA 625.1
	EPA 8270E
Nitrobenzene	EPA 625.1
	EPA 8270E

Nitrosoamines

N-Nitrosodimethylamine	EPA 625.1
	EPA 8270E
N-Nitrosodi-n-propylamine	EPA 625.1
	EPA 8270E
N-Nitrosodiphenylamine	EPA 625.1
	EPA 8270E

Nutrient

Ammonia (as N)	EPA 350.1, Rev. 2.0 (1993)

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Nutrient

Kjeldahl Nitrogen, Total	EPA 351.1 (Rev. 1978)
Nitrate (as N)	EPA 353.2, Rev. 2.0 (1993)
	EPA 300.0, Rev. 2.1 (1993)
Nitrate-Nitrite (as N)	EPA 353.2, Rev. 2.0 (1993)
	EPA 300.0, Rev. 2.1 (1993)
Nitrite (as N)	EPA 353.2, Rev. 2.0 (1993)
	EPA 300.0, Rev. 2.1 (1993)
Orthophosphate (as P)	SM 4500-P E-2011
	SM 4500-P F-2011 or G-2011
Phosphorus, Total	EPA 200.7, Rev. 4.4 (1994)
	SM 4500-P E-2011

Organophosphate Pesticides

Atrazine	EPA 8141B
	EPA 8270E
Azinphos methyl	EPA 8141B
Diazinon	EPA 8141B
Disulfoton	EPA 8141B
Malathion	EPA 8141B
Parathion ethyl	EPA 8270E
Simazine	EPA 8141B

Petroleum Hydrocarbons

Diesel Range Organics	EPA 8015D
Gasoline Range Organics	EPA 8015D

Phthalate Esters

Benzyl butyl phthalate	EPA 625.1
	EPA 8270E

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Phthalate Esters

Bis(2-ethylhexyl) phthalate	EPA 625.1
	EPA 8270E
Diethyl phthalate	EPA 625.1
	EPA 8270E
Dimethyl phthalate	EPA 625.1
	EPA 8270E
Di-n-butyl phthalate	EPA 625.1
	EPA 8270E
Di-n-octyl phthalate	EPA 625.1
	EPA 8270E

Polychlorinated Biphenyls

Aroclor 1016 (PCB-1016)	EPA 8082A
	EPA 608.3
Aroclor 1221 (PCB-1221)	EPA 8082A
	EPA 608.3
Aroclor 1232 (PCB-1232)	EPA 8082A
	EPA 608.3
Aroclor 1242 (PCB-1242)	EPA 8082A
	EPA 608.3
Aroclor 1248 (PCB-1248)	EPA 8082A
	EPA 608.3
Aroclor 1254 (PCB-1254)	EPA 8082A
	EPA 608.3
Aroclor 1260 (PCB-1260)	EPA 8082A
	EPA 608.3
Aroclor 1262 (PCB-1262)	EPA 8082A
Aroclor 1268 (PCB-1268)	EPA 8082A

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Polychlorinated Biphenyls

PCB 101	EPA 8082A
PCB 105	EPA 8082A
PCB 118	EPA 8082A
PCB 128	EPA 8082A
PCB 138	EPA 8082A
PCB 153	EPA 8082A
PCB 170	EPA 8082A
PCB 18	EPA 8082A
PCB 180	EPA 8082A
PCB 183	EPA 8082A
PCB 184	EPA 8082A
PCB 187	EPA 8082A
PCB 195	EPA 8082A
PCB 206	EPA 8082A
PCB 209	EPA 8082A
PCB 28	EPA 8082A
PCB 44	EPA 8082A
PCB 49	EPA 8082A
PCB 52	EPA 8082A
PCB 66	EPA 8082A
PCB 8	EPA 8082A
PCB 87	EPA 8082A
PCB Congeners, Total	EPA 8082A

Polynuclear Aromatics

Acenaphthene	EPA 625.1
	EPA 8270E
Acenaphthylene	EPA 625.1

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Polynuclear Aromatics

Acenaphthylene	EPA 8270E
Anthracene	EPA 625.1
	EPA 8270E
Benzo(a)anthracene	EPA 625.1
	EPA 8270E
Benzo(a)pyrene	EPA 625.1
	EPA 8270E
Benzo(b)fluoranthene	EPA 625.1
	EPA 8270E
Benzo(g,h,i)perylene	EPA 625.1
	EPA 8270E
Benzo(k)fluoranthene	EPA 625.1
	EPA 8270E
Chrysene	EPA 625.1
	EPA 8270E
Dibenzo(a,h)anthracene	EPA 625.1
	EPA 8270E
Fluoranthene	EPA 625.1
	EPA 8270E
Fluorene	EPA 625.1
	EPA 8270E
Indeno(1,2,3-cd)pyrene	EPA 625.1
	EPA 8270E
Naphthalene	EPA 625.1
	EPA 8270E
Phenanthrene	EPA 625.1
	EPA 8270E

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NY Lab Id No: 11301

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2016) for the category ENVIRONMENTAL ANALYSES NON POTABLE WATER
All approved analytes are listed below:

Polynuclear Aromatics

Pyrene	EPA 625.1
	EPA 8270E

Priority Pollutant Phenols

2,3,4,6 Tetrachlorophenol	EPA 8270E
2,4,5-Trichlorophenol	EPA 625.1
	EPA 8270E
2,4,6-Trichlorophenol	EPA 625.1
	EPA 8270E
2,4-Dichlorophenol	EPA 625.1
	EPA 8270E
2,4-Dimethylphenol	EPA 625.1
	EPA 8270E
2,4-Dinitrophenol	EPA 625.1
	EPA 8270E
2,6-Dichlorophenol	EPA 8270E
2-Chlorophenol	EPA 625.1
	EPA 8270E
2-Methyl-4,6-dinitrophenol	EPA 625.1
	EPA 8270E
2-Methylphenol	EPA 625.1
	EPA 8270E
2-Nitrophenol	EPA 625.1
	EPA 8270E
3-Methylphenol	EPA 625.1
	EPA 8270E
4-Chloro-3-methylphenol	EPA 625.1
	EPA 8270E

Serial No.: 70415

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NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2026
Issued April 01, 2025

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. PHYLLIS SHILLER
PHOENIX ENVIRONMENTAL LABS
587 EAST MIDDLE TURNPIKE
MANCHESTER, CT 06040

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Priority Pollutant Phenols

4-Methylphenol	EPA 625.1
	EPA 8270E
4-Nitrophenol	EPA 625.1
	EPA 8270E
Cresols, Total	EPA 625.1
	EPA 8270E
Pentachlorophenol	EPA 625.1
	EPA 8270E
Phenol	EPA 625.1
	EPA 8270E

Residue

Settleable Solids	SM 2540 F-2015
Solids, Total	SM 2540 B-2015
Solids, Total Dissolved	SM 2540 C-2015
Solids, Total Suspended	SM 2540 D-2015
Solids, Volatile	SM 2540 E-2015

Semi-Volatile Organics

1,1'-Biphenyl	EPA 8270E
1,2-Dichlorobenzene, Semi-volatile	EPA 8270E
1,3-Dichlorobenzene, Semi-volatile	EPA 8270E
1,4-Dichlorobenzene, Semi-volatile	EPA 8270E
2-Methylnaphthalene	EPA 625.1
	EPA 8270E
Acetophenone	EPA 8270E
alpha-Terpineol	EPA 625.1
Benzaldehyde	EPA 8270E

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Semi-Volatile Organics

Benzoic Acid	EPA 8270E
Benzyl alcohol	EPA 8270E
Caprolactam	EPA 8270D
	EPA 8270E
Dibenzofuran	EPA 8270E

Volatile Aromatics

1,2,4-Trichlorobenzene, Volatile	EPA 8260D
1,2,4-Trimethylbenzene	EPA 8260D
1,2-Dichlorobenzene	EPA 8260D
	EPA 624.1
1,3,5-Trimethylbenzene	EPA 8260D
1,3-Dichlorobenzene	EPA 8260D
	EPA 624.1
1,4-Dichlorobenzene	EPA 8260D
	EPA 624.1
2-Chlorotoluene	EPA 8260D
4-Chlorotoluene	EPA 8260D
Benzene	EPA 8260D
	EPA 624.1
Bromobenzene	EPA 8260D
Chlorobenzene	EPA 8260D
	EPA 624.1
Ethyl benzene	EPA 8260D
	EPA 624.1
Isopropylbenzene	EPA 8260D
m/p-Xylenes	EPA 8260D
	EPA 624.1

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Volatile Aromatics

Naphthalene, Volatile	EPA 8260D
	EPA 624.1
n-Butylbenzene	EPA 8260D
n-Propylbenzene	EPA 8260D
o-Xylene	EPA 8260D
	EPA 624.1
p-Isopropyltoluene (P-Cymene)	EPA 8260D
sec-Butylbenzene	EPA 8260D
Styrene	EPA 8260D
	EPA 624.1
tert-Butylbenzene	EPA 8260D
Toluene	EPA 8260D
	EPA 624.1
Total Xylenes	EPA 8260D
	EPA 624.1

Volatile Halocarbons

1,1,1,2-Tetrachloroethane	EPA 8260D
1,1,1-Trichloroethane	EPA 8260D
	EPA 624.1
1,1,2,2-Tetrachloroethane	EPA 8260D
	EPA 624.1
1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA 8260D
	EPA 624.1
1,1,2-Trichloroethane	EPA 8260D
	EPA 624.1
1,1-Dichloroethane	EPA 8260D
	EPA 624.1

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Volatile Halocarbons

1,1-Dichloroethene	EPA 8260D
	EPA 624.1
1,1-Dichloropropene	EPA 8260D
1,2,3-Trichloropropane	EPA 8260D
1,2-Dibromo-3-chloropropane	EPA 8260D
1,2-Dibromoethane	EPA 8260D
1,2-Dichloroethane	EPA 8260D
	EPA 624.1
1,2-Dichloropropane	EPA 8260D
	EPA 624.1
1,3-Dichloropropane	EPA 8260D
2,2-Dichloropropane	EPA 8260D
2-Chloroethylvinyl ether	EPA 8260D
	EPA 624.1
Bromochloromethane	EPA 8260D
Bromodichloromethane	EPA 8260D
	EPA 624.1
Bromoform	EPA 8260D
	EPA 624.1
Bromomethane	EPA 8260D
	EPA 624.1
Carbon tetrachloride	EPA 8260D
	EPA 624.1
Chloroethane	EPA 8260D
	EPA 624.1
Chloroform	EPA 8260D
	EPA 624.1

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Volatile Halocarbons

Chloromethane	EPA 8260D
	EPA 624.1
cis-1,2-Dichloroethene	EPA 8260D
	EPA 624.1
cis-1,3-Dichloropropene	EPA 8260D
	EPA 624.1
Dibromochloromethane	EPA 8260D
	EPA 624.1
Dibromomethane	EPA 8260D
Dichlorodifluoromethane	EPA 8260D
	EPA 624.1
Hexachlorobutadiene, Volatile	EPA 8260D
Methyl iodide	EPA 8260D
Methylene chloride	EPA 8260D
	EPA 624.1
Tetrachloroethene	EPA 8260D
	EPA 624.1
trans-1,2-Dichloroethene	EPA 8260D
	EPA 624.1
trans-1,3-Dichloropropene	EPA 8260D
	EPA 624.1
trans-1,4-Dichloro-2-butene	EPA 8260D
Trichloroethene	EPA 8260D
	EPA 624.1
Trichlorofluoromethane	EPA 8260D
	EPA 624.1
Vinyl chloride	EPA 8260D

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Volatile Halocarbons	
Vinyl chloride	EPA 624.1
Volatiles Organics	
1,4-Dioxane	EPA 8260D
	EPA 8270E
	EPA 8270E SIM
2-Butanone (Methylethyl ketone)	EPA 8260D
2-Hexanone	EPA 8260D
2-Nitropropane	EPA 8260D
4-Methyl-2-Pentanone	EPA 8260D
Acetone	EPA 8260D
	EPA 624.1
Carbon Disulfide	EPA 8260D
Cyclohexane	EPA 8260D
Di-ethyl ether	EPA 8260D
Ethylene Glycol	EPA 8015D
Isobutyl alcohol	EPA 8015D
Methyl acetate	EPA 8260D
Methyl cyclohexane	EPA 8260D
Propylene Glycol	EPA 8015D
Vinyl acetate	EPA 8260D
Sample Preparation Methods	
	SM 4500-P B(5)-2011
	EPA 5030C
	SM 4500-CN B-2016 and C-2016
	EPA 3010A
	EPA 3005A

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All approved analytes are listed below:

Sample Preparation Methods

EPA 3510C

EPA 3520C

EPA 3020A

EPA 9010C

SM 4500-S2- B,C-2011

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ENVIRONMENTAL ANALYSES NON POTABLE WATER
All approved subcategories and/or analytes are listed below:

Metals III

Uranium (Mass)	EPA 6020B

Miscellaneous

Cyanide, Available	SM 4500-CN G-2016

Nutrient

Organic Nitrogen (as N)	TKN minus Ammonia (as N)

Serial No.: 70416

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All approved analytes are listed below:

Acrylates

Acrolein (Propenal)	EPA 8260D
Acrylonitrile	EPA 8260D

Amines

1,2-Diphenylhydrazine	EPA 8270E
2-Nitroaniline	EPA 8270E
3-Nitroaniline	EPA 8270E
4-Chloroaniline	EPA 8270E
4-Nitroaniline	EPA 8270E
Aniline	EPA 8270E
Carbazole	EPA 8270E

Benzidines

3,3'-Dichlorobenzidine	EPA 8270E
Benzidine	EPA 8270E

Characteristic Testing

Corrosivity (pH)	EPA 9045D
Free Liquids	EPA 9095B
Ignitability	EPA 1010B
	EPA 1010A
Synthetic Precipitation Leaching Proc.	EPA 1312
TCLP	EPA 1311

Chlorinated Hydrocarbon Pesticides

4,4'-DDD	EPA 8081B
4,4'-DDE	EPA 8081B
4,4'-DDT	EPA 8081B
Aldrin	EPA 8081B
alpha-BHC	EPA 8081B

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All approved analytes are listed below:

Chlorinated Hydrocarbon Pesticides

alpha-Chlordane	EPA 8081B
Atrazine	EPA 8270E
beta-BHC	EPA 8081B
Chlordane Total	EPA 8081B
delta-BHC	EPA 8081B
Dieldrin	EPA 8081B
Endosulfan I	EPA 8081B
Endosulfan II	EPA 8081B
Endosulfan sulfate	EPA 8081B
Endrin	EPA 8081B
Endrin aldehyde	EPA 8081B
Endrin Ketone	EPA 8081B
gamma-Chlordane	EPA 8081B
Heptachlor	EPA 8081B
Heptachlor epoxide	EPA 8081B
Lindane	EPA 8081B
Methoxychlor	EPA 8081B
Mirex	EPA 8081B
Pentachloronitrobenzene	EPA 8270E
Simazine	EPA 8141B
Toxaphene	EPA 8081B

Chlorinated Hydrocarbons

1,2,3-Trichlorobenzene	EPA 8260D
1,2,4,5-Tetrachlorobenzene	EPA 8270E
1,2,4-Trichlorobenzene	EPA 8270E
2-Chloronaphthalene	EPA 8270E
Hexachlorobenzene	EPA 8270E

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Chlorinated Hydrocarbons

Hexachlorobutadiene	EPA 8270E
Hexachlorocyclopentadiene	EPA 8270E
Hexachloroethane	EPA 8270E

Chlorophenoxy Acid Pesticides

2,4,5-T	EPA 8151A
2,4,5-TP (Silvex)	EPA 8151A
2,4-D	EPA 8151A
2,4-DB	EPA 8151A
Dalapon	EPA 8151A
Dicamba	EPA 8151A
Dichloroprop	EPA 8151A
Dinoseb	EPA 8151A
MCPA	EPA 8151A
MCPP	EPA 8151A
Pentachlorophenol	EPA 8151A

Haloethers

2,2'-Oxybis(1-chloropropane)	EPA 8270E
4-Bromophenylphenyl ether	EPA 8270E
4-Chlorophenylphenyl ether	EPA 8270E
Bis(2-chloroethoxy)methane	EPA 8270E
Bis(2-chloroethyl)ether	EPA 8270E

Low Level Polynuclear Aromatic Hydrocarbons

Acenaphthene Low Level	EPA 8270E SIM
Acenaphthylene Low Level	EPA 8270E SIM
Anthracene Low Level	EPA 8270E SIM
Benzo(a)anthracene Low Level	EPA 8270E SIM

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Low Level Polynuclear Aromatic Hydrocarbons

Benzo(a)pyrene Low Level	EPA 8270E SIM
Benzo(b)fluoranthene Low Level	EPA 8270E SIM
Benzo(g,h,i)perylene Low Level	EPA 8270E SIM
Benzo(k)fluoranthene Low Level	EPA 8270E SIM
Chrysene Low Level	EPA 8270E SIM
Dibenzo(a,h)anthracene Low Level	EPA 8270E SIM
Fluoranthene Low Level	EPA 8270E SIM
Fluorene Low Level	EPA 8270E SIM
Indeno(1,2,3-cd)pyrene Low Level	EPA 8270E SIM
Naphthalene Low Level	EPA 8270E SIM
Phenanthrene Low Level	EPA 8270E SIM
Pyrene Low Level	EPA 8270E SIM

Metals I

Barium, Total	EPA 6010D
Cadmium, Total	EPA 6010D
Calcium, Total	EPA 6010D
Chromium, Total	EPA 6010D
Copper, Total	EPA 6010D
Iron, Total	EPA 6010D
Lead, Total	EPA 6010D
Magnesium, Total	EPA 6010D
Manganese, Total	EPA 6010D
Nickel, Total	EPA 6010D
Potassium, Total	EPA 6010D
Silver, Total	EPA 6010D
Sodium, Total	EPA 6010D
Strontium, Total	EPA 6010D

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Metals II

Aluminum, Total	EPA 6010D
Antimony, Total	EPA 6010D
Arsenic, Total	EPA 6010D
Beryllium, Total	EPA 6010D
Chromium VI	EPA 7196A
Mercury, Total	EPA 7471B
	EPA 7473
Selenium, Total	EPA 6010D
Vanadium, Total	EPA 6010D
Zinc, Total	EPA 6010D

Metals III

Cobalt, Total	EPA 6010D
Molybdenum, Total	EPA 6010D
Thallium, Total	EPA 6010D
Tin, Total	EPA 6010D
Titanium, Total	EPA 6010D

Minerals

Bromide	EPA 9056A
Chloride	EPA 9056A
Fluoride, Total	EPA 9056A
Sulfate (as SO4)	EPA 9056A

Miscellaneous

Boron, Total	EPA 6010D
Cyanide, Total	EPA 9012B
Formaldehyde	EPA 8315A
Organic Carbon, Total	Lloyd Kahn Method

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NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2026
Issued April 01, 2025

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. PHYLLIS SHILLER
PHOENIX ENVIRONMENTAL LABS
587 EAST MIDDLE TURNPIKE
MANCHESTER, CT 06040

NY Lab Id No: 11301

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2016) for the category ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Miscellaneous

Organic Carbon, Total	EPA 9060A
Phenols	EPA 9066
Specific Conductance	EPA 9050A
Sulfide (as S)	EPA 9034

Nitroaromatics and Isophorone

2,4-Dinitrotoluene	EPA 8270E
2,6-Dinitrotoluene	EPA 8270E
Isophorone	EPA 8270E
Nitrobenzene	EPA 8270E
Pyridine	EPA 8270E

Nitrosoamines

N-Nitrosodimethylamine	EPA 8270E
N-Nitrosodi-n-propylamine	EPA 8270E
N-Nitrosodiphenylamine	EPA 8270E

Nutrients

Nitrate (as N)	EPA 9056A
Nitrite (as N)	EPA 9056A

Organophosphate Pesticides

Azinphos methyl	EPA 8141B
Diazinon	EPA 8141B
Disulfoton	EPA 8141B
Malathion	EPA 8141B
Parathion ethyl	EPA 8270E

Petroleum Hydrocarbons

Diesel Range Organics	EPA 8015D

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Petroleum Hydrocarbons

Gasoline Range Organics	EPA 8015D
Oil and Grease Total Recoverable	EPA 9071B (Solvent:Hexane)

Phthalate Esters

Benzyl butyl phthalate	EPA 8270E
Bis(2-ethylhexyl) phthalate	EPA 8270E
Diethyl phthalate	EPA 8270E
Dimethyl phthalate	EPA 8270E
Di-n-butyl phthalate	EPA 8270E
Di-n-octyl phthalate	EPA 8270E

Polychlorinated Biphenyls

Aroclor 1016 (PCB-1016)	EPA 8082A
Aroclor 1016 (PCB-1016) in Oil	EPA 8082A
Aroclor 1221 (PCB-1221)	EPA 8082A
Aroclor 1221 (PCB-1221) in Oil	EPA 8082A
Aroclor 1232 (PCB-1232)	EPA 8082A
Aroclor 1232 (PCB-1232) in Oil	EPA 8082A
Aroclor 1242 (PCB-1242)	EPA 8082A
Aroclor 1242 (PCB-1242) in Oil	EPA 8082A
Aroclor 1248 (PCB-1248)	EPA 8082A
Aroclor 1248 (PCB-1248) in Oil	EPA 8082A
Aroclor 1254 (PCB-1254)	EPA 8082A
Aroclor 1254 (PCB-1254) in Oil	EPA 8082A
Aroclor 1260 (PCB-1260)	EPA 8082A
Aroclor 1260 (PCB-1260) in Oil	EPA 8082A
Aroclor 1262 (PCB-1262)	EPA 8082A
Aroclor 1262 (PCB-1262) in Oil	EPA 8082A

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Polychlorinated Biphenyls

Aroclor 1268 (PCB-1268)	EPA 8082A
Aroclor 1268 (PCB-1268) in Oil	EPA 8082A
PCB 101	EPA 8082A
PCB 105	EPA 8082A
PCB 118	EPA 8082A
PCB 128	EPA 8082A
PCB 138	EPA 8082A
PCB 153	EPA 8082A
PCB 170	EPA 8082A
PCB 18	EPA 8082A
PCB 180	EPA 8082A
PCB 183	EPA 8082A
PCB 184	EPA 8082A
PCB 187	EPA 8082A
PCB 195	EPA 8082A
PCB 206	EPA 8082A
PCB 209	EPA 8082A
PCB 28	EPA 8082A
PCB 44	EPA 8082A
PCB 49	EPA 8082A
PCB 52	EPA 8082A
PCB 66	EPA 8082A
PCB 8	EPA 8082A
PCB 87	EPA 8082A
PCB Congeners, Total	EPA 8082A

Polynuclear Aromatic Hydrocarbons

Acenaphthene	EPA 8270E

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Polynuclear Aromatic Hydrocarbons

Acenaphthylene	EPA 8270E
Anthracene	EPA 8270E
Benzo(a)anthracene	EPA 8270E
Benzo(a)pyrene	EPA 8270E
Benzo(b)fluoranthene	EPA 8270E
Benzo(g,h,i)perylene	EPA 8270E
Benzo(k)fluoranthene	EPA 8270E
Chrysene	EPA 8270E
Dibenzo(a,h)anthracene	EPA 8270E
Fluoranthene	EPA 8270E
Fluorene	EPA 8270E
Indeno(1,2,3-cd)pyrene	EPA 8270E
Naphthalene	EPA 8270E
Phenanthrene	EPA 8270E
Pyrene	EPA 8270E

Priority Pollutant Phenols

2,3,4,6 Tetrachlorophenol	EPA 8270E
2,4,5-Trichlorophenol	EPA 8270E
2,4,6-Trichlorophenol	EPA 8270E
2,4-Dichlorophenol	EPA 8270E
2,4-Dimethylphenol	EPA 8270E
2,4-Dinitrophenol	EPA 8270E
2,6-Dichlorophenol	EPA 8270E
2-Chlorophenol	EPA 8270E
2-Methyl-4,6-dinitrophenol	EPA 8270E
2-Methylphenol	EPA 8270E
2-Nitrophenol	EPA 8270E

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Priority Pollutant Phenols

3-Methylphenol	EPA 8270E
4-Chloro-3-methylphenol	EPA 8270E
4-Methylphenol	EPA 8270E
4-Nitrophenol	EPA 8270E
Pentachlorophenol	EPA 8270E
Phenol	EPA 8270E

Semi-Volatile Organics

1,1'-Biphenyl	EPA 8270E
1,2-Dichlorobenzene, Semi-volatile	EPA 8270E
1,3-Dichlorobenzene, Semi-volatile	EPA 8270E
1,4-Dichlorobenzene, Semi-volatile	EPA 8270E
2-Methylnaphthalene	EPA 8270E
Acetophenone	EPA 8270E
Benzaldehyde	EPA 8270E
Benzoic Acid	EPA 8270E
Benzyl alcohol	EPA 8270E
Caprolactam	EPA 8270E
Dibenzofuran	EPA 8270E

Volatile Aromatics

1,2,4-Trichlorobenzene, Volatile	EPA 8260D
1,2,4-Trimethylbenzene	EPA 8260D
1,2-Dichlorobenzene	EPA 8260D
1,3,5-Trimethylbenzene	EPA 8260D
1,3-Dichlorobenzene	EPA 8260D
1,4-Dichlorobenzene	EPA 8260D
2-Chlorotoluene	EPA 8260D

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Volatile Aromatics

4-Chlorotoluene	EPA 8260D
Benzene	EPA 8260D
Bromobenzene	EPA 8260D
Chlorobenzene	EPA 8260D
Ethyl benzene	EPA 8260D
Isopropylbenzene	EPA 8260D
m/p-Xylenes	EPA 8260D
Naphthalene, Volatile	EPA 8260D
n-Butylbenzene	EPA 8260D
n-Propylbenzene	EPA 8260D
o-Xylene	EPA 8260D
p-Isopropyltoluene (P-Cymene)	EPA 8260D
sec-Butylbenzene	EPA 8260D
Styrene	EPA 8260D
tert-Butylbenzene	EPA 8260D
Toluene	EPA 8260D
Total Xylenes	EPA 8260D

Volatile Halocarbons

1,1,1,2-Tetrachloroethane	EPA 8260D
1,1,1-Trichloroethane	EPA 8260D
1,1,2,2-Tetrachloroethane	EPA 8260D
1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA 8260D
1,1,2-Trichloroethane	EPA 8260D
1,1-Dichloroethane	EPA 8260D
1,1-Dichloroethene	EPA 8260D
1,1-Dichloropropene	EPA 8260D
1,2,3-Trichloropropane	EPA 8260D

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Volatile Halocarbons

1,2-Dibromo-3-chloropropane	EPA 8260D
1,2-Dibromoethane	EPA 8260D
1,2-Dichloroethane	EPA 8260D
1,2-Dichloropropane	EPA 8260D
1,3-Dichloropropane	EPA 8260D
2,2-Dichloropropane	EPA 8260D
Bromochloromethane	EPA 8260D
Bromodichloromethane	EPA 8260D
Bromoform	EPA 8260D
Bromomethane	EPA 8260D
Carbon tetrachloride	EPA 8260D
Chloroethane	EPA 8260D
Chloroform	EPA 8260D
Chloromethane	EPA 8260D
cis-1,2-Dichloroethene	EPA 8260D
cis-1,3-Dichloropropene	EPA 8260D
Dibromochloromethane	EPA 8260D
Dibromomethane	EPA 8260D
Dichlorodifluoromethane	EPA 8260D
Hexachlorobutadiene, Volatile	EPA 8260D
Methylene chloride	EPA 8260D
Tetrachloroethene	EPA 8260D
trans-1,2-Dichloroethene	EPA 8260D
trans-1,3-Dichloropropene	EPA 8260D
trans-1,4-Dichloro-2-butene	EPA 8260D
Trichloroethene	EPA 8260D
Trichlorofluoromethane	EPA 8260D

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Volatile Halocarbons	
Vinyl chloride	EPA 8260D
Volatile Organics	
1,4-Dioxane	EPA 8260D
	EPA 8270E SIM
2-Butanone (Methylethyl ketone)	EPA 8260D
2-Hexanone	EPA 8260D
2-Nitropropane	EPA 8260D
4-Methyl-2-Pentanone	EPA 8260D
Acetone	EPA 8260D
Carbon Disulfide	EPA 8260D
Cyclohexane	EPA 8260D
Di-ethyl ether	EPA 8260D
Ethylene Glycol	EPA 8260D
	EPA 8015D
Isobutyl alcohol	EPA 8015D
Methyl acetate	EPA 8260D
Methyl cyclohexane	EPA 8260D
Methyl tert-butyl ether	EPA 8260D
tert-butyl alcohol	EPA 8260D
Tetrahydrofuran	EPA 8260D
Vinyl acetate	EPA 8260D
Sample Preparation Methods	
	EPA 5035A-L
	EPA 5035A-H
	EPA 3580A
	EPA 9030B

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All approved analytes are listed below:

Sample Preparation Methods

EPA 3050B
EPA 3540C
EPA 3546
EPA 3545A
EPA 3051A
EPA 5021A
EPA 3060A
EPA 9010C

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ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

Lead in Dust Wipes	EPA 6010D
Lead in Paint	EPA 6010D

Sample Preparation Methods

	EPA 3050B
	EPA 3051A

Serial No.: 70418

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All approved analytes are listed below:

Acrylates	
Acrylonitrile	EPA TO-15
Methyl methacrylate	EPA TO-15
Chlorinated Hydrocarbons	
1,2,4-Trichlorobenzene	EPA TO-15
Hexachlorobutadiene	EPA TO-15
Hexachloroethane	EPA TO-15
Metals I	
Lead, Total	EPA 29 (6010)
Polychlorinated Biphenyls	
PCBs and Aroclors	EPA TO-10A
Polynuclear Aromatics	
Naphthalene	EPA TO-15
Purgeable Aromatics	
1,2,4-Trimethylbenzene	EPA TO-15
1,2-Dichlorobenzene	EPA TO-15
1,3,5-Trimethylbenzene	EPA TO-15
1,3-Dichlorobenzene	EPA TO-15
1,4-Dichlorobenzene	EPA TO-15
2-Chlorotoluene	EPA TO-15
Benzene	EPA TO-15
Chlorobenzene	EPA TO-15
Ethyl benzene	EPA TO-15
Isopropylbenzene	EPA TO-15
m/p-Xylenes	EPA TO-15
o-Xylene	EPA TO-15

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All approved analytes are listed below:

Purgeable Aromatics

Styrene	EPA TO-15
Toluene	EPA TO-15
Total Xylenes	EPA TO-15

Purgeable Halocarbons

1,1,1-Trichloroethane	EPA TO-15
1,1,2,2-Tetrachloroethane	EPA TO-15
1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA TO-15
1,1,2-Trichloroethane	EPA TO-15
1,1-Dichloroethane	EPA TO-15
1,1-Dichloroethene	EPA TO-15
1,2-Dibromo-3-chloropropane	EPA TO-15
1,2-Dibromoethane	EPA TO-15
1,2-Dichloroethane	EPA TO-15
1,2-Dichloropropane	EPA TO-15
3-Chloropropene (Allyl chloride)	EPA TO-15
Bromodichloromethane	EPA TO-15
Bromoform	EPA TO-15
Bromomethane	EPA TO-15
Carbon tetrachloride	EPA TO-15
Chloroethane	EPA TO-15
Chloroform	EPA TO-15
Chloromethane	EPA TO-15
cis-1,2-Dichloroethene	EPA TO-15
cis-1,3-Dichloropropene	EPA TO-15
Dibromochloromethane	EPA TO-15
Dichlorodifluoromethane	EPA TO-15
Methylene chloride	EPA TO-15

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All approved analytes are listed below:

Purgeable Halocarbons

Tetrachloroethene	EPA TO-15
trans-1,2-Dichloroethene	EPA TO-15
trans-1,3-Dichloropropene	EPA TO-15
Trichloroethene	EPA TO-15
Trichlorofluoromethane	EPA TO-15
Vinyl bromide	EPA TO-15
Vinyl chloride	EPA TO-15

Volatile Chlorinated Organics

Benzyl chloride	EPA TO-15

Volatile Organics

1,2-Dichlorotetrafluoroethane	EPA TO-15
1,3-Butadiene	EPA TO-15
1,4-Dioxane	EPA TO-15
2,2,4-Trimethylpentane	EPA TO-15
2-Butanone (Methylethyl ketone)	EPA TO-15
4-Methyl-2-Pentanone	EPA TO-15
Acetone	EPA TO-15
Carbon Disulfide	EPA TO-15
Cyclohexane	EPA TO-15
Hexane	EPA TO-15
Isopropanol	EPA TO-15
Methyl tert-butyl ether	EPA TO-15
n-Heptane	EPA TO-15
tert-butyl alcohol	EPA TO-15

Serial No.: 70419

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WADSWORTH CENTER

Expires 12:01 AM April 01, 2026
Issued April 01, 2025
Revised June 26, 2025

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. CATHERINE L. MOSHER
YORK ANALYTICAL LABORATORIES INC
120 RESEARCH DRIVE
STRATFORD, CT 06615

NY Lab Id No: 10854

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2016) for the category ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Fuel Additives

Methyl tert-butyl ether	EPA 524.2
Naphthalene	EPA 524.2

Metals I

Arsenic, Total	EPA 200.8 Rev. 5.4
Barium, Total	EPA 200.7 Rev. 4.4
Cadmium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Chromium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Copper, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Iron, Total	EPA 200.7 Rev. 4.4
Lead, Total	EPA 200.8 Rev. 5.4
Manganese, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Mercury, Total	EPA 245.1 Rev. 3.0
Silver, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Zinc, Total	EPA 200.7 Rev. 4.4

Metals II

Aluminum, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Antimony, Total	EPA 200.8 Rev. 5.4
Beryllium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Molybdenum, Total	EPA 200.8 Rev. 5.4

Serial No.: 71121

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Metals II

Nickel, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Thallium, Total	EPA 200.8 Rev. 5.4
Vanadium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4

Metals III

Calcium, Total	EPA 200.7 Rev. 4.4
Magnesium, Total	EPA 200.7 Rev. 4.4
Potassium, Total	EPA 200.7 Rev. 4.4
Sodium, Total	EPA 200.7 Rev. 4.4

Miscellaneous

1,4-Dioxane	EPA 522
Turbidity	EPA 180.1 Rev. 2.0

Non-Metals

Alkalinity	SM 21-23 2320B (-97)
Calcium Hardness	EPA 200.7 Rev. 4.4
Chloride	EPA 300.0 Rev. 2.1
Color	SM 21-23 2120B (-01)
Fluoride, Total	EPA 300.0 Rev. 2.1
Orthophosphate (as P)	EPA 300.0 Rev. 2.1
	SM 19, 21-23 4500-P E (-99)
Solids, Total Dissolved	SM 21-23 2540C (-97)
Specific Conductance	EPA 120.1 Rev. 1982
Sulfate (as SO4)	EPA 300.0 Rev. 2.1

Trihalomethanes

Bromodichloromethane	EPA 524.2

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Trihalomethanes

Bromoform	EPA 524.2
Chloroform	EPA 524.2
Dibromochloromethane	EPA 524.2

Volatile Aromatics

1,2,3-Trichlorobenzene	EPA 524.2
1,2,4-Trichlorobenzene	EPA 524.2
1,2,4-Trimethylbenzene	EPA 524.2
1,2-Dichlorobenzene	EPA 524.2
1,3,5-Trimethylbenzene	EPA 524.2
1,3-Dichlorobenzene	EPA 524.2
1,4-Dichlorobenzene	EPA 524.2
2-Chlorotoluene	EPA 524.2
4-Chlorotoluene	EPA 524.2
Benzene	EPA 524.2
Bromobenzene	EPA 524.2
Chlorobenzene	EPA 524.2
Ethyl benzene	EPA 524.2
Hexachlorobutadiene	EPA 524.2
Isopropylbenzene	EPA 524.2
n-Butylbenzene	EPA 524.2
n-Propylbenzene	EPA 524.2
p-Isopropyltoluene (P-Cymene)	EPA 524.2
sec-Butylbenzene	EPA 524.2
Styrene	EPA 524.2
tert-Butylbenzene	EPA 524.2
Toluene	EPA 524.2
Total Xylenes	EPA 524.2

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Volatile Halocarbons

1,1,1,2-Tetrachloroethane	EPA 524.2
1,1,1-Trichloroethane	EPA 524.2
1,1,2,2-Tetrachloroethane	EPA 524.2
1,1,2-Trichloroethane	EPA 524.2
1,1-Dichloroethane	EPA 524.2
1,1-Dichloroethene	EPA 524.2
1,1-Dichloropropene	EPA 524.2
1,2,3-Trichloropropane	EPA 524.2
1,2-Dichloroethane	EPA 524.2
1,2-Dichloropropane	EPA 524.2
1,3-Dichloropropane	EPA 524.2
2,2-Dichloropropane	EPA 524.2
Bromochloromethane	EPA 524.2
Bromomethane	EPA 524.2
Carbon tetrachloride	EPA 524.2
Chloroethane	EPA 524.2
Chloromethane	EPA 524.2
cis-1,2-Dichloroethene	EPA 524.2
cis-1,3-Dichloropropene	EPA 524.2
Dibromomethane	EPA 524.2
Dichlorodifluoromethane	EPA 524.2
Methylene chloride	EPA 524.2
Tetrachloroethene	EPA 524.2
trans-1,2-Dichloroethene	EPA 524.2
trans-1,3-Dichloropropene	EPA 524.2
Trichloroethene	EPA 524.2
Trichlorofluoromethane	EPA 524.2

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Volatile Halocarbons

Vinyl chloride	EPA 524.2

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Acrylates

Acrolein (Propenal)	EPA 8260D
	EPA 8260C
Acrylonitrile	EPA 8260D
	EPA 8260C
Methyl methacrylate	EPA 8260D
	EPA 8260C

Amines

1,2-Diphenylhydrazine	EPA 8270D
	EPA 8270E
2-Nitroaniline	EPA 8270D
	EPA 8270E
3-Nitroaniline	EPA 8270D
	EPA 8270E
4-Chloroaniline	EPA 8270D
	EPA 8270E
4-Nitroaniline	EPA 8270D
	EPA 8270E
Aniline	EPA 8270D
	EPA 8270E
Carbazole	EPA 8270D
	EPA 8270E
Diphenylamine	EPA 8270D
	EPA 8270E

Benzidines

3,3'-Dichlorobenzidine	EPA 8270D
	EPA 8270E

Serial No.: 71102

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Benzidines

Benzidine	EPA 8270D
	EPA 8270E

Characteristic Testing

Corrosivity (pH)	EPA 9045D
Free Liquids	EPA 9095B
Ignitability	EPA 1010A
Synthetic Precipitation Leaching Proc.	EPA 1312
TCLP	EPA 1311

Chlorinated Hydrocarbon Pesticides

4,4'-DDD	EPA 8081B
4,4'-DDE	EPA 8081B
4,4'-DDT	EPA 8081B
Aldrin	EPA 8081B
alpha-BHC	EPA 8081B
alpha-Chlordane	EPA 8081B
Atrazine	EPA 8270D
	EPA 8270E
beta-BHC	EPA 8081B
Chlordane Total	EPA 8081B
delta-BHC	EPA 8081B
Dieldrin	EPA 8081B
Endosulfan I	EPA 8081B
Endosulfan II	EPA 8081B
Endosulfan sulfate	EPA 8081B
Endrin	EPA 8081B
Endrin aldehyde	EPA 8081B

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Chlorinated Hydrocarbon Pesticides

Endrin Ketone	EPA 8081B
gamma-Chlordane	EPA 8081B
Heptachlor	EPA 8081B
Heptachlor epoxide	EPA 8081B
Lindane	EPA 8081B
Methoxychlor	EPA 8081B
Mirex	EPA 8081B
Toxaphene	EPA 8081B

Chlorinated Hydrocarbons

1,2,3-Trichlorobenzene	EPA 8260D
	EPA 8260C
1,2,4,5-Tetrachlorobenzene	EPA 8270D
	EPA 8270E
1,2,4-Trichlorobenzene	EPA 8270D
	EPA 8270E
2-Chloronaphthalene	EPA 8270D
	EPA 8270E
Hexachlorobenzene	EPA 8270D
	EPA 8270E
Hexachlorobutadiene	EPA 8270D
	EPA 8270E
Hexachlorocyclopentadiene	EPA 8270D
	EPA 8270E
Hexachloroethane	EPA 8270D
	EPA 8270E

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Chlorophenoxy Acid Pesticides

2,4,5-T	EPA 8151A
2,4,5-TP (Silvex)	EPA 8151A
2,4-D	EPA 8151A
Dicamba	EPA 8151A

Haloethers

2,2'-Oxybis(1-chloropropane)	EPA 8270D
	EPA 8270E
4-Bromophenylphenyl ether	EPA 8270D
	EPA 8270E
4-Chlorophenylphenyl ether	EPA 8270D
	EPA 8270E
Bis(2-chloroethoxy)methane	EPA 8270D
	EPA 8270E
Bis(2-chloroethyl)ether	EPA 8270D
	EPA 8270E

Metals I

Barium, Total	EPA 6010C
	EPA 6010D
Cadmium, Total	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B
Calcium, Total	EPA 6010C
	EPA 6010D
Chromium, Total	EPA 6010C
	EPA 6010D

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Metals I

Chromium, Total	EPA 6020A
	EPA 6020B
Copper, Total	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B
Iron, Total	EPA 6010C
	EPA 6010D
Lead, Total	EPA 6010C
	EPA 6010D
Magnesium, Total	EPA 6010C
	EPA 6010D
Manganese, Total	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B
Nickel, Total	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B
Potassium, Total	EPA 6010C
	EPA 6010D
Silver, Total	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B
Sodium, Total	EPA 6010C

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Metals I

Sodium, Total	EPA 6010D

Metals II

Aluminum, Total	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B
Antimony, Total	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B
Arsenic, Total	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B
Beryllium, Total	EPA 6010C
	EPA 6010D
Chromium VI	EPA 7196A
Mercury, Total	EPA 7471B
	EPA 7473
Selenium, Total	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B
Vanadium, Total	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B

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Metals II

Zinc, Total	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B

Metals III

Cobalt, Total	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B
Thallium, Total	EPA 6010C
	EPA 6010D
Tin, Total	EPA 6020A
	EPA 6020B
Titanium, Total	EPA 6020A

Miscellaneous

Cyanide, Total	EPA 9014

Nitroaromatics and Isophorone

2,4-Dinitrotoluene	EPA 8270D
	EPA 8270E
2,6-Dinitrotoluene	EPA 8270D
	EPA 8270E
Isophorone	EPA 8270D
	EPA 8270E
Nitrobenzene	EPA 8270D
	EPA 8270E
Pyridine	EPA 8270D

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Nitroaromatics and Isophorone	
Pyridine	EPA 8270E
Nitrosoamines	
N-Nitrosodimethylamine	EPA 8270D
	EPA 8270E
N-Nitrosodi-n-propylamine	EPA 8270D
	EPA 8270E
N-Nitrosodiphenylamine	EPA 8270D
	EPA 8270E
Organophosphate Pesticides	
Parathion ethyl	EPA 8270D
	EPA 8270E
Petroleum Hydrocarbons	
Diesel Range Organics	EPA 8015D
Gasoline Range Organics	EPA 8015D
Phthalate Esters	
Benzyl butyl phthalate	EPA 8270D
	EPA 8270E
Bis(2-ethylhexyl) phthalate	EPA 8270D
	EPA 8270E
Diethyl phthalate	EPA 8270D
	EPA 8270E
Dimethyl phthalate	EPA 8270D
	EPA 8270E
Di-n-butyl phthalate	EPA 8270D
	EPA 8270E
Di-n-octyl phthalate	EPA 8270D

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WADSWORTH CENTER

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Issued April 01, 2025
Revised June 13, 2025

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. CATHERINE L. MOSHER
YORK ANALYTICAL LABORATORIES INC
120 RESEARCH DRIVE
STRATFORD, CT 06615

NY Lab Id No: 10854

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2016) for the category ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Phthalate Esters

Di-n-octyl phthalate	EPA 8270E

Polychlorinated Biphenyls

Aroclor 1016 (PCB-1016)	EPA 8082A
Aroclor 1016 (PCB-1016) in Oil	EPA 8082A
Aroclor 1221 (PCB-1221)	EPA 8082A
Aroclor 1221 (PCB-1221) in Oil	EPA 8082A
Aroclor 1232 (PCB-1232)	EPA 8082A
Aroclor 1232 (PCB-1232) in Oil	EPA 8082A
Aroclor 1242 (PCB-1242)	EPA 8082A
Aroclor 1242 (PCB-1242) in Oil	EPA 8082A
Aroclor 1248 (PCB-1248)	EPA 8082A
Aroclor 1248 (PCB-1248) in Oil	EPA 8082A
Aroclor 1254 (PCB-1254)	EPA 8082A
Aroclor 1254 (PCB-1254) in Oil	EPA 8082A
Aroclor 1260 (PCB-1260)	EPA 8082A
Aroclor 1260 (PCB-1260) in Oil	EPA 8082A
Aroclor 1262 (PCB-1262)	EPA 8082A
Aroclor 1262 (PCB-1262) in Oil	EPA 8082A
Aroclor 1268 (PCB-1268)	EPA 8082A
Aroclor 1268 (PCB-1268) in Oil	EPA 8082A

Polynuclear Aromatic Hydrocarbons

Acenaphthene	EPA 8270D
	EPA 8270E
Acenaphthylene	EPA 8270D
	EPA 8270E
Anthracene	EPA 8270D

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Polynuclear Aromatic Hydrocarbons

Anthracene	EPA 8270E
Benzo(a)anthracene	EPA 8270D
	EPA 8270E
Benzo(a)pyrene	EPA 8270D
	EPA 8270E
Benzo(b)fluoranthene	EPA 8270D
	EPA 8270E
Benzo(g,h,i)perylene	EPA 8270D
	EPA 8270E
Benzo(k)fluoranthene	EPA 8270D
	EPA 8270E
Chrysene	EPA 8270D
	EPA 8270E
Dibenzo(a,h)anthracene	EPA 8270D
	EPA 8270E
Fluoranthene	EPA 8270D
	EPA 8270E
Fluorene	EPA 8270D
	EPA 8270E
Indeno(1,2,3-cd)pyrene	EPA 8270D
	EPA 8270E
Naphthalene	EPA 8270D
	EPA 8270E
Phenanthrene	EPA 8270D
	EPA 8270E
Pyrene	EPA 8270D
	EPA 8270E

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Priority Pollutant Phenols

2,3,4,6 Tetrachlorophenol	EPA 8270D
	EPA 8270E
2,4,5-Trichlorophenol	EPA 8270D
	EPA 8270E
2,4,6-Trichlorophenol	EPA 8270D
	EPA 8270E
2,4-Dichlorophenol	EPA 8270D
	EPA 8270E
2,4-Dimethylphenol	EPA 8270D
	EPA 8270E
2,4-Dinitrophenol	EPA 8270D
	EPA 8270E
2-Chlorophenol	EPA 8270D
	EPA 8270E
2-Methyl-4,6-dinitrophenol	EPA 8270D
	EPA 8270E
2-Methylphenol	EPA 8270D
	EPA 8270E
2-Nitrophenol	EPA 8270D
	EPA 8270E
4-Chloro-3-methylphenol	EPA 8270D
	EPA 8270E
4-Methylphenol	EPA 8270D
	EPA 8270E
4-Nitrophenol	EPA 8270D
	EPA 8270E
Pentachlorophenol	EPA 8270D

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Priority Pollutant Phenols

Pentachlorophenol	EPA 8270E
Phenol	EPA 8270D
	EPA 8270E

Semi-Volatile Organics

1,1'-Biphenyl	EPA 8270D
	EPA 8270E
1,2-Dichlorobenzene, Semi-volatile	EPA 8270D
	EPA 8270E
1,3-Dichlorobenzene, Semi-volatile	EPA 8270D
	EPA 8270E
1,4-Dichlorobenzene, Semi-volatile	EPA 8270D
	EPA 8270E
2-Methylnaphthalene	EPA 8270D
	EPA 8270E
Acetophenone	EPA 8270D
	EPA 8270E
Benzaldehyde	EPA 8270D
	EPA 8270E
Benzoic Acid	EPA 8270D
	EPA 8270E
Benzyl alcohol	EPA 8270D
	EPA 8270E
Caprolactam	EPA 8270D
	EPA 8270E
Dibenzofuran	EPA 8270D
	EPA 8270E

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Volatile Aromatics

1,2,4-Trichlorobenzene, Volatile	EPA 8260D
	EPA 8260C
1,2,4-Trimethylbenzene	EPA 8260D
	EPA 8260C
1,2-Dichlorobenzene	EPA 8260D
	EPA 8260C
1,3,5-Trimethylbenzene	EPA 8260D
	EPA 8260C
1,3-Dichlorobenzene	EPA 8260D
	EPA 8260C
1,4-Dichlorobenzene	EPA 8260D
	EPA 8260C
2-Chlorotoluene	EPA 8260D
	EPA 8260C
4-Chlorotoluene	EPA 8260D
	EPA 8260C
Benzene	EPA 8260D
	EPA 8260C
Bromobenzene	EPA 8260D
	EPA 8260C
Chlorobenzene	EPA 8260D
	EPA 8260C
Ethyl benzene	EPA 8260D
	EPA 8260C
Isopropylbenzene	EPA 8260D
	EPA 8260C
m/p-Xylenes	EPA 8260D

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Volatile Aromatics

m/p-Xylenes	EPA 8260C
Naphthalene, Volatile	EPA 8260D
	EPA 8260C
n-Butylbenzene	EPA 8260D
	EPA 8260C
n-Propylbenzene	EPA 8260D
	EPA 8260C
o-Xylene	EPA 8260D
	EPA 8260C
p-Isopropyltoluene (P-Cymene)	EPA 8260D
	EPA 8260C
sec-Butylbenzene	EPA 8260D
	EPA 8260C
Styrene	EPA 8260D
	EPA 8260C
tert-Butylbenzene	EPA 8260D
	EPA 8260C
Toluene	EPA 8260D
	EPA 8260C
Total Xylenes	EPA 8260D
	EPA 8260C

Volatile Halocarbons

1,1,1,2-Tetrachloroethane	EPA 8260D
	EPA 8260C
1,1,1-Trichloroethane	EPA 8260D
	EPA 8260C
1,1,2,2-Tetrachloroethane	EPA 8260D

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Volatile Halocarbons

1,1,2,2-Tetrachloroethane	EPA 8260C
1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA 8260D
	EPA 8260C
1,1,2-Trichloroethane	EPA 8260D
	EPA 8260C
1,1-Dichloroethane	EPA 8260D
	EPA 8260C
1,1-Dichloroethene	EPA 8260D
	EPA 8260C
1,1-Dichloropropene	EPA 8260D
	EPA 8260C
1,2,3-Trichloropropane	EPA 8260D
	EPA 8260C
1,2-Dibromo-3-chloropropane	EPA 8260D
	EPA 8260C
1,2-Dibromoethane	EPA 8260D
	EPA 8260C
1,2-Dichloroethane	EPA 8260D
	EPA 8260C
1,2-Dichloropropane	EPA 8260D
	EPA 8260C
1,3-Dichloropropane	EPA 8260D
	EPA 8260C
2,2-Dichloropropane	EPA 8260D
	EPA 8260C
2-Chloroethylvinyl ether	EPA 8260D
	EPA 8260C

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Volatile Halocarbons

Bromochloromethane	EPA 8260D
	EPA 8260C
Bromodichloromethane	EPA 8260D
	EPA 8260C
Bromoform	EPA 8260D
	EPA 8260C
Bromomethane	EPA 8260D
	EPA 8260C
Carbon tetrachloride	EPA 8260D
	EPA 8260C
Chloroethane	EPA 8260D
	EPA 8260C
Chloroform	EPA 8260D
	EPA 8260C
Chloromethane	EPA 8260D
	EPA 8260C
cis-1,2-Dichloroethene	EPA 8260D
	EPA 8260C
cis-1,3-Dichloropropene	EPA 8260D
	EPA 8260C
Dibromochloromethane	EPA 8260D
	EPA 8260C
Dibromomethane	EPA 8260D
	EPA 8260C
Dichlorodifluoromethane	EPA 8260D
	EPA 8260C
Hexachlorobutadiene, Volatile	EPA 8260D

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Volatile Halocarbons

Hexachlorobutadiene, Volatile	EPA 8260C
Methylene chloride	EPA 8260D
	EPA 8260C
Tetrachloroethene	EPA 8260D
	EPA 8260C
trans-1,2-Dichloroethene	EPA 8260D
	EPA 8260C
trans-1,3-Dichloropropene	EPA 8260D
	EPA 8260C
Trichloroethene	EPA 8260D
	EPA 8260C
Trichlorofluoromethane	EPA 8260D
	EPA 8260C
Vinyl chloride	EPA 8260D
	EPA 8260C

Volatile Organics

1,4-Dioxane	EPA 8260D
	EPA 8260C
	EPA 8270D SIM
	EPA 8270E
	EPA 8270E SIM
2-Butanone (Methylethyl ketone)	EPA 8260D
	EPA 8260C
2-Hexanone	EPA 8260D
	EPA 8260C
4-Methyl-2-Pentanone	EPA 8260D
	EPA 8260C

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Volatile Organics

Acetone	EPA 8260D
	EPA 8260C
Carbon Disulfide	EPA 8260D
	EPA 8260C
Cyclohexane	EPA 8260D
	EPA 8260C
Methyl acetate	EPA 8260D
	EPA 8260C
Methyl cyclohexane	EPA 8260D
	EPA 8260C
Methyl tert-butyl ether	EPA 8260D
	EPA 8260C
tert-butyl alcohol	EPA 8260D
	EPA 8260C
Vinyl acetate	EPA 8260D
	EPA 8260C

Sample Preparation Methods

EPA 5035A-L
EPA 5035A-H
EPA 3580A
EPA 3010A
EPA 3050B
EPA 3550C
EPA 3546
EPA 3545A
EPA 3060A
EPA 9010C

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All approved analytes are listed below:

Acrylates

Acrolein (Propenal)	EPA 8260D
	EPA 8260C
	EPA 624.1
Acrylonitrile	EPA 8260D
	EPA 8260C
	EPA 624.1
Methyl methacrylate	EPA 8260D
	EPA 8260C

Amines

1,2-Diphenylhydrazine	EPA 8270D
	EPA 8270E
2-Nitroaniline	EPA 8270D
	EPA 8270E
3-Nitroaniline	EPA 8270D
	EPA 8270E
4-Chloroaniline	EPA 8270D
	EPA 8270E
4-Nitroaniline	EPA 8270D
	EPA 8270E
Aniline	EPA 625.1
	EPA 8270D
	EPA 8270E
Carbazole	EPA 625.1
	EPA 8270D
	EPA 8270E
Diphenylamine	EPA 8270D
	EPA 8270E

Serial No.: 71134

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All approved analytes are listed below:

Amines

Pyridine	EPA 625.1
	EPA 8270D
	EPA 8270E

Benzidines

3,3'-Dichlorobenzidine	EPA 625.1
	EPA 8270D
	EPA 8270E
Benzidine	EPA 625.1
	EPA 8270D
	EPA 8270E

Chlorinated Hydrocarbon Pesticides

4,4'-DDD	EPA 8081B
	EPA 608.3
4,4'-DDE	EPA 8081B
	EPA 608.3
4,4'-DDT	EPA 8081B
	EPA 608.3
Aldrin	EPA 8081B
	EPA 608.3
alpha-BHC	EPA 8081B
	EPA 608.3
alpha-Chlordane	EPA 8081B
beta-BHC	EPA 8081B
	EPA 608.3
Chlordane Total	EPA 8081B
	EPA 608.3

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Chlorinated Hydrocarbon Pesticides

delta-BHC	EPA 8081B
	EPA 608.3
Dieldrin	EPA 8081B
	EPA 608.3
Endosulfan I	EPA 8081B
	EPA 608.3
Endosulfan II	EPA 8081B
	EPA 608.3
Endosulfan sulfate	EPA 8081B
	EPA 608.3
Endrin	EPA 8081B
	EPA 608.3
Endrin aldehyde	EPA 8081B
	EPA 608.3
Endrin Ketone	EPA 8081B
gamma-Chlordane	EPA 8081B
Heptachlor	EPA 8081B
	EPA 608.3
Heptachlor epoxide	EPA 8081B
	EPA 608.3
Lindane	EPA 8081B
	EPA 608.3
Methoxychlor	EPA 8081B
	EPA 608.3
Mirex	EPA 8081B
Toxaphene	EPA 8081B
	EPA 608.3

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WADSWORTH CENTER

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Issued April 01, 2025
Revised June 30, 2025

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. CATHERINE L. MOSHER
YORK ANALYTICAL LABORATORIES INC
120 RESEARCH DRIVE
STRATFORD, CT 06615

NY Lab Id No: 10854

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2016) for the category ENVIRONMENTAL ANALYSES NON POTABLE WATER
All approved analytes are listed below:

Chlorinated Hydrocarbons

1,2,3-Trichlorobenzene	EPA 8260D
	EPA 8260C
1,2,4,5-Tetrachlorobenzene	EPA 8270D
	EPA 8270E
1,2,4-Trichlorobenzene	EPA 625.1
	EPA 8270D
	EPA 8270E
2-Chloronaphthalene	EPA 625.1
	EPA 8270D
	EPA 8270E
Hexachlorobenzene	EPA 8270D
	EPA 8270E
Hexachlorobutadiene	EPA 625.1
	EPA 8270D
	EPA 8270E
Hexachlorocyclopentadiene	EPA 625.1
	EPA 8270D
	EPA 8270E
Hexachloroethane	EPA 625.1
	EPA 8270D
	EPA 8270E
Pentachlorobenzene	EPA 8270D
	EPA 8270E

Chlorophenoxy Acid Pesticides

2,4,5-T	EPA 8151A
2,4,5-TP (Silvex)	EPA 8151A
	SM 6640B-2006

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Chlorophenoxy Acid Pesticides

2,4-D	EPA 8151A
Dicamba	EPA 8151A

Demand

Biochemical Oxygen Demand	SM 5210B-2016
Carbonaceous BOD	SM 5210B-2016
Chemical Oxygen Demand	SM 5220D-2011

Fuel Oxygenates

Di-isopropyl ether	EPA 8260D
	EPA 8260C
Ethanol	EPA 8260D
	EPA 8260C
Methyl tert-butyl ether	EPA 8260D
	EPA 8260C
tert-amyl alcohol	EPA 8260D
	EPA 8260C
tert-amyl methyl ether (TAME)	EPA 8260D
	EPA 8260C
tert-butyl alcohol	EPA 8260D
	EPA 8260C
tert-butyl ethyl ether (ETBE)	EPA 8260D
	EPA 8260C

Haloethers

2,2'-Oxybis(1-chloropropane)	EPA 625.1
	EPA 8270D
	EPA 8270E
4-Bromophenylphenyl ether	EPA 625.1

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Haloethers

4-Bromophenylphenyl ether	EPA 8270D
	EPA 8270E
4-Chlorophenylphenyl ether	EPA 625.1
	EPA 8270D
	EPA 8270E
Bis(2-chloroethoxy)methane	EPA 625.1
	EPA 8270D
	EPA 8270E
Bis(2-chloroethyl)ether	EPA 625.1
	EPA 8270D
	EPA 8270E

Low Level Halocarbons

1,2,3-Trichloropropane, Low Level	EPA 8011
1,2-Dibromo-3-chloropropane, Low Le	EPA 8011
1,2-Dibromoethane, Low Level	EPA 8011

Low Level Polynuclear Aromatics

Acenaphthene Low Level	EPA 8270D
	EPA 8270E
	EPA 8270E SIM
Acenaphthylene Low Level	EPA 8270D
	EPA 8270E
	EPA 8270E SIM
Anthracene Low Level	EPA 8270D
	EPA 8270E
	EPA 8270E SIM
Benzo(a)anthracene Low Level	EPA 8270D

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Low Level Polynuclear Aromatics

Benzo(a)anthracene Low Level	EPA 8270E
	EPA 8270E SIM
Benzo(a)pyrene Low Level	EPA 8270D
	EPA 8270E
	EPA 8270E SIM
Benzo(b)fluoranthene Low Level	EPA 8270D
	EPA 8270E
	EPA 8270E SIM
Benzo(g,h,i)perylene Low Level	EPA 8270D
	EPA 8270E
	EPA 8270E SIM
Benzo(k)fluoranthene Low Level	EPA 8270D
	EPA 8270E
	EPA 8270E SIM
Chrysene Low Level	EPA 8270D
	EPA 8270E
	EPA 8270E SIM
Dibenzo(a,h)anthracene Low Level	EPA 8270D
	EPA 8270E
	EPA 8270E SIM
Fluoranthene Low Level	EPA 8270D
	EPA 8270E
	EPA 8270E SIM
Fluorene Low Level	EPA 8270D
	EPA 8270E
	EPA 8270E SIM
Indeno(1,2,3-cd)pyrene Low Level	EPA 8270D

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Low Level Polynuclear Aromatics

Indeno(1,2,3-cd)pyrene Low Level	EPA 8270E
	EPA 8270E SIM
Naphthalene Low Level	EPA 8270D
	EPA 8270E
	EPA 8270E SIM
Phenanthrene Low Level	EPA 8270D
	EPA 8270E
	EPA 8270E SIM
Pyrene Low Level	EPA 8270D
	EPA 8270E
	EPA 8270E SIM

Metals I

Barium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
	EPA 6010D
Cadmium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Calcium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
	EPA 6010D
Chromium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
	EPA 6010D

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Metals I

Chromium, Total	EPA 6020A
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Copper, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Iron, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Lead, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Magnesium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
	EPA 6010D
Manganese, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
	EPA 6010D

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Metals I

Manganese, Total	EPA 6020A
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Nickel, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Potassium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
	EPA 6010D
Silver, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Sodium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
	EPA 6010D

Metals II

Aluminum, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B

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Metals II

Aluminum, Total	EPA 200.8, Rev. 5.4 (1994)
Antimony, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Arsenic, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Beryllium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Chromium VI	EPA 7196A
	SM 3500-Cr B-2011
Mercury, Total	EPA 245.1, Rev. 3.0 (1994)
	EPA 245.2 (Issued 1974, Rev. 1983)
	EPA 7470A
	EPA 7473
Selenium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C

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Metals II

Selenium, Total	EPA 6010D
Vanadium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Zinc, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
	EPA 6010D

Metals III

Cobalt, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Molybdenum, Total	EPA 6020A
	EPA 200.8, Rev. 5.4 (1994)
Thallium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
	EPA 6010D
	EPA 6020A
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Tin, Total	EPA 6020A
	EPA 200.8, Rev. 5.4 (1994)

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Metals III

Titanium, Total	EPA 6020A
	EPA 200.8, Rev. 5.4 (1994)

Mineral

Alkalinity	SM 2320B-2011
Calcium Hardness	EPA 200.7, Rev. 4.4 (1994)
Chloride	EPA 300.0, Rev. 2.1 (1993)
Fluoride, Total	EPA 300.0, Rev. 2.1 (1993)
Hardness, Total	SM 2340B-2011
Sulfate (as SO4)	EPA 300.0, Rev. 2.1 (1993)

Miscellaneous

Boron, Total	EPA 6020A
	EPA 200.8, Rev. 5.4 (1994)
Bromide	EPA 300.0, Rev. 2.1 (1993)
Color	SM 2120B-2011
Cyanide, Total	SM 4500-CN E-2016
Phenols	EPA 420.1 (Rev. 1978)
Specific Conductance	EPA 120.1 (Rev. 1982)
Sulfide (as S)	SM 4500-S2- F-2011
Surfactant (MBAS)	SM 5540C-2011
Turbidity	EPA 180.1, Rev. 2.0 (1993)

Nitroaromatics and Isophorone

2,4-Dinitrotoluene	EPA 625.1
	EPA 8270D
	EPA 8270E
2,6-Dinitrotoluene	EPA 625.1
	EPA 8270D

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Nitroaromatics and Isophorone

2,6-Dinitrotoluene	EPA 8270E
Isophorone	EPA 625.1
	EPA 8270D
	EPA 8270E
Nitrobenzene	EPA 625.1
	EPA 8270D
	EPA 8270E

Nitrosoamines

N-Nitrosodimethylamine	EPA 625.1
	EPA 8270D
	EPA 8270E
N-Nitrosodi-n-propylamine	EPA 625.1
	EPA 8270D
	EPA 8270E
N-Nitrosodiphenylamine	EPA 625.1
	EPA 8270D
	EPA 8270E

Nutrient

Ammonia (as N)	SM 4500-NH3 D-2011 or E-2011
Kjeldahl Nitrogen, Total	SM 4500-N Org D-2011
	SM 4500-NH3 D-2011 or E-2011
Nitrate (as N)	EPA 300.0, Rev. 2.1 (1993)
Nitrate-Nitrite (as N)	EPA 300.0, Rev. 2.1 (1993)
Nitrite (as N)	EPA 300.0, Rev. 2.1 (1993)
Orthophosphate (as P)	EPA 300.0, Rev. 2.1 (1993)
	SM 4500-P E-2011

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Organophosphate Pesticides	
Atrazine	EPA 8270D
	EPA 8270E
Parathion ethyl	EPA 8270D
	EPA 8270E
Petroleum Hydrocarbons	
Diesel Range Organics	EPA 8015D
Gasoline Range Organics	EPA 8015D
Phthalate Esters	
Benzyl butyl phthalate	EPA 625.1
	EPA 8270D
	EPA 8270E
Bis(2-ethylhexyl) phthalate	EPA 625.1
	EPA 8270D
	EPA 8270E
Diethyl phthalate	EPA 625.1
	EPA 8270D
	EPA 8270E
Dimethyl phthalate	EPA 625.1
	EPA 8270D
	EPA 8270E
Di-n-butyl phthalate	EPA 625.1
	EPA 8270D
	EPA 8270E
Di-n-octyl phthalate	EPA 625.1
	EPA 8270D
	EPA 8270E

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All approved analytes are listed below:

Polychlorinated Biphenyls

Aroclor 1016 (PCB-1016)	EPA 8082A
	EPA 608.3
Aroclor 1221 (PCB-1221)	EPA 8082A
	EPA 608.3
Aroclor 1232 (PCB-1232)	EPA 8082A
	EPA 608.3
Aroclor 1242 (PCB-1242)	EPA 8082A
	EPA 608.3
Aroclor 1248 (PCB-1248)	EPA 8082A
	EPA 608.3
Aroclor 1254 (PCB-1254)	EPA 8082A
	EPA 608.3
Aroclor 1260 (PCB-1260)	EPA 8082A
	EPA 608.3
Aroclor 1262 (PCB-1262)	EPA 8082A
Aroclor 1268 (PCB-1268)	EPA 8082A

Polynuclear Aromatics

Acenaphthene	EPA 625.1
	EPA 8270D
	EPA 8270E
Acenaphthylene	EPA 625.1
	EPA 8270D
	EPA 8270E
Anthracene	EPA 625.1
	EPA 8270D
	EPA 8270E
Benzo(a)anthracene	EPA 625.1

Serial No.: 71134

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NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2026
Issued April 01, 2025
Revised June 30, 2025

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. CATHERINE L. MOSHER
YORK ANALYTICAL LABORATORIES INC
120 RESEARCH DRIVE
STRATFORD, CT 06615

NY Lab Id No: 10854

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2016) for the category ENVIRONMENTAL ANALYSES NON POTABLE WATER
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Polynuclear Aromatics

Benzo(a)anthracene	EPA 8270D
	EPA 8270E
Benzo(a)pyrene	EPA 625.1
	EPA 8270D
	EPA 8270E
Benzo(b)fluoranthene	EPA 625.1
	EPA 8270D
	EPA 8270E
Benzo(g,h,i)perylene	EPA 625.1
	EPA 8270D
	EPA 8270E
Benzo(k)fluoranthene	EPA 625.1
	EPA 8270D
	EPA 8270E
Chrysene	EPA 625.1
	EPA 8270D
	EPA 8270E
Dibenzo(a,h)anthracene	EPA 625.1
	EPA 8270D
	EPA 8270E
Fluoranthene	EPA 625.1
	EPA 8270D
	EPA 8270E
Fluorene	EPA 625.1
	EPA 8270D
	EPA 8270E
Indeno(1,2,3-cd)pyrene	EPA 625.1

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Polynuclear Aromatics

Indeno(1,2,3-cd)pyrene	EPA 8270D
	EPA 8270E
Naphthalene	EPA 625.1
	EPA 8270D
	EPA 8270E
Phenanthrene	EPA 8270E
Pyrene	EPA 625.1
	EPA 8270D
	EPA 8270E

Priority Pollutant Phenols

2,3,4,6 Tetrachlorophenol	EPA 8270D
	EPA 8270E
2,4,5-Trichlorophenol	EPA 625.1
	EPA 8270D
	EPA 8270E
2,4,6-Trichlorophenol	EPA 625.1
	EPA 8270D
	EPA 8270E
2,4-Dichlorophenol	EPA 625.1
	EPA 8270D
	EPA 8270E
2,4-Dimethylphenol	EPA 625.1
	EPA 8270D
	EPA 8270E
2,4-Dinitrophenol	EPA 8270E
2-Chlorophenol	EPA 625.1
	EPA 8270D

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Priority Pollutant Phenols

2-Chlorophenol	EPA 8270E
2-Methyl-4,6-dinitrophenol	EPA 625.1
	EPA 8270D
	EPA 8270E
2-Methylphenol	EPA 625.1
	EPA 8270D
	EPA 8270E
2-Nitrophenol	EPA 625.1
	EPA 8270D
	EPA 8270E
4-Chloro-3-methylphenol	EPA 625.1
	EPA 8270D
	EPA 8270E
4-Methylphenol	EPA 625.1
	EPA 8270D
	EPA 8270E
4-Nitrophenol	EPA 625.1
	EPA 8270D
	EPA 8270E
Cresols, Total	EPA 8270D
	EPA 8270E
Pentachlorophenol	EPA 625.1
	EPA 8270D
	EPA 8270E
Phenol	EPA 625.1
	EPA 8270D
	EPA 8270E

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Residue

Settleable Solids	SM 2540 F-2015
Solids, Total	SM 2540 B-2015
Solids, Total Dissolved	SM 2540 C-2015
Solids, Total Suspended	SM 2540 D-2015

Semi-Volatile Organics

1,1'-Biphenyl	EPA 8270D
	EPA 8270E
1,2-Dichlorobenzene, Semi-volatile	EPA 8270D
	EPA 8270E
1,3-Dichlorobenzene, Semi-volatile	EPA 8270D
	EPA 8270E
1,4-Dichlorobenzene, Semi-volatile	EPA 8270D
	EPA 8270E
2-Methylnaphthalene	EPA 8270D
	EPA 8270E
Acetophenone	EPA 8270D
	EPA 8270E
alpha-Terpineol	EPA 625.1
	EPA 8270E
Benzaldehyde	EPA 8270D
	EPA 8270E
Benzoic Acid	EPA 8270D
	EPA 8270E
Benzyl alcohol	EPA 8270D
	EPA 8270E
Caprolactam	EPA 8270D
	EPA 8270E

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Semi-Volatile Organics

Dibenzofuran	EPA 8270D
	EPA 8270E

Volatile Aromatics

1,2,4-Trichlorobenzene, Volatile	EPA 8260D
	EPA 8260C
1,2,4-Trimethylbenzene	EPA 8260D
	EPA 8260C
1,2-Dichlorobenzene	EPA 8260D
	EPA 8260C
	EPA 624.1
1,3,5-Trimethylbenzene	EPA 8260D
	EPA 8260C
1,3-Dichlorobenzene	EPA 8260D
	EPA 8260C
	EPA 624.1
1,4-Dichlorobenzene	EPA 8260D
	EPA 8260C
	EPA 624.1
2-Chlorotoluene	EPA 8260D
	EPA 8260C
4-Chlorotoluene	EPA 8260D
	EPA 8260C
Benzene	EPA 8260D
	EPA 8260C
	EPA 624.1
Bromobenzene	EPA 8260D
	EPA 8260C

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Volatile Aromatics

Chlorobenzene	EPA 8260D
	EPA 8260C
	EPA 624.1
Ethyl benzene	EPA 8260D
	EPA 8260C
	EPA 624.1
Isopropylbenzene	EPA 8260D
	EPA 8260C
m/p-Xylenes	EPA 8260D
	EPA 8260C
	EPA 624.1
Naphthalene, Volatile	EPA 8260D
	EPA 8260C
n-Butylbenzene	EPA 8260D
	EPA 8260C
n-Propylbenzene	EPA 8260D
	EPA 8260C
o-Xylene	EPA 8260D
	EPA 8260C
	EPA 624.1
p-Isopropyltoluene (P-Cymene)	EPA 8260D
	EPA 8260C
sec-Butylbenzene	EPA 8260D
	EPA 8260C
Styrene	EPA 8260D
	EPA 8260C
	EPA 624.1

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Volatile Aromatics

tert-Butylbenzene	EPA 8260D
	EPA 8260C
Toluene	EPA 8260D
	EPA 8260C
	EPA 624.1
Total Xylenes	EPA 8260D
	EPA 8260C
	EPA 624.1

Volatile Halocarbons

1,1,1,2-Tetrachloroethane	EPA 8260D
	EPA 8260C
1,1,1-Trichloroethane	EPA 8260D
	EPA 8260C
	EPA 624.1
1,1,2,2-Tetrachloroethane	EPA 8260D
	EPA 8260C
	EPA 624.1
1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA 8260D
	EPA 8260C
1,1,2-Trichloroethane	EPA 8260D
	EPA 8260C
	EPA 624.1
1,1-Dichloroethane	EPA 8260D
	EPA 8260C
	EPA 624.1
1,1-Dichloroethene	EPA 8260D
	EPA 8260C

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Volatile Halocarbons

1,1-Dichloroethene	EPA 624.1
1,1-Dichloropropene	EPA 8260D
	EPA 8260C
1,2,3-Trichloropropane	EPA 8260D
	EPA 8260C
1,2-Dibromo-3-chloropropane	EPA 8260D
	EPA 8260C
1,2-Dibromoethane	EPA 8260D
	EPA 8260C
1,2-Dichloroethane	EPA 8260D
	EPA 8260C
	EPA 624.1
1,2-Dichloropropane	EPA 8260D
	EPA 8260C
	EPA 624.1
1,3-Dichloropropane	EPA 8260D
	EPA 8260C
2,2-Dichloropropane	EPA 8260D
	EPA 8260C
2-Chloroethylvinyl ether	EPA 8260D
	EPA 8260C
	EPA 624.1
Bromochloromethane	EPA 8260D
	EPA 8260C
Bromodichloromethane	EPA 8260D
	EPA 8260C
	EPA 624.1

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Volatile Halocarbons

Bromoform	EPA 8260D
	EPA 8260C
	EPA 624.1
Bromomethane	EPA 8260D
	EPA 8260C
	EPA 624.1
Carbon tetrachloride	EPA 8260D
	EPA 8260C
	EPA 624.1
Chloroethane	EPA 8260D
	EPA 8260C
	EPA 624.1
Chloroform	EPA 8260D
	EPA 8260C
	EPA 624.1
Chloromethane	EPA 8260D
	EPA 8260C
	EPA 624.1
cis-1,2-Dichloroethene	EPA 8260D
	EPA 8260C
	EPA 624.1
cis-1,3-Dichloropropene	EPA 8260D
	EPA 8260C
	EPA 624.1
Dibromochloromethane	EPA 8260D
	EPA 8260C
	EPA 624.1

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Volatile Halocarbons

Dibromomethane	EPA 8260D
	EPA 8260C
Dichlorodifluoromethane	EPA 8260D
	EPA 8260C
	EPA 624.1
Hexachlorobutadiene, Volatile	EPA 8260D
	EPA 8260C
Methylene chloride	EPA 8260D
	EPA 8260C
	EPA 624.1
Tetrachloroethene	EPA 8260C
	EPA 624.1
trans-1,2-Dichloroethene	EPA 8260D
	EPA 8260C
	EPA 624.1
trans-1,3-Dichloropropene	EPA 8260D
	EPA 8260C
	EPA 624.1
trans-1,4-Dichloro-2-butene	EPA 8260D
	EPA 8260C
Trichloroethene	EPA 8260D
	EPA 8260C
	EPA 624.1
Trichlorofluoromethane	EPA 8260D
	EPA 8260C
	EPA 624.1
Vinyl chloride	EPA 8260D

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Volatile Halocarbons

Vinyl chloride	EPA 8260C
	EPA 624.1

Volatiles Organics

1,4-Dioxane	EPA 8260D
	EPA 8260C
	EPA 8270D SIM
	EPA 8270E
	EPA 8270E SIM
2-Butanone (Methylethyl ketone)	EPA 8260D
	EPA 8260C
2-Hexanone	EPA 8260D
	EPA 8260C
4-Methyl-2-Pentanone	EPA 8260D
	EPA 8260C
Acetone	EPA 8260D
	EPA 8260C
Carbon Disulfide	EPA 8260D
	EPA 8260C
Cyclohexane	EPA 8260D
	EPA 8260C
Methyl acetate	EPA 8260D
	EPA 8260C
Methyl cyclohexane	EPA 8260D
	EPA 8260C
Vinyl acetate	EPA 8260D
	EPA 8260C

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Sample Preparation Methods

SM 4500-P B(5)-2011

EPA 5030C

SM 4500-CN B-2016 and C-2016

EPA 3015A

EPA 3010A

EPA 3005A

EPA 3510C

SM 4500-N Org B-2011 or C-2011

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Appendix D

Laboratory Analytical Results - Soil

PHOENIX
Environmental Laboratories, Inc.

Wednesday, October 22, 2025

Attn: Joel Rogers
Factor Group Inc
42 Crest Dr
South Orange, NJ 07079-1039

Project ID: NYCDDC SANDRHDK RHCR
SDG ID: GCU45773
Sample ID#s: CU45773 - CU45776

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

October 22, 2025

SDG I.D.: GCU45773

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

CU45773 - The client provided an ENCORE sample. Phoenix prepared sample per method 5035.

CU45774 - The client provided an ENCORE sample. Phoenix prepared sample per method 5035.

CU45775 - The client provided an ENCORE sample. Phoenix prepared sample per method 5035.

CU45776 - The client provided an ENCORE sample. Phoenix prepared sample per method 5035.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

Sample Id Cross Reference

October 22, 2025

SDG I.D.: GCU45773

Project ID: NYCDDC SANDRHDK RHCR

Client Id	Lab Id	Matrix	Col Date
WC-13/14B-1	CU45773	SOIL	10/08/25 11:30
WC-13/14B-2	CU45774	SOIL	10/08/25 11:45
WC-14A-1	CU45775	SOIL	10/08/25 14:15
WC-14A-2	CU45776	SOIL	10/08/25 14:45

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

October 22, 2025

FOR: Attn: Joel Rogers
Factor Group Inc
42 Crest Dr
South Orange, NJ 07079-1039

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		10/08/25	11:30
Location Code:	FACTOR	Received by:	SW	10/08/25	18:35
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	00379				

Laboratory Data

SDG ID: GCU45773
Phoenix ID: CU45773

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-13/14B-1

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.33	0.33		mg/Kg	1	10/13/25	CPP	SW6010D
Aluminum	4690	5.0		mg/Kg	1	10/13/25	CPP	SW6010D
Arsenic	2.58	0.66		mg/Kg	1	10/13/25	CPP	SW6010D
Barium	47.9	0.33		mg/Kg	1	10/13/25	CPP	SW6010D
Beryllium	0.29	0.27		mg/Kg	1	10/13/25	CPP	SW6010D
Boron	4.7	1.3		mg/Kg	1	10/13/25	CPP	SW6010D
Calcium	5560	5.0		mg/Kg	1	10/13/25	CPP	SW6010D
Cadmium	< 0.33	0.33		mg/Kg	1	10/13/25	CPP	SW6010D
Cobalt	10.9	0.33		mg/Kg	1	10/13/25	CPP	SW6010D
Chromium	22.4	0.33		mg/Kg	1	10/13/25	CPP	SW6010D
Copper	49.7	0.7		mg/kg	1	10/13/25	CPP	SW6010D
Iron	12700	5.0		mg/Kg	1	10/13/25	CPP	SW6010D
Mercury	0.39	0.03		mg/Kg	2	10/13/25	AJ1	SW7471B
Potassium	897	50		mg/Kg	10	10/13/25	CPP	SW6010D
Magnesium	17000	5.0		mg/Kg	1	10/13/25	CPP	SW6010D
Manganese	192	0.33		mg/Kg	1	10/13/25	TH	SW6010D
Molybdenum	< 0.33	0.33		mg/Kg	1	10/13/25	CPP	SW6010D
Sodium	474	5.0		mg/Kg	1	10/13/25	CPP	SW6010D
Nickel	169	3.3		mg/Kg	10	10/13/25	TH	SW6010D
Lead	112	0.33		mg/Kg	1	10/13/25	CPP	SW6010D
Antimony	< 3.3	3.3		mg/Kg	1	10/13/25	CPP	SW6010D
Selenium	< 1.3	1.3		mg/Kg	1	10/13/25	CPP	SW6010D
TCLP Silver	< 0.10	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010
TCLP Arsenic	< 0.10	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010
TCLP Barium	0.38	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010
TCLP Cadmium	< 0.050	0.050		mg/L	1	10/10/25	CPP	SW846 1311/6010
TCLP Chromium	< 0.10	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010
TCLP Mercury	< 0.0002	0.0002		mg/L	1	10/10/25	AJ1	SW846 1311/7470

Ver 1

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-13/14B-1

Phoenix I.D.: CU45773

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
TCLP Lead	0.12	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010	
TCLP Selenium	< 0.10	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010D	
Thallium	< 3.0	3.0		mg/Kg	1	10/13/25	CPP	SW6010D	
TCLP Metals Digestion	Completed					10/10/25	AK/AK	SW3010A	
Trivalent Chromium	22.4	0.33		mg/kg	1	10/14/25		CALC 6010-7196	
Vanadium	14.3	0.33		mg/Kg	1	10/13/25	CPP	SW6010D	
Zinc	64.5	0.7		mg/Kg	1	10/13/25	CPP	SW6010D	
Percent Solid	92			%		10/09/25	CV	SW846-%Solid	
Corrosivity	Negative			Pos/Neg	1	10/09/25	KG	SW846-Corr	1
Flash Point	>200	200		Degree F	1	10/10/25	G	SW1010B	
Fluoride	< 5.4	5.4		mg/Kg	10	10/09/25	DD/EG	SW9056A	
Chromium, Hex. (SW3060A digestion	< 0.41	0.41		mg/Kg	1	10/14/25	NP	SW7196A	
Ignitability	Passed	140		degree F	1	10/10/25	G	SW846-Ignit	1
Ammonia as Nitrogen	< 56.3	56.3		mg/Kg	1	10/14/25	KDB	E350.1	1
pH at 22C - Soil	9.46	1.00		pH Units	1	10/09/25 23:43	KG	SW846 9045D	
Reactivity Cyanide	< 5	5		mg/Kg	1	10/16/25	NP/GD	SW846 7.3.3.1/90	1
Reactivity Sulfide	< 20	20		mg/Kg	1	10/16/25	NP/GD	SW846 CH7	1
Reactivity	Negative			Pos/Neg	1	10/16/25	NP/GD	SW846-React	1
Redox Potential	119			mV	1	10/09/25	KG	SM2580B-09	1
SPLP Chloride	3.4	1.0		mg/L	1	10/10/25	DD/GD	SW1312/300.0	
SPLP Sulfate	7.2	3.0		mg/L	1	10/10/25	DD/GD	SW1312/300.0	1
Total Cyanide (SW9010C Distill.)	< 0.54	0.54		mg/Kg	1	10/15/25	J/I/G	SW9012B	
Mercury Digestion	Completed					10/10/25	ZT/SD	SW7471B	
Soil Extraction for Herbicide	Completed					10/14/25	X/K/SD	SW3546	
NJ EPH Extraction	Completed					10/16/25	C/A	NJDEP 10-08 R3	
Soil Extraction for PCB	Completed					10/16/25	K/S/Z	SW3546	
Soil Extraction for Pesticides	Completed					10/16/25	K/S/Z	SW3546	
Soil Extraction for SVOA	Completed					10/16/25	C/Q	SW3546	
Paint Filter Test	Passed			PASS/FAIL		10/09/25	O	SW9095B	
SPLP Extraction, Wet Chemistry	Completed					10/09/25	AK	SW1312	
TCLP Digestion Mercury	Completed					10/10/25	AK/GW	SW7470A	
TCLP Extraction for Metals	Completed					10/09/25	AK	SW1311	
Total Metals Digest	Completed					10/09/25	P/AG	SW3050B	
NJ EPH Category 2									
Total EPH (C9-C40)	180	130	130	mg/kg	5	10/20/25	JRB	NJEPH 10-08 R3	1
QA/QC Surrogates									
% COD (surr)	Interference			%	5	10/20/25	JRB	40 - 140 %	
% Terphenyl (surr)	91			%	5	10/20/25	JRB	40 - 140 %	
Chlorinated Herbicides									
2,4,5-T	ND	130		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4,5-TP (Silvex)	ND	130		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4-D	ND	270		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4-DB	ND	1300		ug/Kg	10	10/15/25	JRB	SW8151A	
Dalapon	ND	130		ug/Kg	10	10/15/25	JRB	SW8151A	
Dicamba	ND	130		ug/Kg	10	10/15/25	JRB	SW8151A	
Dichloroprop	ND	270		ug/Kg	10	10/15/25	JRB	SW8151A	
Dinoseb	ND	270		ug/Kg	10	10/15/25	JRB	SW8151A	

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-13/14B-1

Phoenix I.D.: CU45773

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates									
% DCAA	112			%	10	10/15/25	JRB	30 - 150 %	
% DCAA (Confirmation)	100			%	10	10/15/25	JRB	30 - 150 %	
Polychlorinated Biphenyls									
PCB-1016	ND	71		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1221	ND	71		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1232	ND	71		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1242	ND	71		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1248	ND	71		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1254	ND	71		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1260	ND	71		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1262	ND	71		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1268	ND	71		ug/Kg	2	10/20/25	SC	SW8082A	
Total PCBs	ND	71		ug/Kg	2	10/20/25	SC	SW8082A	1
QA/QC Surrogates									
% DCBP	66			%	2	10/20/25	SC	30 - 150 %	
% DCBP (Confirmation)	60			%	2	10/20/25	SC	30 - 150 %	
% TCMX	67			%	2	10/20/25	SC	30 - 150 %	
% TCMX (Confirmation)	63			%	2	10/20/25	SC	30 - 150 %	
Pesticides - Soil									
4,4' -DDD	ND	2.1		ug/Kg	2	10/19/25	AW	SW8081B	
4,4' -DDE	ND	2.1		ug/Kg	2	10/19/25	AW	SW8081B	
4,4' -DDT	ND	2.1		ug/Kg	2	10/19/25	AW	SW8081B	
a-BHC	ND	7.1		ug/Kg	2	10/19/25	AW	SW8081B	
a-Chlordane	ND	3.6		ug/Kg	2	10/19/25	AW	SW8081B	
Aldrin	ND	3.6		ug/Kg	2	10/19/25	AW	SW8081B	
b-BHC	ND	7.1		ug/Kg	2	10/19/25	AW	SW8081B	
Chlordane	ND	36		ug/Kg	2	10/19/25	AW	SW8081B	
d-BHC	ND	7.1		ug/Kg	2	10/19/25	AW	SW8081B	
Dieldrin	ND	3.6		ug/Kg	2	10/19/25	AW	SW8081B	
Endosulfan I	ND	7.1		ug/Kg	2	10/19/25	AW	SW8081B	
Endosulfan II	ND	7.1		ug/Kg	2	10/19/25	AW	SW8081B	
Endosulfan sulfate	ND	7.1		ug/Kg	2	10/19/25	AW	SW8081B	
Endrin	ND	7.1		ug/Kg	2	10/19/25	AW	SW8081B	
Endrin aldehyde	ND	7.1		ug/Kg	2	10/19/25	AW	SW8081B	
Endrin ketone	ND	7.1		ug/Kg	2	10/19/25	AW	SW8081B	
g-BHC	ND	1.4		ug/Kg	2	10/19/25	AW	SW8081B	
g-Chlordane	ND	3.6		ug/Kg	2	10/19/25	AW	SW8081B	
Heptachlor	ND	7.1		ug/Kg	2	10/19/25	AW	SW8081B	
Heptachlor epoxide	ND	7.1		ug/Kg	2	10/19/25	AW	SW8081B	
Methoxychlor	ND	36		ug/Kg	2	10/19/25	AW	SW8081B	
Toxaphene	ND	140		ug/Kg	2	10/19/25	AW	SW8081B	
QA/QC Surrogates									
% DCBP	64			%	2	10/19/25	AW	30 - 150 %	
% DCBP (Confirmation)	79			%	2	10/19/25	AW	30 - 150 %	
% TCMX	71			%	2	10/19/25	AW	30 - 150 %	
% TCMX (Confirmation)	75			%	2	10/19/25	AW	30 - 150 %	

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-13/14B-1

Phoenix I.D.: CU45773

Volatiles (TCL)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
1,1,1-Trichloroethane	ND	5.0		ug/kg	1	10/12/25	HM	SW8260D
1,1,2,2-Tetrachloroethane	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
1,1,2-Trichloroethane	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
1,1-Dichloroethane	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
1,1-Dichloroethene	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
1,2,3-Trichlorobenzene	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
1,2,4-Trichlorobenzene	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
1,2,4-Trimethylbenzene	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
1,2-Dibromo-3-chloropropane	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
1,2-Dibromoethane	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
1,2-Dichlorobenzene	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
1,2-Dichloroethane	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
1,2-Dichloropropane	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
1,3,5-Trimethylbenzene	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
1,3-Dichlorobenzene	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
1,4-Dichlorobenzene	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
2-Hexanone	ND	30		ug/kg	1	10/12/25	HM	SW8260D
4-Methyl-2-pentanone	ND	30		ug/kg	1	10/12/25	HM	SW8260D
Acetone	ND	50		ug/kg	1	10/12/25	HM	SW8260D
Benzene	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
Bromochloromethane	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
Bromodichloromethane	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
Bromoform	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
Bromomethane	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
Carbon Disulfide	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
Carbon tetrachloride	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
Chlorobenzene	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
Chloroethane	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
Chloroform	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
Chloromethane	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
cis-1,2-Dichloroethene	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
cis-1,3-Dichloropropene	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
Cyclohexane	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
Dibromochloromethane	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
Dichlorodifluoromethane	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
Ethylbenzene	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
Isopropylbenzene	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
m&p-Xylene	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
Methyl ethyl ketone	ND	36		ug/kg	1	10/12/25	HM	SW8260D
Methyl t-butyl ether (MTBE)	ND	12		ug/kg	1	10/12/25	HM	SW8260D
Methylacetate	ND	60		ug/kg	1	10/12/25	HM	SW8260D
Methylcyclohexane	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
Methylene chloride	ND	30		ug/kg	1	10/12/25	HM	SW8260D
o-Xylene	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
Styrene	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
Tetrachloroethene	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
Toluene	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D
Total Xylenes	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D	
trans-1,3-Dichloropropene	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D	
Trichloroethene	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D	
Trichlorofluoromethane	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D	
Trichlorotrifluoroethane	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D	
Vinyl chloride	ND	6.0		ug/kg	1	10/12/25	HM	SW8260D	
QA/QC Surrogates									
% 1,2-dichlorobenzene-d4	96			%	1	10/12/25	HM	70 - 130 %	
% Bromofluorobenzene	93			%	1	10/12/25	HM	70 - 130 %	
% Dibromofluoromethane	94			%	1	10/12/25	HM	70 - 130 %	
% Toluene-d8	98			%	1	10/12/25	HM	70 - 130 %	
1,4-dioxane									
1,4-dioxane	ND	90		ug/kg	1	10/12/25	HM	SW8260D	
Volatiles									
1,1,1,2-Tetrachloroethane	ND	24		ug/Kg	1	10/12/25	HM	SW8260D	
Acrolein	ND	6.0		ug/Kg	1	10/12/25	HM	SW8260D	
Acrylonitrile	ND	24		ug/Kg	1	10/12/25	HM	SW8260D	
Tert-butyl alcohol	ND	120		ug/Kg	1	10/12/25	HM	SW8260D	
Vinyl Acetate	ND	60		ug/Kg	1	10/12/25	HM	SW8260D	
Volatile Library Search	Completed					10/13/25	HM		
FACTOR GROUP 2	Completed					10/09/25			
Semivolatiles									
1,1-Biphenyl	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
1,2,4,5-Tetrachlorobenzene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2,2'-Oxybis(1-Chloropropane)	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	1
2,3,4,6-tetrachlorophenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2,4,5-Trichlorophenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2,4,6-Trichlorophenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dichlorophenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dimethylphenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dinitrophenol	ND	580		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dinitrotoluene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2,6-Dinitrotoluene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2-Chloronaphthalene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2-Chlorophenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2-Methylnaphthalene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2-Methylphenol (o-cresol)	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2-Nitroaniline	ND	580		ug/Kg	1	10/17/25	MR	SW8270E	
2-Nitrophenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
3&4-Methylphenol (m&p-cresol)	ND	330		ug/Kg	1	10/17/25	MR	SW8270E	1
3,3'-Dichlorobenzidine	ND	430		ug/Kg	1	10/17/25	MR	SW8270E	
3-Nitroaniline	ND	580		ug/Kg	1	10/17/25	MR	SW8270E	
4,6-Dinitro-2-methylphenol	ND	1000		ug/Kg	1	10/17/25	MR	SW8270E	
4-Bromophenyl phenyl ether	ND	360		ug/Kg	1	10/17/25	MR	SW8270E	
4-Chloro-3-methylphenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
4-Chloroaniline	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-13/14B-1

Phoenix I.D.: CU45773

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
4-Chlorophenyl phenyl ether	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
4-Nitroaniline	ND	580		ug/Kg	1	10/17/25	MR	SW8270E
4-Nitrophenol	ND	1000		ug/Kg	1	10/17/25	MR	SW8270E
Acenaphthene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Acenaphthylene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Acetophenone	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Anthracene	420	250		ug/Kg	1	10/17/25	MR	SW8270E
Atrazine	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Benz(a)anthracene	1300	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzaldehyde	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(a)pyrene	2900	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(b)fluoranthene	3400	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(ghi)perylene	2900	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(k)fluoranthene	990	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzyl butyl phthalate	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-chloroethoxy)methane	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-chloroethyl)ether	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-ethylhexyl)phthalate	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Caprolactam	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Carbazole	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Chrysene	1300	250		ug/Kg	1	10/17/25	MR	SW8270E
Dibenz(a,h)anthracene	440	180		ug/Kg	1	10/17/25	MR	SW8270E
Dibenzofuran	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Diethyl phthalate	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Dimethylphthalate	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Di-n-butylphthalate	ND	720		ug/Kg	1	10/17/25	MR	SW8270E
Di-n-octylphthalate	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Fluoranthene	2500	250		ug/Kg	1	10/17/25	MR	SW8270E
Fluorene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorobenzene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorobutadiene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorocyclopentadiene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Hexachloroethane	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Indeno(1,2,3-cd)pyrene	2800	250		ug/Kg	1	10/17/25	MR	SW8270E
Isophorone	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Naphthalene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Nitrobenzene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodimethylamine	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodi-n-propylamine	ND	170		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodiphenylamine	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Pentachlorophenol	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Phenanthrene	1100	250		ug/Kg	1	10/17/25	MR	SW8270E
Phenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Pyrene	2500	250		ug/Kg	1	10/17/25	MR	SW8270E
QA/QC Surrogates								
% 2,4,6-Tribromophenol	77			%	1	10/17/25	MR	30 - 130 %
% 2-Fluorobiphenyl	64			%	1	10/17/25	MR	30 - 130 %
% 2-Fluorophenol	74			%	1	10/17/25	MR	30 - 130 %
% Nitrobenzene-d5	70			%	1	10/17/25	MR	30 - 130 %

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-13/14B-1

Phoenix I.D.: CU45773

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
% Phenol-d5	75			%	1	10/17/25	MR	30 - 130 %
% Terphenyl-d14	76			%	1	10/17/25	MR	30 - 130 %
1,2-Diphenylhydrazine	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Aniline	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Benzoic Acid	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Benzyl Alcohol	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Semivolatile Library Search	Completed					10/17/25	MR	

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Corrosivity is based solely on the pH analysis performed above.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

Ignitability is based solely on the results of the closed cup flashpoint analysis performed above. Passed is >140 degree F.

Paint Filter Test:
Pass = no free liquids were detected. Fail = free liquids were detected.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Cyanide. This method is no longer listed in the current version of SW-846.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Sulfide. This method is no longer listed in the current version of SW-846.

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Hexavalent Chromium:
This sample is in a reducing state.

Semi-Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 22, 2025
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

October 22, 2025

FOR: Attn: Joel Rogers
Factor Group Inc
42 Crest Dr
South Orange, NJ 07079-1039

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		10/08/25	11:45
Location Code:	FACTOR	Received by:	SW	10/08/25	18:35
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	00379				

Laboratory Data

SDG ID: GCU45773
Phoenix ID: CU45774

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-13/14B-2

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.33	0.33		mg/Kg	1	10/13/25	CPP	SW6010D
Aluminum	5180	5.0		mg/Kg	1	10/13/25	CPP	SW6010D
Arsenic	3.33	0.67		mg/Kg	1	10/13/25	CPP	SW6010D
Barium	36.2	0.33		mg/Kg	1	10/13/25	CPP	SW6010D
Beryllium	0.32	0.27		mg/Kg	1	10/13/25	CPP	SW6010D
Boron	5.3	1.3		mg/Kg	1	10/13/25	CPP	SW6010D
Calcium	2170	5.0		mg/Kg	1	10/13/25	CPP	SW6010D
Cadmium	< 0.33	0.33		mg/Kg	1	10/13/25	CPP	SW6010D
Cobalt	16.1	0.33		mg/Kg	1	10/13/25	CPP	SW6010D
Chromium	42.3	0.33		mg/Kg	1	10/13/25	CPP	SW6010D
Copper	30.1	0.7		mg/kg	1	10/13/25	CPP	SW6010D
Iron	16000	5.0		mg/Kg	1	10/13/25	CPP	SW6010D
Mercury	0.03	0.03		mg/Kg	2	10/13/25	AJ1	SW7471B
Potassium	912	50		mg/Kg	10	10/13/25	CPP	SW6010D
Magnesium	28100	5.0		mg/Kg	1	10/13/25	CPP	SW6010D
Manganese	258	0.33		mg/Kg	1	10/13/25	TH	SW6010D
Molybdenum	< 0.33	0.33		mg/Kg	1	10/13/25	CPP	SW6010D
Sodium	495	5.0		mg/Kg	1	10/13/25	CPP	SW6010D
Nickel	277	3.3		mg/Kg	10	10/13/25	TH	SW6010D
Lead	54.1	0.33		mg/Kg	1	10/13/25	CPP	SW6010D
Antimony	< 3.3	3.3		mg/Kg	1	10/13/25	CPP	SW6010D
Selenium	< 1.3	1.3		mg/Kg	1	10/13/25	CPP	SW6010D
TCLP Silver	< 0.10	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010
TCLP Arsenic	< 0.10	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010
TCLP Barium	0.26	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010
TCLP Cadmium	< 0.050	0.050		mg/L	1	10/10/25	CPP	SW846 1311/6010
TCLP Chromium	< 0.10	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010
TCLP Mercury	< 0.0002	0.0002		mg/L	1	10/10/25	AJ1	SW846 1311/7470

Ver 1

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-13/14B-2

Phoenix I.D.: CU45774

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
TCLP Lead	< 0.10	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010	
TCLP Selenium	< 0.10	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010D	
Thallium	< 3.0	3.0		mg/Kg	1	10/13/25	CPP	SW6010D	
TCLP Metals Digestion	Completed					10/10/25	AK/AK	SW3010A	
Trivalent Chromium	42.3	0.33		mg/kg	1	10/14/25		CALC 6010-7196	
Vanadium	15.5	0.33		mg/Kg	1	10/13/25	CPP	SW6010D	
Zinc	52.8	0.7		mg/Kg	1	10/13/25	CPP	SW6010D	
Percent Solid	88			%		10/09/25	CV	SW846-%Solid	
Corrosivity	Negative			Pos/Neg	1	10/09/25	KG	SW846-Corr	1
Flash Point	>200	200		Degree F	1	10/10/25	G	SW1010B	
Fluoride	< 5.7	5.7		mg/Kg	10	10/09/25	DD/EG	SW9056A	
Chromium, Hex. (SW3060A digestion	< 0.41	0.41		mg/Kg	1	10/14/25	NP	SW7196A	
Ignitability	Passed	140		degree F	1	10/10/25	G	SW846-Ignit	1
Ammonia as Nitrogen	< 82.3	82.3		mg/Kg	1	10/14/25	KDB	E350.1	1
pH at 22C - Soil	8.88	1.00		pH Units	1	10/09/25 23:43	KG	SW846 9045D	
Reactivity Cyanide	< 5	5		mg/Kg	1	10/16/25	NP/GD	SW846 7.3.3.1/90	1
Reactivity Sulfide	< 20	20		mg/Kg	1	10/16/25	NP/GD	SW846 CH7	1
Reactivity	Negative			Pos/Neg	1	10/16/25	NP/GD	SW846-React	1
Redox Potential	161			mV	1	10/09/25	KG	SM2580B-09	1
SPLP Chloride	5.7	1.0		mg/L	1	10/10/25	DD/GD	SW1312/300.0	
SPLP Sulfate	< 3.0	3.0		mg/L	1	10/10/25	DD/GD	SW1312/300.0	1
Total Cyanide (SW9010C Distill.)	< 0.57	0.57		mg/Kg	1	10/15/25	J/I/G	SW9012B	
Mercury Digestion	Completed					10/10/25	ZT/SD	SW7471B	
Soil Extraction for Herbicide	Completed					10/14/25	X/K/SD	SW3546	
NJ EPH Extraction	Completed					10/16/25	C/A	NJDEP 10-08 R3	
Soil Extraction for PCB	Completed					10/16/25	K/S/Z	SW3546	
Soil Extraction for Pesticides	Completed					10/16/25	K/S/Z	SW3546	
Soil Extraction for SVOA	Completed					10/16/25	C/Q	SW3546	
Paint Filter Test	Passed			PASS/FAIL		10/09/25	O	SW9095B	
SPLP Extraction, Wet Chemistry	Completed					10/09/25	AK	SW1312	
TCLP Digestion Mercury	Completed					10/10/25	AK/GW	SW7470A	
TCLP Extraction for Metals	Completed					10/09/25	AK	SW1311	
Total Metals Digest	Completed					10/09/25	P/AG	SW3050B	
NJ EPH Category 2									
Total EPH (C9-C40)	ND	27	27	mg/kg	1	10/17/25	JRB	NJEPH 10-08 R3	1
QA/QC Surrogates									
% COD (surr)	87			%	1	10/17/25	JRB	40 - 140 %	
% Terphenyl (surr)	120			%	1	10/17/25	JRB	40 - 140 %	
Chlorinated Herbicides									
2,4,5-T	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4,5-TP (Silvex)	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4-D	ND	280		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4-DB	ND	1400		ug/Kg	10	10/15/25	JRB	SW8151A	
Dalapon	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
Dicamba	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
Dichloroprop	ND	280		ug/Kg	10	10/15/25	JRB	SW8151A	
Dinoseb	ND	280		ug/Kg	10	10/15/25	JRB	SW8151A	

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-13/14B-2

Phoenix I.D.: CU45774

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates									
% DCAA	100			%	10	10/15/25	JRB	30 - 150 %	
% DCAA (Confirmation)	96			%	10	10/15/25	JRB	30 - 150 %	
Polychlorinated Biphenyls									
PCB-1016	ND	75		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1221	ND	75		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1232	ND	75		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1242	ND	75		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1248	ND	75		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1254	ND	75		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1260	ND	75		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1262	ND	75		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1268	ND	75		ug/Kg	2	10/20/25	SC	SW8082A	
Total PCBs	ND	75		ug/Kg	2	10/20/25	SC	SW8082A	1
QA/QC Surrogates									
% DCBP	70			%	2	10/20/25	SC	30 - 150 %	
% DCBP (Confirmation)	64			%	2	10/20/25	SC	30 - 150 %	
% TCMX	75			%	2	10/20/25	SC	30 - 150 %	
% TCMX (Confirmation)	70			%	2	10/20/25	SC	30 - 150 %	
Pesticides - Soil									
4,4' -DDD	ND	2.3		ug/Kg	2	10/19/25	AW	SW8081B	
4,4' -DDE	ND	2.3		ug/Kg	2	10/19/25	AW	SW8081B	
4,4' -DDT	ND	2.3		ug/Kg	2	10/19/25	AW	SW8081B	
a-BHC	ND	7.5		ug/Kg	2	10/19/25	AW	SW8081B	
a-Chlordane	ND	3.8		ug/Kg	2	10/19/25	AW	SW8081B	
Aldrin	ND	3.8		ug/Kg	2	10/19/25	AW	SW8081B	
b-BHC	ND	7.5		ug/Kg	2	10/19/25	AW	SW8081B	
Chlordane	ND	38		ug/Kg	2	10/19/25	AW	SW8081B	
d-BHC	ND	7.5		ug/Kg	2	10/19/25	AW	SW8081B	
Dieldrin	ND	3.8		ug/Kg	2	10/19/25	AW	SW8081B	
Endosulfan I	ND	7.5		ug/Kg	2	10/19/25	AW	SW8081B	
Endosulfan II	ND	7.5		ug/Kg	2	10/19/25	AW	SW8081B	
Endosulfan sulfate	ND	7.5		ug/Kg	2	10/19/25	AW	SW8081B	
Endrin	ND	7.5		ug/Kg	2	10/19/25	AW	SW8081B	
Endrin aldehyde	ND	7.5		ug/Kg	2	10/19/25	AW	SW8081B	
Endrin ketone	ND	7.5		ug/Kg	2	10/19/25	AW	SW8081B	
g-BHC	ND	1.5		ug/Kg	2	10/19/25	AW	SW8081B	
g-Chlordane	ND	3.8		ug/Kg	2	10/19/25	AW	SW8081B	
Heptachlor	ND	7.5		ug/Kg	2	10/19/25	AW	SW8081B	
Heptachlor epoxide	ND	7.5		ug/Kg	2	10/19/25	AW	SW8081B	
Methoxychlor	ND	38		ug/Kg	2	10/19/25	AW	SW8081B	
Toxaphene	ND	150		ug/Kg	2	10/19/25	AW	SW8081B	
QA/QC Surrogates									
% DCBP	70			%	2	10/19/25	AW	30 - 150 %	
% DCBP (Confirmation)	66			%	2	10/19/25	AW	30 - 150 %	
% TCMX	63			%	2	10/19/25	AW	30 - 150 %	
% TCMX (Confirmation)	63			%	2	10/19/25	AW	30 - 150 %	

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-13/14B-2

Phoenix I.D.: CU45774

Volatiles (TCL)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
1,1,1-Trichloroethane	ND	5.0		ug/kg	1	10/12/25	HM	SW8260D
1,1,2,2-Tetrachloroethane	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
1,1,2-Trichloroethane	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
1,1-Dichloroethane	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
1,1-Dichloroethene	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
1,2,3-Trichlorobenzene	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
1,2,4-Trichlorobenzene	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
1,2,4-Trimethylbenzene	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
1,2-Dibromo-3-chloropropane	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
1,2-Dibromoethane	ND	8.0		ug/kg	1	10/12/25	HM	SW8260D
1,2-Dichlorobenzene	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
1,2-Dichloroethane	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
1,2-Dichloropropane	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
1,3,5-Trimethylbenzene	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
1,3-Dichlorobenzene	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
1,4-Dichlorobenzene	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
2-Hexanone	ND	41		ug/kg	1	10/12/25	HM	SW8260D
4-Methyl-2-pentanone	ND	41		ug/kg	1	10/12/25	HM	SW8260D
Acetone	ND	50		ug/kg	1	10/12/25	HM	SW8260D
Benzene	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
Bromochloromethane	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
Bromodichloromethane	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
Bromoform	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
Bromomethane	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
Carbon Disulfide	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
Carbon tetrachloride	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
Chlorobenzene	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
Chloroethane	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
Chloroform	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
Chloromethane	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
cis-1,2-Dichloroethene	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
cis-1,3-Dichloropropene	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
Cyclohexane	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
Dibromochloromethane	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
Dichlorodifluoromethane	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
Ethylbenzene	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
Isopropylbenzene	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
m&p-Xylene	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
Methyl ethyl ketone	ND	50		ug/kg	1	10/12/25	HM	SW8260D
Methyl t-butyl ether (MTBE)	ND	17		ug/kg	1	10/12/25	HM	SW8260D
Methylacetate	ND	83		ug/kg	1	10/12/25	HM	SW8260D
Methylcyclohexane	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
Methylene chloride	ND	41		ug/kg	1	10/12/25	HM	SW8260D
o-Xylene	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
Styrene	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
Tetrachloroethene	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
Toluene	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D
Total Xylenes	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-13/14B-2

Phoenix I.D.: CU45774

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D	
trans-1,3-Dichloropropene	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D	
Trichloroethene	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D	
Trichlorofluoromethane	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D	
Trichlorotrifluoroethane	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D	
Vinyl chloride	ND	8.3		ug/kg	1	10/12/25	HM	SW8260D	
QA/QC Surrogates									
% 1,2-dichlorobenzene-d4	95			%	1	10/12/25	HM	70 - 130 %	
% Bromofluorobenzene	93			%	1	10/12/25	HM	70 - 130 %	
% Dibromofluoromethane	93			%	1	10/12/25	HM	70 - 130 %	
% Toluene-d8	98			%	1	10/12/25	HM	70 - 130 %	
1,4-dioxane									
1,4-dioxane	ND	100		ug/kg	1	10/12/25	HM	SW8260D	
Volatiles									
1,1,1,2-Tetrachloroethane	ND	33		ug/Kg	1	10/12/25	HM	SW8260D	
Acrolein	ND	8.3		ug/Kg	1	10/12/25	HM	SW8260D	
Acrylonitrile	ND	33		ug/Kg	1	10/12/25	HM	SW8260D	
Tert-butyl alcohol	ND	170		ug/Kg	1	10/12/25	HM	SW8260D	
Vinyl Acetate	ND	83		ug/Kg	1	10/12/25	HM	SW8260D	
Volatile Library Search	Completed					10/13/25	HM		
FACTOR GROUP 2	Completed					10/09/25			
Semivolatiles									
1,1-Biphenyl	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
1,2,4,5-Tetrachlorobenzene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2,2'-Oxybis(1-Chloropropane)	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	1
2,3,4,6-tetrachlorophenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2,4,5-Trichlorophenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2,4,6-Trichlorophenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dichlorophenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dimethylphenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dinitrophenol	ND	590		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dinitrotoluene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2,6-Dinitrotoluene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2-Chloronaphthalene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2-Chlorophenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2-Methylnaphthalene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2-Methylphenol (o-cresol)	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2-Nitroaniline	ND	590		ug/Kg	1	10/17/25	MR	SW8270E	
2-Nitrophenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
3&4-Methylphenol (m&p-cresol)	ND	330		ug/Kg	1	10/17/25	MR	SW8270E	1
3,3'-Dichlorobenzidine	ND	440		ug/Kg	1	10/17/25	MR	SW8270E	
3-Nitroaniline	ND	590		ug/Kg	1	10/17/25	MR	SW8270E	
4,6-Dinitro-2-methylphenol	ND	1100		ug/Kg	1	10/17/25	MR	SW8270E	
4-Bromophenyl phenyl ether	ND	370		ug/Kg	1	10/17/25	MR	SW8270E	
4-Chloro-3-methylphenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
4-Chloroaniline	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-13/14B-2

Phoenix I.D.: CU45774

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
4-Chlorophenyl phenyl ether	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
4-Nitroaniline	ND	590		ug/Kg	1	10/17/25	MR	SW8270E
4-Nitrophenol	ND	1100		ug/Kg	1	10/17/25	MR	SW8270E
Acenaphthene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Acenaphthylene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Acetophenone	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Anthracene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Atrazine	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Benz(a)anthracene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Benzaldehyde	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(a)pyrene	770	260		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(b)fluoranthene	890	260		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(ghi)perylene	860	260		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(k)fluoranthene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Benzyl butyl phthalate	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-chloroethoxy)methane	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-chloroethyl)ether	ND	370		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-ethylhexyl)phthalate	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Caprolactam	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Carbazole	ND	370		ug/Kg	1	10/17/25	MR	SW8270E
Chrysene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Dibenz(a,h)anthracene	ND	190		ug/Kg	1	10/17/25	MR	SW8270E
Dibenzofuran	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Diethyl phthalate	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Dimethylphthalate	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Di-n-butylphthalate	ND	740		ug/Kg	1	10/17/25	MR	SW8270E
Di-n-octylphthalate	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Fluoranthene	450	260		ug/Kg	1	10/17/25	MR	SW8270E
Fluorene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorobenzene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorobutadiene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorocyclopentadiene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Hexachloroethane	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Indeno(1,2,3-cd)pyrene	830	260		ug/Kg	1	10/17/25	MR	SW8270E
Isophorone	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Naphthalene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Nitrobenzene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodimethylamine	ND	370		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodi-n-propylamine	ND	170		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodiphenylamine	ND	370		ug/Kg	1	10/17/25	MR	SW8270E
Pentachlorophenol	ND	370		ug/Kg	1	10/17/25	MR	SW8270E
Phenanthrene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Phenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Pyrene	430	260		ug/Kg	1	10/17/25	MR	SW8270E
QA/QC Surrogates								
% 2,4,6-Tribromophenol	91			%	1	10/17/25	MR	30 - 130 %
% 2-Fluorobiphenyl	70			%	1	10/17/25	MR	30 - 130 %
% 2-Fluorophenol	77			%	1	10/17/25	MR	30 - 130 %
% Nitrobenzene-d5	74			%	1	10/17/25	MR	30 - 130 %

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-13/14B-2

Phoenix I.D.: CU45774

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
% Phenol-d5	79			%	1	10/17/25	MR	30 - 130 %
% Terphenyl-d14	77			%	1	10/17/25	MR	30 - 130 %
1,2-Diphenylhydrazine	ND	370		ug/Kg	1	10/17/25	MR	SW8270E
Aniline	ND	370		ug/Kg	1	10/17/25	MR	SW8270E
Benzoic Acid	ND	370		ug/Kg	1	10/17/25	MR	SW8270E
Benzyl Alcohol	ND	370		ug/Kg	1	10/17/25	MR	SW8270E
Semivolatile Library Search	Completed					10/17/25	MR	

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Corrosivity is based solely on the pH analysis performed above.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

Ignitability is based solely on the results of the closed cup flashpoint analysis performed above. Passed is >140 degree F.

Paint Filter Test:
Pass = no free liquids were detected. Fail = free liquids were detected.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Cyanide. This method is no longer listed in the current version of SW-846.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Sulfide. This method is no longer listed in the current version of SW-846.

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Hexavalent Chromium:
This sample is in a reducing state.

Semi-Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 22, 2025
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

October 22, 2025

FOR: Attn: Joel Rogers
Factor Group Inc
42 Crest Dr
South Orange, NJ 07079-1039

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		10/08/25	14:15
Location Code:	FACTOR	Received by:	SW	10/08/25	18:35
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	00379				

Laboratory Data

SDG ID: GCU45773
Phoenix ID: CU45775

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-14A-1

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.33	0.33		mg/Kg	1	10/13/25	CPP	SW6010D
Aluminum	4390	4.9		mg/Kg	1	10/13/25	CPP	SW6010D
Arsenic	3.31	0.65		mg/Kg	1	10/13/25	CPP	SW6010D
Barium	28.4	0.33		mg/Kg	1	10/13/25	CPP	SW6010D
Beryllium	0.27	0.26		mg/Kg	1	10/13/25	CPP	SW6010D
Boron	21.1	1.3		mg/Kg	1	10/13/25	CPP	SW6010D
Calcium	6130	4.9		mg/Kg	1	10/13/25	CPP	SW6010D
Cadmium	0.37	0.33		mg/Kg	1	10/13/25	CPP	SW6010D
Cobalt	25.8	0.33		mg/Kg	1	10/13/25	CPP	SW6010D
Chromium	29.1	0.33		mg/Kg	1	10/13/25	CPP	SW6010D
Copper	27.0	0.7		mg/kg	1	10/13/25	CPP	SW6010D
Iron	20000	4.9		mg/Kg	1	10/13/25	CPP	SW6010D
Mercury	0.12	0.03		mg/Kg	2	10/13/25	AJ1	SW7471B
Potassium	846	49		mg/Kg	10	10/13/25	CPP	SW6010D
Magnesium	47900	49		mg/Kg	10	10/13/25	CPP	SW6010D
Manganese	253	0.33		mg/Kg	1	10/13/25	TH	SW6010D
Molybdenum	0.42	0.33		mg/Kg	1	10/13/25	CPP	SW6010D
Sodium	613	4.9		mg/Kg	1	10/13/25	CPP	SW6010D
Nickel	522	3.3		mg/Kg	10	10/13/25	TH	SW6010D
Lead	54.5	0.33		mg/Kg	1	10/13/25	CPP	SW6010D
Antimony	< 3.3	3.3		mg/Kg	1	10/13/25	CPP	SW6010D
Selenium	< 1.3	1.3		mg/Kg	1	10/13/25	CPP	SW6010D
TCLP Silver	< 0.10	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010
TCLP Arsenic	< 0.10	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010
TCLP Barium	0.39	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010
TCLP Cadmium	< 0.050	0.050		mg/L	1	10/10/25	CPP	SW846 1311/6010
TCLP Chromium	< 0.10	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010
TCLP Mercury	< 0.0002	0.0002		mg/L	1	10/10/25	AJ1	SW846 1311/7470

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-14A-1

Phoenix I.D.: CU45775

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
TCLP Lead	0.27	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010	
TCLP Selenium	< 0.10	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010D	
Thallium	< 2.9	2.9		mg/Kg	1	10/13/25	CPP	SW6010D	
TCLP Metals Digestion	Completed					10/10/25	AK/AK	SW3010A	
Trivalent Chromium	29.1	0.33		mg/kg	1	10/14/25		CALC 6010-7196	
Vanadium	13.5	0.33		mg/Kg	1	10/13/25	CPP	SW6010D	
Zinc	75.9	0.7		mg/Kg	1	10/13/25	CPP	SW6010D	
Percent Solid	91			%		10/09/25	CV	SW846-%Solid	
Corrosivity	Negative			Pos/Neg	1	10/09/25	KG	SW846-Corr	1
Flash Point	>200	200		Degree F	1	10/10/25	G	SW1010B	
Fluoride	< 5.5	5.5		mg/Kg	10	10/09/25	DD/EG	SW9056A	
Chromium, Hex. (SW3060A digestion	< 0.42	0.42		mg/Kg	1	10/14/25	NP	SW7196A	
Ignitability	Passed	140		degree F	1	10/10/25	G	SW846-Ignit	1
Ammonia as Nitrogen	122	67.1		mg/Kg	1	10/14/25	KDB	E350.1	1
pH at 22C - Soil	10.3	1.00		pH Units	1	10/09/25 23:43	KG	SW846 9045D	
Reactivity Cyanide	< 5	5		mg/Kg	1	10/16/25	NP/GD	SW846 7.3.3.1/90	1
Reactivity Sulfide	< 20	20		mg/Kg	1	10/16/25	NP/GD	SW846 CH7	1
Reactivity	Negative			Pos/Neg	1	10/16/25	NP/GD	SW846-React	1
Redox Potential	139			mV	1	10/09/25	KG	SM2580B-09	1
SPLP Chloride	2.9	1.0		mg/L	1	10/10/25	DD/GD	SW1312/300.0	
SPLP Sulfate	5.6	3.0		mg/L	1	10/10/25	DD/GD	SW1312/300.0	1
Total Cyanide (SW9010C Distill.)	< 0.55	0.55		mg/Kg	1	10/15/25	J/I/G	SW9012B	
Mercury Digestion	Completed					10/10/25	ZT/SD	SW7471B	
Soil Extraction for Herbicide	Completed					10/14/25	X/K/SD	SW3546	
NJ EPH Extraction	Completed					10/16/25	C/A	NJDEP 10-08 R3	
Soil Extraction for PCB	Completed					10/16/25	K/S/Z	SW3546	
Soil Extraction for Pesticides	Completed					10/16/25	K/S/Z	SW3546	
Soil Extraction for SVOA	Completed					10/16/25	C/Q	SW3546	
Paint Filter Test	Passed			PASS/FAIL		10/09/25	O	SW9095B	
SPLP Extraction, Wet Chemistry	Completed					10/09/25	AK	SW1312	
TCLP Digestion Mercury	Completed					10/10/25	AK/GW	SW7470A	
TCLP Extraction for Metals	Completed					10/09/25	AK	SW1311	
Total Metals Digest	Completed					10/09/25	P/AG	SW3050B	
NJ EPH Category 2									
Total EPH (C9-C40)	ND	130	130	mg/kg	5	10/17/25	JRB	NJEPH 10-08 R3	1
QA/QC Surrogates									
% COD (surr)	68			%	5	10/17/25	JRB	40 - 140 %	
% Terphenyl (surr)	94			%	5	10/17/25	JRB	40 - 140 %	
Chlorinated Herbicides									
2,4,5-T	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4,5-TP (Silvex)	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4-D	ND	270		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4-DB	ND	1400		ug/Kg	10	10/15/25	JRB	SW8151A	
Dalapon	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
Dicamba	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
Dichloroprop	ND	270		ug/Kg	10	10/15/25	JRB	SW8151A	
Dinoseb	ND	270		ug/Kg	10	10/15/25	JRB	SW8151A	

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-14A-1

Phoenix I.D.: CU45775

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates									
% DCAA	103			%	10	10/15/25	JRB	30 - 150 %	
% DCAA (Confirmation)	95			%	10	10/15/25	JRB	30 - 150 %	
Polychlorinated Biphenyls									
PCB-1016	ND	71		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1221	ND	71		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1232	ND	71		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1242	ND	71		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1248	ND	71		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1254	ND	71		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1260	ND	71		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1262	ND	71		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1268	ND	71		ug/Kg	2	10/20/25	SC	SW8082A	
Total PCBs	ND	71		ug/Kg	2	10/20/25	SC	SW8082A	1
QA/QC Surrogates									
% DCBP	73			%	2	10/20/25	SC	30 - 150 %	
% DCBP (Confirmation)	67			%	2	10/20/25	SC	30 - 150 %	
% TCMX	76			%	2	10/20/25	SC	30 - 150 %	
% TCMX (Confirmation)	72			%	2	10/20/25	SC	30 - 150 %	
Pesticides - Soil									
4,4' -DDD	ND	2.1		ug/Kg	2	10/19/25	AW	SW8081B	
4,4' -DDE	5.8	2.1		ug/Kg	2	10/19/25	AW	SW8081B	
4,4' -DDT	ND	2.1		ug/Kg	2	10/19/25	AW	SW8081B	
a-BHC	ND	7.1		ug/Kg	2	10/19/25	AW	SW8081B	
a-Chlordane	ND	3.6		ug/Kg	2	10/19/25	AW	SW8081B	
Aldrin	ND	3.6		ug/Kg	2	10/19/25	AW	SW8081B	
b-BHC	ND	7.1		ug/Kg	2	10/19/25	AW	SW8081B	
Chlordane	ND	36		ug/Kg	2	10/19/25	AW	SW8081B	
d-BHC	ND	7.1		ug/Kg	2	10/19/25	AW	SW8081B	
Dieldrin	ND	3.6		ug/Kg	2	10/19/25	AW	SW8081B	
Endosulfan I	ND	7.1		ug/Kg	2	10/19/25	AW	SW8081B	
Endosulfan II	ND	7.1		ug/Kg	2	10/19/25	AW	SW8081B	
Endosulfan sulfate	ND	7.1		ug/Kg	2	10/19/25	AW	SW8081B	
Endrin	ND	7.1		ug/Kg	2	10/19/25	AW	SW8081B	
Endrin aldehyde	ND	7.1		ug/Kg	2	10/19/25	AW	SW8081B	
Endrin ketone	ND	7.1		ug/Kg	2	10/19/25	AW	SW8081B	
g-BHC	ND	1.4		ug/Kg	2	10/19/25	AW	SW8081B	
g-Chlordane	ND	3.6		ug/Kg	2	10/19/25	AW	SW8081B	
Heptachlor	ND	7.1		ug/Kg	2	10/19/25	AW	SW8081B	
Heptachlor epoxide	ND	7.1		ug/Kg	2	10/19/25	AW	SW8081B	
Methoxychlor	ND	36		ug/Kg	2	10/19/25	AW	SW8081B	
Toxaphene	ND	140		ug/Kg	2	10/19/25	AW	SW8081B	
QA/QC Surrogates									
% DCBP	64			%	2	10/19/25	AW	30 - 150 %	
% DCBP (Confirmation)	61			%	2	10/19/25	AW	30 - 150 %	
% TCMX	70			%	2	10/19/25	AW	30 - 150 %	
% TCMX (Confirmation)	65			%	2	10/19/25	AW	30 - 150 %	

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-14A-1

Phoenix I.D.: CU45775

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Volatiles (TCL)								
1,1,1-Trichloroethane	ND	5.0		ug/kg	1	10/12/25	HM	SW8260D
1,1,2,2-Tetrachloroethane	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
1,1,2-Trichloroethane	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
1,1-Dichloroethane	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
1,1-Dichloroethene	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
1,2,3-Trichlorobenzene	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
1,2,4-Trichlorobenzene	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
1,2,4-Trimethylbenzene	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
1,2-Dibromo-3-chloropropane	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
1,2-Dibromoethane	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
1,2-Dichlorobenzene	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
1,2-Dichloroethane	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
1,2-Dichloropropane	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
1,3,5-Trimethylbenzene	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
1,3-Dichlorobenzene	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
1,4-Dichlorobenzene	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
2-Hexanone	ND	29		ug/kg	1	10/12/25	HM	SW8260D
4-Methyl-2-pentanone	ND	29		ug/kg	1	10/12/25	HM	SW8260D
Acetone	ND	50		ug/kg	1	10/12/25	HM	SW8260D
Benzene	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
Bromochloromethane	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
Bromodichloromethane	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
Bromoform	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
Bromomethane	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
Carbon Disulfide	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
Carbon tetrachloride	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
Chlorobenzene	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
Chloroethane	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
Chloroform	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
Chloromethane	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
cis-1,2-Dichloroethene	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
cis-1,3-Dichloropropene	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
Cyclohexane	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
Dibromochloromethane	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
Dichlorodifluoromethane	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
Ethylbenzene	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
Isopropylbenzene	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
m&p-Xylene	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
Methyl ethyl ketone	ND	35		ug/kg	1	10/12/25	HM	SW8260D
Methyl t-butyl ether (MTBE)	ND	12		ug/kg	1	10/12/25	HM	SW8260D
Methylacetate	ND	58		ug/kg	1	10/12/25	HM	SW8260D
Methylcyclohexane	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
Methylene chloride	ND	29		ug/kg	1	10/12/25	HM	SW8260D
o-Xylene	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
Styrene	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
Tetrachloroethene	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
Toluene	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D
Total Xylenes	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D

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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D	
trans-1,3-Dichloropropene	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D	
Trichloroethene	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D	
Trichlorofluoromethane	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D	
Trichlorotrifluoroethane	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D	
Vinyl chloride	ND	5.8		ug/kg	1	10/12/25	HM	SW8260D	
QA/QC Surrogates									
% 1,2-dichlorobenzene-d4	94			%	1	10/12/25	HM	70 - 130 %	
% Bromofluorobenzene	92			%	1	10/12/25	HM	70 - 130 %	
% Dibromofluoromethane	92			%	1	10/12/25	HM	70 - 130 %	
% Toluene-d8	98			%	1	10/12/25	HM	70 - 130 %	
1,4-dioxane									
1,4-dioxane	ND	87		ug/kg	1	10/12/25	HM	SW8260D	
Volatiles									
1,1,1,2-Tetrachloroethane	ND	23		ug/Kg	1	10/12/25	HM	SW8260D	
Acrolein	ND	5.8		ug/Kg	1	10/12/25	HM	SW8260D	
Acrylonitrile	ND	23		ug/Kg	1	10/12/25	HM	SW8260D	
Tert-butyl alcohol	ND	120		ug/Kg	1	10/12/25	HM	SW8260D	
Vinyl Acetate	ND	58		ug/Kg	1	10/12/25	HM	SW8260D	
Volatile Library Search	Completed					10/13/25	HM		
FACTOR GROUP 2	Completed					10/09/25			
Semivolatiles									
1,1-Biphenyl	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
1,2,4,5-Tetrachlorobenzene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2,2'-Oxybis(1-Chloropropane)	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	1
2,3,4,6-tetrachlorophenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2,4,5-Trichlorophenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2,4,6-Trichlorophenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dichlorophenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dimethylphenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dinitrophenol	ND	580		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dinitrotoluene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2,6-Dinitrotoluene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2-Chloronaphthalene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2-Chlorophenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2-Methylnaphthalene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2-Methylphenol (o-cresol)	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2-Nitroaniline	ND	580		ug/Kg	1	10/17/25	MR	SW8270E	
2-Nitrophenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
3&4-Methylphenol (m&p-cresol)	ND	330		ug/Kg	1	10/17/25	MR	SW8270E	1
3,3'-Dichlorobenzidine	ND	440		ug/Kg	1	10/17/25	MR	SW8270E	
3-Nitroaniline	ND	580		ug/Kg	1	10/17/25	MR	SW8270E	
4,6-Dinitro-2-methylphenol	ND	1100		ug/Kg	1	10/17/25	MR	SW8270E	
4-Bromophenyl phenyl ether	ND	360		ug/Kg	1	10/17/25	MR	SW8270E	
4-Chloro-3-methylphenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
4-Chloroaniline	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	

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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
4-Chlorophenyl phenyl ether	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
4-Nitroaniline	ND	580		ug/Kg	1	10/17/25	MR	SW8270E
4-Nitrophenol	ND	1100		ug/Kg	1	10/17/25	MR	SW8270E
Acenaphthene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Acenaphthylene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Acetophenone	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Anthracene	340	250		ug/Kg	1	10/17/25	MR	SW8270E
Atrazine	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Benz(a)anthracene	1100	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzaldehyde	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(a)pyrene	2000	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(b)fluoranthene	2300	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(ghi)perylene	2000	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(k)fluoranthene	730	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzyl butyl phthalate	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-chloroethoxy)methane	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-chloroethyl)ether	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-ethylhexyl)phthalate	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Caprolactam	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Carbazole	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Chrysene	1100	250		ug/Kg	1	10/17/25	MR	SW8270E
Dibenz(a,h)anthracene	330	180		ug/Kg	1	10/17/25	MR	SW8270E
Dibenzofuran	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Diethyl phthalate	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Dimethylphthalate	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Di-n-butylphthalate	ND	730		ug/Kg	1	10/17/25	MR	SW8270E
Di-n-octylphthalate	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Fluoranthene	2000	250		ug/Kg	1	10/17/25	MR	SW8270E
Fluorene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorobenzene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorobutadiene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorocyclopentadiene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Hexachloroethane	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Indeno(1,2,3-cd)pyrene	1800	250		ug/Kg	1	10/17/25	MR	SW8270E
Isophorone	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Naphthalene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Nitrobenzene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodimethylamine	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodi-n-propylamine	ND	170		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodiphenylamine	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Pentachlorophenol	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Phenanthrene	810	250		ug/Kg	1	10/17/25	MR	SW8270E
Phenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Pyrene	2000	250		ug/Kg	1	10/17/25	MR	SW8270E
QA/QC Surrogates								
% 2,4,6-Tribromophenol	66			%	1	10/17/25	MR	30 - 130 %
% 2-Fluorobiphenyl	59			%	1	10/17/25	MR	30 - 130 %
% 2-Fluorophenol	68			%	1	10/17/25	MR	30 - 130 %
% Nitrobenzene-d5	67			%	1	10/17/25	MR	30 - 130 %

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-14A-1

Phoenix I.D.: CU45775

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
% Phenol-d5	69			%	1	10/17/25	MR	30 - 130 %
% Terphenyl-d14	70			%	1	10/17/25	MR	30 - 130 %
1,2-Diphenylhydrazine	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Aniline	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Benzoic Acid	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Benzyl Alcohol	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Semivolatile Library Search	Completed					10/17/25	MR	

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Corrosivity is based solely on the pH analysis performed above.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

Ignitability is based solely on the results of the closed cup flashpoint analysis performed above. Passed is >140 degree F.

Paint Filter Test:
Pass = no free liquids were detected. Fail = free liquids were detected.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Cyanide. This method is no longer listed in the current version of SW-846.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Sulfide. This method is no longer listed in the current version of SW-846.

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Hexavalent Chromium:
This sample is in a reducing state.

Semi-Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 22, 2025
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

October 22, 2025

FOR: Attn: Joel Rogers
Factor Group Inc
42 Crest Dr
South Orange, NJ 07079-1039

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		10/08/25	14:45
Location Code:	FACTOR	Received by:	SW	10/08/25	18:35
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	00379				

Laboratory Data

SDG ID: GCU45773
Phoenix ID: CU45776

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-14A-2

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.35	0.35		mg/Kg	1	10/13/25	CPP	SW6010D
Aluminum	5360	5.3		mg/Kg	1	10/13/25	CPP	SW6010D
Arsenic	2.29	0.70		mg/Kg	1	10/13/25	CPP	SW6010D
Barium	32.5	0.35		mg/Kg	1	10/13/25	CPP	SW6010D
Beryllium	0.29	0.28		mg/Kg	1	10/13/25	CPP	SW6010D
Boron	4.9	1.4		mg/Kg	1	10/13/25	CPP	SW6010D
Calcium	4680	5.3		mg/Kg	1	10/13/25	CPP	SW6010D
Cadmium	< 0.35	0.35		mg/Kg	1	10/13/25	CPP	SW6010D
Cobalt	12.4	0.35		mg/Kg	1	10/13/25	CPP	SW6010D
Chromium	23.2	0.35		mg/Kg	1	10/13/25	CPP	SW6010D
Copper	28.8	0.7		mg/kg	1	10/13/25	CPP	SW6010D
Iron	13800	5.3		mg/Kg	1	10/13/25	CPP	SW6010D
Mercury	0.03	0.03		mg/Kg	2	10/13/25	AJ1	SW7471B
Potassium	1030	53		mg/Kg	10	10/13/25	CPP	SW6010D
Magnesium	17400	5.3		mg/Kg	1	10/13/25	CPP	SW6010D
Manganese	221	0.35		mg/Kg	1	10/13/25	TH	SW6010D
Molybdenum	< 0.35	0.35		mg/Kg	1	10/13/25	CPP	SW6010D
Sodium	535	5.3		mg/Kg	1	10/13/25	CPP	SW6010D
Nickel	180	3.5		mg/Kg	10	10/13/25	TH	SW6010D
Lead	35.9	0.35		mg/Kg	1	10/13/25	CPP	SW6010D
Antimony	< 3.5	3.5		mg/Kg	1	10/13/25	CPP	SW6010D
Selenium	< 1.4	1.4		mg/Kg	1	10/13/25	CPP	SW6010D
TCLP Silver	< 0.10	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010
TCLP Arsenic	< 0.10	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010
TCLP Barium	0.23	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010
TCLP Cadmium	< 0.050	0.050		mg/L	1	10/10/25	CPP	SW846 1311/6010
TCLP Chromium	< 0.10	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010
TCLP Mercury	< 0.0002	0.0002		mg/L	1	10/10/25	AJ1	SW846 1311/7470

Ver 1

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-14A-2

Phoenix I.D.: CU45776

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
TCLP Lead	< 0.10	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010	
TCLP Selenium	< 0.10	0.10		mg/L	1	10/10/25	CPP	SW846 1311/6010D	
Thallium	< 3.2	3.2		mg/Kg	1	10/13/25	CPP	SW6010D	
TCLP Metals Digestion	Completed					10/10/25	AK/AK	SW3010A	
Trivalent Chromium	23.2	0.35		mg/kg	1	10/14/25		CALC 6010-7196	
Vanadium	16.0	0.35		mg/Kg	1	10/13/25	CPP	SW6010D	
Zinc	42.0	0.7		mg/Kg	1	10/13/25	CPP	SW6010D	
Percent Solid	89			%		10/09/25	CV	SW846-%Solid	
Corrosivity	Negative			Pos/Neg	1	10/09/25	KG	SW846-Corr	1
Flash Point	>200	200		Degree F	1	10/10/25	G	SW1010B	
Fluoride	< 5.6	5.6		mg/Kg	10	10/09/25	DD/EG	SW9056A	
Chromium, Hex. (SW3060A digestion	< 0.42	0.42		mg/Kg	1	10/14/25	NP	SW7196A	
Ignitability	Passed	140		degree F	1	10/10/25	G	SW846-Ignit	1
Ammonia as Nitrogen	313	80.7		mg/Kg	1	10/14/25	KDB	E350.1	1
pH at 22C - Soil	8.91	1.00		pH Units	1	10/09/25 23:43	KG	SW846 9045D	
Reactivity Cyanide	< 5	5		mg/Kg	1	10/16/25	NP/GD	SW846 7.3.3.1/90	1
Reactivity Sulfide	< 20	20		mg/Kg	1	10/16/25	NP/GD	SW846 CH7	1
Reactivity	Negative			Pos/Neg	1	10/16/25	NP/GD	SW846-React	1
Redox Potential	167			mV	1	10/09/25	KG	SM2580B-09	1
SPLP Chloride	6.5	1.0		mg/L	1	10/10/25	DD/GD	SW1312/300.0	
SPLP Sulfate	< 3.0	3.0		mg/L	1	10/10/25	DD/GD	SW1312/300.0	1
Total Cyanide (SW9010C Distill.)	< 0.56	0.56		mg/Kg	1	10/15/25	J/I/G	SW9012B	
Mercury Digestion	Completed					10/10/25	ZT/SD	SW7471B	
Soil Extraction for Herbicide	Completed					10/14/25	X/K/SD	SW3546	
NJ EPH Extraction	Completed					10/16/25	C/A	NJDEP 10-08 R3	
Soil Extraction for PCB	Completed					10/16/25	K/S/Z	SW3546	
Soil Extraction for Pesticides	Completed					10/16/25	K/S/Z	SW3546	
Soil Extraction for SVOA	Completed					10/16/25	C/Q	SW3546	
Paint Filter Test	Passed			PASS/FAIL		10/09/25	O	SW9095B	
SPLP Extraction, Wet Chemistry	Completed					10/09/25	AK	SW1312	
TCLP Digestion Mercury	Completed					10/10/25	AK/GW	SW7470A	
TCLP Extraction for Metals	Completed					10/09/25	AK	SW1311	
Total Metals Digest	Completed					10/09/25	P/AG	SW3050B	
NJ EPH Category 2									
Total EPH (C9-C40)	ND	27	27	mg/kg	1	10/17/25	JRB	NJEPH 10-08 R3	1
QA/QC Surrogates									
% COD (surr)	81			%	1	10/17/25	JRB	40 - 140 %	
% Terphenyl (surr)	110			%	1	10/17/25	JRB	40 - 140 %	
Chlorinated Herbicides									
2,4,5-T	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4,5-TP (Silvex)	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4-D	ND	280		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4-DB	ND	1400		ug/Kg	10	10/15/25	JRB	SW8151A	
Dalapon	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
Dicamba	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
Dichloroprop	ND	280		ug/Kg	10	10/15/25	JRB	SW8151A	
Dinoseb	ND	280		ug/Kg	10	10/15/25	JRB	SW8151A	

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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates									
% DCAA	106			%	10	10/15/25	JRB	30 - 150 %	
% DCAA (Confirmation)	95			%	10	10/15/25	JRB	30 - 150 %	
Polychlorinated Biphenyls									
PCB-1016	ND	73		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1221	ND	73		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1232	ND	73		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1242	ND	73		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1248	ND	73		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1254	ND	73		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1260	ND	73		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1262	ND	73		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1268	ND	73		ug/Kg	2	10/20/25	SC	SW8082A	
Total PCBs	ND	73		ug/Kg	2	10/20/25	SC	SW8082A	1
QA/QC Surrogates									
% DCBP	71			%	2	10/20/25	SC	30 - 150 %	
% DCBP (Confirmation)	66			%	2	10/20/25	SC	30 - 150 %	
% TCMX	73			%	2	10/20/25	SC	30 - 150 %	
% TCMX (Confirmation)	69			%	2	10/20/25	SC	30 - 150 %	
Pesticides - Soil									
4,4' -DDD	ND	2.2		ug/Kg	2	10/19/25	AW	SW8081B	
4,4' -DDE	ND	2.2		ug/Kg	2	10/19/25	AW	SW8081B	
4,4' -DDT	ND	2.2		ug/Kg	2	10/19/25	AW	SW8081B	
a-BHC	ND	7.3		ug/Kg	2	10/19/25	AW	SW8081B	
a-Chlordane	ND	3.7		ug/Kg	2	10/19/25	AW	SW8081B	
Aldrin	ND	3.7		ug/Kg	2	10/19/25	AW	SW8081B	
b-BHC	ND	7.3		ug/Kg	2	10/19/25	AW	SW8081B	
Chlordane	ND	37		ug/Kg	2	10/19/25	AW	SW8081B	
d-BHC	ND	7.3		ug/Kg	2	10/19/25	AW	SW8081B	
Dieldrin	ND	3.7		ug/Kg	2	10/19/25	AW	SW8081B	
Endosulfan I	ND	7.3		ug/Kg	2	10/19/25	AW	SW8081B	
Endosulfan II	ND	7.3		ug/Kg	2	10/19/25	AW	SW8081B	
Endosulfan sulfate	ND	7.3		ug/Kg	2	10/19/25	AW	SW8081B	
Endrin	ND	7.3		ug/Kg	2	10/19/25	AW	SW8081B	
Endrin aldehyde	ND	7.3		ug/Kg	2	10/19/25	AW	SW8081B	
Endrin ketone	ND	7.3		ug/Kg	2	10/19/25	AW	SW8081B	
g-BHC	ND	1.5		ug/Kg	2	10/19/25	AW	SW8081B	
g-Chlordane	ND	3.7		ug/Kg	2	10/19/25	AW	SW8081B	
Heptachlor	ND	7.3		ug/Kg	2	10/19/25	AW	SW8081B	
Heptachlor epoxide	ND	7.3		ug/Kg	2	10/19/25	AW	SW8081B	
Methoxychlor	ND	37		ug/Kg	2	10/19/25	AW	SW8081B	
Toxaphene	ND	150		ug/Kg	2	10/19/25	AW	SW8081B	
QA/QC Surrogates									
% DCBP	63			%	2	10/19/25	AW	30 - 150 %	
% DCBP (Confirmation)	64			%	2	10/19/25	AW	30 - 150 %	
% TCMX	61			%	2	10/19/25	AW	30 - 150 %	
% TCMX (Confirmation)	54			%	2	10/19/25	AW	30 - 150 %	

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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Volatiles (TCL)								
1,1,1-Trichloroethane	ND	5.0		ug/kg	1	10/12/25	HM	SW8260D
1,1,2,2-Tetrachloroethane	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
1,1,2-Trichloroethane	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
1,1-Dichloroethane	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
1,1-Dichloroethene	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
1,2,3-Trichlorobenzene	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
1,2,4-Trichlorobenzene	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
1,2,4-Trimethylbenzene	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
1,2-Dibromo-3-chloropropane	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
1,2-Dibromoethane	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
1,2-Dichlorobenzene	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
1,2-Dichloroethane	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
1,2-Dichloropropane	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
1,3,5-Trimethylbenzene	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
1,3-Dichlorobenzene	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
1,4-Dichlorobenzene	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
2-Hexanone	ND	28		ug/kg	1	10/12/25	HM	SW8260D
4-Methyl-2-pentanone	ND	28		ug/kg	1	10/12/25	HM	SW8260D
Acetone	ND	50		ug/kg	1	10/12/25	HM	SW8260D
Benzene	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
Bromochloromethane	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
Bromodichloromethane	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
Bromoform	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
Bromomethane	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
Carbon Disulfide	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
Carbon tetrachloride	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
Chlorobenzene	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
Chloroethane	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
Chloroform	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
Chloromethane	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
cis-1,2-Dichloroethene	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
cis-1,3-Dichloropropene	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
Cyclohexane	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
Dibromochloromethane	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
Dichlorodifluoromethane	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
Ethylbenzene	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
Isopropylbenzene	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
m&p-Xylene	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
Methyl ethyl ketone	ND	34		ug/kg	1	10/12/25	HM	SW8260D
Methyl t-butyl ether (MTBE)	ND	11		ug/kg	1	10/12/25	HM	SW8260D
Methylacetate	ND	56		ug/kg	1	10/12/25	HM	SW8260D
Methylcyclohexane	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
Methylene chloride	ND	28		ug/kg	1	10/12/25	HM	SW8260D
o-Xylene	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
Styrene	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
Tetrachloroethene	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
Toluene	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D
Total Xylenes	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D

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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D	
trans-1,3-Dichloropropene	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D	
Trichloroethene	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D	
Trichlorofluoromethane	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D	
Trichlorotrifluoroethane	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D	
Vinyl chloride	ND	5.6		ug/kg	1	10/12/25	HM	SW8260D	
QA/QC Surrogates									
% 1,2-dichlorobenzene-d4	96			%	1	10/12/25	HM	70 - 130 %	
% Bromofluorobenzene	93			%	1	10/12/25	HM	70 - 130 %	
% Dibromofluoromethane	95			%	1	10/12/25	HM	70 - 130 %	
% Toluene-d8	99			%	1	10/12/25	HM	70 - 130 %	
1,4-dioxane									
1,4-dioxane	ND	84		ug/kg	1	10/12/25	HM	SW8260D	
Volatiles									
1,1,1,2-Tetrachloroethane	ND	22		ug/Kg	1	10/12/25	HM	SW8260D	
Acrolein	ND	5.6		ug/Kg	1	10/12/25	HM	SW8260D	
Acrylonitrile	ND	22		ug/Kg	1	10/12/25	HM	SW8260D	
Tert-butyl alcohol	ND	110		ug/Kg	1	10/12/25	HM	SW8260D	
Vinyl Acetate	ND	56		ug/Kg	1	10/12/25	HM	SW8260D	
Volatile Library Search	Completed					10/13/25	HM		
FACTOR GROUP 2	Completed					10/09/25			
Semivolatiles									
1,1-Biphenyl	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
1,2,4,5-Tetrachlorobenzene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2,2'-Oxybis(1-Chloropropane)	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	1
2,3,4,6-tetrachlorophenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2,4,5-Trichlorophenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2,4,6-Trichlorophenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dichlorophenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dimethylphenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dinitrophenol	ND	590		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dinitrotoluene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2,6-Dinitrotoluene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2-Chloronaphthalene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2-Chlorophenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2-Methylnaphthalene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2-Methylphenol (o-cresol)	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2-Nitroaniline	ND	590		ug/Kg	1	10/17/25	MR	SW8270E	
2-Nitrophenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
3&4-Methylphenol (m&p-cresol)	ND	330		ug/Kg	1	10/17/25	MR	SW8270E	1
3,3'-Dichlorobenzidine	ND	440		ug/Kg	1	10/17/25	MR	SW8270E	
3-Nitroaniline	ND	590		ug/Kg	1	10/17/25	MR	SW8270E	
4,6-Dinitro-2-methylphenol	ND	1100		ug/Kg	1	10/17/25	MR	SW8270E	
4-Bromophenyl phenyl ether	ND	370		ug/Kg	1	10/17/25	MR	SW8270E	
4-Chloro-3-methylphenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
4-Chloroaniline	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	

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4-Chlorophenyl phenyl ether	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
4-Nitroaniline	ND	590		ug/Kg	1	10/17/25	MR	SW8270E
4-Nitrophenol	ND	1100		ug/Kg	1	10/17/25	MR	SW8270E
Acenaphthene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Acenaphthylene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Acetophenone	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Anthracene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Atrazine	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Benz(a)anthracene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Benzaldehyde	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(a)pyrene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(b)fluoranthene	320	260		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(ghi)perylene	260	260		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(k)fluoranthene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Benzyl butyl phthalate	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-chloroethoxy)methane	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-chloroethyl)ether	ND	370		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-ethylhexyl)phthalate	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Caprolactam	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Carbazole	ND	370		ug/Kg	1	10/17/25	MR	SW8270E
Chrysene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Dibenz(a,h)anthracene	ND	180		ug/Kg	1	10/17/25	MR	SW8270E
Dibenzofuran	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Diethyl phthalate	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Dimethylphthalate	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Di-n-butylphthalate	ND	730		ug/Kg	1	10/17/25	MR	SW8270E
Di-n-octylphthalate	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Fluoranthene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Fluorene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorobenzene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorobutadiene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorocyclopentadiene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Hexachloroethane	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Indeno(1,2,3-cd)pyrene	260	260		ug/Kg	1	10/17/25	MR	SW8270E
Isophorone	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Naphthalene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Nitrobenzene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodimethylamine	ND	370		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodi-n-propylamine	ND	170		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodiphenylamine	ND	370		ug/Kg	1	10/17/25	MR	SW8270E
Pentachlorophenol	ND	370		ug/Kg	1	10/17/25	MR	SW8270E
Phenanthrene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Phenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Pyrene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
QA/QC Surrogates								
% 2,4,6-Tribromophenol	79			%	1	10/17/25	MR	30 - 130 %
% 2-Fluorobiphenyl	59			%	1	10/17/25	MR	30 - 130 %
% 2-Fluorophenol	65			%	1	10/17/25	MR	30 - 130 %
% Nitrobenzene-d5	63			%	1	10/17/25	MR	30 - 130 %

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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
% Phenol-d5	65			%	1	10/17/25	MR	30 - 130 %
% Terphenyl-d14	61			%	1	10/17/25	MR	30 - 130 %
1,2-Diphenylhydrazine	ND	370		ug/Kg	1	10/17/25	MR	SW8270E
Aniline	ND	370		ug/Kg	1	10/17/25	MR	SW8270E
Benzoic Acid	ND	370		ug/Kg	1	10/17/25	MR	SW8270E
Benzyl Alcohol	ND	370		ug/Kg	1	10/17/25	MR	SW8270E
Semivolatile Library Search	Completed					10/17/25	MR	

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Corrosivity is based solely on the pH analysis performed above.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

Ignitability is based solely on the results of the closed cup flashpoint analysis performed above. Passed is >140 degree F.

Paint Filter Test:
Pass = no free liquids were detected. Fail = free liquids were detected.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Cyanide. This method is no longer listed in the current version of SW-846.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Sulfide. This method is no longer listed in the current version of SW-846.

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Hexavalent Chromium:
This sample is in a reducing state.

Semi-Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 22, 2025
Reviewed and Released by: Rashmi Makol, Project Manager

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-13/14B-1

Lab Name: Phoenix Environmental Labs Client: FACTOR

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCU4577

Matrix:(soil/water): SOIL Lab Sample ID: CU45773

Sample wt/vol: 4.53 (g/mL) g Lab File ID: 1012_13.D

Level: (low/med): ENL Date Received: 10/08/25

% Moisture: not dec.: 8 Date Analyzed: 10/12/25

GC Column: RTX-VMS ID: 0.18 mm Dilution Factor: 1

Purge Volume: 5000 (uL) Soil Aliquot Vol (uL): 5000

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

J - Used when estimating a concentration for TIC where a 1:1 response is assumed or when the result indicates the presence of a compound that meets the indentification criteria, but the results is less than the quantitation limit, but greater than zero.

N - The concentration is based on the response of the nearest internal. This flag is used on the TIC form for all compounds identified

Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-13/14B-2

Lab Name: Phoenix Environmental Labs Client: FACTOR

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCU4577

Matrix:(soil/water) SOIL Lab Sample ID: CU45774

Sample wt/vol: 3.43 (g/mL) g Lab File ID: 1012_14.D

Level: (low/med) ENL Date Received: 10/08/25

% Moisture: not dec. 12 Date Analyzed: 10/12/25

GC Column: RTX-VMS ID: 0.18 mm Dilution Factor: 1

Purge Volume: 5000 (uL) Soil Aliquot Vol (uL): 5000

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

J - Used when estimating a concentration for TIC where a 1:1 response is assumed or when the result indicates the presence of a compound that meets the indentification criteria, but the results is less than the quantitation limit, but greater than zero.

N - The concentration is based on the response of the nearest internal. This flag is used on the TIC form for all compounds identified

Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-14A-1

Lab Name: Phoenix Environmental Labs Client: FACTOR

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCU4577

Matrix:(soil/water): SOIL Lab Sample ID: CU45775

Sample wt/vol: 4.74 (g/mL) g Lab File ID: 1012_15.D

Level: (low/med): ENL Date Received: 10/08/25

% Moisture: not dec. 9 Date Analyzed: 10/12/25

GC Column: RTX-VMS ID: 0.18 mm Dilution Factor: 1

Purge Volume: 5000 (uL) Soil Aliquot Vol (uL): 5000

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

J - Used when estimating a concentration for TIC where a 1:1 response is assumed or when the result indicates the presence of a compound that meets the indentification criteria, but the results is less than the quantitation limit, but greater than zero.

N - The concentration is based on the response of the nearest internal. This flag is used on the TIC form for all compounds identified

Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-14A-2

Lab Name: Phoenix Environmental Labs Client: FACTOR

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCU4577

Matrix:(soil/water) SOIL Lab Sample ID: CU45776

Sample wt/vol: 5.01 (g/mL) g Lab File ID: 1012_16.D

Level: (low/med) ENL Date Received: 10/08/25

% Moisture: not dec. 11 Date Analyzed: 10/12/25

GC Column: RTX-VMS ID: 0.18 mm Dilution Factor: 1

Purge Volume: 5000 (uL) Soil Aliquot Vol (uL): 5000

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

J - Used when estimating a concentration for TIC where a 1:1 response is assumed or when the result indicates the presence of a compound that meets the indentification criteria, but the results is less than the quantitation limit, but greater than zero.

N - The concentration is based on the response of the nearest internal. This flag is used on the TIC form for all compounds identified

Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-13/14B-1

Lab Name: Phoenix Environmental Labs | Client: FACTOR

Lab Code: Phoenix | Case No.: | SAS No.: | SDG No.: GCU4577

Matrix:(soil/water): SOIL | Lab Sample ID: CU45773

Sample wt/vol: 15.11 (g/mL) g | Lab File ID: 1016_48.D

Level: (low/med): Low | Date Received: 10/08/25

% Moisture: not dec. 8 | decanted:(Y/N) NA | Date Extracted: 10/17/25

GPC Cleanup (Y/N): N | pH: NA | Date Analyzed: 10/17/2025

Conc. Extract Volume: 1000 (uL) | Dilution Factor 1

Injection Volume: 1 (uL)

Number TICs found: 12 | CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	2.531	3800	JNA
	unknown hydrocarbon	3.148	340	JNC
023676-09-7	Benzoic acid, 4-ethoxy-, ethyl est	6.279	820	JNC
000112-88-9	1-Octadecene	7.366	580	JN
001120-25-8	9-Hexadecenoic acid, methyl ester,	7.789	440	JN
000112-39-0	Hexadecanoic acid, methyl ester	7.860	4900	JN
000057-10-3	n-Hexadecanoic acid	7.983	380	JN
	unknown hydrocarbon	8.042	390	J
	unknown hydrocarbon	8.224	340	J
002462-85-3	9,12-Octadecadienoic acid, methyl	8.483	5400	JN
001937-62-8	9-Octadecenoic acid, methyl ester,	8.506	15000	JN
000050-32-8	Benzo[a]pyrene	13.553	2200	JN

FORM I SEMIVOA-TIC

A - Indicates that the tentatively identified compound is a suspected aldol condensation product. Aldol condensation products are produced during the extraction process.
C - Indicates that the tentatively identified compound is a suspected prep artifact produced during extraction process.
Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-13/14B-2

Lab Name: Phoenix Environmental Labs | Client: FACTOR

Lab Code: Phoenix | Case No.: | SAS No.: | SDG No.: GCU4577

Matrix:(soil/water): SOIL | Lab Sample ID: CU45774

Sample wt/vol: 15.33 (g/mL) g | Lab File ID: 1016_49.D

Level: (low/med): Low | Date Received: 10/08/25

% Moisture: not dec. 12 | decanted:(Y/N) NA | Date Extracted: 10/17/25

GPC Cleanup (Y/N): N | pH: NA | Date Analyzed: 10/17/2025

Conc. Extract Volume: 1000 (uL) | Dilution Factor 1

Injection Volume: 1 (uL)

Number TICs found: 4 | CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	2.531	2700	JNA
023676-09-7	Benzoic acid, 4-ethoxy-, ethyl est	6.279	810	JNC
000112-88-9	1-Octadecene	7.366	540	JN
000192-97-2	Benzo[e]pyrene	13.536	540	JN

FORM I SEMIVOA-TIC

A - Indicates that the tentatively identified compound is a suspected aldol condensation product. Aldol condensation products are produced during the extraction process.
C - Indicates that the tentatively identified compound is a suspected prep artifact produced during extraction process.
Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-14A-1

Lab Name: Phoenix Environmental Labs | Client: FACTOR

Lab Code: Phoenix | Case No.: | SAS No.: | SDG No.: GCU4577

Matrix:(soil/water): SOIL | Lab Sample ID: CU45775

Sample wt/vol: 15.11 (g/mL) g | Lab File ID: 1016_50.D

Level: (low/med): Low | Date Received: 10/08/25

% Moisture: not dec. 9 | decanted:(Y/N) NA | Date Extracted: 10/17/25

GPC Cleanup (Y/N): N | pH: NA | Date Analyzed: 10/17/2025

Conc. Extract Volume: 1000 (uL) | Dilution Factor 1

Injection Volume: 1 (uL)

Number TICs found: 9 | CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	2.537	15000	JNA
	unknown hydrocarbon	3.148	410	JNC
023676-09-7	Benzoic acid, 4-ethoxy-, ethyl est	6.279	700	JNC
000112-88-9	1-Octadecene	7.366	460	JN
001002-84-2	Pentadecanoic acid	7.983	320	JN
	unknown hydrocarbon	8.042	330	J
1000197-14-1	4b,8-Dimethyl-2-isopropylphenanthr	8.342	370	JN
000198-55-0	Perylene	13.547	1400	JN
000050-32-8	Benzo[a]pyrene	13.941	770	JN

FORM I SEMIVOA-TIC

A - Indicates that the tentatively identified compound is a suspected aldol condensation product. Aldol condensation products are produced during the extraction process.
C - Indicates that the tentatively identified compound is a suspected prep artifact produced during extraction process.
Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-14A-2

Lab Name: Phoenix Environmental Labs | Client: FACTOR

Lab Code: Phoenix | Case No.: | SAS No.: | SDG No.: GCU4577

Matrix:(soil/water): SOIL | Lab Sample ID: CU45776

Sample wt/vol: 15.29 (g/mL) g | Lab File ID: 1016_38.D

Level: (low/med): Low | Date Received: 10/08/25

% Moisture: not dec. 11 | decanted:(Y/N) NA | Date Extracted: 10/17/25

GPC Cleanup (Y/N): N | pH: NA | Date Analyzed: 10/17/2025

Conc. Extract Volume: 1000 (uL) | Dilution Factor 1

Injection Volume: 1 (uL)

Number TICs found: 3 | CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	2.531	4800	JNA
023676-09-7	Benzoic acid, 4-ethoxy-, ethyl est	6.274	1100	JNC
000112-88-9	1-Octadecene	7.361	800	JN

FORM I SEMIVOA-TIC

A - Indicates that the tentatively identified compound is a suspected aldol condensation product. Aldol condensation products are produced during the extraction process.

C - Indicates that the tentatively identified compound is a suspected prep artifact produced during extraction process.

Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

QA/QC Report

October 22, 2025

QA/QC Data

SDG I.D.: GCU45773

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 808098 (mg/kg), QC Sample No: CU45773 (CU45773, CU45774, CU45775, CU45776)														
Chromium, Hexavalent - Soil														
Chromium, Hexavalent	BRL	0.40	<0.41	<0.41	NC	97.6						80 - 120	30	
Chromium, Hexavalent (Ins)						92.5			93.2			80 - 120	30	
Chromium, Hexavalent (Sol)						91.3			<10			80 - 120	30	m
Comment:														
The QC sample is in a reducing state, acceptance criteria are not applicable for samples in a reducing state. The soluble spike was analyzed twice with similar recoveries.														
Additional Hexavalent Chromium criteria: MS acceptance range is 75-125%.														
QA/QC Batch 807645 (mg/kg), QC Sample No: CU45800 (CU45773, CU45774, CU45775, CU45776)														
Mercury - Soil	BRL	0.03	0.44	0.52	16.7	93.7	94.4	0.7	122	>125	NC	70 - 130	30	m
Comment:														
Additional Mercury Criteria: LCS acceptance range is 80-120% for aqueous and for soils the acceptance range is set by vendor limits. MS acceptance range is 75-125% for aqueous and 80-120% for soils.														
QA/QC Batch 807653 (mg/L), QC Sample No: CU46081 (CU45773, CU45774)														
Mercury - Water	BRL	0.0002	<0.0002	<0.0002	NC	92.7			93.5	95.9	2.5	80 - 120	20	
Comment:														
Additional Mercury Criteria: LCS acceptance range is 80-120% for aqueous and for soils the acceptance range is set by vendor limits. MS acceptance range is 75-125% for aqueous and 80-120% for soils.														
QA/QC Batch 807654 (mg/L), QC Sample No: CU46092 (CU45775, CU45776)														
Mercury - Water	BRL	0.0002	<0.0002	<0.0002	NC	101			90.0			80 - 120	20	
Comment:														
Additional Mercury Criteria: LCS acceptance range is 80-120% for aqueous and for soils the acceptance range is set by vendor limits. MS acceptance range is 75-125% for aqueous and 80-120% for soils.														
QA/QC Batch 807655 (mg/L), QC Sample No: CU44612 (CU45773, CU45774, CU45775, CU45776)														
ICP Metals - TCLP Extraction														
Arsenic	BRL	0.01	<0.01	<0.01	NC	103	102	1.0	102			80 - 120	20	
Barium	BRL	0.01	0.44	0.45	2.20	101	99.6	1.4	99.2			80 - 120	20	
Cadmium	BRL	0.005	0.036	0.036	0	99.0	97.9	1.1	95.2			80 - 120	20	
Chromium	BRL	0.010	<0.010	<0.010	NC	99.0	98.2	0.8	98.1			80 - 120	20	
Lead	BRL	0.010	4.16	4.24	1.90	97.2	96.7	0.5	101			80 - 120	20	
Selenium	BRL	0.05	0.02	<0.05	NC	102	102	0.0	99.6			80 - 120	20	
Silver	BRL	0.010	<0.010	<0.010	NC	101	99.8	1.2	101			80 - 120	20	
Comment:														
Additional Criteria: LCS acceptance range is 80-120% for aqueous and for soils the acceptance range is set by vendor limits. MS acceptance range 75-125%.														
QA/QC Batch 807544 (mg/kg), QC Sample No: CU45646 (CU45773, CU45774, CU45775, CU45776)														
ICP Metals - Soil														
Aluminum	BRL	5.0	5250	4850	7.90	98.5	98.9	0.4	NC			75 - 125	30	
Antimony	BRL	3.3	<3.7	<3.2	NC	103	102	1.0	80.7			75 - 125	30	
Arsenic	BRL	0.67	8.15	4.44	58.9	92.4	94.1	1.8	86.9			75 - 125	30	r

QA/QC Data

SDG I.D.: GCU45773

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Barium	BRL	0.33	58.0	77.3	28.5	97.6	97.0	0.6	99.4			75 - 125	30	
Beryllium	BRL	0.27	0.41	0.30	NC	96.7	99.5	2.9	96.3			75 - 125	30	
Boron	BRL	1.3	7.4	6.3	NC	79.2	80.7	1.9	90.1			75 - 125	30	
Cadmium	BRL	0.33	0.52	0.42	NC	99.6	101	1.4	95.6			75 - 125	30	
Calcium	BRL	5.0	4010	5310	27.9	99.3	101	1.7	NC			75 - 125	30	
Chromium	BRL	0.33	43.3	39.9	8.20	98.0	100	2.0	111			75 - 125	30	
Cobalt	BRL	0.33	34.6	19.1	57.7	96.5	98.6	2.2	83.0			75 - 125	30	r
Copper	BRL	0.67	36.7	38.9	5.80	93.6	95.9	2.4	93.6			75 - 125	30	
Iron	BRL	5.0	25700	16600	43.0	102	104	1.9	NC			75 - 125	30	r
Lead	BRL	0.33	93.8	155	49.2	94.9	98.2	3.4	92.9			75 - 125	30	r
Magnesium	BRL	5.0	40400	30600	27.6	95.5	96.9	1.5	NC			75 - 125	30	
Manganese	BRL	0.33	481	365	27.4	95.7	95.1	0.6	0			75 - 125	30	m
Molybdenum	BRL	0.33	<0.37	<0.32	NC	103	105	1.9	96.2			75 - 125	30	
Nickel	BRL	0.33	563	356	45.0	99.1	100	0.9	0			75 - 125	30	m,r
Potassium	BRL	5.0	1230	989	21.7	98.4	99.9	1.5	>130			75 - 125	30	m
Selenium	BRL	1.3	<1.5	<1.3	NC	84.8	85.4	0.7	78.0			75 - 125	30	
Silver	BRL	0.33	<0.37	<0.32	NC	100	102	2.0	94.5			75 - 125	30	
Sodium	BRL	5.0	460	367	22.5	94.7	96.9	2.3	93.5			75 - 125	30	
Thallium	BRL	3.0	<3.4	<2.9	NC	101	102	1.0	93.4			75 - 125	30	
Vanadium	BRL	0.33	23.0	17.2	28.9	96.4	98.6	2.3	92.7			75 - 125	30	
Zinc	BRL	0.67	95.5	102	6.60	92.5	94.3	1.9	73.7			75 - 125	30	m

Comment:

Additional Criteria: LCS acceptance range is 80-120% for aqueous and for soils the acceptance range is set by vendor limits. MS acceptance range 75-125%.

m = This parameter is outside laboratory MS/MSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

NY # 11301

QA/QC Report

October 22, 2025

QA/QC Data

SDG I.D.: GCU45773

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 808110 (mg/Kg), QC Sample No: CU44991 (CU45773, CU45774, CU45775, CU45776)													
Total Cyanide (SW9010C Distill.)	BRL	0.50	<0.54	<0.54	NC	95.1	88.1	7.6	90.5			80 - 120	30
Comment:													
Additional: MS acceptance range is 75-125%.													
QA/QC Batch 808624 (mg/Kg), QC Sample No: CU45645 (CU45773, CU45774, CU45775, CU45776)													
Reactivity Cyanide	BRL	5	<5	<5.5	NC	98.2						85 - 115	30
Reactivity Sulfide	BRL	20	<20	<20	NC	92.0						80 - 120	30
QA/QC Batch 807772 (Degree F), QC Sample No: CU43646 (CU45773, CU45774, CU45775, CU45776)													
Flash Point			>200	>200	NC	100						75 - 125	30
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 807611 (PH), QC Sample No: CU45773 (CU45773, CU45774, CU45775, CU45776)													
pH			9.46	9.47	0.10	100						85 - 115	20
QA/QC Batch 807612 (mV), QC Sample No: CU45773 (CU45773, CU45774, CU45775, CU45776)													
Redox Potential			119	122	NC	110						75 - 125	30
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 807759 (mg/L), QC Sample No: CU46325 (CU45773, CU45774, CU45775, CU45776)													
Chloride	BRL	5.0	<5.0	<5.0	NC	95.6			96.5			90 - 110	20
Fluoride	BRL	0.10	1.19	1.15	3.40	106			101			90 - 110	20
QA/QC Batch 808171 (mg/L), QC Sample No: CU47881 (CU45773, CU45774, CU45775, CU45776)													
Chloride	BRL	5.0	13.5	13.5	NC	95.0			94.3			90 - 110	20
Fluoride	BRL	0.10	<0.10	<0.10	NC	93.9			92.4			90 - 110	20
QA/QC Batch 807938 (mg/Kg), QC Sample No: CU45889 (CU45773, CU45774, CU45775, CU45776)													
Ammonia as Nitrogen	BRL	3.51	1530	1830	17.9	94.3			98.1			75 - 125	30
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
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NY # 11301

QA/QC Report

October 22, 2025

QA/QC Data

SDG I.D.: GCU45773

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 808784 (mg/kg), QC Sample No: CU45645 (CU45773, CU45774, CU45775, CU45776)											
Extractable Petroleum Hydrocarbons - Soil											
Total EPH (C9-C40)	ND	10	99	100	1.0	117	129	9.8	40 - 140	25	
C9 - Nonane	ND	3.3	75	78	3.9	91	91	0.0	40 - 140	25	
C10 - Decane	ND	3.3	91	93	2.2	109	108	0.9	40 - 140	25	
C12 - Dodecane	ND	3.3	101	99	2.0	121	120	0.8	40 - 140	25	
C14 - Tetradecane	ND	3.3	102	103	1.0	124	124	0.0	40 - 140	25	
C16 - Hexadecane	ND	3.3	108	109	0.9	130	128	1.6	40 - 140	25	
C18 - Octadecane	ND	3.3	123	125	1.6	147	146	0.7	40 - 140	25	m
C20 - Eicosane	ND	3.3	107	109	1.9	120	115	4.3	40 - 140	25	
C21 - Heneicosane	ND	3.3	97	99	2.0	130	Intf	NC	40 - 140	25	
C22 - Docosane	ND	3.3	120	122	1.7	127	119	6.5	40 - 140	25	
C24 - Tetracosane	ND	3.3	100	102	2.0	109	99	9.6	40 - 140	25	
C26 - Hexacosane	ND	3.3	100	102	2.0	112	101	10.3	40 - 140	25	
C28 - Octacosane	ND	3.3	101	103	2.0	114	107	6.3	40 - 140	25	
C30 - Tricotane	ND	3.3	99	100	1.0	111	104	6.5	40 - 140	25	
C32 - Dotriacontance	ND	3.3	97	97	0.0	108	111	2.7	40 - 140	25	
C34 - Tetratriacontane	ND	3.3	96	94	2.1	115	109	5.4	40 - 140	25	
C36 - Hexatriacontane	ND	3.3	92	89	3.3	116	115	0.9	40 - 140	25	
C38 - Octatriacontane	ND	3.3	88	86	2.3	110	102	7.5	40 - 140	25	
C40 - Tetracontane	ND	3.3	89	86	3.4	117	107	8.9	40 - 140	25	
% COD (surr)	83	%	81	82	1.2	97	122	22.8	40 - 140	25	
% Terphenyl (surr)	114	%	106	110	3.7	124	128	3.2	40 - 140	25	

Comment:

Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%

QA/QC Batch 808246 (ug/Kg), QC Sample No: CU44581 (CU45773, CU45774, CU45775, CU45776)

Chlorinated Herbicides - Soil

2,4,5-T	ND	130	88	86	2.3	73	86	16.4	40 - 140	30	
2,4,5-TP (Silvex)	ND	130	110	109	0.9	89	103	14.6	40 - 140	30	
2,4-D	ND	250	95	92	3.2	74	87	16.1	40 - 140	30	
2,4-DB	ND	2500	92	90	2.2	74	86	15.0	40 - 140	30	
Dalapon	ND	130	94	95	1.1	90	103	13.5	40 - 140	30	
Dicamba	ND	130	89	89	0.0	75	83	10.1	40 - 140	30	
Dichloroprop	ND	130	108	111	2.7	83	109	27.1	40 - 140	30	
Dinoseb	ND	130	103	103	0.0	93	112	18.5	40 - 140	30	
% DCAA (Surrogate Rec)	129	%	130	125	3.9	108	123	13.0	30 - 150	30	
% DCAA (Surrogate Rec) (Confirm	118	%	116	111	4.4	88	104	16.7	30 - 150	30	

Comment:

8151 additional criteria: (LCS/LCSD)10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. LCS acceptance range is 40-140% MS acceptance range 30-150%.

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 808862 (ug/Kg), QC Sample No: CU45647 (CU45773, CU45774, CU45775, CU45776)										
Polychlorinated Biphenyls - Soil										
PCB-1016	ND	33	85	80	6.1	74	76	2.7	40 - 140	30
PCB-1221	ND	33							40 - 140	30
PCB-1232	ND	33							40 - 140	30
PCB-1242	ND	33							40 - 140	30
PCB-1248	ND	33							40 - 140	30
PCB-1254	ND	33							40 - 140	30
PCB-1260	ND	33	90	84	6.9	79	79	0.0	40 - 140	30
PCB-1262	ND	33							40 - 140	30
PCB-1268	ND	33							40 - 140	30
% DCBP (Surrogate Rec)	89	%	104	96	8.0	89	84	5.8	30 - 150	30
% DCBP (Surrogate Rec) (Confirm	87	%	102	93	9.2	86	81	6.0	30 - 150	30
% TCMX (Surrogate Rec)	80	%	95	92	3.2	86	82	4.8	30 - 150	30
% TCMX (Surrogate Rec) (Confirm	81	%	95	89	6.5	84	79	6.1	30 - 150	30
QA/QC Batch 808863 (ug/Kg), QC Sample No: CU45647 (CU45773, CU45774, CU45775, CU45776)										
Pesticides - Soil										
4,4' -DDD	ND	1.7	68	71	4.3	89	71	22.5	40 - 140	30
4,4' -DDE	ND	1.7	68	73	7.1	87	72	18.9	40 - 140	30
4,4' -DDT	ND	1.7	73	76	4.0	94	75	22.5	40 - 140	30
a-BHC	ND	1.0	65	69	6.0	75	62	19.0	40 - 140	30
a-Chlordane	ND	3.3	66	68	3.0	80	72	10.5	40 - 140	30
Aldrin	ND	1.0	68	70	2.9	78	66	16.7	40 - 140	30
b-BHC	ND	1.0	81	83	2.4	97	84	14.4	40 - 140	30
Chlordane	ND	33	75	74	1.3	89	72	21.1	40 - 140	30
d-BHC	ND	3.3	64	68	6.1	71	64	10.4	40 - 140	30
Dieldrin	ND	1.0	65	68	4.5	81	65	21.9	40 - 140	30
Endosulfan I	ND	3.3	72	72	0.0	85	67	23.7	40 - 140	30
Endosulfan II	ND	3.3	72	73	1.4	94	71	27.9	40 - 140	30
Endosulfan sulfate	ND	3.3	72	74	2.7	88	71	21.4	40 - 140	30
Endrin	ND	3.3	68	72	5.7	86	68	23.4	40 - 140	30
Endrin aldehyde	ND	3.3	59	59	0.0	79	63	22.5	40 - 140	30
Endrin ketone	ND	3.3	71	74	4.1	88	72	20.0	40 - 140	30
g-BHC	ND	1.0	76	77	1.3	86	73	16.4	40 - 140	30
g-Chlordane	ND	3.3	75	74	1.3	89	72	21.1	40 - 140	30
Heptachlor	ND	3.3	67	68	1.5	77	65	16.9	40 - 140	30
Heptachlor epoxide	ND	3.3	67	68	1.5	80	68	16.2	40 - 140	30
Methoxychlor	ND	3.3	73	75	2.7	89	73	19.8	40 - 140	30
Toxaphene	ND	130	NA	NA	NC	NA	NA	NC	40 - 140	30
% DCBP	61	%	68	73	7.1	81	68	17.4	30 - 150	30
% DCBP (Confirmation)	51	%	56	59	5.2	65	54	18.5	30 - 150	30
% TCMX	69	%	72	76	5.4	73	64	13.1	30 - 150	30
% TCMX (Confirmation)	69	%	71	73	2.8	71	61	15.2	30 - 150	30

Comment:

8081 additional criteria: (LCS/LCSD)10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. LCS acceptance range is 40-140% MS acceptance range 30-150%.

QA/QC Batch 808846 (ug/kg), QC Sample No: CU45464 (CU45773, CU45774, CU45775, CU45776)										
Semivolatiles - Soil										
1,1-Biphenyl	ND	230	51	54	5.7	60	57	5.1	40 - 140	30
1,2,4,5-Tetrachlorobenzene	ND	230	49	51	4.0	53	55	3.7	40 - 140	30
1,2-Diphenylhydrazine	ND	230	59	62	5.0	67	66	1.5	40 - 140	30

QA/QC Data

SDG I.D.: GCU45773

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
2,2'-Oxybis(1-Chloropropane)	ND	230	50	52	3.9	51	61	17.9	40 - 140	30	
2,3,4,6-tetrachlorophenol	ND	230	58	61	5.0	67	70	4.4	30 - 130	30	
2,4,5-Trichlorophenol	ND	230	58	63	8.3	70	69	1.4	40 - 140	30	
2,4,6-Trichlorophenol	ND	130	64	68	6.1	77	76	1.3	30 - 130	30	
2,4-Dichlorophenol	ND	130	64	66	3.1	73	78	6.6	30 - 130	30	
2,4-Dimethylphenol	ND	230	66	70	5.9	73	78	6.6	30 - 130	30	
2,4-Dinitrophenol	ND	230	74	81	9.0	47	60	24.3	30 - 130	30	
2,4-Dinitrotoluene	ND	130	73	76	4.0	82	83	1.2	30 - 130	30	
2,6-Dinitrotoluene	ND	130	69	73	5.6	82	82	0.0	40 - 140	30	
2-Chloronaphthalene	ND	230	54	57	5.4	63	59	6.6	40 - 140	30	
2-Chlorophenol	ND	230	63	65	3.1	65	80	20.7	30 - 130	30	
2-Methylnaphthalene	ND	230	59	62	5.0	66	69	4.4	40 - 140	30	
2-Methylphenol (o-cresol)	ND	230	69	73	5.6	72	86	17.7	40 - 140	30	
2-Nitroaniline	ND	330	97	103	6.0	106	115	8.1	40 - 140	30	
2-Nitrophenol	ND	230	70	75	6.9	78	86	9.8	40 - 140	30	
3&4-Methylphenol (m&p-cresol)	ND	230	69	72	4.3	72	88	20.0	30 - 130	30	
3,3'-Dichlorobenzidine	ND	130	78	81	3.8	60	74	20.9	40 - 140	30	
3-Nitroaniline	ND	330	82	85	3.6	90	95	5.4	40 - 140	30	
4,6-Dinitro-2-methylphenol	ND	230	82	87	5.9	64	69	7.5	30 - 130	30	
4-Bromophenyl phenyl ether	ND	230	59	61	3.3	64	61	4.8	40 - 140	30	
4-Chloro-3-methylphenol	ND	230	69	72	4.3	76	85	11.2	30 - 130	30	
4-Chloroaniline	ND	230	67	70	4.4	69	72	4.3	40 - 140	30	
4-Chlorophenyl phenyl ether	ND	230	55	57	3.6	63	61	3.2	40 - 140	30	
4-Nitroaniline	ND	230	73	79	7.9	87	88	1.1	40 - 140	30	
4-Nitrophenol	ND	230	93	98	5.2	106	115	8.1	30 - 130	30	
Acenaphthene	ND	230	52	55	5.6	59	56	5.2	30 - 130	30	
Acenaphthylene	ND	130	48	51	6.1	57	55	3.6	40 - 140	30	
Acetophenone	ND	230	61	63	3.2	62	76	20.3	40 - 140	30	
Aniline	ND	330	54	59	8.8	50	56	11.3	40 - 140	30	
Anthracene	ND	230	56	58	3.5	64	61	4.8	40 - 140	30	
Atrazine	ND	130	55	58	5.3	66	65	1.5	40 - 140	30	
Benz(a)anthracene	ND	230	56	57	1.8	66	56	16.4	40 - 140	30	
Benzaldehyde	ND	230	118	125	5.8	123	149	19.1	40 - 140	30	m
Benzo(a)pyrene	ND	130	57	58	1.7	69	53	26.2	40 - 140	30	
Benzo(b)fluoranthene	ND	160	59	59	0.0	77	56	31.6	40 - 140	30	r
Benzo(ghi)perylene	ND	230	58	60	3.4	45	53	16.3	40 - 140	30	
Benzo(k)fluoranthene	ND	230	57	59	3.4	76	59	25.2	40 - 140	30	
Benzoic Acid	ND	670	86	84	2.4	66	83	22.8	30 - 130	30	
Benzyl Alcohol	ND	230	48	51	6.1	52	67	25.2	30 - 130	30	
Benzyl butyl phthalate	ND	230	65	67	3.0	70	73	4.2	40 - 140	30	
Bis(2-chloroethoxy)methane	ND	230	58	61	5.0	63	70	10.5	40 - 140	30	
Bis(2-chloroethyl)ether	ND	130	58	61	5.0	58	73	22.9	40 - 140	30	
Bis(2-ethylhexyl)phthalate	ND	230	65	66	1.5	71	70	1.4	40 - 140	30	
Caprolactam	ND	230	64	67	4.6	66	80	19.2	40 - 140	30	
Carbazole	ND	230	59	61	3.3	69	68	1.5	40 - 140	30	
Chrysene	ND	230	54	55	1.8	64	52	20.7	40 - 140	30	
Dibenz(a,h)anthracene	ND	130	58	59	1.7	47	60	24.3	40 - 140	30	
Dibenzofuran	ND	230	55	57	3.6	64	61	4.8	40 - 140	30	
Diethyl phthalate	ND	230	61	64	4.8	71	73	2.8	40 - 140	30	
Dimethylphthalate	ND	230	59	63	6.6	69	70	1.4	40 - 140	30	
Di-n-butylphthalate	ND	670	64	66	3.1	73	72	1.4	40 - 140	30	
Di-n-octylphthalate	ND	230	67	69	2.9	78	74	5.3	40 - 140	30	
Fluoranthene	ND	230	54	56	3.6	69	58	17.3	40 - 140	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Fluorene	ND	230	56	59	5.2	64	63	1.6	40 - 140	30	
Hexachlorobenzene	ND	130	60	61	1.7	60	49	20.2	40 - 140	30	
Hexachlorobutadiene	ND	230	49	52	5.9	55	56	1.8	40 - 140	30	
Hexachlorocyclopentadiene	ND	230	28	26	7.4	22	17	25.6	40 - 140	30	l,m
Hexachloroethane	ND	130	48	51	6.1	47	55	15.7	40 - 140	30	
Indeno(1,2,3-cd)pyrene	ND	230	59	60	1.7	49	58	16.8	40 - 140	30	
Isophorone	ND	130	54	57	5.4	59	66	11.2	40 - 140	30	
Naphthalene	ND	230	51	53	3.8	56	60	6.9	40 - 140	30	
Nitrobenzene	ND	130	66	69	4.4	69	84	19.6	40 - 140	30	
N-Nitrosodimethylamine	ND	230	59	62	5.0	56	73	26.4	40 - 140	30	
N-Nitrosodi-n-propylamine	ND	130	60	64	6.5	61	76	21.9	40 - 140	30	
N-Nitrosodiphenylamine	ND	130	55	58	5.3	63	65	3.1	40 - 140	30	
Pentachlorophenol	ND	230	64	66	3.1	69	72	4.3	30 - 130	30	
Phenanthrene	ND	130	55	57	3.6	60	57	5.1	40 - 140	30	
Phenol	ND	230	76	81	6.4	77	97	23.0	30 - 130	30	
Pyrene	ND	230	55	56	1.8	70	59	17.1	30 - 130	30	
% 2,4,6-Tribromophenol	101	%	70	72	2.8	79	75	5.2	30 - 130	30	
% 2-Fluorobiphenyl	71	%	50	53	5.8	60	57	5.1	30 - 130	30	
% 2-Fluorophenol	79	%	58	61	5.0	61	75	20.6	30 - 130	30	
% Nitrobenzene-d5	76	%	54	58	7.1	57	69	19.0	30 - 130	30	
% Phenol-d5	80	%	60	63	4.9	63	77	20.0	30 - 130	30	
% Terphenyl-d14	81	%	54	54	0.0	65	60	8.0	30 - 130	30	

Comment:

Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

QA/QC Batch 807979 (ug/kg), QC Sample No: CU47397 (CU45773, CU45774, CU45775, CU45776)

Volatiles - Soil (Low Level)

1,1,1,2-Tetrachloroethane	ND	5.0	89	89	0.0	74	80	7.8	70 - 130	20	
1,1,1-Trichloroethane	ND	5.0	89	88	1.1	75	80	6.5	70 - 130	20	
1,1,2,2-Tetrachloroethane	ND	3.0	106	106	0.0	93	98	5.2	70 - 130	20	
1,1,2-Trichloroethane	ND	5.0	103	102	1.0	91	95	4.3	70 - 130	20	
1,1-Dichloroethane	ND	5.0	94	94	0.0	84	87	3.5	70 - 130	20	
1,1-Dichloroethene	ND	5.0	91	89	2.2	80	82	2.5	70 - 130	20	
1,2,3-Trichlorobenzene	ND	5.0	99	101	2.0	58	63	8.3	70 - 130	20	m
1,2,4-Trichlorobenzene	ND	5.0	100	98	2.0	60	66	9.5	70 - 130	20	m
1,2,4-Trimethylbenzene	ND	1.0	98	97	1.0	81	86	6.0	70 - 130	20	
1,2-Dibromo-3-chloropropane	ND	5.0	89	91	2.2	66	72	8.7	70 - 130	20	m
1,2-Dibromoethane	ND	5.0	101	101	0.0	87	92	5.6	70 - 130	20	
1,2-Dichlorobenzene	ND	5.0	98	96	2.1	74	79	6.5	70 - 130	20	
1,2-Dichloroethane	ND	5.0	97	95	2.1	87	88	1.1	70 - 130	20	
1,2-Dichloropropane	ND	5.0	100	98	2.0	89	93	4.4	70 - 130	20	
1,3,5-Trimethylbenzene	ND	1.0	99	98	1.0	84	87	3.5	70 - 130	20	
1,3-Dichlorobenzene	ND	5.0	98	97	1.0	75	81	7.7	70 - 130	20	
1,4-Dichlorobenzene	ND	5.0	96	96	0.0	74	80	7.8	70 - 130	20	
1,4-dioxane	ND	100	101	104	2.9	99	102	3.0	70 - 130	20	
2-Hexanone	ND	25	91	92	1.1	73	76	4.0	70 - 130	20	
4-Methyl-2-pentanone	ND	25	96	97	1.0	84	86	2.4	70 - 130	20	
Acetone	ND	10	87	85	2.3	71	70	1.4	70 - 130	20	
Acrolein	ND	25	91	89	2.2	41	40	2.5	70 - 130	20	m
Acrylonitrile	ND	5.0	88	87	1.1	73	73	0.0	70 - 130	20	
Benzene	ND	1.0	98	98	0.0	89	92	3.3	70 - 130	20	
Bromochloromethane	ND	5.0	99	98	1.0	88	89	1.1	70 - 130	20	

QA/QC Data

SDG I.D.: GCU45773

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Bromodichloromethane	ND	5.0	95	93	2.1	82	87	5.9	70 - 130	20	
Bromoform	ND	5.0	82	84	2.4	64	70	9.0	70 - 130	20	m
Bromomethane	ND	5.0	97	98	1.0	86	90	4.5	70 - 130	20	
Carbon Disulfide	ND	5.0	96	94	2.1	84	86	2.4	70 - 130	20	
Carbon tetrachloride	ND	5.0	78	94	18.6	63	71	11.9	70 - 130	20	m
Chlorobenzene	ND	5.0	96	96	0.0	83	87	4.7	70 - 130	20	
Chloroethane	ND	5.0	102	102	0.0	90	94	4.3	70 - 130	20	
Chloroform	ND	5.0	99	98	1.0	88	89	1.1	70 - 130	20	
Chloromethane	ND	5.0	111	111	0.0	99	103	4.0	70 - 130	20	
cis-1,2-Dichloroethene	ND	5.0	101	106	4.8	94	97	3.1	70 - 130	20	
cis-1,3-Dichloropropene	ND	5.0	92	91	1.1	73	79	7.9	70 - 130	20	
Cyclohexane	ND	5.0	97	96	1.0	88	90	2.2	70 - 130	20	
Dibromochloromethane	ND	3.0	90	90	0.0	73	80	9.2	70 - 130	20	
Dichlorodifluoromethane	ND	5.0	118	116	1.7	107	111	3.7	70 - 130	20	
Ethylbenzene	ND	1.0	96	95	1.0	85	88	3.5	70 - 130	20	
Isopropylbenzene	ND	1.0	97	95	2.1	83	87	4.7	70 - 130	20	
m&p-Xylene	ND	2.0	96	96	0.0	84	88	4.7	70 - 130	20	
Methyl ethyl ketone	ND	5.0	93	97	4.2	79	85	7.3	70 - 130	20	
Methyl t-butyl ether (MTBE)	ND	1.0	91	90	1.1	76	80	5.1	70 - 130	20	
Methylacetate	ND	5.0	96	93	3.2	89	95	6.5	70 - 130	20	
Methylcyclohexane	ND	5.0	93	92	1.1	87	88	1.1	70 - 130	20	
Methylene chloride	ND	5.0	90	90	0.0	81	84	3.6	70 - 130	20	
o-Xylene	ND	2.0	95	94	1.1	83	86	3.6	70 - 130	20	
Styrene	ND	5.0	96	97	1.0	83	86	3.6	70 - 130	20	
tert-butyl alcohol	ND	100	83	81	2.4	67	80	17.7	70 - 130	20	m
Tetrachloroethene	ND	5.0	93	92	1.1	83	85	2.4	70 - 130	20	
Toluene	ND	1.0	97	97	0.0	87	90	3.4	70 - 130	20	
trans-1,2-Dichloroethene	ND	5.0	90	91	1.1	80	83	3.7	70 - 130	20	
trans-1,3-Dichloropropene	ND	5.0	88	89	1.1	67	75	11.3	70 - 130	20	m
Trichloroethene	ND	5.0	93	94	1.1	82	84	2.4	70 - 130	20	
Trichlorofluoromethane	ND	5.0	103	102	1.0	94	97	3.1	70 - 130	20	
Trichlorotrifluoroethane	ND	5.0	96	95	1.0	87	90	3.4	70 - 130	20	
Vinyl Acetate	ND	5.0	95	103	8.1	22	26	16.7	70 - 130	20	m
Vinyl chloride	ND	5.0	100	99	1.0	88	93	5.5	70 - 130	20	
% 1,2-dichlorobenzene-d4	95	%	97	96	1.0	96	96	0.0	70 - 130	20	
% Bromofluorobenzene	93	%	95	95	0.0	97	96	1.0	70 - 130	20	
% Dibromofluoromethane	94	%	95	96	1.0	94	95	1.1	70 - 130	20	
% Toluene-d8	99	%	99	99	0.0	100	99	1.0	70 - 130	20	

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
m = This parameter is outside laboratory MS/MSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference
(ISO) - Isotope Dilution

Phyllis Shiller, Laboratory Director
October 22, 2025

Wednesday, October 22, 2025

Criteria: NJ: NRC, RC; NY: 375, 375COM, 375IND, 375

State: NY

Sample Criteria Exceedances Report

GCU45773 - FACTOR

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CU45773	$8270_TCLR	Benzo(a)pyrene	NJ / Soil Remediation Standard / Non Res. Direct Conta	2900	250	2000	200	ug/Kg
CU45773	$8270_TCLR	Benzo(a)pyrene	NJ / Soil Remediation Standard / Non Res. Ingestion-Der	2900	250	2300	2300	ug/Kg
CU45773	$8270_TCLR	Benzo(a)pyrene	NJ / Soil Remediation Standard / Res. Direct Contact	2900	250	500	200	ug/Kg
CU45773	$8270_TCLR	Benzo(a)pyrene	NJ / Soil Remediation Standard / Res. Ingestion-Dermal	2900	250	510	510	ug/Kg
CU45773	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Commercial	2900	250	1000	1000	ug/Kg
CU45773	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Industrial	2900	250	1100	1100	ug/Kg
CU45773	$8270_TCLR	Benz(a)anthracene	NY / 375-6.8 Semivolatiles / Residential	1300	250	1000	1000	ug/Kg
CU45773	$8270_TCLR	Indeno(1,2,3-cd)pyrene	NY / 375-6.8 Semivolatiles / Residential	2800	250	500	500	ug/Kg
CU45773	$8270_TCLR	Benzo(b)fluoranthene	NY / 375-6.8 Semivolatiles / Residential	3400	250	1000	1000	ug/Kg
CU45773	$8270_TCLR	Dibenz(a,h)anthracene	NY / 375-6.8 Semivolatiles / Residential	440	180	330	330	ug/Kg
CU45773	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Residential	2900	250	1000	1000	ug/Kg
CU45773	$8270_TCLR	Chrysene	NY / 375-6.8 Semivolatiles / Residential	1300	250	1000	1000	ug/Kg
CU45773	$8270_TCLR	Indeno(1,2,3-cd)pyrene	NY / 375-6.8 Semivolatiles / Residential Restricted	2800	250	500	500	ug/Kg
CU45773	$8270_TCLR	Benzo(b)fluoranthene	NY / 375-6.8 Semivolatiles / Residential Restricted	3400	250	1000	1000	ug/Kg
CU45773	$8270_TCLR	Benz(a)anthracene	NY / 375-6.8 Semivolatiles / Residential Restricted	1300	250	1000	1000	ug/Kg
CU45773	$8270_TCLR	Dibenz(a,h)anthracene	NY / 375-6.8 Semivolatiles / Residential Restricted	440	180	330	330	ug/Kg
CU45773	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Residential Restricted	2900	250	1000	1000	ug/Kg
CU45773	$8270_TCLR	Indeno(1,2,3-cd)pyrene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	2800	250	500	500	ug/Kg
CU45773	$8270_TCLR	Dibenz(a,h)anthracene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	440	180	330	330	ug/Kg
CU45773	$8270_TCLR	Chrysene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	1300	250	1000	1000	ug/Kg
CU45773	$8270_TCLR	Benzo(b)fluoranthene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	3400	250	1000	1000	ug/Kg
CU45773	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	2900	250	1000	1000	ug/Kg
CU45773	$8270_TCLR	Benz(a)anthracene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	1300	250	1000	1000	ug/Kg
CU45773	$8270_TCLR	Benzo(k)fluoranthene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	990	250	800	800	ug/Kg
CU45773	HG-SM	Mercury	NY / 375-6.8 Metals / Unrestricted Use Soil	0.39	0.03	0.18	0.18	mg/Kg
CU45773	NI-SM	Nickel	NY / 375-6.8 Metals / Residential	169	3.3	140	140	mg/Kg
CU45773	NI-SM	Nickel	NY / 375-6.8 Metals / Unrestricted Use Soil	169	3.3	30	30	mg/Kg
CU45773	PB-SM	Lead	NY / 375-6.8 Metals / Unrestricted Use Soil	112	0.33	63	63	mg/Kg
CU45774	$8270_TCLR	Benzo(a)pyrene	NJ / Soil Remediation Standard / Res. Direct Contact	770	260	500	200	ug/Kg
CU45774	$8270_TCLR	Benzo(a)pyrene	NJ / Soil Remediation Standard / Res. Ingestion-Dermal	770	260	510	510	ug/Kg
CU45774	$8270_TCLR	Indeno(1,2,3-cd)pyrene	NY / 375-6.8 Semivolatiles / Residential	830	260	500	500	ug/Kg
CU45774	$8270_TCLR	Indeno(1,2,3-cd)pyrene	NY / 375-6.8 Semivolatiles / Residential Restricted	830	260	500	500	ug/Kg
CU45774	$8270_TCLR	Indeno(1,2,3-cd)pyrene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	830	260	500	500	ug/Kg
CU45774	NI-SM	Nickel	NY / 375-6.8 Metals / Residential	277	3.3	140	140	mg/Kg
CU45774	NI-SM	Nickel	NY / 375-6.8 Metals / Unrestricted Use Soil	277	3.3	30	30	mg/Kg
CU45774	TRI-CRSM	Trivalent Chromium	NY / 375-6.8 Metals / Residential	42.3	0.33	36	36	mg/kg
CU45774	TRI-CRSM	Trivalent Chromium	NY / 375-6.8 Metals / Unrestricted Use Soil	42.3	0.33	30	30	mg/kg
CU45775	$8270_TCLR	Benzo(a)pyrene	NJ / Soil Remediation Standard / Res. Direct Contact	2000	250	500	200	ug/Kg
CU45775	$8270_TCLR	Benzo(a)pyrene	NJ / Soil Remediation Standard / Res. Ingestion-Dermal	2000	250	510	510	ug/Kg
CU45775	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Commercial	2000	250	1000	1000	ug/Kg

Wednesday, October 22, 2025

Criteria: NJ: NRC, RC; NY: 375, 375COM, 375IND, 375

State: NY

Sample Criteria Exceedances Report

GCU45773 - FACTOR

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CU45775	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Industrial	2000	250	1100	1100	ug/Kg
CU45775	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Residential	2000	250	1000	1000	ug/Kg
CU45775	$8270_TCLR	Indeno(1,2,3-cd)pyrene	NY / 375-6.8 Semivolatiles / Residential	1800	250	500	500	ug/Kg
CU45775	$8270_TCLR	Benzo(b)fluoranthene	NY / 375-6.8 Semivolatiles / Residential	2300	250	1000	1000	ug/Kg
CU45775	$8270_TCLR	Benz(a)anthracene	NY / 375-6.8 Semivolatiles / Residential	1100	250	1000	1000	ug/Kg
CU45775	$8270_TCLR	Chrysene	NY / 375-6.8 Semivolatiles / Residential	1100	250	1000	1000	ug/Kg
CU45775	$8270_TCLR	Indeno(1,2,3-cd)pyrene	NY / 375-6.8 Semivolatiles / Residential Restricted	1800	250	500	500	ug/Kg
CU45775	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Residential Restricted	2000	250	1000	1000	ug/Kg
CU45775	$8270_TCLR	Benz(a)anthracene	NY / 375-6.8 Semivolatiles / Residential Restricted	1100	250	1000	1000	ug/Kg
CU45775	$8270_TCLR	Benzo(b)fluoranthene	NY / 375-6.8 Semivolatiles / Residential Restricted	2300	250	1000	1000	ug/Kg
CU45775	$8270_TCLR	Indeno(1,2,3-cd)pyrene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	1800	250	500	500	ug/Kg
CU45775	$8270_TCLR	Benzo(b)fluoranthene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	2300	250	1000	1000	ug/Kg
CU45775	$8270_TCLR	Benz(a)anthracene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	1100	250	1000	1000	ug/Kg
CU45775	$8270_TCLR	Chrysene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	1100	250	1000	1000	ug/Kg
CU45775	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	2000	250	1000	1000	ug/Kg
CU45775	$PESTSM_NY	4,4' -DDE	NY / 375-6.8 PCBs/Pesticides / Unrestricted Use Soil	5.8	2.1	3.3	3.3	ug/Kg
CU45775	CO-SM	Cobalt	NJ / Soil Remediation Standard / Res. Ingestion-Dermal	25.8	0.33	23	23	mg/Kg
CU45775	NI-SM	Nickel	NY / 375-6.8 Metals / Commercial	522	3.3	310	310	mg/Kg
CU45775	NI-SM	Nickel	NY / 375-6.8 Metals / Residential	522	3.3	140	140	mg/Kg
CU45775	NI-SM	Nickel	NY / 375-6.8 Metals / Residential Restricted	522	3.3	310	310	mg/Kg
CU45775	NI-SM	Nickel	NY / 375-6.8 Metals / Unrestricted Use Soil	522	3.3	30	30	mg/Kg
CU45776	NI-SM	Nickel	NY / 375-6.8 Metals / Residential	180	3.5	140	140	mg/Kg
CU45776	NI-SM	Nickel	NY / 375-6.8 Metals / Unrestricted Use Soil	180	3.5	30	30	mg/Kg

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

Analysis Comments

October 22, 2025 SDG I.D.: GCU45773

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report:

Herbicide Narration

AU-ECD2 10/15/25-1: CU45773, CU45774, CU45775, CU45776

The following Continuing Calibration compounds did not meet % deviation criteria:
Samples: CU45773
Preceding CC O15B015 - None.
Succeeding CC O15B027 - Dalapon (1) 27%H (20%)
Samples: CU45774, CU45775, CU45776
Preceding CC O15B027 - Dalapon (1) 27%H (20%)
Succeeding CC O15B038 - Dalapon (1) 23%H (20%)

SVOA Narration

CHEM36 10/16/25-2: CU45773, CU45774, CU45775, CU45776

The following Initial Calibration compounds did not meet recommended response factors: 2-Nitrophenol 0.052 (0.1), Hexachlorobenzene 0.092 (0.1)
The following Initial Calibration compounds did not meet minimum response factors: None.

The following Continuing Calibration compounds did not meet % deviation criteria: Hexachlorocyclopentadiene 23%L (20%)
The following Continuing Calibration compounds did not meet Maximum % deviation criteria: None.
The following Continuing Calibration compounds did not meet recommended response factors: 2-Nitrophenol 0.060 (0.1), Hexachlorobenzene 0.085 (0.1)
The following Continuing Calibration compounds did not meet minimum response factors: None.

Up to eight compounds can be outside of ICAL %RSD criteria and up to sixteen compounds can be outside of CCAL %Dev criteria if less than 40%.

VOA Narration

CHEM31 10/12/25-1: CU45773, CU45774, CU45775, CU45776

The following Initial Calibration compounds did not meet RSD% criteria: Acetone 30% (20%)
The following Initial Calibration compounds did not meet maximum RSD% criteria: None.
The following Initial Calibration compounds did not meet recommended response factors: 1,1,2-Trichloroethane 0.155 (0.2), 1,2-Dibromoethane 0.178 (0.2), Acrolein 0.039 (0.05), Bromodichloromethane 0.257 (0.3), trans-1,3-Dichloropropene 0.275 (0.3)
The following Initial Calibration compounds did not meet minimum response factors: Acrolein 0.039 (0.05)

The following Continuing Calibration compounds did not meet % deviation criteria: Carbon tetrachloride 21%L (20%)
The following Continuing Calibration compounds did not meet Maximum % deviation criteria: None.
The following Continuing Calibration compounds did not meet recommended response factors: 1,1,2-Trichloroethane 0.156 (0.2), 1,2-Dibromoethane 0.181 (0.2), Acrolein 0.038 (0.05), Bromodichloromethane 0.244 (0.3), Bromoform 0.095 (0.1), cis-1,3-Dichloropropene 0.299 (0.3), Dibromochloromethane 0.187 (0.2), trans-1,3-Dichloropropene 0.234 (0.3)
The following Continuing Calibration compounds did not meet minimum response factors: Acrolein 0.039 (0.05)

Up to eight compounds can be outside of ICAL %RSD criteria and up to sixteen compounds can be outside of CCAL %Dev criteria if less than 40%.

Environmental Laboratories, Inc.
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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

NY Temperature Narration

October 22, 2025

SDG I.D.: GCU45773

The samples in this delivery group were received at 1.3°C.
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)

PHOENIX Environmental Laboratories, Inc.

NY/NJ/PA CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: Makrina Nolan, makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Cooler: Yes ☐ No ☐ Coolant: IPK ☐ ICE ☒ No ☐
Temp 1.3 °C Pg 1 of 1

Contact Options:
☐ Phone:
☐ Fax:
☐ Email:

Customer: FACTOR Group
Address: 111 Town Square Place, Jersey City, New Jersey

Project: NYCDEP Sampling FACR
Report to: Joel Rogers / K Patel
Invoice to:
QUOTE # :

Project P.O: 00579

This section MUST be completed with Bottle Quantities.

Sampler's Signature: [signature] Date: 10/8/25

Client Sample - Information - Identification

Matrix Code:
DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe OIL=Oil
B=Bulk L=Liquid

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	260/8260 (Key for volatile all analytes incl. naphthalene)	Factor Group 3 ✱	Factor Group 3	Gl. Amber 8 oz. [ ] NaH2PO4 [ ] NaHSO4	Soil VOA Vials [ ] MeOH [ ] DI	Gl. Soil container [ ] 4oz. [ ] 8oz.	40 ml VOA Vial [ ] HCl	Gl. Amber 1000ml [ ] As is [ ] HCl	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml [ ] 1000ml	PL NaOH 250ml	PL HNO3 250ml	Bacteria Bottle yellow	Bacteria Bottle as is
45773	WC-13/146-1	S	10/8/25	1130	X	X						4	3					
45774	WC-13/146-2	S	S	1145	X	X						4	3					
45775	WC-149-1	S	S	1415	X	X						4	3					
45776	WC-149-2	S	S	1445	X	X						4	3					

✱ Samples rec'd 10/8 @ 18:35
C.o.C. sent 10/8 @ 8:18pm

Relinquished by:	Accepted by:	Date:	Time:
		10/8/25	1515
		10/8/25	20:11

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☐ 4 Days*
☐ 5 Days*
☒ Standard
* SURCHARGE APPLIES

NJ
☒ Res. Criteria
☒ Non-Res. Criteria
☐ Impact to GW Soil Cleanup Criteria
☐ Impact to GW soil screen Criteria
☐ GW Criteria

NY
☐ TOGS GW
☐ CP-51 SOIL
☒ 375SCO Unrestricted Soil
☒ 375SCO Residential Soil
☒ 375SCO Residential Restricted Soil
☒ 375SCO Commercial Soil
☒ 375SCO Industrial Soil
☐ Subpart 5 DW

PA
☐ Clean Fill Limits
☐ PA-GW
☒ Reg Fill Limits
☐ PA Soil Restricted
☐ PA Soil non-restricted

State Samples Collected? NY

Comments, Special Requirements or Regulations:
VOCs WC-13/146-1: 5:51
WC-13/146-2: 8:51
WC-14a-1: 2
WC-14a-2: 10
Factor 3 if needed.

Data Format:
☒ Phoenix Std Report ☐ EQuIS
☒ Excel ☐ NJ Hazsite EDD
☒ PDF ☐ NY EZ EDD (ASP)
☐ GIS/Key ☐ Other

Data Package:
☐ NJ Reduced Deliv. * ☐ Other
☐ NY Enhanced (ASP B) *

*MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

Use as original ✱ (2) 5gram encores Rec'd unused

PEL-111 Rev 1/2023

PHOENIX
Environmental Laboratories, Inc.

Thursday, October 23, 2025

Attn: Joel Rogers
Factor Group Inc
42 Crest Dr
South Orange, NJ 07079-1039

Project ID: NYCDDC SANDRHDK RHCR
SDG ID: GCU45642
Sample ID#s: CU45642 - CU45647

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

October 23, 2025

SDG I.D.: GCU45642

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

CU45642 - The client provided an ENCORE sample. Phoenix prepared sample per method 5035.
CU45643 - The client provided an ENCORE sample. Phoenix prepared sample per method 5035.
CU45644 - The client provided an ENCORE sample. Phoenix prepared sample per method 5035.
CU45645 - The client provided an ENCORE sample. Phoenix prepared sample per method 5035.
CU45646 - The client provided an ENCORE sample. Phoenix prepared sample per method 5035.
CU45647 - The client provided an ENCORE sample. Phoenix prepared sample per method 5035.

PA Fill comment:
Some compounds were evaluated below the lowest calibration standard in order to meet the requested criteria. The requested criteria could not be achieved for some compounds because the limit of detection (LOD) was greater than the criteria.

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

Sample Id Cross Reference

October 23, 2025

SDG I.D.: GCU45642

Project ID: NYCDDC SANDRHDK RHCR

Client Id	Lab Id	Matrix	Col Date
WC-16-1	CU45642	SOIL	10/06/25 11:00
WC-16-2	CU45643	SOIL	10/06/25 11:30
WC-16-3	CU45644	SOIL	10/06/25 12:00
WC-15-1	CU45645	SOIL	10/06/25 13:30
WC-15-2	CU45646	SOIL	10/06/25 14:00
WC-15-3	CU45647	SOIL	10/06/25 14:30

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

October 23, 2025

FOR: Attn: Joel Rogers
Factor Group Inc
42 Crest Dr
South Orange, NJ 07079-1039

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		10/06/25	11:00
Location Code:	FACTOR	Received by:	CP	10/08/25	18:35
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	00379				

Laboratory Data

SDG ID: GCU45642
Phoenix ID: CU45642

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-16-1

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.50	0.50		mg/Kg	1	10/11/25	CPP	SW6010D
Aluminum	5210	5.8		mg/Kg	1	10/11/25	CPP	SW6010D
Arsenic	6.78	0.78		mg/Kg	1	10/11/25	CPP	SW6010D
Barium	67.5	0.39		mg/Kg	1	10/11/25	CPP	SW6010D
Beryllium	< 0.31	0.31		mg/Kg	1	10/11/25	CPP	SW6010D
Boron	2.8	1.6		mg/Kg	1	10/11/25	CPP	SW6010D
Calcium	7680	5.8		mg/Kg	1	10/11/25	CPP	SW6010D
Cadmium	< 0.39	0.39		mg/Kg	1	10/11/25	CPP	SW6010D
Cobalt	6.09	0.39		mg/Kg	1	10/11/25	CPP	SW6010D
Chromium	13.6	0.39		mg/Kg	1	10/11/25	CPP	SW6010D
Copper	52.8	0.8		mg/kg	1	10/11/25	CPP	SW6010D
Iron	14600	5.8		mg/Kg	1	10/11/25	CPP	SW6010D
Mercury	2.27	0.07		mg/Kg	5	10/10/25	AJ1	SW7471B
Potassium	618	5.8		mg/Kg	1	10/11/25	CPP	SW6010D
Magnesium	3340	5.8		mg/Kg	1	10/11/25	CPP	SW6010D
Manganese	181	0.39		mg/Kg	1	10/11/25	CPP	SW6010D
Molybdenum	0.52	0.39		mg/Kg	1	10/11/25	CPP	SW6010D
Sodium	523	5.8		mg/Kg	1	10/11/25	CPP	SW6010D
Nickel	20.1	0.39		mg/Kg	1	10/11/25	CPP	SW6010D
Lead	521	0.39		mg/Kg	1	10/11/25	CPP	SW6010D
Antimony	< 3.9	3.9		mg/Kg	1	10/11/25	CPP	SW6010D
Selenium	< 1.6	1.6		mg/Kg	1	10/11/25	CPP	SW6010D
TCLP Silver	< 0.10	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Arsenic	< 0.050	0.050		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Barium	1.11	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Cadmium	< 0.050	0.050		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Chromium	< 0.10	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Mercury	< 0.0002	0.0002		mg/L	1	10/10/25	ZT	SW846 1311/7470

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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
TCLP Lead	5.13	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010	
TCLP Selenium	< 0.10	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010D	
Thallium	< 2.2	2.2		mg/Kg	1	10/11/25	CPP	SW6010D	
TCLP Metals Digestion	Completed					10/09/25	AK/GW	SW3010A	
Trivalent Chromium	13.6	0.39		mg/kg	1	10/13/25		CALC 6010-7196	
Vanadium	20.7	0.39		mg/Kg	1	10/11/25	CPP	SW6010D	
Zinc	87.6	0.8		mg/Kg	1	10/11/25	CPP	SW6010D	
Percent Solid	88			%		10/08/25	CV	SW846-%Solid	
Corrosivity	Negative			Pos/Neg	1	10/09/25	KG	SW846-Corr	1
Flash Point	>200	200		Degree F	1	10/10/25	G	SW1010B	
Fluoride	< 5.7	5.7		mg/Kg	10	10/09/25	DD/EG	SW9056A	
Chromium, Hex. (SW3060A digestion	< 0.44	0.44		mg/Kg	1	10/13/25	NP	SW7196A	
Ignitability	Passed	140		degree F	1	10/10/25	G	SW846-Ignit	1
Ammonia as Nitrogen	< 72.5	72.5		mg/Kg	1	10/14/25	KDB	E350.1	1
pH at 21C - Soil	8.90	1.00		pH Units	1	10/09/25 01:11	KG	SW846 9045D	
Reactivity Cyanide	< 5	5		mg/Kg	1	10/15/25	NP/GD	SW846 7.3.3.1/90	1
Reactivity Sulfide	< 20	20		mg/Kg	1	10/16/25	NP/GD	SW846 CH7	1
Reactivity	Negative			Pos/Neg	1	10/16/25	NP/GD	SW846-React	1
Redox Potential	219			mV	1	10/09/25	KG	SM2580B-09	1
SPLP Chloride	9.9	1.0		mg/L	1	10/10/25	DD/EG	SW1312/300.0	
SPLP Sulfate	5.8	3.0		mg/L	1	10/10/25	DD/EG	SW1312/300.0	1
Total Cyanide (SW9010C Distill.)	< 0.57	0.57		mg/Kg	1	10/14/25	IG/GD	SW9012B	
Mercury Digestion	Completed					10/10/25	GW/GW	SW7471B	
Soil Extraction for Herbicide	Completed					10/14/25	X/K/SD	SW3546	
NJ EPH Extraction	Completed					10/13/25	SD/S/U	NJDEP 10-08 R3	
Soil Extraction for PCB	Completed					10/16/25	S/Z	SW3546	
Soil Extraction for Pesticides	Completed					10/16/25	S/Z	SW3546	
Soil Extraction for SVOA	Completed					10/16/25	C/Q	SW3546	
Paint Filter Test	Passed			PASS/FAIL		10/08/25	O	SW9095B	
SPLP Extraction, Wet Chemistry	Completed					10/08/25	AK	SW1312	
TCLP Digestion Mercury	Completed					10/09/25	AK/GW	SW7470A	
TCLP Extraction for Metals	Completed					10/08/25	AK	SW1311	
Total Metals Digest	Completed					10/09/25	P/AG/BF	SW3050B	
NJ EPH Category 2									
Total EPH (C9-C40)	ND	200	200	mg/kg	5	10/16/25	JRB	NJEPH 10-08 R3	1
QA/QC Surrogates									
% COD (surr)	48			%	5	10/16/25	JRB	40 - 140 %	
% Terphenyl (surr)	82			%	5	10/16/25	JRB	40 - 140 %	
Chlorinated Herbicides									
2,4,5-T	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4,5-TP (Silvex)	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4-D	ND	280		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4-DB	ND	1400		ug/Kg	10	10/15/25	JRB	SW8151A	
Dalapon	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
Dicamba	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
Dichloroprop	ND	280		ug/Kg	10	10/15/25	JRB	SW8151A	
Dinoseb	ND	280		ug/Kg	10	10/15/25	JRB	SW8151A	

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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates									
% DCAA	119			%	10	10/15/25	JRB	30 - 150 %	
% DCAA (Confirmation)	108			%	10	10/15/25	JRB	30 - 150 %	
Polychlorinated Biphenyls									
PCB-1016	ND	75		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1221	ND	75		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1232	ND	75		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1242	ND	75		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1248	ND	75		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1254	ND	75		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1260	ND	75		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1262	ND	75		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1268	ND	75		ug/Kg	2	10/17/25	SC	SW8082A	
Total PCBs	ND	75		ug/Kg	2	10/17/25	SC	SW8082A	1
QA/QC Surrogates									
% DCBP	73			%	2	10/17/25	SC	30 - 150 %	
% DCBP (Confirmation)	66			%	2	10/17/25	SC	30 - 150 %	
% TCMX	73			%	2	10/17/25	SC	30 - 150 %	
% TCMX (Confirmation)	61			%	2	10/17/25	SC	30 - 150 %	
Pesticides - Soil									
4,4' -DDD	21	2.2		ug/Kg	2	10/17/25	PS	SW8081B	
4,4' -DDE	27	2.2		ug/Kg	2	10/17/25	PS	SW8081B	
4,4' -DDT	16	2.2		ug/Kg	2	10/17/25	PS	SW8081B	
a-BHC	ND	1.5		ug/Kg	2	10/17/25	PS	SW8081B	
a-Chlordane	ND	3.7		ug/Kg	2	10/17/25	PS	SW8081B	
Aldrin	ND	3.7		ug/Kg	2	10/17/25	PS	SW8081B	
b-BHC	ND	1.5		ug/Kg	2	10/17/25	PS	SW8081B	
Chlordane	ND	37		ug/Kg	2	10/17/25	PS	SW8081B	
d-BHC	ND	7.5		ug/Kg	2	10/17/25	PS	SW8081B	
Dieldrin	12	3.7		ug/Kg	2	10/17/25	PS	SW8081B	
Endosulfan I	ND	7.5		ug/Kg	2	10/17/25	PS	SW8081B	
Endosulfan II	ND	7.5		ug/Kg	2	10/17/25	PS	SW8081B	
Endosulfan sulfate	ND	7.5		ug/Kg	2	10/17/25	PS	SW8081B	
Endrin	ND	7.5		ug/Kg	2	10/17/25	PS	SW8081B	
Endrin aldehyde	ND	7.5		ug/Kg	2	10/17/25	PS	SW8081B	
Endrin ketone	ND	7.5		ug/Kg	2	10/17/25	PS	SW8081B	
g-BHC	ND	1.5		ug/Kg	2	10/17/25	PS	SW8081B	
g-Chlordane	ND	3.7		ug/Kg	2	10/17/25	PS	SW8081B	
Heptachlor	ND	7.5		ug/Kg	2	10/17/25	PS	SW8081B	
Heptachlor epoxide	ND	7.5		ug/Kg	2	10/17/25	PS	SW8081B	
Methoxychlor	ND	37		ug/Kg	2	10/17/25	PS	SW8081B	
Toxaphene	ND	150		ug/Kg	2	10/17/25	PS	SW8081B	
QA/QC Surrogates									
% DCBP	70			%	2	10/17/25	PS	30 - 150 %	
% DCBP (Confirmation)	71			%	2	10/17/25	PS	30 - 150 %	
% TCMX	56			%	2	10/17/25	PS	30 - 150 %	
% TCMX (Confirmation)	66			%	2	10/17/25	PS	30 - 150 %	

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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Volatiles (TCL)								
1,1,1-Trichloroethane	ND	5.0		ug/kg	1	10/12/25	JLI	SW8260D
1,1,2,2-Tetrachloroethane	ND	5.0		ug/kg	1	10/12/25	JLI	SW8260D
1,1,2-Trichloroethane	ND	5.0		ug/kg	1	10/12/25	JLI	SW8260D
1,1-Dichloroethane	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
1,1-Dichloroethene	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
1,2,3-Trichlorobenzene	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
1,2,4-Trichlorobenzene	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
1,2,4-Trimethylbenzene	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
1,2-Dibromo-3-chloropropane	ND	5.0		ug/kg	1	10/12/25	JLI	SW8260D
1,2-Dibromoethane	ND	1.2		ug/kg	1	10/12/25	JLI	SW8260D
1,2-Dichlorobenzene	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
1,2-Dichloroethane	34	33		ug/kg	50	10/13/25	JLI	SW8260D
1,2-Dichloropropane	ND	5.0		ug/kg	1	10/12/25	JLI	SW8260D
1,3,5-Trimethylbenzene	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
1,3-Dichlorobenzene	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
1,4-Dichlorobenzene	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
2-Hexanone	ND	28		ug/kg	1	10/12/25	JLI	SW8260D
4-Methyl-2-pentanone	ND	28		ug/kg	1	10/12/25	JLI	SW8260D
Acetone	ND	50		ug/kg	1	10/12/25	JLI	SW8260D
Benzene	ND	4.0		ug/kg	1	10/12/25	JLI	SW8260D
Bromochloromethane	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
Bromodichloromethane	ND	5.0		ug/kg	1	10/12/25	JLI	SW8260D
Bromoform	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
Bromomethane	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
Carbon Disulfide	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
Carbon tetrachloride	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
Chlorobenzene	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
Chloroethane	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
Chloroform	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
Chloromethane	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
cis-1,2-Dichloroethene	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
cis-1,3-Dichloropropene	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
Cyclohexane	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
Dibromochloromethane	ND	5.0		ug/kg	1	10/12/25	JLI	SW8260D
Dichlorodifluoromethane	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
Ethylbenzene	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
Isopropylbenzene	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
m&p-Xylene	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
Methyl ethyl ketone	ND	34		ug/kg	1	10/12/25	JLI	SW8260D
Methyl t-butyl ether (MTBE)	ND	11		ug/kg	1	10/12/25	JLI	SW8260D
Methylacetate	ND	56		ug/kg	1	10/12/25	JLI	SW8260D
Methylcyclohexane	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
Methylene chloride	ND	13		ug/kg	1	10/12/25	JLI	SW8260D
o-Xylene	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
Styrene	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
Tetrachloroethene	ND	5.0		ug/kg	1	10/12/25	JLI	SW8260D
Toluene	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D
Total Xylenes	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D	
trans-1,3-Dichloropropene	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D	
Trichloroethene	ND	5.0		ug/kg	1	10/12/25	JLI	SW8260D	
Trichlorofluoromethane	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D	
Trichlorotrifluoroethane	ND	5.6		ug/kg	1	10/12/25	JLI	SW8260D	
Vinyl chloride	ND	5.0		ug/kg	1	10/12/25	JLI	SW8260D	
QA/QC Surrogates									
% 1,2-dichlorobenzene-d4	101			%	1	10/12/25	JLI	70 - 130 %	
% Bromofluorobenzene	87			%	1	10/12/25	JLI	70 - 130 %	
% Dibromofluoromethane	100			%	1	10/12/25	JLI	70 - 130 %	
% Toluene-d8	97			%	1	10/12/25	JLI	70 - 130 %	
% 1,2-dichlorobenzene-d4 (50x)	97			%	50	10/13/25	JLI	70 - 130 %	
% Bromofluorobenzene (50x)	99			%	50	10/13/25	JLI	70 - 130 %	
% Dibromofluoromethane (50x)	92			%	50	10/13/25	JLI	70 - 130 %	
% Toluene-d8 (50x)	98			%	50	10/13/25	JLI	70 - 130 %	
1,4-dioxane									
1,4-dioxane	ND	67		ug/kg	1	10/12/25	RM	SW8260D	
Volatiles									
1,1,1,2-Tetrachloroethane	ND	23		ug/Kg	1	10/12/25	RM	SW8260D	
Acrolein	ND	0.47		ug/Kg	1	10/12/25	RM	SW8260D	
Acrylonitrile	ND	10		ug/Kg	1	10/12/25	RM	SW8260D	
Tert-butyl alcohol	ND	110		ug/Kg	1	10/12/25	RM	SW8260D	
Vinyl Acetate	ND	56		ug/Kg	1	10/12/25	RM	SW8260D	
Volatile Library Search	Completed					10/13/25	RM		
FACTOR GROUP 2	Completed					10/08/25			
Semivolatiles									
1,1-Biphenyl	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
1,2,4,5-Tetrachlorobenzene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2,2'-Oxybis(1-Chloropropane)	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	1
2,3,4,6-tetrachlorophenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2,4,5-Trichlorophenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2,4,6-Trichlorophenol	ND	200		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dichlorophenol	ND	190		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dimethylphenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dinitrophenol	ND	330		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dinitrotoluene	ND	50		ug/Kg	1	10/17/25	MR	SW8270E	
2,6-Dinitrotoluene	ND	75		ug/Kg	1	10/17/25	MR	SW8270E	
2-Chloronaphthalene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2-Chlorophenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2-Methylnaphthalene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2-Methylphenol (o-cresol)	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2-Nitroaniline	ND	75		ug/Kg	1	10/17/25	MR	SW8270E	
2-Nitrophenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
3&4-Methylphenol (m&p-cresol)	ND	330		ug/Kg	1	10/17/25	MR	SW8270E	1
3,3'-Dichlorobenzidine	ND	450		ug/Kg	1	10/17/25	MR	SW8270E	
3-Nitroaniline	ND	600		ug/Kg	1	10/17/25	MR	SW8270E	

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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
4,6-Dinitro-2-methylphenol	ND	210		ug/Kg	1	10/17/25	MR	SW8270E
4-Bromophenyl phenyl ether	ND	380		ug/Kg	1	10/17/25	MR	SW8270E
4-Chloro-3-methylphenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
4-Chloroaniline	ND	170		ug/Kg	1	10/17/25	MR	SW8270E
4-Chlorophenyl phenyl ether	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
4-Nitroaniline	ND	490		ug/Kg	1	10/17/25	MR	SW8270E
4-Nitrophenol	ND	1100		ug/Kg	1	10/17/25	MR	SW8270E
Acenaphthene	420	260		ug/Kg	1	10/17/25	MR	SW8270E
Acenaphthylene	520	260		ug/Kg	1	10/17/25	MR	SW8270E
Acetophenone	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Anthracene	1500	260		ug/Kg	1	10/17/25	MR	SW8270E
Atrazine	ND	130		ug/Kg	1	10/17/25	MR	SW8270E
Benz(a)anthracene	4500	260		ug/Kg	1	10/17/25	MR	SW8270E
Benzaldehyde	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(a)pyrene	6100	260		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(b)fluoranthene	8900	1300		ug/Kg	5	10/17/25	MR	SW8270E
Benzo(ghi)perylene	4200	260		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(k)fluoranthene	2500	260		ug/Kg	1	10/17/25	MR	SW8270E
Benzyl butyl phthalate	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-chloroethoxy)methane	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-chloroethyl)ether	ND	38		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-ethylhexyl)phthalate	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Caprolactam	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Carbazole	550	380		ug/Kg	1	10/17/25	MR	SW8270E
Chrysene	4400	260		ug/Kg	1	10/17/25	MR	SW8270E
Dibenz(a,h)anthracene	890	190		ug/Kg	1	10/17/25	MR	SW8270E
Dibenzofuran	270	260		ug/Kg	1	10/17/25	MR	SW8270E
Diethyl phthalate	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Dimethylphthalate	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Di-n-butylphthalate	ND	750		ug/Kg	1	10/17/25	MR	SW8270E
Di-n-octylphthalate	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Fluoranthene	6800	260		ug/Kg	1	10/17/25	MR	SW8270E
Fluorene	530	260		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorobenzene	ND	170		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorobutadiene	ND	170		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorocyclopentadiene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Hexachloroethane	ND	170		ug/Kg	1	10/17/25	MR	SW8270E
Indeno(1,2,3-cd)pyrene	4100	260		ug/Kg	1	10/17/25	MR	SW8270E
Isophorone	ND	230		ug/Kg	1	10/17/25	MR	SW8270E
Naphthalene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Nitrobenzene	ND	52		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodimethylamine	ND	38		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodi-n-propylamine	ND	38		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodiphenylamine	ND	380		ug/Kg	1	10/17/25	MR	SW8270E
Pentachlorophenol	ND	330		ug/Kg	1	10/17/25	MR	SW8270E
Phenanthrene	4400	260		ug/Kg	1	10/17/25	MR	SW8270E
Phenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Pyrene	6800	260		ug/Kg	1	10/17/25	MR	SW8270E

QA/QC Surrogates

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-16-1

Phoenix I.D.: CU45642

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
% 2,4,6-Tribromophenol	77			%	1	10/17/25	MR	30 - 130 %
% 2-Fluorobiphenyl	60			%	1	10/17/25	MR	30 - 130 %
% 2-Fluorophenol	68			%	1	10/17/25	MR	30 - 130 %
% Nitrobenzene-d5	67			%	1	10/17/25	MR	30 - 130 %
% Phenol-d5	69			%	1	10/17/25	MR	30 - 130 %
% Terphenyl-d14	69			%	1	10/17/25	MR	30 - 130 %
% 2-Fluorobiphenyl (5x)	65			%	5	10/17/25	MR	30 - 130 %
% Nitrobenzene-d5 (5x)	84			%	5	10/17/25	MR	30 - 130 %
% Terphenyl-d14 (5x)	64			%	5	10/17/25	MR	30 - 130 %
1,2-Diphenylhydrazine	ND	75		ug/Kg	1	10/17/25	MR	SW8270E
Aniline	ND	120		ug/Kg	1	10/17/25	MR	SW8270E
Benzoic Acid	ND	380		ug/Kg	1	10/17/25	MR	SW8270E
Benzyl Alcohol	ND	380		ug/Kg	1	10/17/25	MR	SW8270E
Semivolatile Library Search	Completed					10/17/25	MR	

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Corrosivity is based solely on the pH analysis performed above.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

Ignitability is based solely on the results of the closed cup flashpoint analysis performed above. Passed is >140 degree F.

Paint Filter Test:
Pass = no free liquids were detected. Fail = free liquids were detected.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Cyanide. This method is no longer listed in the current version of SW-846.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Sulfide. This method is no longer listed in the current version of SW-846.

Hexavalent Chromium:
This sample is in a reducing state.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Semi-Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 23, 2025
Reviewed and Released by: Phyllis Shiller, Laboratory Director

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

October 23, 2025

FOR: Attn: Joel Rogers
Factor Group Inc
42 Crest Dr
South Orange, NJ 07079-1039

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		10/06/25	11:30
Location Code:	FACTOR	Received by:	CP	10/08/25	18:35
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	00379				

Laboratory Data

SDG ID: GCU45642
Phoenix ID: CU45643

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-16-2

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.50	0.50		mg/Kg	1	10/11/25	CPP	SW6010D
Aluminum	7830	53		mg/Kg	10	10/11/25	CPP	SW6010D
Arsenic	14.2	0.71		mg/Kg	1	10/11/25	CPP	SW6010D
Barium	170	0.35		mg/Kg	1	10/11/25	CPP	SW6010D
Beryllium	0.58	0.28		mg/Kg	1	10/11/25	CPP	SW6010D
Boron	3.9	1.4		mg/Kg	1	10/11/25	CPP	SW6010D
Calcium	16900	53		mg/Kg	10	10/11/25	CPP	SW6010D
Cadmium	0.64	0.35		mg/Kg	1	10/11/25	CPP	SW6010D
Cobalt	8.54	0.35		mg/Kg	1	10/11/25	CPP	SW6010D
Chromium	20.4	0.35		mg/Kg	1	10/11/25	CPP	SW6010D
Copper	122	0.7		mg/kg	1	10/11/25	CPP	SW6010D
Iron	22100	5.3		mg/Kg	1	10/11/25	CPP	SW6010D
Mercury	2.67	0.07		mg/Kg	5	10/10/25	AJ1	SW7471B
Potassium	1530	53		mg/Kg	10	10/11/25	CPP	SW6010D
Magnesium	8060	5.3		mg/Kg	1	10/11/25	CPP	SW6010D
Manganese	277	0.35		mg/Kg	1	10/11/25	CPP	SW6010D
Molybdenum	1.35	0.35		mg/Kg	1	10/11/25	CPP	SW6010D
Sodium	776	5.3		mg/Kg	1	10/11/25	CPP	SW6010D
Nickel	29.7	0.35		mg/Kg	1	10/11/25	CPP	SW6010D
Lead	1490	0.35		mg/Kg	1	10/11/25	CPP	SW6010D
Antimony	12.0	3.5		mg/Kg	1	10/11/25	CPP	SW6010D
Selenium	< 1.4	1.4		mg/Kg	1	10/11/25	CPP	SW6010D
TCLP Silver	< 0.10	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Arsenic	< 0.050	0.050		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Barium	0.80	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Cadmium	< 0.050	0.050		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Chromium	< 0.10	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Mercury	< 0.0002	0.0002		mg/L	1	10/10/25	ZT	SW846 1311/7470

Ver 1

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-16-2

Phoenix I.D.: CU45643

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
TCLP Lead	3.27	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010	
TCLP Selenium	< 0.10	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010D	
Thallium	< 2.2	2.2		mg/Kg	1	10/11/25	CPP	SW6010D	
TCLP Metals Digestion	Completed					10/09/25	AK/GW	SW3010A	
Trivalent Chromium	20.4	0.35		mg/kg	1	10/14/25		CALC 6010-7196	
Vanadium	24.8	0.35		mg/Kg	1	10/11/25	CPP	SW6010D	
Zinc	247	0.7		mg/Kg	1	10/11/25	CPP	SW6010D	
Percent Solid	84			%		10/08/25	CV	SW846-%Solid	
Corrosivity	Negative			Pos/Neg	1	10/09/25	KG	SW846-Corr	1
Flash Point	>200	200		Degree F	1	10/10/25	G	SW1010B	
Fluoride	< 6.0	6.0		mg/Kg	10	10/09/25	DD/EG	SW9056A	
Chromium, Hex. (SW3060A digestion	< 0.42	0.42		mg/Kg	1	10/14/25	NP	SW7196A	
Ignitability	Passed	140		degree F	1	10/10/25	G	SW846-Ignit	1
Ammonia as Nitrogen	< 85.8	85.8		mg/Kg	1	10/14/25	KDB	E350.1	1
pH at 21C - Soil	8.96	1.00		pH Units	1	10/09/25 01:11	KG	SW846 9045D	
Reactivity Cyanide	< 6	6		mg/Kg	1	10/15/25	NP/GD	SW846 7.3.3.1/90	1
Reactivity Sulfide	< 20	20		mg/Kg	1	10/16/25	NP/GD	SW846 CH7	1
Reactivity	Negative			Pos/Neg	1	10/16/25	NP/GD	SW846-React	1
Redox Potential	223			mV	1	10/09/25	KG	SM2580B-09	1
SPLP Chloride	10.4	1.0		mg/L	1	10/10/25	DD/EG	SW1312/300.0	
SPLP Sulfate	6.4	3.0		mg/L	1	10/10/25	DD/EG	SW1312/300.0	1
Total Cyanide (SW9010C Distill.)	< 0.60	0.60		mg/Kg	1	10/14/25	IG/GD	SW9012B	
Mercury Digestion	Completed					10/10/25	GW/GW	SW7471B	
Soil Extraction for Herbicide	Completed					10/14/25	X/K/SD	SW3546	
NJ EPH Extraction	Completed					10/13/25	SD/S/U	NJDEP 10-08 R3	
Soil Extraction for PCB	Completed					10/16/25	S/Z	SW3546	
Soil Extraction for Pesticides	Completed					10/16/25	S/Z	SW3546	
Soil Extraction for SVOA	Completed					10/16/25	C/Q	SW3546	
Paint Filter Test	Passed			PASS/FAIL		10/08/25	O	SW9095B	
SPLP Extraction, Wet Chemistry	Completed					10/08/25	AK	SW1312	
TCLP Digestion Mercury	Completed					10/09/25	AK/GW	SW7470A	
TCLP Extraction for Metals	Completed					10/08/25	AK	SW1311	
Total Metals Digest	Completed					10/09/25	P/AG/BF	SW3050B	
NJ EPH Category 2									
Total EPH (C9-C40)	ND	210	210	mg/kg	5	10/16/25	JRB	NJEPH 10-08 R3	1
QA/QC Surrogates									
% COD (surr)	60			%	5	10/16/25	JRB	40 - 140 %	
% Terphenyl (surr)	87			%	5	10/16/25	JRB	40 - 140 %	
Chlorinated Herbicides									
2,4,5-T	ND	150		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4,5-TP (Silvex)	ND	150		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4-D	ND	300		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4-DB	ND	1500		ug/Kg	10	10/15/25	JRB	SW8151A	
Dalapon	ND	150		ug/Kg	10	10/15/25	JRB	SW8151A	
Dicamba	ND	150		ug/Kg	10	10/15/25	JRB	SW8151A	
Dichloroprop	ND	300		ug/Kg	10	10/15/25	JRB	SW8151A	
Dinoseb	ND	150		ug/Kg	10	10/15/25	JRB	SW8151A	

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-16-2

Phoenix I.D.: CU45643

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates									
% DCAA	111			%	10	10/15/25	JRB	30 - 150 %	
% DCAA (Confirmation)	102			%	10	10/15/25	JRB	30 - 150 %	
Polychlorinated Biphenyls									
PCB-1016	ND	79		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1221	ND	79		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1232	ND	79		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1242	ND	79		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1248	ND	79		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1254	ND	79		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1260	ND	79		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1262	ND	79		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1268	ND	79		ug/Kg	2	10/17/25	SC	SW8082A	
Total PCBs	ND	79		ug/Kg	2	10/17/25	SC	SW8082A	1
QA/QC Surrogates									
% DCBP	68			%	2	10/17/25	SC	30 - 150 %	
% DCBP (Confirmation)	62			%	2	10/17/25	SC	30 - 150 %	
% TCMX	71			%	2	10/17/25	SC	30 - 150 %	
% TCMX (Confirmation)	63			%	2	10/17/25	SC	30 - 150 %	
Pesticides - Soil									
4,4' -DDD	25	2.4		ug/Kg	2	10/17/25	AW	SW8081B	
4,4' -DDE	25	2.4		ug/Kg	2	10/17/25	AW	SW8081B	
4,4' -DDT	16	2.4		ug/Kg	2	10/17/25	AW	SW8081B	
a-BHC	ND	1.6		ug/Kg	2	10/17/25	AW	SW8081B	
a-Chlordane	ND	4.0		ug/Kg	2	10/17/25	AW	SW8081B	
Aldrin	ND	4.0		ug/Kg	2	10/17/25	AW	SW8081B	
b-BHC	ND	1.6		ug/Kg	2	10/17/25	AW	SW8081B	
Chlordane	ND	40		ug/Kg	2	10/17/25	AW	SW8081B	
d-BHC	ND	7.9		ug/Kg	2	10/17/25	AW	SW8081B	
Dieldrin	5.3	4.0		ug/Kg	2	10/17/25	AW	SW8081B	
Endosulfan I	ND	7.9		ug/Kg	2	10/17/25	AW	SW8081B	
Endosulfan II	ND	7.9		ug/Kg	2	10/17/25	AW	SW8081B	
Endosulfan sulfate	ND	7.9		ug/Kg	2	10/17/25	AW	SW8081B	
Endrin	ND	7.9		ug/Kg	2	10/17/25	AW	SW8081B	
Endrin aldehyde	ND	7.9		ug/Kg	2	10/17/25	AW	SW8081B	
Endrin ketone	ND	7.9		ug/Kg	2	10/17/25	AW	SW8081B	
g-BHC	ND	1.6		ug/Kg	2	10/17/25	AW	SW8081B	
g-Chlordane	ND	4.0		ug/Kg	2	10/17/25	AW	SW8081B	
Heptachlor	ND	7.9		ug/Kg	2	10/17/25	AW	SW8081B	
Heptachlor epoxide	ND	7.9		ug/Kg	2	10/17/25	AW	SW8081B	
Methoxychlor	ND	40		ug/Kg	2	10/17/25	AW	SW8081B	
Toxaphene	ND	160		ug/Kg	2	10/17/25	AW	SW8081B	
QA/QC Surrogates									
% DCBP	69			%	2	10/17/25	AW	30 - 150 %	
% DCBP (Confirmation)	63			%	2	10/17/25	AW	30 - 150 %	
% TCMX	55			%	2	10/17/25	AW	30 - 150 %	
% TCMX (Confirmation)	61			%	2	10/17/25	AW	30 - 150 %	

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-16-2

Phoenix I.D.: CU45643

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Volatiles (TCL)								
1,1,1-Trichloroethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,1,2,2-Tetrachloroethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,1,2-Trichloroethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,1-Dichloroethane	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
1,1-Dichloroethene	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
1,2,3-Trichlorobenzene	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
1,2,4-Trichlorobenzene	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
1,2,4-Trimethylbenzene	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dibromo-3-chloropropane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dibromoethane	ND	1.2		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dichlorobenzene	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dichloroethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dichloropropane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,3,5-Trimethylbenzene	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
1,3-Dichlorobenzene	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
1,4-Dichlorobenzene	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
2-Hexanone	ND	29		ug/kg	1	10/12/25	RM	SW8260D
4-Methyl-2-pentanone	ND	29		ug/kg	1	10/12/25	RM	SW8260D
Acetone	ND	50		ug/kg	1	10/12/25	RM	SW8260D
Benzene	ND	4.2		ug/kg	1	10/12/25	RM	SW8260D
Bromochloromethane	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
Bromodichloromethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
Bromoform	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
Bromomethane	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
Carbon Disulfide	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
Carbon tetrachloride	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
Chlorobenzene	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
Chloroethane	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
Chloroform	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
Chloromethane	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
cis-1,2-Dichloroethene	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
cis-1,3-Dichloropropene	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
Cyclohexane	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
Dibromochloromethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
Dichlorodifluoromethane	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
Ethylbenzene	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
Isopropylbenzene	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
m&p-Xylene	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
Methyl ethyl ketone	ND	35		ug/kg	1	10/12/25	RM	SW8260D
Methyl t-butyl ether (MTBE)	ND	12		ug/kg	1	10/12/25	RM	SW8260D
Methylacetate	ND	59		ug/kg	1	10/12/25	RM	SW8260D
Methylcyclohexane	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
Methylene chloride	ND	13		ug/kg	1	10/12/25	RM	SW8260D
o-Xylene	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
Styrene	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
Tetrachloroethene	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
Toluene	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D
Total Xylenes	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-16-2

Phoenix I.D.: CU45643

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D	
trans-1,3-Dichloropropene	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D	
Trichloroethene	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D	
Trichlorofluoromethane	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D	
Trichlorotrifluoroethane	ND	5.9		ug/kg	1	10/12/25	RM	SW8260D	
Vinyl chloride	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D	
QA/QC Surrogates									
% 1,2-dichlorobenzene-d4	98			%	1	10/12/25	RM	70 - 130 %	
% Bromofluorobenzene	90			%	1	10/12/25	RM	70 - 130 %	
% Dibromofluoromethane	101			%	1	10/12/25	RM	70 - 130 %	
% Toluene-d8	98			%	1	10/12/25	RM	70 - 130 %	
1,4-dioxane									
1,4-dioxane	ND	67		ug/kg	1	10/12/25	RM	SW8260D	
Volatiles									
1,1,1,2-Tetrachloroethane	ND	24		ug/Kg	1	10/12/25	RM	SW8260D	
Acrolein	ND	0.47		ug/Kg	1	10/12/25	RM	SW8260D	
Acrylonitrile	ND	10		ug/Kg	1	10/12/25	RM	SW8260D	
Tert-butyl alcohol	ND	120		ug/Kg	1	10/12/25	RM	SW8260D	
Vinyl Acetate	ND	59		ug/Kg	1	10/12/25	RM	SW8260D	
Volatile Library Search	Completed					10/13/25	RM		
FACTOR GROUP 2	Completed					10/08/25			
Semivolatiles									
1,1-Biphenyl	ND	270		ug/Kg	1	10/17/25	MR	SW8270E	
1,2,4,5-Tetrachlorobenzene	ND	270		ug/Kg	1	10/17/25	MR	SW8270E	
2,2'-Oxybis(1-Chloropropane)	ND	270		ug/Kg	1	10/17/25	MR	SW8270E	1
2,3,4,6-tetrachlorophenol	ND	270		ug/Kg	1	10/17/25	MR	SW8270E	
2,4,5-Trichlorophenol	ND	270		ug/Kg	1	10/17/25	MR	SW8270E	
2,4,6-Trichlorophenol	ND	200		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dichlorophenol	ND	190		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dimethylphenol	ND	270		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dinitrophenol	ND	330		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dinitrotoluene	ND	50		ug/Kg	1	10/17/25	MR	SW8270E	
2,6-Dinitrotoluene	ND	78		ug/Kg	1	10/17/25	MR	SW8270E	
2-Chloronaphthalene	ND	270		ug/Kg	1	10/17/25	MR	SW8270E	
2-Chlorophenol	ND	270		ug/Kg	1	10/17/25	MR	SW8270E	
2-Methylnaphthalene	ND	270		ug/Kg	1	10/17/25	MR	SW8270E	
2-Methylphenol (o-cresol)	ND	270		ug/Kg	1	10/17/25	MR	SW8270E	
2-Nitroaniline	ND	78		ug/Kg	1	10/17/25	MR	SW8270E	
2-Nitrophenol	ND	270		ug/Kg	1	10/17/25	MR	SW8270E	
3&4-Methylphenol (m&p-cresol)	ND	330		ug/Kg	1	10/17/25	MR	SW8270E	1
3,3'-Dichlorobenzidine	ND	470		ug/Kg	1	10/17/25	MR	SW8270E	
3-Nitroaniline	ND	630		ug/Kg	1	10/17/25	MR	SW8270E	
4,6-Dinitro-2-methylphenol	ND	210		ug/Kg	1	10/17/25	MR	SW8270E	
4-Bromophenyl phenyl ether	ND	390		ug/Kg	1	10/17/25	MR	SW8270E	
4-Chloro-3-methylphenol	ND	270		ug/Kg	1	10/17/25	MR	SW8270E	
4-Chloroaniline	ND	170		ug/Kg	1	10/17/25	MR	SW8270E	

Project ID: NYCDDC SANDRHDK RHCR
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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
4-Chlorophenyl phenyl ether	ND	270		ug/Kg	1	10/17/25	MR	SW8270E
4-Nitroaniline	ND	490		ug/Kg	1	10/17/25	MR	SW8270E
4-Nitrophenol	ND	1100		ug/Kg	1	10/17/25	MR	SW8270E
Acenaphthene	290	270		ug/Kg	1	10/17/25	MR	SW8270E
Acenaphthylene	ND	270		ug/Kg	1	10/17/25	MR	SW8270E
Acetophenone	ND	270		ug/Kg	1	10/17/25	MR	SW8270E
Anthracene	930	270		ug/Kg	1	10/17/25	MR	SW8270E
Atrazine	ND	130		ug/Kg	1	10/17/25	MR	SW8270E
Benz(a)anthracene	2900	270		ug/Kg	1	10/17/25	MR	SW8270E
Benzaldehyde	ND	270		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(a)pyrene	3800	270		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(b)fluoranthene	4700	270		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(ghi)perylene	2500	270		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(k)fluoranthene	1400	270		ug/Kg	1	10/17/25	MR	SW8270E
Benzyl butyl phthalate	ND	270		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-chloroethoxy)methane	ND	270		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-chloroethyl)ether	ND	39		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-ethylhexyl)phthalate	ND	270		ug/Kg	1	10/17/25	MR	SW8270E
Caprolactam	ND	270		ug/Kg	1	10/17/25	MR	SW8270E
Carbazole	ND	390		ug/Kg	1	10/17/25	MR	SW8270E
Chrysene	2700	270		ug/Kg	1	10/17/25	MR	SW8270E
Dibenz(a,h)anthracene	560	200		ug/Kg	1	10/17/25	MR	SW8270E
Dibenzofuran	ND	270		ug/Kg	1	10/17/25	MR	SW8270E
Diethyl phthalate	ND	270		ug/Kg	1	10/17/25	MR	SW8270E
Dimethylphthalate	ND	270		ug/Kg	1	10/17/25	MR	SW8270E
Di-n-butylphthalate	ND	780		ug/Kg	1	10/17/25	MR	SW8270E
Di-n-octylphthalate	ND	270		ug/Kg	1	10/17/25	MR	SW8270E
Fluoranthene	5200	270		ug/Kg	1	10/17/25	MR	SW8270E
Fluorene	350	270		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorobenzene	ND	170		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorobutadiene	ND	170		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorocyclopentadiene	ND	270		ug/Kg	1	10/17/25	MR	SW8270E
Hexachloroethane	ND	170		ug/Kg	1	10/17/25	MR	SW8270E
Indeno(1,2,3-cd)pyrene	2600	270		ug/Kg	1	10/17/25	MR	SW8270E
Isophorone	ND	230		ug/Kg	1	10/17/25	MR	SW8270E
Naphthalene	ND	270		ug/Kg	1	10/17/25	MR	SW8270E
Nitrobenzene	ND	52		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodimethylamine	ND	39		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodi-n-propylamine	ND	39		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodiphenylamine	ND	390		ug/Kg	1	10/17/25	MR	SW8270E
Pentachlorophenol	ND	330		ug/Kg	1	10/17/25	MR	SW8270E
Phenanthrene	3000	270		ug/Kg	1	10/17/25	MR	SW8270E
Phenol	ND	270		ug/Kg	1	10/17/25	MR	SW8270E
Pyrene	5000	270		ug/Kg	1	10/17/25	MR	SW8270E
QA/QC Surrogates								
% 2,4,6-Tribromophenol	65			%	1	10/17/25	MR	30 - 130 %
% 2-Fluorobiphenyl	51			%	1	10/17/25	MR	30 - 130 %
% 2-Fluorophenol	55			%	1	10/17/25	MR	30 - 130 %
% Nitrobenzene-d5	54			%	1	10/17/25	MR	30 - 130 %

Project ID: NYCDDC SANDRHDK RHCR
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Phoenix I.D.: CU45643

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
% Phenol-d5	57			%	1	10/17/25	MR	30 - 130 %
% Terphenyl-d14	55			%	1	10/17/25	MR	30 - 130 %
1,2-Diphenylhydrazine	ND	78		ug/Kg	1	10/17/25	MR	SW8270E
Aniline	ND	120		ug/Kg	1	10/17/25	MR	SW8270E
Benzoic Acid	ND	390		ug/Kg	1	10/17/25	MR	SW8270E
Benzyl Alcohol	ND	390		ug/Kg	1	10/17/25	MR	SW8270E
Semivolatile Library Search	Completed					10/17/25	MR	

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Corrosivity is based solely on the pH analysis performed above.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

Ignitability is based solely on the results of the closed cup flashpoint analysis performed above. Passed is >140 degree F.

Paint Filter Test:
Pass = no free liquids were detected. Fail = free liquids were detected.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Cyanide. This method is no longer listed in the current version of SW-846.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Sulfide. This method is no longer listed in the current version of SW-846.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Hexavalent Chromium:
This sample is in a reducing state.

Semi-Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 23, 2025
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

October 23, 2025

FOR: Attn: Joel Rogers
Factor Group Inc
42 Crest Dr
South Orange, NJ 07079-1039

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		10/06/25	12:00
Location Code:	FACTOR	Received by:	CP	10/08/25	18:35
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	00379				

Laboratory Data

SDG ID: GCU45642
Phoenix ID: CU45644

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-16-3

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Silver	1.13	0.50		mg/Kg	1	10/11/25	CPP	SW6010D
Aluminum	6270	7.3		mg/Kg	1	10/11/25	CPP	SW6010D
Arsenic	22.4	0.97		mg/Kg	1	10/11/25	CPP	SW6010D
Barium	289	0.49		mg/Kg	1	10/11/25	CPP	SW6010D
Beryllium	0.53	0.39		mg/Kg	1	10/11/25	CPP	SW6010D
Boron	6.2	1.9		mg/Kg	1	10/11/25	CPP	SW6010D
Calcium	6430	7.3		mg/Kg	1	10/11/25	CPP	SW6010D
Cadmium	0.71	0.49		mg/Kg	1	10/11/25	CPP	SW6010D
Cobalt	12.4	0.49		mg/Kg	1	10/11/25	CPP	SW6010D
Chromium	34.1	0.49		mg/Kg	1	10/11/25	CPP	SW6010D
Copper	171	1.0		mg/kg	1	10/11/25	CPP	SW6010D
Iron	24700	7.3		mg/Kg	1	10/11/25	CPP	SW6010D
Mercury	6.51	0.19		mg/Kg	10	10/10/25	AJ1	SW7471B
Potassium	1120	73		mg/Kg	10	10/11/25	CPP	SW6010D
Magnesium	5980	7.3		mg/Kg	1	10/11/25	CPP	SW6010D
Manganese	154	0.49		mg/Kg	1	10/11/25	CPP	SW6010D
Molybdenum	3.56	0.49		mg/Kg	1	10/11/25	CPP	SW6010D
Sodium	1390	7.3		mg/Kg	1	10/11/25	CPP	SW6010D
Nickel	73.7	0.49		mg/Kg	1	10/11/25	CPP	SW6010D
Lead	663	0.49		mg/Kg	1	10/11/25	CPP	SW6010D
Antimony	8.2	4.9		mg/Kg	1	10/11/25	CPP	SW6010D
Selenium	< 1.9	1.9		mg/Kg	1	10/11/25	CPP	SW6010D
TCLP Silver	< 0.10	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Arsenic	< 0.050	0.050		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Barium	0.77	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Cadmium	< 0.050	0.050		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Chromium	< 0.10	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Mercury	< 0.0002	0.0002		mg/L	1	10/10/25	ZT	SW846 1311/7470

Ver 1

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-16-3

Phoenix I.D.: CU45644

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
TCLP Lead	1.76	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010	
TCLP Selenium	< 0.10	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010D	
Thallium	< 2.2	2.2		mg/Kg	1	10/11/25	CPP	SW6010D	
TCLP Metals Digestion	Completed					10/09/25	AK/GW	SW3010A	
Trivalent Chromium	34.1	0.49		mg/kg	1	10/14/25		CALC 6010-7196	
Vanadium	29.7	0.49		mg/Kg	1	10/11/25	CPP	SW6010D	
Zinc	372	1.0		mg/Kg	1	10/11/25	CPP	SW6010D	
Percent Solid	65			%		10/08/25	CV	SW846-%Solid	
Corrosivity	Negative			Pos/Neg	1	10/09/25	KG	SW846-Corr	1
Flash Point	>200	200		Degree F	1	10/10/25	G	SW1010B	
Fluoride	< 7.7	7.7		mg/Kg	10	10/09/25	DD/EG	SW9056A	
Chromium, Hex. (SW3060A digestion	< 0.58	0.58		mg/Kg	1	10/14/25	NP	SW7196A	
Ignitability	Passed	140		degree F	1	10/10/25	G	SW846-Ignit	1
Ammonia as Nitrogen	< 110	110		mg/Kg	1	10/14/25	KDB	E350.1	1
pH at 21C - Soil	8.98	1.00		pH Units	1	10/09/25 01:11	KG	SW846 9045D	
Reactivity Cyanide	< 7	7		mg/Kg	1	10/15/25	NP/GD	SW846 7.3.3.1/90	1
Reactivity Sulfide	< 20	20		mg/Kg	1	10/16/25	NP/GD	SW846 CH7	1
Reactivity	Negative			Pos/Neg	1	10/16/25	NP/GD	SW846-React	1
Redox Potential	185			mV	1	10/09/25	KG	SM2580B-09	1
SPLP Chloride	34.9	1.0		mg/L	1	10/10/25	DD/EG	SW1312/300.0	
SPLP Sulfate	7.1	3.0		mg/L	1	10/10/25	DD/EG	SW1312/300.0	1
Total Cyanide (SW9010C Distill.)	< 0.77	0.77		mg/Kg	1	10/14/25	IG/GD	SW9012B	
Mercury Digestion	Completed					10/10/25	GW/GW	SW7471B	
Soil Extraction for Herbicide	Completed					10/14/25	X/K/SD	SW3546	
NJ EPH Extraction	Completed					10/13/25	SD/S/U	NJDEP 10-08 R3	
Soil Extraction for PCB	Completed					10/16/25	S/Z	SW3546	
Soil Extraction for Pesticides	Completed					10/16/25	S/Z	SW3546	
Soil Extraction for SVOA	Completed					10/16/25	C/Q	SW3546	
Paint Filter Test	Passed			PASS/FAIL		10/08/25	O	SW9095B	
SPLP Extraction, Wet Chemistry	Completed					10/08/25	AK	SW1312	
TCLP Digestion Mercury	Completed					10/09/25	AK/GW	SW7470A	
TCLP Extraction for Metals	Completed					10/08/25	AK	SW1311	
Total Metals Digest	Completed					10/09/25	P/AG/BF	SW3050B	
NJ EPH Category 2									
Total EPH (C9-C40)	ND	170	170	mg/kg	1	10/15/25	JRB	NJEPH 10-08 R3	1
QA/QC Surrogates									
% COD (surr)	91			%	1	10/15/25	JRB	40 - 140 %	
% Terphenyl (surr)	128			%	1	10/15/25	JRB	40 - 140 %	
Chlorinated Herbicides									
2,4,5-T	ND	490		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4,5-TP (Silvex)	ND	490		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4-D	ND	990		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4-DB	ND	4900		ug/Kg	10	10/15/25	JRB	SW8151A	
Dalapon	ND	490		ug/Kg	10	10/15/25	JRB	SW8151A	
Dicamba	ND	490		ug/Kg	10	10/15/25	JRB	SW8151A	
Dichloroprop	ND	990		ug/Kg	10	10/15/25	JRB	SW8151A	
Dinoseb	ND	290		ug/Kg	10	10/15/25	JRB	SW8151A	

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-16-3

Phoenix I.D.: CU45644

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates									
% DCAA	121			%	10	10/15/25	JRB	30 - 150 %	
% DCAA (Confirmation)	108			%	10	10/15/25	JRB	30 - 150 %	
Polychlorinated Biphenyls									
PCB-1016	ND	100		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1221	ND	100		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1232	ND	100		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1242	ND	100		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1248	ND	100		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1254	ND	100		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1260	ND	100		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1262	ND	100		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1268	ND	100		ug/Kg	2	10/20/25	SC	SW8082A	
Total PCBs	ND	100		ug/Kg	2	10/20/25	SC	SW8082A	1
QA/QC Surrogates									
% DCBP	66			%	2	10/20/25	SC	30 - 150 %	
% DCBP (Confirmation)	70			%	2	10/20/25	SC	30 - 150 %	
% TCMX	67			%	2	10/20/25	SC	30 - 150 %	
% TCMX (Confirmation)	63			%	2	10/20/25	SC	30 - 150 %	
Pesticides - Soil									
4,4' -DDD	170	30		ug/Kg	20	10/20/25	AW	SW8081B	
4,4' -DDE	94	3.0		ug/Kg	2	10/17/25	AW	SW8081B	
4,4' -DDT	53	3.0		ug/Kg	2	10/17/25	AW	SW8081B	
a-BHC	ND	2.0		ug/Kg	2	10/17/25	AW	SW8081B	
a-Chlordane	ND	5.0		ug/Kg	2	10/17/25	AW	SW8081B	
Aldrin	ND	5.0		ug/Kg	2	10/17/25	AW	SW8081B	
b-BHC	ND	2.0		ug/Kg	2	10/17/25	AW	SW8081B	
Chlordane	ND	50		ug/Kg	2	10/17/25	AW	SW8081B	
d-BHC	ND	10		ug/Kg	2	10/17/25	AW	SW8081B	
Dieldrin	34	5.0		ug/Kg	2	10/17/25	AW	SW8081B	
Endosulfan I	ND	10		ug/Kg	2	10/17/25	AW	SW8081B	
Endosulfan II	ND	10		ug/Kg	2	10/17/25	AW	SW8081B	
Endosulfan sulfate	ND	10		ug/Kg	2	10/17/25	AW	SW8081B	
Endrin	ND	10		ug/Kg	2	10/17/25	AW	SW8081B	
Endrin aldehyde	ND	10		ug/Kg	2	10/17/25	AW	SW8081B	
Endrin ketone	ND	10		ug/Kg	2	10/17/25	AW	SW8081B	
g-BHC	ND	2.0		ug/Kg	2	10/17/25	AW	SW8081B	
g-Chlordane	ND	5.0		ug/Kg	2	10/17/25	AW	SW8081B	
Heptachlor	ND	10		ug/Kg	2	10/17/25	AW	SW8081B	
Heptachlor epoxide	ND	10		ug/Kg	2	10/17/25	AW	SW8081B	
Methoxychlor	ND	50		ug/Kg	2	10/17/25	AW	SW8081B	
Toxaphene	ND	200		ug/Kg	2	10/17/25	AW	SW8081B	
QA/QC Surrogates									
% DCBP	78			%	2	10/17/25	AW	30 - 150 %	
% DCBP (Confirmation)	63			%	2	10/17/25	AW	30 - 150 %	
% TCMX	58			%	2	10/17/25	AW	30 - 150 %	
% TCMX (Confirmation)	60			%	2	10/17/25	AW	30 - 150 %	

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-16-3

Phoenix I.D.: CU45644

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Volatiles (TCL)								
1,1,1-Trichloroethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,1,2,2-Tetrachloroethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,1,2-Trichloroethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,1-Dichloroethane	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
1,1-Dichloroethene	ND	6.9		ug/kg	1	10/12/25	RM	SW8260D
1,2,3-Trichlorobenzene	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
1,2,4-Trichlorobenzene	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
1,2,4-Trimethylbenzene	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dibromo-3-chloropropane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dibromoethane	ND	1.2		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dichlorobenzene	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dichloroethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dichloropropane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,3,5-Trimethylbenzene	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
1,3-Dichlorobenzene	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
1,4-Dichlorobenzene	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
2-Hexanone	ND	45		ug/kg	1	10/12/25	RM	SW8260D
4-Methyl-2-pentanone	ND	45		ug/kg	1	10/12/25	RM	SW8260D
Acetone	ND	50		ug/kg	1	10/12/25	RM	SW8260D
Benzene	ND	4.2		ug/kg	1	10/12/25	RM	SW8260D
Bromochloromethane	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
Bromodichloromethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
Bromoform	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
Bromomethane	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
Carbon Disulfide	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
Carbon tetrachloride	ND	7.5		ug/kg	1	10/12/25	RM	SW8260D
Chlorobenzene	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
Chloroethane	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
Chloroform	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
Chloromethane	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
cis-1,2-Dichloroethene	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
cis-1,3-Dichloropropene	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
Cyclohexane	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
Dibromochloromethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
Dichlorodifluoromethane	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
Ethylbenzene	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
Isopropylbenzene	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
m&p-Xylene	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
Methyl ethyl ketone	ND	54		ug/kg	1	10/12/25	RM	SW8260D
Methyl t-butyl ether (MTBE)	ND	18		ug/kg	1	10/12/25	RM	SW8260D
Methylacetate	ND	91		ug/kg	1	10/12/25	RM	SW8260D
Methylcyclohexane	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
Methylene chloride	ND	13		ug/kg	1	10/12/25	RM	SW8260D
o-Xylene	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
Styrene	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
Tetrachloroethene	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
Toluene	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D
Total Xylenes	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-16-3

Phoenix I.D.: CU45644

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D	
trans-1,3-Dichloropropene	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D	
Trichloroethene	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D	
Trichlorofluoromethane	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D	
Trichlorotrifluoroethane	ND	9.1		ug/kg	1	10/12/25	RM	SW8260D	
Vinyl chloride	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D	
QA/QC Surrogates									
% 1,2-dichlorobenzene-d4	102			%	1	10/12/25	RM	70 - 130 %	
% Bromofluorobenzene	95			%	1	10/12/25	RM	70 - 130 %	
% Dibromofluoromethane	103			%	1	10/12/25	RM	70 - 130 %	
% Toluene-d8	99			%	1	10/12/25	RM	70 - 130 %	
1,4-dioxane									
1,4-dioxane	ND	67		ug/kg	1	10/12/25	RM	SW8260D	
Volatiles									
1,1,1,2-Tetrachloroethane	ND	36		ug/Kg	1	10/12/25	RM	SW8260D	
Acrolein	ND	0.47		ug/Kg	1	10/12/25	RM	SW8260D	
Acrylonitrile	ND	10		ug/Kg	1	10/12/25	RM	SW8260D	
Tert-butyl alcohol	ND	180		ug/Kg	1	10/12/25	RM	SW8260D	
Vinyl Acetate	ND	91		ug/Kg	1	10/12/25	RM	SW8260D	
Volatile Library Search	Completed					10/13/25	RM		
FACTOR GROUP 2	Completed					10/08/25			
Semivolatiles									
1,1-Biphenyl	ND	370		ug/Kg	1	10/17/25	MR	SW8270E	
1,2,4,5-Tetrachlorobenzene	ND	750		ug/Kg	1	10/17/25	MR	SW8270E	
2,2'-Oxybis(1-Chloropropane)	ND	750		ug/Kg	1	10/17/25	MR	SW8270E	1
2,3,4,6-tetrachlorophenol	ND	750		ug/Kg	1	10/17/25	MR	SW8270E	
2,4,5-Trichlorophenol	ND	750		ug/Kg	1	10/17/25	MR	SW8270E	
2,4,6-Trichlorophenol	ND	200		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dichlorophenol	ND	190		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dimethylphenol	ND	750		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dinitrophenol	ND	330		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dinitrotoluene	ND	110		ug/Kg	1	10/17/25	MR	SW8270E	
2,6-Dinitrotoluene	ND	210		ug/Kg	1	10/17/25	MR	SW8270E	
2-Chloronaphthalene	ND	750		ug/Kg	1	10/17/25	MR	SW8270E	
2-Chlorophenol	ND	750		ug/Kg	1	10/17/25	MR	SW8270E	
2-Methylnaphthalene	ND	750		ug/Kg	1	10/17/25	MR	SW8270E	
2-Methylphenol (o-cresol)	ND	330		ug/Kg	1	10/17/25	MR	SW8270E	
2-Nitroaniline	ND	210		ug/Kg	1	10/17/25	MR	SW8270E	
2-Nitrophenol	ND	750		ug/Kg	1	10/17/25	MR	SW8270E	
3&4-Methylphenol (m&p-cresol)	ND	330		ug/Kg	1	10/17/25	MR	SW8270E	1
3,3'-Dichlorobenzidine	ND	680		ug/Kg	1	10/17/25	MR	SW8270E	
3-Nitroaniline	ND	1700		ug/Kg	1	10/17/25	MR	SW8270E	
4,6-Dinitro-2-methylphenol	ND	210		ug/Kg	1	10/17/25	MR	SW8270E	
4-Bromophenyl phenyl ether	ND	1100		ug/Kg	1	10/17/25	MR	SW8270E	
4-Chloro-3-methylphenol	ND	750		ug/Kg	1	10/17/25	MR	SW8270E	
4-Chloroaniline	ND	170		ug/Kg	1	10/17/25	MR	SW8270E	

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-16-3

Phoenix I.D.: CU45644

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
4-Chlorophenyl phenyl ether	ND	750		ug/Kg	1	10/17/25	MR	SW8270E
4-Nitroaniline	ND	490		ug/Kg	1	10/17/25	MR	SW8270E
4-Nitrophenol	ND	3100		ug/Kg	1	10/17/25	MR	SW8270E
Acenaphthene	ND	750		ug/Kg	1	10/17/25	MR	SW8270E
Acenaphthylene	ND	750		ug/Kg	1	10/17/25	MR	SW8270E
Acetophenone	ND	750		ug/Kg	1	10/17/25	MR	SW8270E
Anthracene	ND	750		ug/Kg	1	10/17/25	MR	SW8270E
Atrazine	ND	130		ug/Kg	1	10/17/25	MR	SW8270E
Benz(a)anthracene	ND	710		ug/Kg	1	10/17/25	MR	SW8270E
Benzaldehyde	ND	750		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(a)pyrene	1300	750		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(b)fluoranthene	1200	750		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(ghi)perylene	1500	750		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(k)fluoranthene	ND	750		ug/Kg	1	10/17/25	MR	SW8270E
Benzyl butyl phthalate	ND	750		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-chloroethoxy)methane	ND	750		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-chloroethyl)ether	ND	110		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-ethylhexyl)phthalate	ND	750		ug/Kg	1	10/17/25	MR	SW8270E
Caprolactam	ND	750		ug/Kg	1	10/17/25	MR	SW8270E
Carbazole	ND	1100		ug/Kg	1	10/17/25	MR	SW8270E
Chrysene	ND	750		ug/Kg	1	10/17/25	MR	SW8270E
Dibenz(a,h)anthracene	ND	330		ug/Kg	1	10/17/25	MR	SW8270E
Dibenzofuran	ND	750		ug/Kg	1	10/17/25	MR	SW8270E
Diethyl phthalate	ND	750		ug/Kg	1	10/17/25	MR	SW8270E
Dimethylphthalate	ND	750		ug/Kg	1	10/17/25	MR	SW8270E
Di-n-butylphthalate	ND	2100		ug/Kg	1	10/17/25	MR	SW8270E
Di-n-octylphthalate	ND	750		ug/Kg	1	10/17/25	MR	SW8270E
Fluoranthene	760	750		ug/Kg	1	10/17/25	MR	SW8270E
Fluorene	ND	750		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorobenzene	ND	170		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorobutadiene	ND	170		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorocyclopentadiene	ND	750		ug/Kg	1	10/17/25	MR	SW8270E
Hexachloroethane	ND	170		ug/Kg	1	10/17/25	MR	SW8270E
Indeno(1,2,3-cd)pyrene	1400	750		ug/Kg	1	10/17/25	MR	SW8270E
Isophorone	ND	230		ug/Kg	1	10/17/25	MR	SW8270E
Naphthalene	ND	750		ug/Kg	1	10/17/25	MR	SW8270E
Nitrobenzene	ND	110		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodimethylamine	ND	110		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodi-n-propylamine	ND	110		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodiphenylamine	ND	1100		ug/Kg	1	10/17/25	MR	SW8270E
Pentachlorophenol	ND	330		ug/Kg	1	10/17/25	MR	SW8270E
Phenanthrene	ND	750		ug/Kg	1	10/17/25	MR	SW8270E
Phenol	ND	330		ug/Kg	1	10/17/25	MR	SW8270E
Pyrene	ND	750		ug/Kg	1	10/17/25	MR	SW8270E
QA/QC Surrogates								
% 2,4,6-Tribromophenol	78			%	1	10/17/25	MR	30 - 130 %
% 2-Fluorobiphenyl	60			%	1	10/17/25	MR	30 - 130 %
% 2-Fluorophenol	67			%	1	10/17/25	MR	30 - 130 %
% Nitrobenzene-d5	65			%	1	10/17/25	MR	30 - 130 %

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-16-3

Phoenix I.D.: CU45644

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
% Phenol-d5	69			%	1	10/17/25	MR	30 - 130 %
% Terphenyl-d14	68			%	1	10/17/25	MR	30 - 130 %
1,2-Diphenylhydrazine	ND	210		ug/Kg	1	10/17/25	MR	SW8270E
Aniline	ND	120		ug/Kg	1	10/17/25	MR	SW8270E
Benzoic Acid	ND	1100		ug/Kg	1	10/17/25	MR	SW8270E
Benzyl Alcohol	ND	1100		ug/Kg	1	10/17/25	MR	SW8270E
Semivolatile Library Search	Completed					10/17/25	MR	

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Corrosivity is based solely on the pH analysis performed above.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

Ignitability is based solely on the results of the closed cup flashpoint analysis performed above. Passed is >140 degree F.

Paint Filter Test:
Pass = no free liquids were detected. Fail = free liquids were detected.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Cyanide. This method is no longer listed in the current version of SW-846.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Sulfide. This method is no longer listed in the current version of SW-846.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Hexavalent Chromium:
This sample is in a reducing state.

Semi-Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 23, 2025
Reviewed and Released by: Phyllis Shiller, Laboratory Director

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

October 23, 2025

FOR: Attn: Joel Rogers
Factor Group Inc
42 Crest Dr
South Orange, NJ 07079-1039

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		10/06/25	13:30
Location Code:	FACTOR	Received by:	CP	10/08/25	18:35
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	00379				

Laboratory Data

SDG ID: GCU45642
Phoenix ID: CU45645

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-15-1

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.50	0.50		mg/Kg	1	10/11/25	CPP	SW6010D
Aluminum	4910	5.0		mg/Kg	1	10/11/25	CPP	SW6010D
Arsenic	62.7	0.67		mg/Kg	1	10/11/25	CPP	SW6010D
Barium	73.2	0.34		mg/Kg	1	10/11/25	CPP	SW6010D
Beryllium	0.34	0.27		mg/Kg	1	10/11/25	CPP	SW6010D
Boron	5.8	1.3		mg/Kg	1	10/11/25	CPP	SW6010D
Calcium	4770	5.0		mg/Kg	1	10/11/25	CPP	SW6010D
Cadmium	0.44	0.34		mg/Kg	1	10/11/25	CPP	SW6010D
Cobalt	19.7	0.34		mg/Kg	1	10/11/25	CPP	SW6010D
Chromium	36.1	0.34		mg/Kg	1	10/11/25	CPP	SW6010D
Copper	43.1	0.7		mg/kg	1	10/11/25	CPP	SW6010D
Iron	16700	5.0		mg/Kg	1	10/11/25	CPP	SW6010D
Mercury	1.00	0.03		mg/Kg	1	10/10/25	AJ1	SW7471B
Potassium	1150	50		mg/Kg	10	10/11/25	CPP	SW6010D
Magnesium	29000	5.0		mg/Kg	1	10/11/25	CPP	SW6010D
Manganese	394	0.34		mg/Kg	1	10/11/25	CPP	SW6010D
Molybdenum	0.60	0.34		mg/Kg	1	10/11/25	CPP	SW6010D
Sodium	433	5.0		mg/Kg	1	10/11/25	CPP	SW6010D
Nickel	347	3.4		mg/Kg	10	10/11/25	CPP	SW6010D
Lead	103	0.34		mg/Kg	1	10/11/25	CPP	SW6010D
Antimony	< 3.4	3.4		mg/Kg	1	10/11/25	CPP	SW6010D
Selenium	< 1.3	1.3		mg/Kg	1	10/11/25	CPP	SW6010D
TCLP Silver	< 0.10	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Arsenic	< 0.050	0.050		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Barium	0.80	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Cadmium	< 0.050	0.050		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Chromium	< 0.10	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Mercury	< 0.0002	0.0002		mg/L	1	10/10/25	ZT	SW846 1311/7470

Ver 1

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-15-1

Phoenix I.D.: CU45645

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
TCLP Lead	0.51	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010	
TCLP Selenium	< 0.10	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010D	
Thallium	< 2.2	2.2		mg/Kg	1	10/11/25	CPP	SW6010D	
TCLP Metals Digestion	Completed					10/09/25	AK/GW	SW3010A	
Trivalent Chromium	36.1	0.34		mg/kg	1	10/14/25		CALC 6010-7196	
Vanadium	20.9	0.34		mg/Kg	1	10/11/25	CPP	SW6010D	
Zinc	103	0.7		mg/Kg	1	10/11/25	CPP	SW6010D	
Percent Solid	91			%		10/08/25	CV	SW846-%Solid	
Corrosivity	Negative			Pos/Neg	1	10/09/25	KG	SW846-Corr	1
Flash Point	>200	200		Degree F	1	10/10/25	G	SW1010B	
Fluoride	< 5.5	5.5		mg/Kg	10	10/09/25	DD/EG	SW9056A	
Chromium, Hex. (SW3060A digestion	< 0.40	0.40		mg/Kg	1	10/14/25	NP	SW7196A	
Ignitability	Passed	140		degree F	1	10/10/25	G	SW846-Ignit	1
Ammonia as Nitrogen	< 60.0	60.0		mg/Kg	1	10/14/25	KDB	E350.1	1
pH at 21C - Soil	8.86	1.00		pH Units	1	10/09/25 01:11	KG	SW846 9045D	
Reactivity Cyanide	< 5	5		mg/Kg	1	10/16/25	NP/GD	SW846 7.3.3.1/90	1
Reactivity Sulfide	< 20	20		mg/Kg	1	10/16/25	NP/GD	SW846 CH7	1
Reactivity	Negative			Pos/Neg	1	10/16/25	NP/GD	SW846-React	1
Redox Potential	219			mV	1	10/09/25	KG	SM2580B-09	1
SPLP Chloride	3.2	1.0		mg/L	1	10/10/25	DD/EG	SW1312/300.0	
SPLP Sulfate	3.8	3.0		mg/L	1	10/10/25	DD/EG	SW1312/300.0	1
Total Cyanide (SW9010C Distill.)	< 0.55	0.55		mg/Kg	1	10/15/25	J/I/G	SW9012B	
Mercury Digestion	Completed					10/10/25	GW/GW	SW7471B	
Soil Extraction for Herbicide	Completed					10/14/25	X/K/SD	SW3546	
NJ EPH Extraction	Completed					10/16/25	C/A	NJDEP 10-08 R3	
Soil Extraction for PCB	Completed					10/16/25	S/Z	SW3546	
Soil Extraction for Pesticides	Completed					10/16/25	S/Z	SW3546	
Soil Extraction for SVOA	Completed					10/16/25	C/Q	SW3546	
Paint Filter Test	Passed			PASS/FAIL		10/08/25	O	SW9095B	
SPLP Extraction, Wet Chemistry	Completed					10/08/25	AK	SW1312	
TCLP Digestion Mercury	Completed					10/09/25	AK/GW	SW7470A	
TCLP Extraction for Metals	Completed					10/08/25	AK	SW1311	
Total Metals Digest	Completed					10/09/25	P/AG/BF	SW3050B	
NJ EPH Category 2									
Total EPH (C9-C40)	29	26	26	mg/kg	1	10/17/25	JRB	NJEPH 10-08 R3	1
QA/QC Surrogates									
% COD (surr)	90			%	1	10/17/25	JRB	40 - 140 %	
% Terphenyl (surr)	128			%	1	10/17/25	JRB	40 - 140 %	
Chlorinated Herbicides									
2,4,5-T	ND	130		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4,5-TP (Silvex)	ND	130		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4-D	ND	270		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4-DB	ND	1300		ug/Kg	10	10/15/25	JRB	SW8151A	
Dalapon	ND	130		ug/Kg	10	10/15/25	JRB	SW8151A	
Dicamba	ND	130		ug/Kg	10	10/15/25	JRB	SW8151A	
Dichloroprop	ND	270		ug/Kg	10	10/15/25	JRB	SW8151A	
Dinoseb	ND	270		ug/Kg	10	10/15/25	JRB	SW8151A	

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-15-1

Phoenix I.D.: CU45645

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates									
% DCAA	104			%	10	10/15/25	JRB	30 - 150 %	
% DCAA (Confirmation)	98			%	10	10/15/25	JRB	30 - 150 %	
Polychlorinated Biphenyls									
PCB-1016	ND	73		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1221	ND	73		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1232	ND	73		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1242	ND	73		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1248	ND	73		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1254	ND	73		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1260	ND	73		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1262	ND	73		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1268	ND	73		ug/Kg	2	10/17/25	SC	SW8082A	
Total PCBs	ND	73		ug/Kg	2	10/17/25	SC	SW8082A	1
QA/QC Surrogates									
% DCBP	75			%	2	10/17/25	SC	30 - 150 %	
% DCBP (Confirmation)	68			%	2	10/17/25	SC	30 - 150 %	
% TCMX	75			%	2	10/17/25	SC	30 - 150 %	
% TCMX (Confirmation)	74			%	2	10/17/25	SC	30 - 150 %	
Pesticides - Soil									
4,4' -DDD	ND	2.2		ug/Kg	2	10/17/25	AW	SW8081B	
4,4' -DDE	12	2.2		ug/Kg	2	10/17/25	AW	SW8081B	
4,4' -DDT	21	2.2		ug/Kg	2	10/17/25	AW	SW8081B	
a-BHC	ND	1.5		ug/Kg	2	10/17/25	AW	SW8081B	
a-Chlordane	ND	5.0		ug/Kg	2	10/17/25	AW	SW8081B	
Aldrin	ND	3.6		ug/Kg	2	10/17/25	AW	SW8081B	
b-BHC	ND	1.5		ug/Kg	2	10/17/25	AW	SW8081B	
Chlordane	ND	36		ug/Kg	2	10/17/25	AW	SW8081B	
d-BHC	ND	7.3		ug/Kg	2	10/17/25	AW	SW8081B	
Dieldrin	ND	3.6		ug/Kg	2	10/17/25	AW	SW8081B	
Endosulfan I	ND	7.3		ug/Kg	2	10/17/25	AW	SW8081B	
Endosulfan II	ND	7.3		ug/Kg	2	10/17/25	AW	SW8081B	
Endosulfan sulfate	ND	7.3		ug/Kg	2	10/17/25	AW	SW8081B	
Endrin	ND	7.3		ug/Kg	2	10/17/25	AW	SW8081B	
Endrin aldehyde	ND	7.3		ug/Kg	2	10/17/25	AW	SW8081B	
Endrin ketone	ND	7.3		ug/Kg	2	10/17/25	AW	SW8081B	
g-BHC	ND	1.5		ug/Kg	2	10/17/25	AW	SW8081B	
g-Chlordane	ND	5.0		ug/Kg	2	10/17/25	AW	SW8081B	
Heptachlor	ND	7.3		ug/Kg	2	10/17/25	AW	SW8081B	
Heptachlor epoxide	ND	7.3		ug/Kg	2	10/17/25	AW	SW8081B	
Methoxychlor	ND	36		ug/Kg	2	10/17/25	AW	SW8081B	
Toxaphene	ND	150		ug/Kg	2	10/17/25	AW	SW8081B	
QA/QC Surrogates									
% DCBP	64			%	2	10/17/25	AW	30 - 150 %	
% DCBP (Confirmation)	84			%	2	10/17/25	AW	30 - 150 %	
% TCMX	65			%	2	10/17/25	AW	30 - 150 %	
% TCMX (Confirmation)	69			%	2	10/17/25	AW	30 - 150 %	

Project ID: NYCDDC SANDRHDK RHCR
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Phoenix I.D.: CU45645

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Volatiles (TCL)								
1,1,1-Trichloroethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,1,2,2-Tetrachloroethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,1,2-Trichloroethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,1-Dichloroethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,1-Dichloroethene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,2,3-Trichlorobenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,2,4-Trichlorobenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,2,4-Trimethylbenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dibromo-3-chloropropane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dibromoethane	ND	1.2		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dichlorobenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dichloroethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dichloropropane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,3,5-Trimethylbenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,3-Dichlorobenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,4-Dichlorobenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
2-Hexanone	ND	27		ug/kg	1	10/12/25	RM	SW8260D
4-Methyl-2-pentanone	ND	27		ug/kg	1	10/12/25	RM	SW8260D
Acetone	ND	50		ug/kg	1	10/12/25	RM	SW8260D
Benzene	ND	4.2		ug/kg	1	10/12/25	RM	SW8260D
Bromochloromethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Bromodichloromethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
Bromoform	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Bromomethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Carbon Disulfide	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Carbon tetrachloride	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Chlorobenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Chloroethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Chloroform	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Chloromethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
cis-1,2-Dichloroethene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
cis-1,3-Dichloropropene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Cyclohexane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Dibromochloromethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
Dichlorodifluoromethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Ethylbenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Isopropylbenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
m&p-Xylene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Methyl ethyl ketone	ND	33		ug/kg	1	10/12/25	RM	SW8260D
Methyl t-butyl ether (MTBE)	ND	11		ug/kg	1	10/12/25	RM	SW8260D
Methylacetate	ND	54		ug/kg	1	10/12/25	RM	SW8260D
Methylcyclohexane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Methylene chloride	ND	13		ug/kg	1	10/12/25	RM	SW8260D
o-Xylene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Styrene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Tetrachloroethene	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
Toluene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Total Xylenes	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D

Project ID: NYCDDC SANDRHDK RHCR
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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D	
trans-1,3-Dichloropropene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D	
Trichloroethene	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D	
Trichlorofluoromethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D	
Trichlorotrifluoroethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D	
Vinyl chloride	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D	
QA/QC Surrogates									
% 1,2-dichlorobenzene-d4	99			%	1	10/12/25	RM	70 - 130 %	
% Bromofluorobenzene	95			%	1	10/12/25	RM	70 - 130 %	
% Dibromofluoromethane	98			%	1	10/12/25	RM	70 - 130 %	
% Toluene-d8	102			%	1	10/12/25	RM	70 - 130 %	
1,4-dioxane									
1,4-dioxane	ND	67		ug/kg	1	10/12/25	RM	SW8260D	
Volatiles									
1,1,1,2-Tetrachloroethane	ND	22		ug/Kg	1	10/12/25	RM	SW8260D	
Acrolein	ND	0.47		ug/Kg	1	10/12/25	RM	SW8260D	
Acrylonitrile	ND	10		ug/Kg	1	10/12/25	RM	SW8260D	
Tert-butyl alcohol	ND	110		ug/Kg	1	10/12/25	RM	SW8260D	
Vinyl Acetate	ND	54		ug/Kg	1	10/12/25	RM	SW8260D	
Volatile Library Search	Completed					10/13/25	RM		
FACTOR GROUP 2	Completed					10/08/25			
Semivolatiles									
1,1-Biphenyl	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
1,2,4,5-Tetrachlorobenzene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2,2'-Oxybis(1-Chloropropane)	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	1
2,3,4,6-tetrachlorophenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2,4,5-Trichlorophenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2,4,6-Trichlorophenol	ND	200		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dichlorophenol	ND	190		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dimethylphenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dinitrophenol	ND	330		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dinitrotoluene	ND	50		ug/Kg	1	10/17/25	MR	SW8270E	
2,6-Dinitrotoluene	ND	73		ug/Kg	1	10/17/25	MR	SW8270E	
2-Chloronaphthalene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2-Chlorophenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2-Methylnaphthalene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2-Methylphenol (o-cresol)	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
2-Nitroaniline	ND	73		ug/Kg	1	10/17/25	MR	SW8270E	
2-Nitrophenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
3&4-Methylphenol (m&p-cresol)	ND	330		ug/Kg	1	10/17/25	MR	SW8270E	1
3,3'-Dichlorobenzidine	ND	440		ug/Kg	1	10/17/25	MR	SW8270E	
3-Nitroaniline	ND	580		ug/Kg	1	10/17/25	MR	SW8270E	
4,6-Dinitro-2-methylphenol	ND	210		ug/Kg	1	10/17/25	MR	SW8270E	
4-Bromophenyl phenyl ether	ND	370		ug/Kg	1	10/17/25	MR	SW8270E	
4-Chloro-3-methylphenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E	
4-Chloroaniline	ND	170		ug/Kg	1	10/17/25	MR	SW8270E	

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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
4-Chlorophenyl phenyl ether	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
4-Nitroaniline	ND	490		ug/Kg	1	10/17/25	MR	SW8270E
4-Nitrophenol	ND	1100		ug/Kg	1	10/17/25	MR	SW8270E
Acenaphthene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Acenaphthylene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Acetophenone	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Anthracene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Atrazine	ND	130		ug/Kg	1	10/17/25	MR	SW8270E
Benz(a)anthracene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Benzaldehyde	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(a)pyrene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(b)fluoranthene	300	260		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(ghi)perylene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(k)fluoranthene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Benzyl butyl phthalate	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-chloroethoxy)methane	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-chloroethyl)ether	ND	37		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-ethylhexyl)phthalate	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Caprolactam	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Carbazole	ND	370		ug/Kg	1	10/17/25	MR	SW8270E
Chrysene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Dibenz(a,h)anthracene	ND	180		ug/Kg	1	10/17/25	MR	SW8270E
Dibenzofuran	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Diethyl phthalate	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Dimethylphthalate	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Di-n-butylphthalate	ND	730		ug/Kg	1	10/17/25	MR	SW8270E
Di-n-octylphthalate	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Fluoranthene	440	260		ug/Kg	1	10/17/25	MR	SW8270E
Fluorene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorobenzene	ND	170		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorobutadiene	ND	170		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorocyclopentadiene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Hexachloroethane	ND	170		ug/Kg	1	10/17/25	MR	SW8270E
Indeno(1,2,3-cd)pyrene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Isophorone	ND	230		ug/Kg	1	10/17/25	MR	SW8270E
Naphthalene	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Nitrobenzene	ND	52		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodimethylamine	ND	37		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodi-n-propylamine	ND	37		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodiphenylamine	ND	370		ug/Kg	1	10/17/25	MR	SW8270E
Pentachlorophenol	ND	330		ug/Kg	1	10/17/25	MR	SW8270E
Phenanthrene	280	260		ug/Kg	1	10/17/25	MR	SW8270E
Phenol	ND	260		ug/Kg	1	10/17/25	MR	SW8270E
Pyrene	440	260		ug/Kg	1	10/17/25	MR	SW8270E
QA/QC Surrogates								
% 2,4,6-Tribromophenol	78			%	1	10/17/25	MR	30 - 130 %
% 2-Fluorobiphenyl	60			%	1	10/17/25	MR	30 - 130 %
% 2-Fluorophenol	63			%	1	10/17/25	MR	30 - 130 %
% Nitrobenzene-d5	62			%	1	10/17/25	MR	30 - 130 %

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-15-1

Phoenix I.D.: CU45645

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
% Phenol-d5	65			%	1	10/17/25	MR	30 - 130 %
% Terphenyl-d14	64			%	1	10/17/25	MR	30 - 130 %
1,2-Diphenylhydrazine	ND	73		ug/Kg	1	10/17/25	MR	SW8270E
Aniline	ND	120		ug/Kg	1	10/17/25	MR	SW8270E
Benzoic Acid	ND	370		ug/Kg	1	10/17/25	MR	SW8270E
Benzyl Alcohol	ND	370		ug/Kg	1	10/17/25	MR	SW8270E
Semivolatile Library Search	Completed					10/17/25	MR	

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Corrosivity is based solely on the pH analysis performed above.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

Ignitability is based solely on the results of the closed cup flashpoint analysis performed above. Passed is >140 degree F.

Paint Filter Test:
Pass = no free liquids were detected. Fail = free liquids were detected.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Cyanide. This method is no longer listed in the current version of SW-846.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Sulfide. This method is no longer listed in the current version of SW-846.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Hexavalent Chromium:
This sample is in a reducing state.

Semi-Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 23, 2025
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

October 23, 2025

FOR: Attn: Joel Rogers
Factor Group Inc
42 Crest Dr
South Orange, NJ 07079-1039

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		10/06/25	14:00
Location Code:	FACTOR	Received by:	CP	10/08/25	18:35
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	00379				

Laboratory Data

SDG ID: GCU45642
Phoenix ID: CU45646

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-15-2

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.50	0.50		mg/Kg	1	10/13/25	CPP	SW6010D
Aluminum	5250	5.6		mg/Kg	1	10/13/25	CPP	SW6010D
Arsenic	8.15	0.74		mg/Kg	1	10/13/25	CPP	SW6010D
Barium	58.0	0.37		mg/Kg	1	10/13/25	CPP	SW6010D
Beryllium	0.41	0.30		mg/Kg	1	10/13/25	CPP	SW6010D
Boron	7.4	1.5		mg/Kg	1	10/13/25	CPP	SW6010D
Calcium	4010	5.6		mg/Kg	1	10/13/25	CPP	SW6010D
Cadmium	0.52	0.37		mg/Kg	1	10/13/25	CPP	SW6010D
Cobalt	34.6	0.37		mg/Kg	1	10/13/25	CPP	SW6010D
Chromium	43.3	0.37		mg/Kg	1	10/13/25	CPP	SW6010D
Copper	36.7	0.7		mg/kg	1	10/13/25	CPP	SW6010D
Iron	25700	5.6		mg/Kg	1	10/13/25	CPP	SW6010D
Mercury	0.29	0.03		mg/Kg	1	10/10/25	AJ1	SW7471B
Potassium	1230	56		mg/Kg	10	10/13/25	CPP	SW6010D
Magnesium	40400	5.6		mg/Kg	1	10/13/25	CPP	SW6010D
Manganese	481	0.37		mg/Kg	1	10/14/25	TH	SW6010D
Molybdenum	< 0.37	0.37		mg/Kg	1	10/13/25	CPP	SW6010D
Sodium	460	5.6		mg/Kg	1	10/13/25	CPP	SW6010D
Nickel	563	3.7		mg/Kg	10	10/14/25	TH	SW6010D
Lead	93.8	0.37		mg/Kg	1	10/13/25	CPP	SW6010D
Antimony	< 3.7	3.7		mg/Kg	1	10/13/25	CPP	SW6010D
Selenium	< 1.5	1.5		mg/Kg	1	10/13/25	CPP	SW6010D
TCLP Silver	< 0.10	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Arsenic	< 0.050	0.050		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Barium	0.82	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Cadmium	< 0.050	0.050		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Chromium	< 0.10	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Mercury	< 0.0002	0.0002		mg/L	1	10/10/25	ZT	SW846 1311/7470

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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
TCLP Lead	0.40	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010	
TCLP Selenium	< 0.10	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010D	
Thallium	< 2.2	2.2		mg/Kg	1	10/13/25	CPP	SW6010D	
TCLP Metals Digestion	Completed					10/09/25	AK/GW	SW3010A	
Trivalent Chromium	43.3	0.37		mg/kg	1	10/14/25		CALC 6010-7196	
Vanadium	23.0	0.37		mg/Kg	1	10/13/25	CPP	SW6010D	
Zinc	95.5	0.7		mg/Kg	1	10/13/25	CPP	SW6010D	
Percent Solid	92			%		10/08/25	CV	SW846-%Solid	
Corrosivity	Negative			Pos/Neg	1	10/09/25	KG	SW846-Corr	1
Flash Point	>200	200		Degree F	1	10/10/25	G	SW1010B	
Fluoride	< 5.4	5.4		mg/Kg	10	10/09/25	DD/EG	SW9056A	
Chromium, Hex. (SW3060A digestion	< 0.41	0.41		mg/Kg	1	10/14/25	NP	SW7196A	
Ignitability	Passed	140		degree F	1	10/10/25	G	SW846-Ignit	1
Ammonia as Nitrogen	< 80.9	80.9		mg/Kg	1	10/14/25	KDB	E350.1	1
pH at 21C - Soil	8.69	1.00		pH Units	1	10/09/25 01:11	KG	SW846 9045D	
Reactivity Cyanide	< 5	5		mg/Kg	1	10/16/25	NP/GD	SW846 7.3.3.1/90	1
Reactivity Sulfide	< 20	20		mg/Kg	1	10/16/25	NP/GD	SW846 CH7	1
Reactivity	Negative			Pos/Neg	1	10/16/25	NP/GD	SW846-React	1
Redox Potential	264			mV	1	10/09/25	KG	SM2580B-09	1
SPLP Chloride	2.5	1.0		mg/L	1	10/10/25	DD/EG	SW1312/300.0	
SPLP Sulfate	3.6	3.0		mg/L	1	10/10/25	DD/EG	SW1312/300.0	1
Total Cyanide (SW9010C Distill.)	< 0.54	0.54		mg/Kg	1	10/15/25	J/I/G	SW9012B	
Mercury Digestion	Completed					10/10/25	GW/GW	SW7471B	
Soil Extraction for Herbicide	Completed					10/14/25	X/K/SD	SW3546	
NJ EPH Extraction	Completed					10/16/25	C/A	NJDEP 10-08 R3	
Soil Extraction for PCB	Completed					10/16/25	S/Z	SW3546	
Soil Extraction for Pesticides	Completed					10/16/25	S/Z	SW3546	
Soil Extraction for SVOA	Completed					10/16/25	C/Q	SW3546	
Paint Filter Test	Passed			PASS/FAIL		10/08/25	O	SW9095B	
SPLP Extraction, Wet Chemistry	Completed					10/08/25	AK	SW1312	
TCLP Digestion Mercury	Completed					10/09/25	AK/GW	SW7470A	
TCLP Extraction for Metals	Completed					10/08/25	AK	SW1311	
Total Metals Digest	Completed					10/09/25	P/AG	SW3050B	
NJ EPH Category 2									
Total EPH (C9-C40)	ND	130	130	mg/kg	5	10/17/25	JRB	NJEPH 10-08 R3	1
QA/QC Surrogates									
% COD (surr)	Interference			%	5	10/17/25	JRB	40 - 140 %	
% Terphenyl (surr)	108			%	5	10/17/25	JRB	40 - 140 %	
Chlorinated Herbicides									
2,4,5-T	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4,5-TP (Silvex)	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4-D	ND	270		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4-DB	ND	1400		ug/Kg	10	10/15/25	JRB	SW8151A	
Dalapon	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
Dicamba	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
Dichloroprop	ND	270		ug/Kg	10	10/15/25	JRB	SW8151A	
Dinoseb	ND	270		ug/Kg	10	10/15/25	JRB	SW8151A	

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QA/QC Surrogates									
% DCAA	104			%	10	10/15/25	JRB	30 - 150 %	
% DCAA (Confirmation)	93			%	10	10/15/25	JRB	30 - 150 %	
Polychlorinated Biphenyls									
PCB-1016	ND	71		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1221	ND	71		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1232	ND	71		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1242	ND	71		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1248	ND	71		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1254	ND	71		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1260	ND	71		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1262	ND	71		ug/Kg	2	10/17/25	SC	SW8082A	
PCB-1268	ND	71		ug/Kg	2	10/17/25	SC	SW8082A	
Total PCBs	ND	71		ug/Kg	2	10/17/25	SC	SW8082A	1
QA/QC Surrogates									
% DCBP	61			%	2	10/17/25	SC	30 - 150 %	
% DCBP (Confirmation)	57			%	2	10/17/25	SC	30 - 150 %	
% TCMX	65			%	2	10/17/25	SC	30 - 150 %	
% TCMX (Confirmation)	65			%	2	10/17/25	SC	30 - 150 %	
Pesticides - Soil									
4,4' -DDD	9.2	2.1		ug/Kg	2	10/17/25	AW	SW8081B	
4,4' -DDE	10	2.1		ug/Kg	2	10/17/25	AW	SW8081B	
4,4' -DDT	14	2.1		ug/Kg	2	10/17/25	AW	SW8081B	
a-BHC	ND	1.4		ug/Kg	2	10/17/25	AW	SW8081B	
a-Chlordane	ND	3.6		ug/Kg	2	10/17/25	AW	SW8081B	
Aldrin	ND	3.6		ug/Kg	2	10/17/25	AW	SW8081B	
b-BHC	ND	1.4		ug/Kg	2	10/17/25	AW	SW8081B	
Chlordane	ND	36		ug/Kg	2	10/17/25	AW	SW8081B	
d-BHC	ND	7.1		ug/Kg	2	10/17/25	AW	SW8081B	
Dieldrin	ND	3.6		ug/Kg	2	10/17/25	AW	SW8081B	
Endosulfan I	ND	7.1		ug/Kg	2	10/17/25	AW	SW8081B	
Endosulfan II	ND	7.1		ug/Kg	2	10/17/25	AW	SW8081B	
Endosulfan sulfate	ND	7.1		ug/Kg	2	10/17/25	AW	SW8081B	
Endrin	ND	7.1		ug/Kg	2	10/17/25	AW	SW8081B	
Endrin aldehyde	ND	7.1		ug/Kg	2	10/17/25	AW	SW8081B	
Endrin ketone	ND	7.1		ug/Kg	2	10/17/25	AW	SW8081B	
g-BHC	ND	1.4		ug/Kg	2	10/17/25	AW	SW8081B	
g-Chlordane	ND	3.6		ug/Kg	2	10/17/25	AW	SW8081B	
Heptachlor	ND	7.1		ug/Kg	2	10/17/25	AW	SW8081B	
Heptachlor epoxide	ND	7.1		ug/Kg	2	10/17/25	AW	SW8081B	
Methoxychlor	ND	36		ug/Kg	2	10/17/25	AW	SW8081B	
Toxaphene	ND	140		ug/Kg	2	10/17/25	AW	SW8081B	
QA/QC Surrogates									
% DCBP	67			%	2	10/17/25	AW	30 - 150 %	
% DCBP (Confirmation)	59			%	2	10/17/25	AW	30 - 150 %	
% TCMX	48			%	2	10/17/25	AW	30 - 150 %	
% TCMX (Confirmation)	52			%	2	10/17/25	AW	30 - 150 %	

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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Volatiles (TCL)								
1,1,1-Trichloroethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,1,2,2-Tetrachloroethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,1,2-Trichloroethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,1-Dichloroethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,1-Dichloroethene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,2,3-Trichlorobenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,2,4-Trichlorobenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,2,4-Trimethylbenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dibromo-3-chloropropane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dibromoethane	ND	1.2		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dichlorobenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dichloroethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dichloropropane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,3,5-Trimethylbenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,3-Dichlorobenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,4-Dichlorobenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
2-Hexanone	ND	27		ug/kg	1	10/12/25	RM	SW8260D
4-Methyl-2-pentanone	ND	27		ug/kg	1	10/12/25	RM	SW8260D
Acetone	ND	50		ug/kg	1	10/12/25	RM	SW8260D
Benzene	ND	4.2		ug/kg	1	10/12/25	RM	SW8260D
Bromochloromethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Bromodichloromethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
Bromoform	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Bromomethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Carbon Disulfide	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Carbon tetrachloride	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Chlorobenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Chloroethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Chloroform	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Chloromethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
cis-1,2-Dichloroethene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
cis-1,3-Dichloropropene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Cyclohexane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Dibromochloromethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
Dichlorodifluoromethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Ethylbenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Isopropylbenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
m&p-Xylene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Methyl ethyl ketone	ND	32		ug/kg	1	10/12/25	RM	SW8260D
Methyl t-butyl ether (MTBE)	ND	11		ug/kg	1	10/12/25	RM	SW8260D
Methylacetate	ND	54		ug/kg	1	10/12/25	RM	SW8260D
Methylcyclohexane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Methylene chloride	ND	13		ug/kg	1	10/12/25	RM	SW8260D
o-Xylene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Styrene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Tetrachloroethene	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
Toluene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Total Xylenes	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D

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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D	
trans-1,3-Dichloropropene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D	
Trichloroethene	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D	
Trichlorofluoromethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D	
Trichlorotrifluoroethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D	
Vinyl chloride	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D	
QA/QC Surrogates									
% 1,2-dichlorobenzene-d4	102			%	1	10/12/25	RM	70 - 130 %	
% Bromofluorobenzene	96			%	1	10/12/25	RM	70 - 130 %	
% Dibromofluoromethane	103			%	1	10/12/25	RM	70 - 130 %	
% Toluene-d8	102			%	1	10/12/25	RM	70 - 130 %	
1,4-dioxane									
1,4-dioxane	ND	67		ug/kg	1	10/12/25	RM	SW8260D	
Volatiles									
1,1,1,2-Tetrachloroethane	ND	22		ug/Kg	1	10/12/25	RM	SW8260D	
Acrolein	ND	0.47		ug/Kg	1	10/12/25	RM	SW8260D	
Acrylonitrile	ND	10		ug/Kg	1	10/12/25	RM	SW8260D	
Tert-butyl alcohol	ND	110		ug/Kg	1	10/12/25	RM	SW8260D	
Vinyl Acetate	ND	54		ug/Kg	1	10/12/25	RM	SW8260D	
Volatile Library Search	Completed					10/13/25	RM		
FACTOR GROUP 2	Completed					10/08/25			
Semivolatiles									
1,1-Biphenyl	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
1,2,4,5-Tetrachlorobenzene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2,2'-Oxybis(1-Chloropropane)	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	1
2,3,4,6-tetrachlorophenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2,4,5-Trichlorophenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2,4,6-Trichlorophenol	ND	200		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dichlorophenol	ND	190		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dimethylphenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dinitrophenol	ND	330		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dinitrotoluene	ND	50		ug/Kg	1	10/17/25	MR	SW8270E	
2,6-Dinitrotoluene	ND	72		ug/Kg	1	10/17/25	MR	SW8270E	
2-Chloronaphthalene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2-Chlorophenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2-Methylnaphthalene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2-Methylphenol (o-cresol)	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2-Nitroaniline	ND	72		ug/Kg	1	10/17/25	MR	SW8270E	
2-Nitrophenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
3&4-Methylphenol (m&p-cresol)	ND	330		ug/Kg	1	10/17/25	MR	SW8270E	1
3,3'-Dichlorobenzidine	ND	430		ug/Kg	1	10/17/25	MR	SW8270E	
3-Nitroaniline	ND	570		ug/Kg	1	10/17/25	MR	SW8270E	
4,6-Dinitro-2-methylphenol	ND	210		ug/Kg	1	10/17/25	MR	SW8270E	
4-Bromophenyl phenyl ether	ND	360		ug/Kg	1	10/17/25	MR	SW8270E	
4-Chloro-3-methylphenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
4-Chloroaniline	ND	170		ug/Kg	1	10/17/25	MR	SW8270E	

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4-Chlorophenyl phenyl ether	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
4-Nitroaniline	ND	490		ug/Kg	1	10/17/25	MR	SW8270E
4-Nitrophenol	ND	1000		ug/Kg	1	10/17/25	MR	SW8270E
Acenaphthene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Acenaphthylene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Acetophenone	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Anthracene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Atrazine	ND	130		ug/Kg	1	10/17/25	MR	SW8270E
Benz(a)anthracene	400	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzaldehyde	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(a)pyrene	380	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(b)fluoranthene	510	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(ghi)perylene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(k)fluoranthene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzyl butyl phthalate	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-chloroethoxy)methane	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-chloroethyl)ether	ND	36		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-ethylhexyl)phthalate	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Caprolactam	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Carbazole	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Chrysene	380	250		ug/Kg	1	10/17/25	MR	SW8270E
Dibenz(a,h)anthracene	ND	180		ug/Kg	1	10/17/25	MR	SW8270E
Dibenzofuran	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Diethyl phthalate	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Dimethylphthalate	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Di-n-butylphthalate	ND	720		ug/Kg	1	10/17/25	MR	SW8270E
Di-n-octylphthalate	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Fluoranthene	800	250		ug/Kg	1	10/17/25	MR	SW8270E
Fluorene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorobenzene	ND	170		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorobutadiene	ND	170		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorocyclopentadiene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Hexachloroethane	ND	170		ug/Kg	1	10/17/25	MR	SW8270E
Indeno(1,2,3-cd)pyrene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Isophorone	ND	230		ug/Kg	1	10/17/25	MR	SW8270E
Naphthalene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Nitrobenzene	ND	52		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodimethylamine	ND	36		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodi-n-propylamine	ND	36		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodiphenylamine	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Pentachlorophenol	ND	330		ug/Kg	1	10/17/25	MR	SW8270E
Phenanthrene	460	250		ug/Kg	1	10/17/25	MR	SW8270E
Phenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Pyrene	720	250		ug/Kg	1	10/17/25	MR	SW8270E
QA/QC Surrogates								
% 2,4,6-Tribromophenol	91			%	1	10/17/25	MR	30 - 130 %
% 2-Fluorobiphenyl	69			%	1	10/17/25	MR	30 - 130 %
% 2-Fluorophenol	75			%	1	10/17/25	MR	30 - 130 %
% Nitrobenzene-d5	73			%	1	10/17/25	MR	30 - 130 %

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-15-2

Phoenix I.D.: CU45646

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
% Phenol-d5	77			%	1	10/17/25	MR	30 - 130 %
% Terphenyl-d14	73			%	1	10/17/25	MR	30 - 130 %
1,2-Diphenylhydrazine	ND	72		ug/Kg	1	10/17/25	MR	SW8270E
Aniline	ND	120		ug/Kg	1	10/17/25	MR	SW8270E
Benzoic Acid	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Benzyl Alcohol	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Semivolatile Library Search	Completed					10/17/25	MR	

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Corrosivity is based solely on the pH analysis performed above.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

Ignitability is based solely on the results of the closed cup flashpoint analysis performed above. Passed is >140 degree F.

Paint Filter Test:
Pass = no free liquids were detected. Fail = free liquids were detected.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Cyanide. This method is no longer listed in the current version of SW-846.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Sulfide. This method is no longer listed in the current version of SW-846.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Hexavalent Chromium:
This sample is in a reducing state.

Semi-Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 23, 2025
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

October 23, 2025

FOR: Attn: Joel Rogers
Factor Group Inc
42 Crest Dr
South Orange, NJ 07079-1039

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		10/06/25	14:30
Location Code:	FACTOR	Received by:	CP	10/08/25	18:35
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	00379				

Laboratory Data

SDG ID: GCU45642
Phoenix ID: CU45647

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-15-3

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.50	0.50		mg/Kg	1	10/13/25	CPP	SW6010D
Aluminum	3930	5.8		mg/Kg	1	10/13/25	CPP	SW6010D
Arsenic	1.71	0.77		mg/Kg	1	10/13/25	CPP	SW6010D
Barium	27.3	0.39		mg/Kg	1	10/13/25	CPP	SW6010D
Beryllium	< 0.31	0.31		mg/Kg	1	10/13/25	CPP	SW6010D
Boron	5.0	1.5		mg/Kg	1	10/13/25	CPP	SW6010D
Calcium	2130	5.8		mg/Kg	1	10/13/25	CPP	SW6010D
Cadmium	< 0.39	0.39		mg/Kg	1	10/13/25	CPP	SW6010D
Cobalt	15.2	0.39		mg/Kg	1	10/13/25	CPP	SW6010D
Chromium	31.4	0.39		mg/Kg	1	10/13/25	CPP	SW6010D
Copper	20.0	0.8		mg/kg	1	10/13/25	CPP	SW6010D
Iron	13100	5.8		mg/Kg	1	10/13/25	CPP	SW6010D
Mercury	0.15	0.03		mg/Kg	2	10/10/25	AJ1	SW7471B
Potassium	1030	58		mg/Kg	10	10/13/25	CPP	SW6010D
Magnesium	24200	5.8		mg/Kg	1	10/13/25	CPP	SW6010D
Manganese	270	0.39		mg/Kg	1	10/13/25	TH	SW6010D
Molybdenum	< 0.39	0.39		mg/Kg	1	10/13/25	CPP	SW6010D
Sodium	530	5.8		mg/Kg	1	10/13/25	CPP	SW6010D
Nickel	300	3.9		mg/Kg	10	10/13/25	TH	SW6010D
Lead	54.6	0.39		mg/Kg	1	10/13/25	CPP	SW6010D
Antimony	< 3.9	3.9		mg/Kg	1	10/13/25	CPP	SW6010D
Selenium	< 1.5	1.5		mg/Kg	1	10/13/25	CPP	SW6010D
TCLP Silver	< 0.10	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Arsenic	< 0.050	0.050		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Barium	0.34	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Cadmium	< 0.050	0.050		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Chromium	< 0.10	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010
TCLP Mercury	< 0.0002	0.0002		mg/L	1	10/10/25	ZT	SW846 1311/7470

Ver 1

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-15-3

Phoenix I.D.: CU45647

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
TCLP Lead	0.25	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010	
TCLP Selenium	< 0.10	0.10		mg/L	1	10/09/25	CPP	SW846 1311/6010D	
Thallium	< 2.2	2.2		mg/Kg	1	10/13/25	CPP	SW6010D	
TCLP Metals Digestion	Completed					10/09/25	AK/GW	SW3010A	
Trivalent Chromium	31.4	0.39		mg/kg	1	10/14/25		CALC 6010-7196	
Vanadium	14.0	0.39		mg/Kg	1	10/13/25	CPP	SW6010D	
Zinc	38.8	0.8		mg/Kg	1	10/13/25	CPP	SW6010D	
Percent Solid	91			%		10/08/25	CV	SW846-%Solid	
Corrosivity	Negative			Pos/Neg	1	10/09/25	KG	SW846-Corr	1
Flash Point	>200	200		Degree F	1	10/10/25	G	SW1010B	
Fluoride	< 5.5	5.5		mg/Kg	10	10/09/25	DD/EG	SW9056A	
Chromium, Hex. (SW3060A digestion	< 0.41	0.41		mg/Kg	1	10/14/25	NP	SW7196A	
Ignitability	Passed	140		degree F	1	10/10/25	G	SW846-Ignit	1
Ammonia as Nitrogen	< 73.1	73.1		mg/Kg	1	10/14/25	KDB	E350.1	1
pH at 21C - Soil	8.94	1.00		pH Units	1	10/09/25 01:11	KG	SW846 9045D	
Reactivity Cyanide	< 5	5		mg/Kg	1	10/16/25	NP/GD	SW846 7.3.3.1/90	1
Reactivity Sulfide	< 20	20		mg/Kg	1	10/16/25	NP/GD	SW846 CH7	1
Reactivity	Negative			Pos/Neg	1	10/16/25	NP/GD	SW846-React	1
Redox Potential	297			mV	1	10/09/25	KG	SM2580B-09	1
SPLP Chloride	8.5	1.0		mg/L	1	10/10/25	DD/EG	SW1312/300.0	
SPLP Sulfate	< 3.0	3.0		mg/L	1	10/10/25	DD/EG	SW1312/300.0	1
Total Cyanide (SW9010C Distill.)	< 0.55	0.55		mg/Kg	1	10/15/25	J/I/G	SW9012B	
Mercury Digestion	Completed					10/10/25	GW/GW	SW7471B	
Soil Extraction for Herbicide	Completed					10/14/25	X/K/SD	SW3546	
NJ EPH Extraction	Completed					10/16/25	C/A	NJDEP 10-08 R3	
Soil Extraction for PCB	Completed					10/16/25	K/S/Z	SW3546	
Soil Extraction for Pesticides	Completed					10/16/25	K/S/Z	SW3546	
Soil Extraction for SVOA	Completed					10/16/25	C/Q	SW3546	
Paint Filter Test	Passed			PASS/FAIL		10/08/25	O	SW9095B	
SPLP Extraction, Wet Chemistry	Completed					10/08/25	AK	SW1312	
TCLP Digestion Mercury	Completed					10/09/25	AK/GW	SW7470A	
TCLP Extraction for Metals	Completed					10/08/25	AK	SW1311	
Total Metals Digest	Completed					10/09/25	P/AG	SW3050B	
NJ EPH Category 2									
Total EPH (C9-C40)	ND	130	130	mg/kg	5	10/17/25	JRB	NJEPH 10-08 R3	1
QA/QC Surrogates									
% COD (surr)	77			%	5	10/17/25	JRB	40 - 140 %	
% Terphenyl (surr)	86			%	5	10/17/25	JRB	40 - 140 %	
Chlorinated Herbicides									
2,4,5-T	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4,5-TP (Silvex)	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4-D	ND	270		ug/Kg	10	10/15/25	JRB	SW8151A	
2,4-DB	ND	1400		ug/Kg	10	10/15/25	JRB	SW8151A	
Dalapon	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
Dicamba	ND	140		ug/Kg	10	10/15/25	JRB	SW8151A	
Dichloroprop	ND	270		ug/Kg	10	10/15/25	JRB	SW8151A	
Dinoseb	ND	270		ug/Kg	10	10/15/25	JRB	SW8151A	

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-15-3

Phoenix I.D.: CU45647

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates									
% DCAA	113			%	10	10/15/25	JRB	30 - 150 %	
% DCAA (Confirmation)	100			%	10	10/15/25	JRB	30 - 150 %	
Polychlorinated Biphenyls									
PCB-1016	ND	73		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1221	ND	73		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1232	ND	73		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1242	ND	73		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1248	ND	73		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1254	ND	73		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1260	ND	73		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1262	ND	73		ug/Kg	2	10/20/25	SC	SW8082A	
PCB-1268	ND	73		ug/Kg	2	10/20/25	SC	SW8082A	
Total PCBs	ND	73		ug/Kg	2	10/20/25	SC	SW8082A	1
QA/QC Surrogates									
% DCBP	71			%	2	10/20/25	SC	30 - 150 %	
% DCBP (Confirmation)	67			%	2	10/20/25	SC	30 - 150 %	
% TCMX	72			%	2	10/20/25	SC	30 - 150 %	
% TCMX (Confirmation)	70			%	2	10/20/25	SC	30 - 150 %	
Pesticides - Soil									
4,4' -DDD	ND	2.2		ug/Kg	2	10/19/25	AW	SW8081B	
4,4' -DDE	ND	3.3		ug/Kg	2	10/19/25	AW	SW8081B	
4,4' -DDT	ND	2.2		ug/Kg	2	10/19/25	AW	SW8081B	
a-BHC	ND	1.5		ug/Kg	2	10/19/25	AW	SW8081B	
a-Chlordane	ND	3.6		ug/Kg	2	10/19/25	AW	SW8081B	
Aldrin	ND	3.6		ug/Kg	2	10/19/25	AW	SW8081B	
b-BHC	ND	1.5		ug/Kg	2	10/19/25	AW	SW8081B	
Chlordane	ND	36		ug/Kg	2	10/19/25	AW	SW8081B	
d-BHC	ND	7.3		ug/Kg	2	10/19/25	AW	SW8081B	
Dieldrin	ND	3.6		ug/Kg	2	10/19/25	AW	SW8081B	
Endosulfan I	ND	7.3		ug/Kg	2	10/19/25	AW	SW8081B	
Endosulfan II	ND	7.3		ug/Kg	2	10/19/25	AW	SW8081B	
Endosulfan sulfate	ND	7.3		ug/Kg	2	10/19/25	AW	SW8081B	
Endrin	ND	7.3		ug/Kg	2	10/19/25	AW	SW8081B	
Endrin aldehyde	ND	7.3		ug/Kg	2	10/19/25	AW	SW8081B	
Endrin ketone	ND	7.3		ug/Kg	2	10/19/25	AW	SW8081B	
g-BHC	ND	1.5		ug/Kg	2	10/19/25	AW	SW8081B	
g-Chlordane	ND	3.6		ug/Kg	2	10/19/25	AW	SW8081B	
Heptachlor	ND	7.3		ug/Kg	2	10/19/25	AW	SW8081B	
Heptachlor epoxide	ND	7.3		ug/Kg	2	10/19/25	AW	SW8081B	
Methoxychlor	ND	36		ug/Kg	2	10/19/25	AW	SW8081B	
Toxaphene	ND	150		ug/Kg	2	10/19/25	AW	SW8081B	
QA/QC Surrogates									
% DCBP	65			%	2	10/19/25	AW	30 - 150 %	
% DCBP (Confirmation)	61			%	2	10/19/25	AW	30 - 150 %	
% TCMX	65			%	2	10/19/25	AW	30 - 150 %	
% TCMX (Confirmation)	60			%	2	10/19/25	AW	30 - 150 %	

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-15-3

Phoenix I.D.: CU45647

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Volatiles (TCL)								
1,1,1-Trichloroethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,1,2,2-Tetrachloroethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,1,2-Trichloroethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,1-Dichloroethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,1-Dichloroethene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,2,3-Trichlorobenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,2,4-Trichlorobenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,2,4-Trimethylbenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dibromo-3-chloropropane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dibromoethane	ND	1.2		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dichlorobenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dichloroethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,2-Dichloropropane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
1,3,5-Trimethylbenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,3-Dichlorobenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
1,4-Dichlorobenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
2-Hexanone	ND	27		ug/kg	1	10/12/25	RM	SW8260D
4-Methyl-2-pentanone	ND	27		ug/kg	1	10/12/25	RM	SW8260D
Acetone	ND	50		ug/kg	1	10/12/25	RM	SW8260D
Benzene	ND	4.2		ug/kg	1	10/12/25	RM	SW8260D
Bromochloromethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Bromodichloromethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
Bromoform	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Bromomethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Carbon Disulfide	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Carbon tetrachloride	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Chlorobenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Chloroethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Chloroform	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Chloromethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
cis-1,2-Dichloroethene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
cis-1,3-Dichloropropene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Cyclohexane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Dibromochloromethane	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
Dichlorodifluoromethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Ethylbenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Isopropylbenzene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
m&p-Xylene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Methyl ethyl ketone	ND	33		ug/kg	1	10/12/25	RM	SW8260D
Methyl t-butyl ether (MTBE)	ND	11		ug/kg	1	10/12/25	RM	SW8260D
Methylacetate	ND	54		ug/kg	1	10/12/25	RM	SW8260D
Methylcyclohexane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Methylene chloride	ND	13		ug/kg	1	10/12/25	RM	SW8260D
o-Xylene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Styrene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Tetrachloroethene	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D
Toluene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D
Total Xylenes	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-15-3

Phoenix I.D.: CU45647

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D	
trans-1,3-Dichloropropene	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D	
Trichloroethene	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D	
Trichlorofluoromethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D	
Trichlorotrifluoroethane	ND	5.4		ug/kg	1	10/12/25	RM	SW8260D	
Vinyl chloride	ND	5.0		ug/kg	1	10/12/25	RM	SW8260D	
QA/QC Surrogates									
% 1,2-dichlorobenzene-d4	98			%	1	10/12/25	RM	70 - 130 %	
% Bromofluorobenzene	97			%	1	10/12/25	RM	70 - 130 %	
% Dibromofluoromethane	102			%	1	10/12/25	RM	70 - 130 %	
% Toluene-d8	101			%	1	10/12/25	RM	70 - 130 %	
1,4-dioxane									
1,4-dioxane	ND	67		ug/kg	1	10/12/25	RM	SW8260D	
Volatiles									
1,1,1,2-Tetrachloroethane	ND	22		ug/Kg	1	10/12/25	RM	SW8260D	
Acrolein	ND	0.47		ug/Kg	1	10/12/25	RM	SW8260D	
Acrylonitrile	ND	10		ug/Kg	1	10/12/25	RM	SW8260D	
Tert-butyl alcohol	ND	110		ug/Kg	1	10/12/25	RM	SW8260D	
Vinyl Acetate	ND	54		ug/Kg	1	10/12/25	RM	SW8260D	
Volatile Library Search	Completed					10/13/25	RM		
FACTOR GROUP 2	Completed					10/08/25			
Semivolatiles									
1,1-Biphenyl	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
1,2,4,5-Tetrachlorobenzene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2,2'-Oxybis(1-Chloropropane)	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	1
2,3,4,6-tetrachlorophenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2,4,5-Trichlorophenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2,4,6-Trichlorophenol	ND	200		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dichlorophenol	ND	190		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dimethylphenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dinitrophenol	ND	330		ug/Kg	1	10/17/25	MR	SW8270E	
2,4-Dinitrotoluene	ND	50		ug/Kg	1	10/17/25	MR	SW8270E	
2,6-Dinitrotoluene	ND	72		ug/Kg	1	10/17/25	MR	SW8270E	
2-Chloronaphthalene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2-Chlorophenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2-Methylnaphthalene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2-Methylphenol (o-cresol)	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
2-Nitroaniline	ND	72		ug/Kg	1	10/17/25	MR	SW8270E	
2-Nitrophenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
3&4-Methylphenol (m&p-cresol)	ND	330		ug/Kg	1	10/17/25	MR	SW8270E	1
3,3'-Dichlorobenzidine	ND	430		ug/Kg	1	10/17/25	MR	SW8270E	
3-Nitroaniline	ND	570		ug/Kg	1	10/17/25	MR	SW8270E	
4,6-Dinitro-2-methylphenol	ND	210		ug/Kg	1	10/17/25	MR	SW8270E	
4-Bromophenyl phenyl ether	ND	360		ug/Kg	1	10/17/25	MR	SW8270E	
4-Chloro-3-methylphenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E	
4-Chloroaniline	ND	170		ug/Kg	1	10/17/25	MR	SW8270E	

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-15-3

Phoenix I.D.: CU45647

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
4-Chlorophenyl phenyl ether	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
4-Nitroaniline	ND	490		ug/Kg	1	10/17/25	MR	SW8270E
4-Nitrophenol	ND	1000		ug/Kg	1	10/17/25	MR	SW8270E
Acenaphthene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Acenaphthylene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Acetophenone	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Anthracene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Atrazine	ND	130		ug/Kg	1	10/17/25	MR	SW8270E
Benz(a)anthracene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzaldehyde	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(a)pyrene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(b)fluoranthene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(ghi)perylene	340	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzo(k)fluoranthene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Benzyl butyl phthalate	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-chloroethoxy)methane	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-chloroethyl)ether	ND	36		ug/Kg	1	10/17/25	MR	SW8270E
Bis(2-ethylhexyl)phthalate	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Caprolactam	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Carbazole	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Chrysene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Dibenz(a,h)anthracene	230	180		ug/Kg	1	10/17/25	MR	SW8270E
Dibenzofuran	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Diethyl phthalate	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Dimethylphthalate	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Di-n-butylphthalate	ND	720		ug/Kg	1	10/17/25	MR	SW8270E
Di-n-octylphthalate	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Fluoranthene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Fluorene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorobenzene	ND	170		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorobutadiene	ND	170		ug/Kg	1	10/17/25	MR	SW8270E
Hexachlorocyclopentadiene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Hexachloroethane	ND	170		ug/Kg	1	10/17/25	MR	SW8270E
Indeno(1,2,3-cd)pyrene	310	250		ug/Kg	1	10/17/25	MR	SW8270E
Isophorone	ND	230		ug/Kg	1	10/17/25	MR	SW8270E
Naphthalene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Nitrobenzene	ND	52		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodimethylamine	ND	36		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodi-n-propylamine	ND	36		ug/Kg	1	10/17/25	MR	SW8270E
N-Nitrosodiphenylamine	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Pentachlorophenol	ND	330		ug/Kg	1	10/17/25	MR	SW8270E
Phenanthrene	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Phenol	ND	250		ug/Kg	1	10/17/25	MR	SW8270E
Pyrene	270	250		ug/Kg	1	10/17/25	MR	SW8270E
QA/QC Surrogates								
% 2,4,6-Tribromophenol	86			%	1	10/17/25	MR	30 - 130 %
% 2-Fluorobiphenyl	63			%	1	10/17/25	MR	30 - 130 %
% 2-Fluorophenol	68			%	1	10/17/25	MR	30 - 130 %
% Nitrobenzene-d5	67			%	1	10/17/25	MR	30 - 130 %

Project ID: NYCDDC SANDRHDK RHCR
Client ID: WC-15-3

Phoenix I.D.: CU45647

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
% Phenol-d5	70			%	1	10/17/25	MR	30 - 130 %
% Terphenyl-d14	68			%	1	10/17/25	MR	30 - 130 %
1,2-Diphenylhydrazine	ND	72		ug/Kg	1	10/17/25	MR	SW8270E
Aniline	ND	120		ug/Kg	1	10/17/25	MR	SW8270E
Benzoic Acid	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Benzyl Alcohol	ND	360		ug/Kg	1	10/17/25	MR	SW8270E
Semivolatile Library Search	Completed					10/17/25	MR	

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Corrosivity is based solely on the pH analysis performed above.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

Ignitability is based solely on the results of the closed cup flashpoint analysis performed above. Passed is >140 degree F.

Paint Filter Test:
Pass = no free liquids were detected. Fail = free liquids were detected.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Cyanide. This method is no longer listed in the current version of SW-846.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Sulfide. This method is no longer listed in the current version of SW-846.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Hexavalent Chromium:
This sample is in a reducing state.

Semi-Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 23, 2025
Reviewed and Released by: Phyllis Shiller, Laboratory Director

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-16-1

Lab Name: Phoenix Environmental Labs Client: FACTOR

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCU4564

Matrix:(soil/water) SOIL Lab Sample ID: CU45642

Sample wt/vol: 5.05 (g/mL) g Lab File ID: 1012R13.D

Level: (low/med) ENL Date Received: 10/08/25

% Moisture: not dec. 12 Date Analyzed: 10/12/25

GC Column: RTX-VMS ID: 0.18mm Dilution Factor: 1

Purge Volume: 5000 (uL) Soil Aliquot Vol (uL): 5000

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
91-20-3	Naphthalene	9.143	2.5	Q

FORM I VOA-TIC

J - Used when estimating a concentration for TIC where a 1:1 response is assumed or when the result indicates the presence of a compound that meets the indentification criteria, but the results is less than the quantitation limit, but greater than zero.
N - The concentration is based on the response of the nearest internal. This flag is used on the TIC form for all compounds identified
Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-16-2

Lab Name: Phoenix Environmental Labs Client: FACTOR

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCU4564

Matrix:(soil/water) SOIL Lab Sample ID: CU45643

Sample wt/vol: 5.05 (g/mL) g Lab File ID: 1012R14.D

Level: (low/med) ENL Date Received: 10/08/25

% Moisture: not dec. 16 Date Analyzed: 10/12/25

GC Column: RTX-VMS ID: 0.18mm Dilution Factor: 1

Purge Volume: 5000 (uL) Soil Aliquot Vol (uL): 5000

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

J - Used when estimating a concentration for TIC where a 1:1 response is assumed or when the result indicates the presence of a compound that meets the indentification criteria, but the results is less than the quantitation limit, but greater than zero.

N - The concentration is based on the response of the nearest internal. This flag is used on the TIC form for all compounds identified

Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-16-3

Lab Name: Phoenix Environmental Labs Client: FACTOR

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCU4564

Matrix:(soil/water): SOIL Lab Sample ID: CU45644

Sample wt/vol: 4.23 (g/mL) g Lab File ID: 1012R15.D

Level: (low/med): ENL Date Received: 10/08/25

% Moisture: not dec. 35 Date Analyzed: 10/12/25

GC Column: RTX-VMS ID: 0.18mm Dilution Factor: 1

Purge Volume: 5000 (uL) Soil Aliquot Vol (uL): 5000

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

J - Used when estimating a concentration for TIC where a 1:1 response is assumed or when the result indicates the presence of a compound that meets the indentification criteria, but the results is less than the quantitation limit, but greater than zero.
N - The concentration is based on the response of the nearest internal. This flag is used on the TIC form for all compounds identified
Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-15-1

Lab Name: Phoenix Environmental Labs Client: FACTOR

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCU4564

Matrix:(soil/water) SOIL Lab Sample ID: CU45645

Sample wt/vol: 5.04 (g/mL) g Lab File ID: 1012R16.D

Level: (low/med) ENL Date Received: 10/08/25

% Moisture: not dec. 9 Date Analyzed: 10/12/25

GC Column: RTX-VMS ID: 0.18mm Dilution Factor: 1

Purge Volume: 5000 (uL) Soil Aliquot Vol (uL): 5000

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

J - Used when estimating a concentration for TIC where a 1:1 response is assumed or when the result indicates the presence of a compound that meets the indentification criteria, but the results is less than the quantitation limit, but greater than zero.

N - The concentration is based on the response of the nearest internal. This flag is used on the TIC form for all compounds identified

Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-15-2

Lab Name: Phoenix Environmental Labs Client: FACTOR

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCU4564

Matrix:(soil/water) SOIL Lab Sample ID: CU45646

Sample wt/vol: 5.03 (g/mL) g Lab File ID: 1012R17.D

Level: (low/med) ENL Date Received: 10/08/25

% Moisture: not dec. 8 Date Analyzed: 10/12/25

GC Column: RTX-VMS ID: 0.18mm Dilution Factor: 1

Purge Volume: 5000 (uL) Soil Aliquot Vol (uL): 5000

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

J - Used when estimating a concentration for TIC where a 1:1 response is assumed or when the result indicates the presence of a compound that meets the indentification criteria, but the results is less than the quantitation limit, but greater than zero.

N - The concentration is based on the response of the nearest internal. This flag is used on the TIC form for all compounds identified

Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-15-3

Lab Name: Phoenix Environmental Labs Client: FACTOR

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCU4564

Matrix:(soil/water) SOIL Lab Sample ID: CU45647

Sample wt/vol: 5.05 (g/mL) g Lab File ID: 1012R18.D

Level: (low/med) ENL Date Received: 10/08/25

% Moisture: not dec. 9 Date Analyzed: 10/12/25

GC Column: RTX-VMS ID: 0.18mm Dilution Factor: 1

Purge Volume: 5000 (uL) Soil Aliquot Vol (uL): 5000

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

J - Used when estimating a concentration for TIC where a 1:1 response is assumed or when the result indicates the presence of a compound that meets the indentification criteria, but the results is less than the quantitation limit, but greater than zero.

N - The concentration is based on the response of the nearest internal. This flag is used on the TIC form for all compounds identified

Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-16-1

Lab Name: Phoenix Environmental Labs | Client: FACTOR

Lab Code: Phoenix | Case No.: | SAS No.: | SDG No.: GCU4564

Matrix:(soil/water): SOIL | Lab Sample ID: CU45642

Sample wt/vol: 15.08 (g/mL) g | Lab File ID: 1016_41.D

Level: (low/med): Low | Date Received: 10/08/25

% Moisture: not dec. 12 | decanted:(Y/N) NA | Date Extracted: 10/17/25

GPC Cleanup (Y/N): N | pH: NA | Date Analyzed: 10/17/2025

Conc. Extract Volume: 1000 (uL) | Dilution Factor 1

Injection Volume: 1 (uL)

Number TICs found: 15 | CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	2.531	3700	JNA
023676-09-7	Benzoic acid, 4-ethoxy-, ethyl est	6.279	1200	JNC
000112-88-9	1-Octadecene	7.366	980	JN
000112-39-0	Hexadecanoic acid, methyl ester	7.860	960	JN
	Phenanthrene, 1-methyl- Isomer	7.936	780	JN
000832-69-9	Phenanthrene, 1-methyl-	7.966	730	JN
	unknown hydrocarbon	8.036	1400	J
000781-43-1	9,10-Dimethylanthracene	8.436	600	JN
002462-85-3	9,12-Octadecadienoic acid, methyl	8.477	1600	JN
000112-62-9	9-Octadecenoic acid (Z)-, methyl e	8.494	3500	JN
	unknown hydrocarbon	8.518	490	J
033543-31-6	Fluoranthene, 2-methyl-	9.194	390	JN
000207-08-9	Benzo[k]fluoranthene	13.072	1700	JN
000198-55-0	Perylene	13.553	5800	JN
	Perylene Isomer	13.935	2200	JN

FORM I SEMIVOA-TIC

A - Indicates that the tentatively identified compound is a suspected aldol condensation product. Aldol condensation products are produced during the extraction process.

C - Indicates that the tentatively identified compound is a suspected prep artifact produced during extraction process.

Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-16-2

Lab Name: Phoenix Environmental Labs | Client: FACTOR

Lab Code: Phoenix | Case No.: | SAS No.: | SDG No.: GCU4564

Matrix:(soil/water): SOIL | Lab Sample ID: CU45643

Sample wt/vol: 15.17 (g/mL) g | Lab File ID: 1016_42.D

Level: (low/med): Low | Date Received: 10/08/25

% Moisture: not dec. 16 | decanted:(Y/N) NA | Date Extracted: 10/17/25

GPC Cleanup (Y/N): N | pH: NA | Date Analyzed: 10/17/2025

Conc. Extract Volume: 1000 (uL) | Dilution Factor 1

Injection Volume: 1 (uL)

Number TICs found: 14 | CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	2.531	4000	JNA
023676-09-7	Benzoic acid, 4-ethoxy-, ethyl est	6.279	670	JNC
000112-88-9	1-Octadecene	7.366	630	JN
002531-84-2	Phenanthrene, 2-methyl-	7.942	540	JN
	Phenanthrene, 2-methyl- Isomer	7.966	730	JN
000203-64-5	4H-Cyclopenta[def]phenanthrene	8.042	1300	JN
003674-66-6	Phenanthrene, 2,5-dimethyl-	8.436	360	JN
	unknown hydrocarbon	8.471	400	J
005737-13-3	Cyclopenta(def)phenanthrenone	8.518	390	JN
	unknown hydrocarbon	8.735	370	J
000243-17-4	11H-Benzo[b]fluorene	9.194	390	JN
000207-08-9	Benzo[k]fluoranthene	13.066	900	JN
000198-55-0	Perylene	13.536	3100	JN
	Perylene Isomer	13.918	1200	JN

FORM I SEMIVOA-TIC

A - Indicates that the tentatively identified compound is a suspected aldol condensation product. Aldol condensation products are produced during the extraction process.

C - Indicates that the tentatively identified compound is a suspected prep artifact produced during extraction process.

Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-16-3

Lab Name: Phoenix Environmental Labs | Client: FACTOR

Lab Code: Phoenix | Case No.: | SAS No.: | SDG No.: GCU4564

Matrix:(soil/water): SOIL | Lab Sample ID: CU45644

Sample wt/vol: 7.21 (g/mL) g | Lab File ID: 1016_43.D

Level: (low/med): Low | Date Received: 10/08/25

% Moisture: not dec. 35 | decanted:(Y/N) NA | Date Extracted: 10/17/25

GPC Cleanup (Y/N): N | pH: NA | Date Analyzed: 10/17/2025

Conc. Extract Volume: 1000 (uL) | Dilution Factor 1

Injection Volume: 1 (uL)

Number TICs found: 3 | CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	2.525	8900	JNA
023676-09-7	Benzoic acid, 4-ethoxy-, ethyl est	6.279	2000	JNC
000112-88-9	1-Octadecene	7.366	1400	JN

FORM I SEMIVOA-TIC

A - Indicates that the tentatively identified compound is a suspected aldol condensation product. Aldol condensation products are produced during the extraction process.

C - Indicates that the tentatively identified compound is a suspected prep artifact produced during extraction process.

Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-15-1

Lab Name: Phoenix Environmental Labs | Client: FACTOR

Lab Code: Phoenix | Case No.: | SAS No.: | SDG No.: GCU4564

Matrix:(soil/water): SOIL | Lab Sample ID: CU45645

Sample wt/vol: 15.04 (g/mL) g | Lab File ID: 1016_35.D

Level: (low/med): Low | Date Received: 10/08/25

% Moisture: not dec. 9 | decanted:(Y/N) NA | Date Extracted: 10/17/25

GPC Cleanup (Y/N): N | pH: NA | Date Analyzed: 10/17/2025

Conc. Extract Volume: 1000 (uL) | Dilution Factor 1

Injection Volume: 1 (uL)

Number TICs found: 3 | CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	2.537	10000	JNA
023676-09-7	Benzoic acid, 4-ethoxy-, ethyl est	6.273	890	JNC
074685-30-6	5-Eicosene, (E)-	7.360	660	JN

FORM I SEMIVOA-TIC

A - Indicates that the tentatively identified compound is a suspected aldol condensation product. Aldol condensation products are produced during the extraction process.
C - Indicates that the tentatively identified compound is a suspected prep artifact produced during extraction process.
Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-15-2

Lab Name: Phoenix Environmental Labs | Client: FACTOR

Lab Code: Phoenix | Case No.: | SAS No.: | SDG No.: GCU4564

Matrix:(soil/water): SOIL | Lab Sample ID: CU45646

Sample wt/vol: 15.14 (g/mL) g | Lab File ID: 1016_36.D

Level: (low/med): Low | Date Received: 10/08/25

% Moisture: not dec. 8 | decanted:(Y/N) NA | Date Extracted: 10/17/25

GPC Cleanup (Y/N): N | pH: NA | Date Analyzed: 10/17/2025

Conc. Extract Volume: 1000 (uL) | Dilution Factor 1

Injection Volume: 1 (uL)

Number TICs found: 7 | CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	2.531	4800	JNA
023676-09-7	Benzoic acid, 4-ethoxy-, ethyl est	6.273	810	JNC
018435-45-5	1-Nonadecene	7.360	630	JN
000112-39-0	Hexadecanoic acid, methyl ester	7.854	600	JN
002462-85-3	9,12-Octadecadienoic acid, methyl	8.471	860	JN
000112-62-9	9-Octadecenoic acid (Z)-, methyl e	8.489	2600	JN
000050-32-8	Benzo[a]pyrene	13.477	310	JN

FORM I SEMIVOA-TIC

A - Indicates that the tentatively identified compound is a suspected aldol condensation product. Aldol condensation products are produced during the extraction process.
C - Indicates that the tentatively identified compound is a suspected prep artifact produced during extraction process.
Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-15-3

Lab Name: Phoenix Environmental Labs | Client: FACTOR

Lab Code: Phoenix | Case No.: | SAS No.: | SDG No.: GCU4564

Matrix:(soil/water): SOIL | Lab Sample ID: CU45647

Sample wt/vol: 15.37 (g/mL) g | Lab File ID: 1016_33.D

Level: (low/med): Low | Date Received: 10/08/25

% Moisture: not dec. 9 | decanted:(Y/N) NA | Date Extracted: 10/17/25

GPC Cleanup (Y/N): N | pH: NA | Date Analyzed: 10/17/2025

Conc. Extract Volume: 1000 (uL) | Dilution Factor 1

Injection Volume: 1 (uL)

Number TICs found: 3 | CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	2.543	17000	JNA
023676-09-7	Benzoic acid, 4-ethoxy-, ethyl est	6.274	810	JNC
000112-88-9	1-Octadecene	7.361	630	JN

FORM I SEMIVOA-TIC

A - Indicates that the tentatively identified compound is a suspected aldol condensation product. Aldol condensation products are produced during the extraction process.
C - Indicates that the tentatively identified compound is a suspected prep artifact produced during extraction process.
Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

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NY # 11301

QA/QC Report

October 23, 2025

QA/QC Data

SDG I.D.: GCU45642

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 808098 (mg/kg), QC Sample No: CU45773 (CU45643, CU45644, CU45645, CU45646, CU45647)														
Chromium, Hexavalent - Soil														
Chromium, Hexavalent	BRL	0.40	<0.41	<0.41	NC	97.6						80 - 120	30	
Chromium, Hexavalent (Ins)						92.5			93.2			80 - 120	30	
Chromium, Hexavalent (Sol)						91.3			<10			80 - 120	30	m
Comment: The QC sample is in a reducing state, acceptance criteria are not applicable for samples in a reducing state. The soluble spike was analyzed twice with similar recoveries. Additional Hexavalent Chromium criteria: MS acceptance range is 75-125%.														
QA/QC Batch 807928 (mg/kg), QC Sample No: CU47615 (CU45642)														
Chromium, Hexavalent - Soil														
Chromium, Hexavalent	BRL	0.40	<0.38	<0.37	NC	99.6						80 - 120	30	
Chromium, Hexavalent (Ins)						97.5			101			80 - 120	30	
Chromium, Hexavalent (Sol)						91.3			80.1			80 - 120	30	
Comment: The QC sample is in a reducing state, acceptance criteria are not applicable for samples in a reducing state. The soluble spike was analyzed twice with similar recoveries. Additional Hexavalent Chromium criteria: MS acceptance range is 75-125%.														
QA/QC Batch 807643 (mg/kg), QC Sample No: CU43971 (CU45642, CU45643, CU45644, CU45645, CU45646, CU45647)														
Mercury - Soil	BRL	0.03	0.17	0.11	42.9	99.2	97.3	1.9	126	119	5.7	70 - 130	30	m,r
Comment: Additional Mercury Criteria: LCS acceptance range is 80-120% for aqueous and for soils the acceptance range is set by vendor limits. MS acceptance range is 75-125% for aqueous and 80-120% for soils.														
QA/QC Batch 807413 (mg/L), QC Sample No: CU45711 (CU45642, CU45643, CU45644, CU45645, CU45646, CU45647)														
Mercury - Water	BRL	0.0002	<0.0002	<0.0002	NC	92.5			91.6			80 - 120	20	
Comment: Additional Mercury Criteria: LCS acceptance range is 80-120% for aqueous and for soils the acceptance range is set by vendor limits. MS acceptance range is 75-125% for aqueous and 80-120% for soils.														
QA/QC Batch 807415 (mg/L), QC Sample No: CU44776 (CU45642, CU45643, CU45644, CU45645, CU45646, CU45647)														
ICP Metals - TCLP Extraction														
Arsenic	BRL	0.10	<0.10	<0.10	NC	107	108	0.9	109			80 - 120	20	
Barium	BRL	0.10	<0.10	<0.10	NC	101	102	1.0	104			80 - 120	20	
Cadmium	BRL	0.050	<0.050	<0.050	NC	103	104	1.0	106			80 - 120	20	
Chromium	BRL	0.10	<0.10	<0.10	NC	103	104	1.0	108			80 - 120	20	
Lead	BRL	0.10	<0.10	<0.10	NC	100	101	1.0	106			80 - 120	20	
Selenium	BRL	0.10	<0.10	<0.10	NC	109	111	1.8	109			80 - 120	20	
Silver	BRL	0.10	<0.10	<0.10	NC	102	103	1.0	103			80 - 120	20	
Comment: Additional Criteria: LCS acceptance range is 80-120% for aqueous and for soils the acceptance range is set by vendor limits. MS acceptance range 75-125%.														

QA/QC Data

SDG I.D.: GCU45642

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 807543 (mg/kg), QC Sample No: CU45523 (CU45642, CU45643, CU45644, CU45645)														
ICP Metals - Soil														
Aluminum	BRL	5.0	14400	14400	0	87.8	88.9	1.2	NC			75 - 125	30	
Antimony	BRL	3.3	<4.4	<4.3	NC	96.9	93.4	3.7	92.6			75 - 125	30	
Arsenic	BRL	0.67	19.2	22.4	15.4	88.8	88.1	0.8	99.3			75 - 125	30	
Barium	BRL	0.33	303	321	5.80	91.4	87.2	4.7	129			75 - 125	30	m
Beryllium	BRL	0.27	0.59	0.59	NC	96.9	95.1	1.9	104			75 - 125	30	
Boron	BRL	1.3	3.8	4.0	NC	76.9	76.5	0.5	96.6			75 - 125	30	
Cadmium	BRL	0.33	0.89	1.80	NC	92.4	91.1	1.4	104			75 - 125	30	
Calcium	BRL	5.0	6640	3240	68.8	98.3	97.2	1.1	NC			75 - 125	30	r
Chromium	BRL	0.33	22.4	37.9	51.4	94.5	94.6	0.1	109			75 - 125	30	r
Cobalt	BRL	0.33	7.29	9.34	24.7	92.2	92.8	0.6	105			75 - 125	30	
Copper	BRL	0.67	48.8	93.4	62.7	96.3	95.9	0.4	112			75 - 125	30	r
Iron	BRL	5.0	25300	70700	94.6	95.2	95.9	0.7	NC			75 - 125	30	r
Lead	BRL	0.33	853	909	6.40	96.7	97.4	0.7	112			75 - 125	30	
Magnesium	BRL	5.0	2930	2950	0.70	89.4	90.1	0.8	NC			75 - 125	30	
Manganese	BRL	0.33	629	728	14.6	94.9	91.5	3.6	101			75 - 125	30	
Molybdenum	BRL	0.33	1.36	3.21	NC	99.7	100	0.3	103			75 - 125	30	
Nickel	BRL	0.33	16.8	33.9	67.5	94.2	95.0	0.8	105			75 - 125	30	r
Potassium	BRL	5.0	1210	1290	6.40	88.6	90.0	1.6	>130			75 - 125	30	m
Selenium	BRL	1.3	<1.8	<2.0	NC	81.7	80.9	1.0	89.1			75 - 125	30	
Silver	BRL	0.33	<0.44	<0.43	NC	93.9	94.8	1.0	99.0			75 - 125	30	
Sodium	BRL	5.0	66.3	66.3	0	105	98.9	6.0	>130			75 - 125	30	m
Thallium	BRL	3.0	<4.0	<3.9	NC	97.8	96.1	1.8	103			75 - 125	30	
Vanadium	BRL	0.33	29.0	29.4	1.40	93.7	93.7	0.0	106			75 - 125	30	
Zinc	BRL	0.67	243	316	26.1	94.0	94.5	0.5	123			75 - 125	30	
Comment:														
Additional Criteria: LCS acceptance range is 80-120% for aqueous and for soils the acceptance range is set by vendor limits. MS acceptance range 75-125%.														
QA/QC Batch 807544 (mg/kg), QC Sample No: CU45646 (CU45646, CU45647)														
ICP Metals - Soil														
Aluminum	BRL	5.0	5250	4850	7.90	98.5	98.9	0.4	NC			75 - 125	30	
Antimony	BRL	3.3	<3.7	<3.2	NC	103	102	1.0	80.7			75 - 125	30	
Arsenic	BRL	0.67	8.15	4.44	58.9	92.4	94.1	1.8	86.9			75 - 125	30	r
Barium	BRL	0.33	58.0	77.3	28.5	97.6	97.0	0.6	99.4			75 - 125	30	
Beryllium	BRL	0.27	0.41	0.30	NC	96.7	99.5	2.9	96.3			75 - 125	30	
Boron	BRL	1.3	7.4	6.3	NC	79.2	80.7	1.9	90.1			75 - 125	30	
Cadmium	BRL	0.33	0.52	0.42	NC	99.6	101	1.4	95.6			75 - 125	30	
Calcium	BRL	5.0	4010	5310	27.9	99.3	101	1.7	NC			75 - 125	30	
Chromium	BRL	0.33	43.3	39.9	8.20	98.0	100	2.0	111			75 - 125	30	
Cobalt	BRL	0.33	34.6	19.1	57.7	96.5	98.6	2.2	83.0			75 - 125	30	r
Copper	BRL	0.67	36.7	38.9	5.80	93.6	95.9	2.4	93.6			75 - 125	30	
Iron	BRL	5.0	25700	16600	43.0	102	104	1.9	NC			75 - 125	30	r
Lead	BRL	0.33	93.8	155	49.2	94.9	98.2	3.4	92.9			75 - 125	30	r
Magnesium	BRL	5.0	40400	30600	27.6	95.5	96.9	1.5	NC			75 - 125	30	
Manganese	BRL	0.33	481	365	27.4	95.7	95.1	0.6	0			75 - 125	30	m
Molybdenum	BRL	0.33	<0.37	<0.32	NC	103	105	1.9	96.2			75 - 125	30	
Nickel	BRL	0.33	563	356	45.0	99.1	100	0.9	0			75 - 125	30	m,r
Potassium	BRL	5.0	1230	989	21.7	98.4	99.9	1.5	>130			75 - 125	30	m
Selenium	BRL	1.3	<1.5	<1.3	NC	84.8	85.4	0.7	78.0			75 - 125	30	
Silver	BRL	0.33	<0.50	<0.32	NC	100	102	2.0	94.5			75 - 125	30	
Sodium	BRL	5.0	460	367	22.5	94.7	96.9	2.3	93.5			75 - 125	30	

QA/QC Data

SDG I.D.: GCU45642

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Thallium	BRL	3.0	<2.2	<2.9	NC	101	102	1.0	93.4			75 - 125	30	
Vanadium	BRL	0.33	23.0	17.2	28.9	96.4	98.6	2.3	92.7			75 - 125	30	
Zinc	BRL	0.67	95.5	102	6.60	92.5	94.3	1.9	73.7			75 - 125	30	m

Comment:

Additional Criteria: LCS acceptance range is 80-120% for aqueous and for soils the acceptance range is set by vendor limits. MS acceptance range 75-125%.

m = This parameter is outside laboratory MS/MSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

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NY # 11301

QA/QC Report

October 23, 2025

QA/QC Data

SDG I.D.: GCU45642

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 808024 (mg/Kg), QC Sample No: CU38165 (CU45642, CU45643, CU45644)													
Total Cyanide (SW9010C Distill.)	BRL	0.50	<0.56	<0.56	NC	96.9	88.5	9.1	99.0			80 - 120	30
Comment:													
Additional: MS acceptance range is 75-125%.													
QA/QC Batch 808340 (mg/Kg), QC Sample No: CU44991 (CU45642, CU45643, CU45644)													
Reactivity Cyanide	BRL	5	<5	<5.1	NC	93.8						85 - 115	30
Reactivity Sulfide	BRL	20	<20	<20	NC	92.0						80 - 120	30
QA/QC Batch 808110 (mg/Kg), QC Sample No: CU44991 (CU45645, CU45646, CU45647)													
Total Cyanide (SW9010C Distill.)	BRL	0.50	<0.54	<0.54	NC	95.1	88.1	7.6	90.5			80 - 120	30
Comment:													
Additional: MS acceptance range is 75-125%.													
QA/QC Batch 808624 (mg/Kg), QC Sample No: CU45645 (CU45645, CU45646, CU45647)													
Reactivity Cyanide	BRL	5	<5	<5.5	NC	98.2						85 - 115	30
Reactivity Sulfide	BRL	20	<20	<20	NC	92.0						80 - 120	30
QA/QC Batch 807772 (Degree F), QC Sample No: CU43646 (CU45642, CU45643, CU45644, CU45645, CU45646, CU45647)													
Flash Point			>200	>200	NC	100						75 - 125	30
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 807383 (PH), QC Sample No: CU45579 (CU45642, CU45643, CU45644, CU45645, CU45646, CU45647)													
pH			7.60	7.60	0	100						85 - 115	20
QA/QC Batch 807384 (mV), QC Sample No: CU45579 (CU45642, CU45643, CU45644, CU45645, CU45646, CU45647)													
Redox Potential			315	318	NC							75 - 125	30
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 807467 (mg/L), QC Sample No: CU44845 (CU45642, CU45643, CU45644, CU45645, CU45646, CU45647)													
Chloride	BRL	5.0	31.5	30.9	1.90	91.4			95.8			90 - 110	20
Fluoride	BRL	0.10	<0.10	<0.10	NC	101			99.2			90 - 110	20
QA/QC Batch 807759 (mg/L), QC Sample No: CU46325 (CU45642, CU45643, CU45644, CU45645, CU45646, CU45647)													
Chloride	BRL	5.0	<5.0	<5.0	NC	95.6			96.5			90 - 110	20
Fluoride	BRL	0.10	1.19	1.15	3.40	106			101			90 - 110	20
QA/QC Batch 807938 (mg/Kg), QC Sample No: CU45889 (CU45642, CU45643, CU45644, CU45645, CU45646, CU45647)													
Ammonia as Nitrogen	BRL	3.51	1530	1830	17.9	94.3			98.1			75 - 125	30
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													

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NY # 11301

QA/QC Report

October 23, 2025

QA/QC Data

SDG I.D.: GCU45642

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 808084 (mg/kg), QC Sample No: CU43286 (CU45642, CU45643, CU45644)											
Extractable Petroleum Hydrocarbons - Soil											
Total EPH (C9-C40)	ND	10	76	93	20.1	100	93	7.3	40 - 140	25	
C9 - Nonane	ND	3.3	65	73	11.6	86	69	21.9	40 - 140	25	
C10 - Decane	ND	3.3	64	79	21.0	88	80	9.5	40 - 140	25	
C12 - Dodecane	ND	3.3	67	88	27.1	94	91	3.2	40 - 140	25	r
C14 - Tetradecane	ND	3.3	72	88	20.0	99	92	7.3	40 - 140	25	
C16 - Hexadecane	ND	3.3	77	92	17.8	103	97	6.0	40 - 140	25	
C18 - Octadecane	ND	3.3	88	110	22.2	125	114	9.2	40 - 140	25	
C20 - Eicosane	ND	3.3	80	96	18.2	110	104	5.6	40 - 140	25	
C21 - Heneicosane	ND	3.3	92	106	14.1	109	100	8.6	40 - 140	25	
C22 - Docosane	ND	3.3	89	110	21.1	110	109	0.9	40 - 140	25	
C24 - Tetracosane	ND	3.3	77	94	19.9	95	87	8.8	40 - 140	25	
C26 - Hexacosane	ND	3.3	77	94	19.9	99	94	5.2	40 - 140	25	
C28 - Octacosane	ND	3.3	77	94	19.9	96	97	1.0	40 - 140	25	
C30 - Tricotane	ND	3.3	76	92	19.0	102	95	7.1	40 - 140	25	
C32 - Dotriacontance	ND	3.3	75	93	21.4	101	84	18.4	40 - 140	25	
C34 - Tetratriacontane	ND	3.3	75	94	22.5	108	97	10.7	40 - 140	25	
C36 - Hexatriacontane	ND	3.3	72	90	22.2	97	90	7.5	40 - 140	25	
C38 - Octatriacontane	ND	3.3	71	89	22.5	89	86	3.4	40 - 140	25	
C40 - Tetracontane	ND	3.3	69	86	21.9	85	81	4.8	40 - 140	25	
% COD (surr)	73	%	66	81	20.4	89	79	11.9	40 - 140	25	
% Terphenyl (surr)	104	%	89	107	18.4	117	100	15.7	40 - 140	25	
Comment:											
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%											
QA/QC Batch 808784 (mg/kg), QC Sample No: CU45645 (CU45645, CU45646, CU45647)											
Extractable Petroleum Hydrocarbons - Soil											
Total EPH (C9-C40)	ND	10	99	100	1.0	117	129	9.8	40 - 140	25	
C9 - Nonane	ND	3.3	75	78	3.9	91	91	0.0	40 - 140	25	
C10 - Decane	ND	3.3	91	93	2.2	109	108	0.9	40 - 140	25	
C12 - Dodecane	ND	3.3	101	99	2.0	121	120	0.8	40 - 140	25	
C14 - Tetradecane	ND	3.3	102	103	1.0	124	124	0.0	40 - 140	25	
C16 - Hexadecane	ND	3.3	108	109	0.9	130	128	1.6	40 - 140	25	
C18 - Octadecane	ND	3.3	123	125	1.6	147	146	0.7	40 - 140	25	m
C20 - Eicosane	ND	3.3	107	109	1.9	120	115	4.3	40 - 140	25	
C21 - Heneicosane	ND	3.3	97	99	2.0	130	Intf	NC	40 - 140	25	
C22 - Docosane	ND	3.3	120	122	1.7	127	119	6.5	40 - 140	25	
C24 - Tetracosane	ND	3.3	100	102	2.0	109	99	9.6	40 - 140	25	
C26 - Hexacosane	ND	3.3	100	102	2.0	112	101	10.3	40 - 140	25	
C28 - Octacosane	ND	3.3	101	103	2.0	114	107	6.3	40 - 140	25	
C30 - Tricotane	ND	3.3	99	100	1.0	111	104	6.5	40 - 140	25	
C32 - Dotriacontance	ND	3.3	97	97	0.0	108	111	2.7	40 - 140	25	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
C34 - Tetratriacontane	ND	3.3	96	94	2.1	115	109	5.4	40 - 140	25	
C36 - Hexatriacontane	ND	3.3	92	89	3.3	116	115	0.9	40 - 140	25	
C38 - Octatriacontane	ND	3.3	88	86	2.3	110	102	7.5	40 - 140	25	
C40 - Tetracontane	ND	3.3	89	86	3.4	117	107	8.9	40 - 140	25	
% COD (surr)	83	%	81	82	1.2	97	122	22.8	40 - 140	25	
% Terphenyl (surr)	114	%	106	110	3.7	124	128	3.2	40 - 140	25	

Comment:

Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%

QA/QC Batch 808246 (ug/Kg), QC Sample No: CU44581 (CU45642, CU45643, CU45644, CU45645, CU45646, CU45647)

Chlorinated Herbicides - Soil

2,4,5-T	ND	130	88	86	2.3	73	86	16.4	40 - 140	30	
2,4,5-TP (Silvex)	ND	130	110	109	0.9	89	103	14.6	40 - 140	30	
2,4-D	ND	250	95	92	3.2	74	87	16.1	40 - 140	30	
2,4-DB	ND	2500	92	90	2.2	74	86	15.0	40 - 140	30	
Dalapon	ND	130	94	95	1.1	90	103	13.5	40 - 140	30	
Dicamba	ND	130	89	89	0.0	75	83	10.1	40 - 140	30	
Dichloroprop	ND	130	108	111	2.7	83	109	27.1	40 - 140	30	
Dinoseb	ND	130	103	103	0.0	93	112	18.5	40 - 140	30	
% DCAA (Surrogate Rec)	129	%	130	125	3.9	108	123	13.0	30 - 150	30	
% DCAA (Surrogate Rec) (Confirm	118	%	116	111	4.4	88	104	16.7	30 - 150	30	

Comment:

8151 additional criteria: (LCS/LCSD)10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. LCS acceptance range is 40-140% MS acceptance range 30-150%.

QA/QC Batch 808824 (ug/Kg), QC Sample No: CU43014 (CU45642, CU45643, CU45644, CU45645, CU45646)

Polychlorinated Biphenyls - Soil

PCB-1016	ND	33	78	80	2.5	55	62	12.0	40 - 140	30	
PCB-1221	ND	33							40 - 140	30	
PCB-1232	ND	33							40 - 140	30	
PCB-1242	ND	33							40 - 140	30	
PCB-1248	ND	33							40 - 140	30	
PCB-1254	ND	33							40 - 140	30	
PCB-1260	ND	33	85	85	0.0	48	64	28.6	40 - 140	30	
PCB-1262	ND	33							40 - 140	30	
PCB-1268	ND	33							40 - 140	30	
% DCBP (Surrogate Rec)	88	%	97	99	2.0	50	71	34.7	30 - 150	30	r
% DCBP (Surrogate Rec) (Confirm	81	%	89	91	2.2	45	64	34.9	30 - 150	30	r
% TCMX (Surrogate Rec)	76	%	87	92	5.6	76	73	4.0	30 - 150	30	
% TCMX (Surrogate Rec) (Confirm	76	%	81	85	4.8	69	66	4.4	30 - 150	30	

QA/QC Batch 808862 (ug/Kg), QC Sample No: CU45647 (CU45647)

Polychlorinated Biphenyls - Soil

PCB-1016	ND	33	85	80	6.1	74	76	2.7	40 - 140	30	
PCB-1221	ND	33							40 - 140	30	
PCB-1232	ND	33							40 - 140	30	
PCB-1242	ND	33							40 - 140	30	
PCB-1248	ND	33							40 - 140	30	
PCB-1254	ND	33							40 - 140	30	
PCB-1260	ND	33	90	84	6.9	79	79	0.0	40 - 140	30	
PCB-1262	ND	33							40 - 140	30	
PCB-1268	ND	33							40 - 140	30	
% DCBP (Surrogate Rec)	89	%	104	96	8.0	89	84	5.8	30 - 150	30	
% DCBP (Surrogate Rec) (Confirm	87	%	102	93	9.2	86	81	6.0	30 - 150	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
% TCMX (Surrogate Rec)	80	%	95	92	3.2	86	82	4.8	30 - 150	30
% TCMX (Surrogate Rec) (Confirm	81	%	95	89	6.5	84	79	6.1	30 - 150	30
QA/QC Batch 808825 (ug/Kg), QC Sample No: CU43014 (CU45642, CU45643, CU45644, CU45645, CU45646)										
Pesticides - Soil										
4,4' -DDD	ND	1.7	73	71	2.8	49	59	18.5	40 - 140	30
4,4' -DDE	ND	1.7	73	71	2.8	51	60	16.2	40 - 140	30
4,4' -DDT	ND	1.7	66	68	3.0	46	54	16.0	40 - 140	30
a-BHC	ND	1.0	70	67	4.4	47	55	15.7	40 - 140	30
a-Chlordane	ND	3.3	74	72	2.7	51	59	14.5	40 - 140	30
Aldrin	ND	1.0	69	66	4.4	48	57	17.1	40 - 140	30
b-BHC	ND	1.0	85	83	2.4	58	68	15.9	40 - 140	30
Chlordane	ND	33	78	76	2.6	53	58	9.0	40 - 140	30
d-BHC	ND	3.3	64	58	9.8	42	50	17.4	40 - 140	30
Dieldrin	ND	1.0	71	69	2.9	49	58	16.8	40 - 140	30
Endosulfan I	ND	3.3	70	68	2.9	50	57	13.1	40 - 140	30
Endosulfan II	ND	3.3	75	73	2.7	52	61	15.9	40 - 140	30
Endosulfan sulfate	ND	3.3	68	70	2.9	46	52	12.2	40 - 140	30
Endrin	ND	3.3	79	76	3.9	52	63	19.1	40 - 140	30
Endrin aldehyde	ND	3.3	65	64	1.6	41	47	13.6	40 - 140	30
Endrin ketone	ND	3.3	75	72	4.1	47	57	19.2	40 - 140	30
g-BHC	ND	1.0	75	72	4.1	51	59	14.5	40 - 140	30
g-Chlordane	ND	3.3	78	76	2.6	53	58	9.0	40 - 140	30
Heptachlor	ND	3.3	74	71	4.1	52	60	14.3	40 - 140	30
Heptachlor epoxide	ND	3.3	72	69	4.3	51	60	16.2	40 - 140	30
Methoxychlor	ND	3.3	69	67	2.9	46	54	16.0	40 - 140	30
Toxaphene	ND	130	NA	NA	NC	NA	NA	NC	40 - 140	30
% DCBP	73	%	76	66	14.1	47	57	19.2	30 - 150	30
% DCBP (Confirmation)	60	%	62	69	10.7	46	54	16.0	30 - 150	30
% TCMX	64	%	70	65	7.4	47	56	17.5	30 - 150	30
% TCMX (Confirmation)	61	%	65	63	3.1	45	55	20.0	30 - 150	30
Comment:										
8081 additional criteria: (LCS/LCSD)10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. LCS acceptance range is 40-140% MS acceptance range 30-150%.										
QA/QC Batch 808863 (ug/Kg), QC Sample No: CU45647 (CU45647)										
Pesticides - Soil										
4,4' -DDD	ND	1.7	68	71	4.3	89	71	22.5	40 - 140	30
4,4' -DDE	ND	1.7	68	73	7.1	87	72	18.9	40 - 140	30
4,4' -DDT	ND	1.7	73	76	4.0	94	75	22.5	40 - 140	30
a-BHC	ND	1.0	65	69	6.0	75	62	19.0	40 - 140	30
a-Chlordane	ND	3.3	66	68	3.0	80	72	10.5	40 - 140	30
Aldrin	ND	1.0	68	70	2.9	78	66	16.7	40 - 140	30
b-BHC	ND	1.0	81	83	2.4	97	84	14.4	40 - 140	30
Chlordane	ND	33	75	74	1.3	89	72	21.1	40 - 140	30
d-BHC	ND	3.3	64	68	6.1	71	64	10.4	40 - 140	30
Dieldrin	ND	1.0	65	68	4.5	81	65	21.9	40 - 140	30
Endosulfan I	ND	3.3	72	72	0.0	85	67	23.7	40 - 140	30
Endosulfan II	ND	3.3	72	73	1.4	94	71	27.9	40 - 140	30
Endosulfan sulfate	ND	3.3	72	74	2.7	88	71	21.4	40 - 140	30
Endrin	ND	3.3	68	72	5.7	86	68	23.4	40 - 140	30
Endrin aldehyde	ND	3.3	59	59	0.0	79	63	22.5	40 - 140	30
Endrin ketone	ND	3.3	71	74	4.1	88	72	20.0	40 - 140	30
g-BHC	ND	1.0	76	77	1.3	86	73	16.4	40 - 140	30

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
g-Chlordane	ND	3.3	75	74	1.3	89	72	21.1	40 - 140	30	
Heptachlor	ND	3.3	67	68	1.5	77	65	16.9	40 - 140	30	
Heptachlor epoxide	ND	3.3	67	68	1.5	80	68	16.2	40 - 140	30	
Methoxychlor	ND	3.3	73	75	2.7	89	73	19.8	40 - 140	30	
Toxaphene	ND	130	NA	NA	NC	NA	NA	NC	40 - 140	30	
% DCBP	61	%	68	73	7.1	81	68	17.4	30 - 150	30	
% DCBP (Confirmation)	51	%	56	59	5.2	65	54	18.5	30 - 150	30	
% TCMX	69	%	72	76	5.4	73	64	13.1	30 - 150	30	
% TCMX (Confirmation)	69	%	71	73	2.8	71	61	15.2	30 - 150	30	

Comment:

8081 additional criteria: (LCS/LCSD)10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. LCS acceptance range is 40-140% MS acceptance range 30-150%.

QA/QC Batch 808846 (ug/kg), QC Sample No: CU45464 (CU45642, CU45643, CU45644, CU45645, CU45646, CU45647)

Semivolatiles - Soil

1,1-Biphenyl	ND	230	51	54	5.7	60	57	5.1	40 - 140	30	
1,2,4,5-Tetrachlorobenzene	ND	230	49	51	4.0	53	55	3.7	40 - 140	30	
1,2-Diphenylhydrazine	ND	230	59	62	5.0	67	66	1.5	40 - 140	30	
2,2'-Oxybis(1-Chloropropane)	ND	230	50	52	3.9	51	61	17.9	40 - 140	30	
2,3,4,6-tetrachlorophenol	ND	230	58	61	5.0	67	70	4.4	30 - 130	30	
2,4,5-Trichlorophenol	ND	230	58	63	8.3	70	69	1.4	40 - 140	30	
2,4,6-Trichlorophenol	ND	130	64	68	6.1	77	76	1.3	30 - 130	30	
2,4-Dichlorophenol	ND	130	64	66	3.1	73	78	6.6	30 - 130	30	
2,4-Dimethylphenol	ND	230	66	70	5.9	73	78	6.6	30 - 130	30	
2,4-Dinitrophenol	ND	230	74	81	9.0	47	60	24.3	30 - 130	30	
2,4-Dinitrotoluene	ND	130	73	76	4.0	82	83	1.2	30 - 130	30	
2,6-Dinitrotoluene	ND	130	69	73	5.6	82	82	0.0	40 - 140	30	
2-Chloronaphthalene	ND	230	54	57	5.4	63	59	6.6	40 - 140	30	
2-Chlorophenol	ND	230	63	65	3.1	65	80	20.7	30 - 130	30	
2-Methylnaphthalene	ND	230	59	62	5.0	66	69	4.4	40 - 140	30	
2-Methylphenol (o-cresol)	ND	230	69	73	5.6	72	86	17.7	40 - 140	30	
2-Nitroaniline	ND	330	97	103	6.0	106	115	8.1	40 - 140	30	
2-Nitrophenol	ND	230	70	75	6.9	78	86	9.8	40 - 140	30	
3&4-Methylphenol (m&p-cresol)	ND	230	69	72	4.3	72	88	20.0	30 - 130	30	
3,3'-Dichlorobenzidine	ND	130	78	81	3.8	60	74	20.9	40 - 140	30	
3-Nitroaniline	ND	330	82	85	3.6	90	95	5.4	40 - 140	30	
4,6-Dinitro-2-methylphenol	ND	230	82	87	5.9	64	69	7.5	30 - 130	30	
4-Bromophenyl phenyl ether	ND	230	59	61	3.3	64	61	4.8	40 - 140	30	
4-Chloro-3-methylphenol	ND	230	69	72	4.3	76	85	11.2	30 - 130	30	
4-Chloroaniline	ND	230	67	70	4.4	69	72	4.3	40 - 140	30	
4-Chlorophenyl phenyl ether	ND	230	55	57	3.6	63	61	3.2	40 - 140	30	
4-Nitroaniline	ND	230	73	79	7.9	87	88	1.1	40 - 140	30	
4-Nitrophenol	ND	230	93	98	5.2	106	115	8.1	30 - 130	30	
Acenaphthene	ND	230	52	55	5.6	59	56	5.2	30 - 130	30	
Acenaphthylene	ND	130	48	51	6.1	57	55	3.6	40 - 140	30	
Acetophenone	ND	230	61	63	3.2	62	76	20.3	40 - 140	30	
Aniline	ND	330	54	59	8.8	50	56	11.3	40 - 140	30	
Anthracene	ND	230	56	58	3.5	64	61	4.8	40 - 140	30	
Atrazine	ND	130	55	58	5.3	66	65	1.5	40 - 140	30	
Benz(a)anthracene	ND	230	56	57	1.8	66	56	16.4	40 - 140	30	
Benzaldehyde	ND	230	118	125	5.8	123	149	19.1	40 - 140	30	m
Benzo(a)pyrene	ND	130	57	58	1.7	69	53	26.2	40 - 140	30	
Benzo(b)fluoranthene	ND	160	59	59	0.0	77	56	31.6	40 - 140	30	r

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Benzo(ghi)perylene	ND	230	58	60	3.4	45	53	16.3	40 - 140	30	
Benzo(k)fluoranthene	ND	230	57	59	3.4	76	59	25.2	40 - 140	30	
Benzoic Acid	ND	670	86	84	2.4	66	83	22.8	30 - 130	30	
Benzyl Alcohol	ND	230	48	51	6.1	52	67	25.2	30 - 130	30	
Benzyl butyl phthalate	ND	230	65	67	3.0	70	73	4.2	40 - 140	30	
Bis(2-chloroethoxy)methane	ND	230	58	61	5.0	63	70	10.5	40 - 140	30	
Bis(2-chloroethyl)ether	ND	130	58	61	5.0	58	73	22.9	40 - 140	30	
Bis(2-ethylhexyl)phthalate	ND	230	65	66	1.5	71	70	1.4	40 - 140	30	
Caprolactam	ND	230	64	67	4.6	66	80	19.2	40 - 140	30	
Carbazole	ND	230	59	61	3.3	69	68	1.5	40 - 140	30	
Chrysene	ND	230	54	55	1.8	64	52	20.7	40 - 140	30	
Dibenz(a,h)anthracene	ND	130	58	59	1.7	47	60	24.3	40 - 140	30	
Dibenzofuran	ND	230	55	57	3.6	64	61	4.8	40 - 140	30	
Diethyl phthalate	ND	230	61	64	4.8	71	73	2.8	40 - 140	30	
Dimethylphthalate	ND	230	59	63	6.6	69	70	1.4	40 - 140	30	
Di-n-butylphthalate	ND	670	64	66	3.1	73	72	1.4	40 - 140	30	
Di-n-octylphthalate	ND	230	67	69	2.9	78	74	5.3	40 - 140	30	
Fluoranthene	ND	230	54	56	3.6	69	58	17.3	40 - 140	30	
Fluorene	ND	230	56	59	5.2	64	63	1.6	40 - 140	30	
Hexachlorobenzene	ND	130	60	61	1.7	60	49	20.2	40 - 140	30	
Hexachlorobutadiene	ND	230	49	52	5.9	55	56	1.8	40 - 140	30	
Hexachlorocyclopentadiene	ND	230	28	26	7.4	22	17	25.6	40 - 140	30	l,m
Hexachloroethane	ND	130	48	51	6.1	47	55	15.7	40 - 140	30	
Indeno(1,2,3-cd)pyrene	ND	230	59	60	1.7	49	58	16.8	40 - 140	30	
Isophorone	ND	130	54	57	5.4	59	66	11.2	40 - 140	30	
Naphthalene	ND	230	51	53	3.8	56	60	6.9	40 - 140	30	
Nitrobenzene	ND	130	66	69	4.4	69	84	19.6	40 - 140	30	
N-Nitrosodimethylamine	ND	230	59	62	5.0	56	73	26.4	40 - 140	30	
N-Nitrosodi-n-propylamine	ND	130	60	64	6.5	61	76	21.9	40 - 140	30	
N-Nitrosodiphenylamine	ND	130	55	58	5.3	63	65	3.1	40 - 140	30	
Pentachlorophenol	ND	230	64	66	3.1	69	72	4.3	30 - 130	30	
Phenanthrene	ND	130	55	57	3.6	60	57	5.1	40 - 140	30	
Phenol	ND	230	76	81	6.4	77	97	23.0	30 - 130	30	
Pyrene	ND	230	55	56	1.8	70	59	17.1	30 - 130	30	
% 2,4,6-Tribromophenol	101	%	70	72	2.8	79	75	5.2	30 - 130	30	
% 2-Fluorobiphenyl	71	%	50	53	5.8	60	57	5.1	30 - 130	30	
% 2-Fluorophenol	79	%	58	61	5.0	61	75	20.6	30 - 130	30	
% Nitrobenzene-d5	76	%	54	58	7.1	57	69	19.0	30 - 130	30	
% Phenol-d5	80	%	60	63	4.9	63	77	20.0	30 - 130	30	
% Terphenyl-d14	81	%	54	54	0.0	65	60	8.0	30 - 130	30	

Comment:

Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

QA/QC Batch 808178H (ug/kg), QC Sample No: CU43528 50X (CU45642 (50X))

Volatiles - Soil (High Level)

1,2-Dichloroethane	ND	250	100	95	5.1	88	95	7.7	70 - 130	20	
% 1,2-dichlorobenzene-d4	95	%	98	97	1.0	96	97	1.0	70 - 130	20	
% Bromofluorobenzene	97	%	101	100	1.0	101	99	2.0	70 - 130	20	
% Dibromofluoromethane	91	%	96	96	0.0	91	94	3.2	70 - 130	20	
% Toluene-d8	100	%	99	99	0.0	100	99	1.0	70 - 130	20	

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

QA/QC Data

SDG I.D.: GCU45642

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 807985 (ug/kg), QC Sample No: CU45799 (CU45642, CU45643, CU45644, CU45645, CU45646, CU45647)											
Volatiles - Soil (Low Level)											
1,1,1,2-Tetrachloroethane	ND	5.0	106	106	0.0	98	93	5.2	70 - 130	20	
1,1,1-Trichloroethane	ND	5.0	104	99	4.9	101	96	5.1	70 - 130	20	
1,1,2,2-Tetrachloroethane	ND	3.0	101	103	2.0	126	113	10.9	70 - 130	20	
1,1,2-Trichloroethane	ND	5.0	101	99	2.0	91	84	8.0	70 - 130	20	
1,1-Dichloroethane	ND	5.0	100	95	5.1	103	95	8.1	70 - 130	20	
1,1-Dichloroethene	ND	5.0	99	95	4.1	99	93	6.3	70 - 130	20	
1,2,3-Trichlorobenzene	ND	5.0	100	103	3.0	32	26	20.7	70 - 130	20	m,r
1,2,4-Trichlorobenzene	ND	5.0	99	102	3.0	37	32	14.5	70 - 130	20	m
1,2,4-Trimethylbenzene	ND	1.0	102	107	4.8	103	98	5.0	70 - 130	20	
1,2-Dibromo-3-chloropropane	ND	5.0	105	96	9.0	84	78	7.4	70 - 130	20	
1,2-Dibromoethane	ND	5.0	107	103	3.8	98	92	6.3	70 - 130	20	
1,2-Dichlorobenzene	ND	5.0	98	96	2.1	68	62	9.2	70 - 130	20	m
1,2-Dichloroethane	ND	5.0	100	97	3.0	99	93	6.3	70 - 130	20	
1,2-Dichloropropane	ND	5.0	100	97	3.0	98	92	6.3	70 - 130	20	
1,3,5-Trimethylbenzene	ND	1.0	105	109	3.7	112	110	1.8	70 - 130	20	
1,3-Dichlorobenzene	ND	5.0	100	98	2.0	77	73	5.3	70 - 130	20	
1,4-Dichlorobenzene	ND	5.0	98	95	3.1	73	68	7.1	70 - 130	20	m
1,4-dioxane	ND	100	108	99	8.7	163	101	47.0	70 - 130	20	m,r
2-Hexanone	ND	25	100	92	8.3	<10	<10	NC	70 - 130	20	m
4-Methyl-2-pentanone	ND	25	101	95	6.1	25	27	7.7	70 - 130	20	m
Acetone	ND	10	93	83	11.4	59	58	1.7	70 - 130	20	m
Acrolein	ND	25	93	87	6.7	<10	<10	NC	70 - 130	20	m
Acrylonitrile	ND	5.0	99	93	6.3	16	12	28.6	70 - 130	20	m,r
Benzene	ND	1.0	101	99	2.0	98	91	7.4	70 - 130	20	
Bromochloromethane	ND	5.0	103	95	8.1	101	96	5.1	70 - 130	20	
Bromodichloromethane	ND	5.0	103	99	4.0	90	83	8.1	70 - 130	20	
Bromoform	ND	5.0	110	107	2.8	71	66	7.3	70 - 130	20	m
Bromomethane	ND	5.0	101	98	3.0	64	59	8.1	70 - 130	20	m
Carbon Disulfide	ND	5.0	104	99	4.9	85	82	3.6	70 - 130	20	
Carbon tetrachloride	ND	5.0	99	99	0.0	89	85	4.6	70 - 130	20	
Chlorobenzene	ND	5.0	99	100	1.0	86	82	4.8	70 - 130	20	
Chloroethane	ND	5.0	109	103	5.7	114	105	8.2	70 - 130	20	
Chloroform	ND	5.0	102	96	6.1	100	95	5.1	70 - 130	20	
Chloromethane	ND	5.0	113	108	4.5	101	91	10.4	70 - 130	20	
cis-1,2-Dichloroethene	ND	5.0	105	98	6.9	99	92	7.3	70 - 130	20	
cis-1,3-Dichloropropene	ND	5.0	107	103	3.8	62	57	8.4	70 - 130	20	m
Cyclohexane	ND	5.0	103	98	5.0	90	88	2.2	70 - 130	20	
Dibromochloromethane	ND	3.0	103	102	1.0	92	84	9.1	70 - 130	20	
Dichlorodifluoromethane	ND	5.0	143	136	5.0	149	138	7.7	70 - 130	20	l,m
Ethylbenzene	ND	1.0	103	98	5.0	93	89	4.4	70 - 130	20	
Isopropylbenzene	ND	1.0	101	91	10.4	121	122	0.8	70 - 130	20	
m&p-Xylene	ND	2.0	103	98	5.0	85	84	1.2	70 - 130	20	
Methyl ethyl ketone	ND	5.0	92	84	9.1	45	40	11.8	70 - 130	20	m
Methyl t-butyl ether (MTBE)	ND	1.0	101	95	6.1	106	101	4.8	70 - 130	20	
Methylacetate	ND	5.0	91	85	6.8	<10	<10	NC	70 - 130	20	m
Methylcyclohexane	ND	5.0	101	102	1.0	76	79	3.9	70 - 130	20	
Methylene chloride	ND	5.0	93	88	5.5	97	92	5.3	70 - 130	20	
o-Xylene	ND	2.0	102	96	6.1	87	82	5.9	70 - 130	20	
Styrene	ND	5.0	105	99	5.9	64	62	3.2	70 - 130	20	m
tert-butyl alcohol	ND	100	103	89	14.6	133	95	33.3	70 - 130	20	m,r

QA/QC Data

SDG I.D.: GCU45642

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Tetrachloroethene	ND	5.0	101	100	1.0	82	79	3.7	70 - 130	20	
Toluene	ND	1.0	101	100	1.0	89	82	8.2	70 - 130	20	
trans-1,2-Dichloroethene	ND	5.0	99	95	4.1	97	91	6.4	70 - 130	20	
trans-1,3-Dichloropropene	ND	5.0	111	103	7.5	71	65	8.8	70 - 130	20	m
Trichloroethene	ND	5.0	101	99	2.0	90	86	4.5	70 - 130	20	
Trichlorofluoromethane	ND	5.0	109	105	3.7	111	105	5.6	70 - 130	20	
Trichlorotrifluoroethane	ND	5.0	108	103	4.7	106	103	2.9	70 - 130	20	
Vinyl Acetate	ND	5.0	101	93	8.2	14	13	7.4	70 - 130	20	m
Vinyl chloride	ND	5.0	112	107	4.6	117	107	8.9	70 - 130	20	
% 1,2-dichlorobenzene-d4	100	%	101	101	0.0	94	94	0.0	70 - 130	20	
% Bromofluorobenzene	99	%	102	99	3.0	85	85	0.0	70 - 130	20	
% Dibromofluoromethane	99	%	103	98	5.0	102	105	2.9	70 - 130	20	
% Toluene-d8	99	%	100	101	1.0	99	97	2.0	70 - 130	20	

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
m = This parameter is outside laboratory MS/MSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference
(ISO) - Isotope Dilution

Phyllis Shiller, Laboratory Director
October 23, 2025

Thursday, October 23, 2025

Criteria: NJ: MGW, NRC, RC; NY: 375, 375COM, 375IN

State: NY

Sample Criteria Exceedances Report

GCU45642 - FACTOR

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CU45642	$8260_TCL_SM	1,2-Dichloroethane	NJ / Soil Remediation Standard / Migration GW	34	33	5	5	ug/kg
CU45642	$8260_TCL_SM	1,2-Dichloroethane	NY / 375-6.8 Volatiles / Unrestricted Use Soil	34	33	20	20	ug/kg
CU45642	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Res Direct Contact	ND	38	12	12	ug/Kg
CU45642	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	38	0.019	0.019	ug/Kg
CU45642	$8270_TCLR	N-Nitrosodimethylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	38	0.24	0.24	ug/Kg
CU45642	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Clean Fill MSCs / Soil to GW Res	ND	38	4.5	4.5	ug/Kg
CU45642	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Reg Fill MSCs / Soil to GW NonRes	ND	38	23	23	ug/Kg
CU45642	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	38	0.35	0.35	ug/Kg
CU45642	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	38	1.8	1.8	ug/Kg
CU45642	$8270_TCLR	2,6-Dinitrotoluene	PA / Clean Fill MSCs / Soil to GW Res	ND	75	13	13	ug/Kg
CU45642	$8270_TCLR	2,6-Dinitrotoluene	PA / Reg Fill MSCs / Soil to GW NonRes	ND	75	53	53	ug/Kg
CU45642	$8270_TCLR	2-Nitroaniline	PA / Clean Fill MSCs / Soil to GW Res	ND	75	2	2	ug/Kg
CU45642	$8270_TCLR	2-Nitroaniline	PA / Reg Fill MSCs / Soil to GW NonRes	ND	75	7.9	7.9	ug/Kg
CU45642	$8270_TCLR	Benz(a)anthracene	NJ / Soil Remediation Standard / Migration GW	4500	260	710	710	ug/Kg
CU45642	$8270_TCLR	Benz(a)anthracene	NY / 375-6.8 Semivolatiles / Residential	4500	260	1000	1000	ug/Kg
CU45642	$8270_TCLR	Benz(a)anthracene	NY / 375-6.8 Semivolatiles / Residential Restricted	4500	260	1000	1000	ug/Kg
CU45642	$8270_TCLR	Benz(a)anthracene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	4500	260	1000	1000	ug/Kg
CU45642	$8270_TCLR	Chrysene	NY / 375-6.8 Semivolatiles / Residential	4400	260	1000	1000	ug/Kg
CU45642	$8270_TCLR	Chrysene	NY / 375-6.8 Semivolatiles / Residential Restricted	4400	260	3900	3900	ug/Kg
CU45642	$8270_TCLR	Chrysene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	4400	260	1000	1000	ug/Kg
CU45642	$8270_TCLR	Benzo(b)fluoranthene	NJ / Soil Remediation Standard / Res. Direct Contact	8900	1300	5000	200	ug/Kg
CU45642	$8270_TCLR	Benzo(b)fluoranthene	NJ / Soil Remediation Standard / Res. Ingestion-Dermal	8900	1300	5100	5100	ug/Kg
CU45642	$8270_TCLR	Benzo(b)fluoranthene	NY / 375-6.8 Semivolatiles / Commercial	8900	1300	5600	5600	ug/Kg
CU45642	$8270_TCLR	Benzo(b)fluoranthene	NY / 375-6.8 Semivolatiles / Residential	8900	1300	1000	1000	ug/Kg
CU45642	$8270_TCLR	Benzo(b)fluoranthene	NY / 375-6.8 Semivolatiles / Residential Restricted	8900	1300	1000	1000	ug/Kg
CU45642	$8270_TCLR	Benzo(b)fluoranthene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	8900	1300	1000	1000	ug/Kg
CU45642	$8270_TCLR	Benzo(b)fluoranthene	PA / Clean Fill MSCs / Res Direct Contact	8900	1300	3500	3500	ug/Kg
CU45642	$8270_TCLR	Benzo(k)fluoranthene	NY / 375-6.8 Semivolatiles / Residential	2500	260	1000	1000	ug/Kg
CU45642	$8270_TCLR	Benzo(k)fluoranthene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	2500	260	800	800	ug/Kg
CU45642	$8270_TCLR	Benzo(a)pyrene	NJ / Soil Remediation Standard / Non Res. Direct Conta	6100	260	2000	200	ug/Kg
CU45642	$8270_TCLR	Benzo(a)pyrene	NJ / Soil Remediation Standard / Non Res. Ingestion-Der	6100	260	2300	2300	ug/Kg
CU45642	$8270_TCLR	Benzo(a)pyrene	NJ / Soil Remediation Standard / Res. Direct Contact	6100	260	500	200	ug/Kg
CU45642	$8270_TCLR	Benzo(a)pyrene	NJ / Soil Remediation Standard / Res. Ingestion-Dermal	6100	260	510	510	ug/Kg
CU45642	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Commercial	6100	260	1000	1000	ug/Kg
CU45642	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Industrial	6100	260	1100	1100	ug/Kg
CU45642	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Residential	6100	260	1000	1000	ug/Kg
CU45642	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Residential Restricted	6100	260	1000	1000	ug/Kg
CU45642	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	6100	260	1000	1000	ug/Kg
CU45642	$8270_TCLR	Benzo(a)pyrene	PA / Clean Fill MSCs / Res Direct Contact	6100	260	4200	4200	ug/Kg
CU45642	$8270_TCLR	Indeno(1,2,3-cd)pyrene	NY / 375-6.8 Semivolatiles / Residential	4100	260	500	500	ug/Kg
CU45642	$8270_TCLR	Indeno(1,2,3-cd)pyrene	NY / 375-6.8 Semivolatiles / Residential Restricted	4100	260	500	500	ug/Kg
CU45642	$8270_TCLR	Indeno(1,2,3-cd)pyrene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	4100	260	500	500	ug/Kg

Thursday, October 23, 2025

Criteria: NJ: MGW, NRC, RC; NY: 375, 375COM, 375IN

State: NY

Sample Criteria Exceedances Report

GCU45642 - FACTOR

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CU45642	$8270_TCLR	Indeno(1,2,3-cd)pyrene	PA / Clean Fill MSCs / Res Direct Contact	4100	260	3500	3500	ug/Kg
CU45642	$8270_TCLR	Dibenz(a,h)anthracene	NJ / Soil Remediation Standard / Res. Direct Contact	890	190	500	200	ug/Kg
CU45642	$8270_TCLR	Dibenz(a,h)anthracene	NJ / Soil Remediation Standard / Res. Ingestion-Dermal	890	190	510	510	ug/Kg
CU45642	$8270_TCLR	Dibenz(a,h)anthracene	NY / 375-6.8 Semivolatiles / Commercial	890	190	560	560	ug/Kg
CU45642	$8270_TCLR	Dibenz(a,h)anthracene	NY / 375-6.8 Semivolatiles / Residential	890	190	330	330	ug/Kg
CU45642	$8270_TCLR	Dibenz(a,h)anthracene	NY / 375-6.8 Semivolatiles / Residential Restricted	890	190	330	330	ug/Kg
CU45642	$8270_TCLR	Dibenz(a,h)anthracene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	890	190	330	330	ug/Kg
CU45642	$PESTSM_NY	4,4' -DDE	NY / 375-6.8 PCBs/Pesticides / Unrestricted Use Soil	27	2.2	3.3	3.3	ug/Kg
CU45642	$PESTSM_NY	Dieldrin	NY / 375-6.8 PCBs/Pesticides / Unrestricted Use Soil	12	3.7	5	5	ug/Kg
CU45642	$PESTSM_NY	4,4' -DDD	NY / 375-6.8 PCBs/Pesticides / Unrestricted Use Soil	21	2.2	3.3	3.3	ug/Kg
CU45642	$PESTSM_NY	4,4' -DDT	NY / 375-6.8 PCBs/Pesticides / Unrestricted Use Soil	16	2.2	3.3	3.3	ug/Kg
CU45642	12DIPHENYSM	1,2-Diphenylhydrazine	PA / Clean Fill MSCs / Soil to GW Res	ND	75	39	39	ug/Kg
CU45642	CO-SM	Cobalt	NJ / Soil Remediation Standard / Migration GW	6.09	0.39	1.8	0.5	mg/Kg
CU45642	CU-SM	Copper	NY / 375-6.8 Metals / Unrestricted Use Soil	52.8	0.8	50	50	mg/kg
CU45642	HG-SM	Mercury	NJ / Soil Remediation Standard / Migration GW	2.27	0.07	0.105	0.105	mg/Kg
CU45642	HG-SM	Mercury	NY / 375-6.8 Metals / Residential	2.27	0.07	0.81	0.81	mg/Kg
CU45642	HG-SM	Mercury	NY / 375-6.8 Metals / Residential Restricted	2.27	0.07	0.81	0.81	mg/Kg
CU45642	HG-SM	Mercury	NY / 375-6.8 Metals / Unrestricted Use Soil	2.27	0.07	0.18	0.18	mg/Kg
CU45642	PB-SM	Lead	NJ / Soil Remediation Standard / Migration GW	521	0.39	90	90	mg/Kg
CU45642	PB-SM	Lead	NJ / Soil Remediation Standard / Res. Direct Contact	521	0.39	400	1	mg/Kg
CU45642	PB-SM	Lead	NJ / Soil Remediation Standard / Res. Ingestion-Dermal	521	0.39	200	200	mg/Kg
CU45642	PB-SM	Lead	NY / 375-6.8 Metals / Residential	521	0.39	400	400	mg/Kg
CU45642	PB-SM	Lead	NY / 375-6.8 Metals / Residential Restricted	521	0.39	400	400	mg/Kg
CU45642	PB-SM	Lead	NY / 375-6.8 Metals / Unrestricted Use Soil	521	0.39	63	63	mg/Kg
CU45642	PB-SM	Lead	PA / Clean Fill MSCs / Res Direct Contact	521	0.39	500	500	mg/Kg
CU45642	PB-SM	Lead	PA / Clean Fill MSCs / Soil to GW Res	521	0.39	450	450	mg/Kg
CU45642	PB-SM	Lead	PA / Reg Fill MSCs / Soil to GW NonRes	521	0.39	450	450	mg/Kg
CU45642	TCLP-PB	TCLP Lead	EPA / 40 CFR 261.24 / Toxicity Characteristics	5.13	0.10	5	5	mg/L
CU45642	TCLP-PB	TCLP Lead	NJ / Soil Remediation Standard / Leachate Migration G	5.13	0.10	0.1	0.1	mg/L
CU45643	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Res Direct Contact	ND	39	12	12	ug/Kg
CU45643	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	39	0.019	0.019	ug/Kg
CU45643	$8270_TCLR	N-Nitrosodimethylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	39	0.24	0.24	ug/Kg
CU45643	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Clean Fill MSCs / Soil to GW Res	ND	39	4.5	4.5	ug/Kg
CU45643	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Reg Fill MSCs / Soil to GW NonRes	ND	39	23	23	ug/Kg
CU45643	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	39	0.35	0.35	ug/Kg
CU45643	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	39	1.8	1.8	ug/Kg
CU45643	$8270_TCLR	2,6-Dinitrotoluene	PA / Clean Fill MSCs / Soil to GW Res	ND	78	13	13	ug/Kg
CU45643	$8270_TCLR	2,6-Dinitrotoluene	PA / Reg Fill MSCs / Soil to GW NonRes	ND	78	53	53	ug/Kg
CU45643	$8270_TCLR	2-Nitroaniline	PA / Clean Fill MSCs / Soil to GW Res	ND	78	2	2	ug/Kg
CU45643	$8270_TCLR	2-Nitroaniline	PA / Reg Fill MSCs / Soil to GW NonRes	ND	78	7.9	7.9	ug/Kg
CU45643	$8270_TCLR	Benz(a)anthracene	NJ / Soil Remediation Standard / Migration GW	2900	270	710	710	ug/Kg

Thursday, October 23, 2025

Criteria: NJ: MGW, NRC, RC; NY: 375, 375COM, 375IN

State: NY

Sample Criteria Exceedances Report

GCU45642 - FACTOR

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CU45643	$8270_TCLR	Benz(a)anthracene	NY / 375-6.8 Semivolatiles / Residential	2900	270	1000	1000	ug/Kg
CU45643	$8270_TCLR	Benz(a)anthracene	NY / 375-6.8 Semivolatiles / Residential Restricted	2900	270	1000	1000	ug/Kg
CU45643	$8270_TCLR	Benz(a)anthracene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	2900	270	1000	1000	ug/Kg
CU45643	$8270_TCLR	Chrysene	NY / 375-6.8 Semivolatiles / Residential	2700	270	1000	1000	ug/Kg
CU45643	$8270_TCLR	Chrysene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	2700	270	1000	1000	ug/Kg
CU45643	$8270_TCLR	Benzo(b)fluoranthene	NY / 375-6.8 Semivolatiles / Residential	4700	270	1000	1000	ug/Kg
CU45643	$8270_TCLR	Benzo(b)fluoranthene	NY / 375-6.8 Semivolatiles / Residential Restricted	4700	270	1000	1000	ug/Kg
CU45643	$8270_TCLR	Benzo(b)fluoranthene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	4700	270	1000	1000	ug/Kg
CU45643	$8270_TCLR	Benzo(b)fluoranthene	PA / Clean Fill MSCs / Res Direct Contact	4700	270	3500	3500	ug/Kg
CU45643	$8270_TCLR	Benzo(k)fluoranthene	NY / 375-6.8 Semivolatiles / Residential	1400	270	1000	1000	ug/Kg
CU45643	$8270_TCLR	Benzo(k)fluoranthene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	1400	270	800	800	ug/Kg
CU45643	$8270_TCLR	Benzo(a)pyrene	NJ / Soil Remediation Standard / Non Res. Direct Conta	3800	270	2000	200	ug/Kg
CU45643	$8270_TCLR	Benzo(a)pyrene	NJ / Soil Remediation Standard / Non Res. Ingestion-Der	3800	270	2300	2300	ug/Kg
CU45643	$8270_TCLR	Benzo(a)pyrene	NJ / Soil Remediation Standard / Res. Direct Contact	3800	270	500	200	ug/Kg
CU45643	$8270_TCLR	Benzo(a)pyrene	NJ / Soil Remediation Standard / Res. Ingestion-Dermal	3800	270	510	510	ug/Kg
CU45643	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Commercial	3800	270	1000	1000	ug/Kg
CU45643	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Industrial	3800	270	1100	1100	ug/Kg
CU45643	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Residential	3800	270	1000	1000	ug/Kg
CU45643	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Residential Restricted	3800	270	1000	1000	ug/Kg
CU45643	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	3800	270	1000	1000	ug/Kg
CU45643	$8270_TCLR	Indeno(1,2,3-cd)pyrene	NY / 375-6.8 Semivolatiles / Residential	2600	270	500	500	ug/Kg
CU45643	$8270_TCLR	Indeno(1,2,3-cd)pyrene	NY / 375-6.8 Semivolatiles / Residential Restricted	2600	270	500	500	ug/Kg
CU45643	$8270_TCLR	Indeno(1,2,3-cd)pyrene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	2600	270	500	500	ug/Kg
CU45643	$8270_TCLR	Dibenz(a,h)anthracene	NJ / Soil Remediation Standard / Res. Direct Contact	560	200	500	200	ug/Kg
CU45643	$8270_TCLR	Dibenz(a,h)anthracene	NJ / Soil Remediation Standard / Res. Ingestion-Dermal	560	200	510	510	ug/Kg
CU45643	$8270_TCLR	Dibenz(a,h)anthracene	NY / 375-6.8 Semivolatiles / Residential	560	200	330	330	ug/Kg
CU45643	$8270_TCLR	Dibenz(a,h)anthracene	NY / 375-6.8 Semivolatiles / Residential Restricted	560	200	330	330	ug/Kg
CU45643	$8270_TCLR	Dibenz(a,h)anthracene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	560	200	330	330	ug/Kg
CU45643	$PESTSM_NY	4,4' -DDE	NY / 375-6.8 PCBs/Pesticides / Unrestricted Use Soil	25	2.4	3.3	3.3	ug/Kg
CU45643	$PESTSM_NY	Dieldrin	NY / 375-6.8 PCBs/Pesticides / Unrestricted Use Soil	5.3	4.0	5	5	ug/Kg
CU45643	$PESTSM_NY	4,4' -DDD	NY / 375-6.8 PCBs/Pesticides / Unrestricted Use Soil	25	2.4	3.3	3.3	ug/Kg
CU45643	$PESTSM_NY	4,4' -DDT	NY / 375-6.8 PCBs/Pesticides / Unrestricted Use Soil	16	2.4	3.3	3.3	ug/Kg
CU45643	12DIPHENYSM	1,2-Diphenylhydrazine	PA / Clean Fill MSCs / Soil to GW Res	ND	78	39	39	ug/Kg
CU45643	AS-SM	Arsenic	NY / 375-6.8 Metals / Unrestricted Use Soil	14.2	0.71	13	13	mg/Kg
CU45643	AS-SM	Arsenic	PA / Clean Fill MSCs / Res Direct Contact	14.2	0.71	12	12	mg/Kg
CU45643	CO-SM	Cobalt	NJ / Soil Remediation Standard / Migration GW	8.54	0.35	1.8	0.5	mg/Kg
CU45643	CU-SM	Copper	NY / 375-6.8 Metals / Unrestricted Use Soil	122	0.7	50	50	mg/kg
CU45643	HG-SM	Mercury	NJ / Soil Remediation Standard / Migration GW	2.67	0.07	0.105	0.105	mg/Kg
CU45643	HG-SM	Mercury	NY / 375-6.8 Metals / Residential	2.67	0.07	0.81	0.81	mg/Kg
CU45643	HG-SM	Mercury	NY / 375-6.8 Metals / Residential Restricted	2.67	0.07	0.81	0.81	mg/Kg
CU45643	HG-SM	Mercury	NY / 375-6.8 Metals / Unrestricted Use Soil	2.67	0.07	0.18	0.18	mg/Kg
CU45643	PB-SM	Lead	NJ / Soil Remediation Standard / Migration GW	1490	0.35	90	90	mg/Kg

Thursday, October 23, 2025

Criteria: NJ: MGW, NRC, RC; NY: 375, 375COM, 375IN

State: NY

Sample Criteria Exceedances Report

GCU45642 - FACTOR

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CU45643	PB-SM	Lead	NJ / Soil Remediation Standard / Non Res. Direct Conta	1490	0.35	800	1	mg/Kg
CU45643	PB-SM	Lead	NJ / Soil Remediation Standard / Non Res. Ingestion-Der	1490	0.35	800	800	mg/Kg
CU45643	PB-SM	Lead	NJ / Soil Remediation Standard / Res. Direct Contact	1490	0.35	400	1	mg/Kg
CU45643	PB-SM	Lead	NJ / Soil Remediation Standard / Res. Ingestion-Dermal	1490	0.35	200	200	mg/Kg
CU45643	PB-SM	Lead	NY / 375-6.8 Metals / Commercial	1490	0.35	1000	1000	mg/Kg
CU45643	PB-SM	Lead	NY / 375-6.8 Metals / Residential	1490	0.35	400	400	mg/Kg
CU45643	PB-SM	Lead	NY / 375-6.8 Metals / Residential Restricted	1490	0.35	400	400	mg/Kg
CU45643	PB-SM	Lead	NY / 375-6.8 Metals / Unrestricted Use Soil	1490	0.35	63	63	mg/Kg
CU45643	PB-SM	Lead	PA / Clean Fill MSCs / Res Direct Contact	1490	0.35	500	500	mg/Kg
CU45643	PB-SM	Lead	PA / Clean Fill MSCs / Soil to GW Res	1490	0.35	450	450	mg/Kg
CU45643	PB-SM	Lead	PA / Reg Fill MSCs / NonRes Direct Contact	1490	0.35	1000	1000	mg/Kg
CU45643	PB-SM	Lead	PA / Reg Fill MSCs / Soil to GW NonRes	1490	0.35	450	450	mg/Kg
CU45643	SB-SM	Antimony	NJ / Soil Remediation Standard / Migration GW	12.0	3.5	5.4	5.4	mg/Kg
CU45643	TCLP-PB	TCLP Lead	NJ / Soil Remediation Standard / Leachate Migration G	3.27	0.10	0.1	0.1	mg/L
CU45643	ZN-SM	Zinc	NY / 375-6.8 Metals / Unrestricted Use Soil	247	0.7	109	109	mg/Kg
CU45644	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Res Direct Contact	ND	110	12	12	ug/Kg
CU45644	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	110	0.019	0.019	ug/Kg
CU45644	$8270_TCLR	N-Nitrosodimethylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	110	0.24	0.24	ug/Kg
CU45644	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Clean Fill MSCs / Soil to GW Res	ND	110	4.5	4.5	ug/Kg
CU45644	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Reg Fill MSCs / Soil to GW NonRes	ND	110	23	23	ug/Kg
CU45644	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	110	0.35	0.35	ug/Kg
CU45644	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	110	1.8	1.8	ug/Kg
CU45644	$8270_TCLR	Nitrobenzene	PA / Clean Fill MSCs / Soil to GW Res	ND	110	52	52	ug/Kg
CU45644	$8270_TCLR	2,6-Dinitrotoluene	PA / Clean Fill MSCs / Soil to GW Res	ND	210	13	13	ug/Kg
CU45644	$8270_TCLR	2,6-Dinitrotoluene	PA / Reg Fill MSCs / Soil to GW NonRes	ND	210	53	53	ug/Kg
CU45644	$8270_TCLR	2,4-Dinitrotoluene	PA / Clean Fill MSCs / Soil to GW Res	ND	110	50	50	ug/Kg
CU45644	$8270_TCLR	2-Nitroaniline	PA / Clean Fill MSCs / Soil to GW Res	ND	210	2	2	ug/Kg
CU45644	$8270_TCLR	2-Nitroaniline	PA / Reg Fill MSCs / Soil to GW NonRes	ND	210	7.9	7.9	ug/Kg
CU45644	$8270_TCLR	Benzo(b)fluoranthene	NY / 375-6.8 Semivolatiles / Residential	1200	750	1000	1000	ug/Kg
CU45644	$8270_TCLR	Benzo(b)fluoranthene	NY / 375-6.8 Semivolatiles / Residential Restricted	1200	750	1000	1000	ug/Kg
CU45644	$8270_TCLR	Benzo(b)fluoranthene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	1200	750	1000	1000	ug/Kg
CU45644	$8270_TCLR	Benzo(a)pyrene	NJ / Soil Remediation Standard / Res. Direct Contact	1300	750	500	200	ug/Kg
CU45644	$8270_TCLR	Benzo(a)pyrene	NJ / Soil Remediation Standard / Res. Ingestion-Dermal	1300	750	510	510	ug/Kg
CU45644	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Commercial	1300	750	1000	1000	ug/Kg
CU45644	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Industrial	1300	750	1100	1100	ug/Kg
CU45644	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Residential	1300	750	1000	1000	ug/Kg
CU45644	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Residential Restricted	1300	750	1000	1000	ug/Kg
CU45644	$8270_TCLR	Benzo(a)pyrene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	1300	750	1000	1000	ug/Kg
CU45644	$8270_TCLR	Indeno(1,2,3-cd)pyrene	NY / 375-6.8 Semivolatiles / Residential	1400	750	500	500	ug/Kg
CU45644	$8270_TCLR	Indeno(1,2,3-cd)pyrene	NY / 375-6.8 Semivolatiles / Residential Restricted	1400	750	500	500	ug/Kg
CU45644	$8270_TCLR	Indeno(1,2,3-cd)pyrene	NY / 375-6.8 Semivolatiles / Unrestricted Use Soil	1400	750	500	500	ug/Kg

Thursday, October 23, 2025

Criteria: NJ: MGW, NRC, RC; NY: 375, 375COM, 375IN

State: NY

Sample Criteria Exceedances Report

GCU45642 - FACTOR

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CU45644	$PESTSM_NY	Dieldrin	NJ / Soil Remediation Standard / Migration GW	34	5.0	16	3.3	ug/Kg
CU45644	$PESTSM_NY	Dieldrin	NY / 375-6.8 PCBs/Pesticides / Unrestricted Use Soil	34	5.0	5	5	ug/Kg
CU45644	$PESTSM_NY	4,4' -DDE	NY / 375-6.8 PCBs/Pesticides / Unrestricted Use Soil	94	3.0	3.3	3.3	ug/Kg
CU45644	$PESTSM_NY	4,4' -DDD	NY / 375-6.8 PCBs/Pesticides / Unrestricted Use Soil	170	30	3.3	3.3	ug/Kg
CU45644	$PESTSM_NY	4,4' -DDT	NY / 375-6.8 PCBs/Pesticides / Unrestricted Use Soil	53	3.0	3.3	3.3	ug/Kg
CU45644	12DIPHENYSM	1,2-Diphenylhydrazine	PA / Clean Fill MSCs / Soil to GW Res	ND	210	39	39	ug/Kg
CU45644	12DIPHENYSM	1,2-Diphenylhydrazine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	210	190	190	ug/Kg
CU45644	AG-SM	Silver	NJ / Soil Remediation Standard / Migration GW	1.13	0.50	0.5	0.5	mg/Kg
CU45644	AS-SM	Arsenic	NJ / Soil Remediation Standard / Migration GW	22.4	0.97	19	19	mg/Kg
CU45644	AS-SM	Arsenic	NJ / Soil Remediation Standard / Non Res. Direct Conta	22.4	0.97	19	1	mg/Kg
CU45644	AS-SM	Arsenic	NJ / Soil Remediation Standard / Non Res. Ingestion-Der	22.4	0.97	19	19	mg/Kg
CU45644	AS-SM	Arsenic	NJ / Soil Remediation Standard / Res. Direct Contact	22.4	0.97	19	1	mg/Kg
CU45644	AS-SM	Arsenic	NJ / Soil Remediation Standard / Res. Ingestion-Dermal	22.4	0.97	19	19	mg/Kg
CU45644	AS-SM	Arsenic	NY / 375-6.8 Metals / Commercial	22.4	0.97	16	16	mg/Kg
CU45644	AS-SM	Arsenic	NY / 375-6.8 Metals / Industrial	22.4	0.97	16	16	mg/Kg
CU45644	AS-SM	Arsenic	NY / 375-6.8 Metals / Residential	22.4	0.97	16	16	mg/Kg
CU45644	AS-SM	Arsenic	NY / 375-6.8 Metals / Residential Restricted	22.4	0.97	16	16	mg/Kg
CU45644	AS-SM	Arsenic	NY / 375-6.8 Metals / Unrestricted Use Soil	22.4	0.97	13	13	mg/Kg
CU45644	AS-SM	Arsenic	PA / Clean Fill MSCs / Res Direct Contact	22.4	0.97	12	12	mg/Kg
CU45644	CO-SM	Cobalt	NJ / Soil Remediation Standard / Migration GW	12.4	0.49	1.8	0.5	mg/Kg
CU45644	CU-SM	Copper	NY / 375-6.8 Metals / Unrestricted Use Soil	171	1.0	50	50	mg/kg
CU45644	HG-SM	Mercury	NJ / Soil Remediation Standard / Migration GW	6.51	0.19	0.105	0.105	mg/Kg
CU45644	HG-SM	Mercury	NY / 375-6.8 Metals / Commercial	6.51	0.19	2.8	2.8	mg/Kg
CU45644	HG-SM	Mercury	NY / 375-6.8 Metals / Industrial	6.51	0.19	5.7	5.7	mg/Kg
CU45644	HG-SM	Mercury	NY / 375-6.8 Metals / Residential	6.51	0.19	0.81	0.81	mg/Kg
CU45644	HG-SM	Mercury	NY / 375-6.8 Metals / Residential Restricted	6.51	0.19	0.81	0.81	mg/Kg
CU45644	HG-SM	Mercury	NY / 375-6.8 Metals / Unrestricted Use Soil	6.51	0.19	0.18	0.18	mg/Kg
CU45644	NI-SM	Nickel	NJ / Soil Remediation Standard / Migration GW	73.7	0.49	48	48	mg/Kg
CU45644	NI-SM	Nickel	NY / 375-6.8 Metals / Unrestricted Use Soil	73.7	0.49	30	30	mg/Kg
CU45644	PB-SM	Lead	NJ / Soil Remediation Standard / Migration GW	663	0.49	90	90	mg/Kg
CU45644	PB-SM	Lead	NJ / Soil Remediation Standard / Res. Direct Contact	663	0.49	400	1	mg/Kg
CU45644	PB-SM	Lead	NJ / Soil Remediation Standard / Res. Ingestion-Dermal	663	0.49	200	200	mg/Kg
CU45644	PB-SM	Lead	NY / 375-6.8 Metals / Residential	663	0.49	400	400	mg/Kg
CU45644	PB-SM	Lead	NY / 375-6.8 Metals / Residential Restricted	663	0.49	400	400	mg/Kg
CU45644	PB-SM	Lead	NY / 375-6.8 Metals / Unrestricted Use Soil	663	0.49	63	63	mg/Kg
CU45644	PB-SM	Lead	PA / Clean Fill MSCs / Res Direct Contact	663	0.49	500	500	mg/Kg
CU45644	PB-SM	Lead	PA / Clean Fill MSCs / Soil to GW Res	663	0.49	450	450	mg/Kg
CU45644	PB-SM	Lead	PA / Reg Fill MSCs / Soil to GW NonRes	663	0.49	450	450	mg/Kg
CU45644	SB-SM	Antimony	NJ / Soil Remediation Standard / Migration GW	8.2	4.9	5.4	5.4	mg/Kg
CU45644	TCLP-PB	TCLP Lead	NJ / Soil Remediation Standard / Leachate Migration G	1.76	0.10	0.1	0.1	mg/L
CU45644	TRI-CRSM	Trivalent Chromium	NY / 375-6.8 Metals / Unrestricted Use Soil	34.1	0.49	30	30	mg/kg
CU45644	ZN-SM	Zinc	NY / 375-6.8 Metals / Unrestricted Use Soil	372	1.0	109	109	mg/Kg

Thursday, October 23, 2025

Criteria: NJ: MGW, NRC, RC; NY: 375, 375COM, 375IN

State: NY

Sample Criteria Exceedances Report

GCU45642 - FACTOR

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CU45645	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Res Direct Contact	ND	37	12	12	ug/Kg
CU45645	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	37	0.019	0.019	ug/Kg
CU45645	$8270_TCLR	N-Nitrosodimethylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	37	0.24	0.24	ug/Kg
CU45645	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Clean Fill MSCs / Soil to GW Res	ND	37	4.5	4.5	ug/Kg
CU45645	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Reg Fill MSCs / Soil to GW NonRes	ND	37	23	23	ug/Kg
CU45645	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	37	0.35	0.35	ug/Kg
CU45645	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	37	1.8	1.8	ug/Kg
CU45645	$8270_TCLR	2,6-Dinitrotoluene	PA / Clean Fill MSCs / Soil to GW Res	ND	73	13	13	ug/Kg
CU45645	$8270_TCLR	2,6-Dinitrotoluene	PA / Reg Fill MSCs / Soil to GW NonRes	ND	73	53	53	ug/Kg
CU45645	$8270_TCLR	2-Nitroaniline	PA / Clean Fill MSCs / Soil to GW Res	ND	73	2	2	ug/Kg
CU45645	$8270_TCLR	2-Nitroaniline	PA / Reg Fill MSCs / Soil to GW NonRes	ND	73	7.9	7.9	ug/Kg
CU45645	$PESTSM_NY	4,4' -DDE	NY / 375-6.8 PCBs/Pesticides / Unrestricted Use Soil	12	2.2	3.3	3.3	ug/Kg
CU45645	$PESTSM_NY	4,4' -DDT	NY / 375-6.8 PCBs/Pesticides / Unrestricted Use Soil	21	2.2	3.3	3.3	ug/Kg
CU45645	12DIPHENYSM	1,2-Diphenylhydrazine	PA / Clean Fill MSCs / Soil to GW Res	ND	73	39	39	ug/Kg
CU45645	AS-SM	Arsenic	NJ / Soil Remediation Standard / Migration GW	62.7	0.67	19	19	mg/Kg
CU45645	AS-SM	Arsenic	NJ / Soil Remediation Standard / Non Res. Direct Conta	62.7	0.67	19	1	mg/Kg
CU45645	AS-SM	Arsenic	NJ / Soil Remediation Standard / Non Res. Ingestion-Der	62.7	0.67	19	19	mg/Kg
CU45645	AS-SM	Arsenic	NJ / Soil Remediation Standard / Res. Direct Contact	62.7	0.67	19	1	mg/Kg
CU45645	AS-SM	Arsenic	NJ / Soil Remediation Standard / Res. Ingestion-Dermal	62.7	0.67	19	19	mg/Kg
CU45645	AS-SM	Arsenic	NY / 375-6.8 Metals / Commercial	62.7	0.67	16	16	mg/Kg
CU45645	AS-SM	Arsenic	NY / 375-6.8 Metals / Industrial	62.7	0.67	16	16	mg/Kg
CU45645	AS-SM	Arsenic	NY / 375-6.8 Metals / Residential	62.7	0.67	16	16	mg/Kg
CU45645	AS-SM	Arsenic	NY / 375-6.8 Metals / Residential Restricted	62.7	0.67	16	16	mg/Kg
CU45645	AS-SM	Arsenic	NY / 375-6.8 Metals / Unrestricted Use Soil	62.7	0.67	13	13	mg/Kg
CU45645	AS-SM	Arsenic	PA / Clean Fill MSCs / Res Direct Contact	62.7	0.67	12	12	mg/Kg
CU45645	AS-SM	Arsenic	PA / Clean Fill MSCs / Soil to GW Res	62.7	0.67	29	29	mg/Kg
CU45645	AS-SM	Arsenic	PA / Reg Fill MSCs / NonRes Direct Contact	62.7	0.67	61	61	mg/Kg
CU45645	AS-SM	Arsenic	PA / Reg Fill MSCs / Soil to GW NonRes	62.7	0.67	29	29	mg/Kg
CU45645	CO-SM	Cobalt	NJ / Soil Remediation Standard / Migration GW	19.7	0.34	1.8	0.5	mg/Kg
CU45645	HG-SM	Mercury	NJ / Soil Remediation Standard / Migration GW	1.00	0.03	0.105	0.105	mg/Kg
CU45645	HG-SM	Mercury	NY / 375-6.8 Metals / Residential	1.00	0.03	0.81	0.81	mg/Kg
CU45645	HG-SM	Mercury	NY / 375-6.8 Metals / Residential Restricted	1.00	0.03	0.81	0.81	mg/Kg
CU45645	HG-SM	Mercury	NY / 375-6.8 Metals / Unrestricted Use Soil	1.00	0.03	0.18	0.18	mg/Kg
CU45645	NI-SM	Nickel	NJ / Soil Remediation Standard / Migration GW	347	3.4	48	48	mg/Kg
CU45645	NI-SM	Nickel	NY / 375-6.8 Metals / Commercial	347	3.4	310	310	mg/Kg
CU45645	NI-SM	Nickel	NY / 375-6.8 Metals / Residential	347	3.4	140	140	mg/Kg
CU45645	NI-SM	Nickel	NY / 375-6.8 Metals / Residential Restricted	347	3.4	310	310	mg/Kg
CU45645	NI-SM	Nickel	NY / 375-6.8 Metals / Unrestricted Use Soil	347	3.4	30	30	mg/Kg
CU45645	PB-SM	Lead	NJ / Soil Remediation Standard / Migration GW	103	0.34	90	90	mg/Kg
CU45645	PB-SM	Lead	NY / 375-6.8 Metals / Unrestricted Use Soil	103	0.34	63	63	mg/Kg
CU45645	TCLP-PB	TCLP Lead	NJ / Soil Remediation Standard / Leachate Migration G	0.51	0.10	0.1	0.1	mg/L

Thursday, October 23, 2025

Criteria: NJ: MGW, NRC, RC; NY: 375, 375COM, 375IN

State: NY

Sample Criteria Exceedances Report

GCU45642 - FACTOR

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CU45645	TRI-CRSM	Trivalent Chromium	NY / 375-6.8 Metals / Residential	36.1	0.34	36	36	mg/kg
CU45645	TRI-CRSM	Trivalent Chromium	NY / 375-6.8 Metals / Unrestricted Use Soil	36.1	0.34	30	30	mg/kg
CU45646	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Res Direct Contact	ND	36	12	12	ug/Kg
CU45646	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	36	0.019	0.019	ug/Kg
CU45646	$8270_TCLR	N-Nitrosodimethylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	36	0.24	0.24	ug/Kg
CU45646	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Clean Fill MSCs / Soil to GW Res	ND	36	4.5	4.5	ug/Kg
CU45646	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Reg Fill MSCs / Soil to GW NonRes	ND	36	23	23	ug/Kg
CU45646	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	36	0.35	0.35	ug/Kg
CU45646	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	36	1.8	1.8	ug/Kg
CU45646	$8270_TCLR	2,6-Dinitrotoluene	PA / Clean Fill MSCs / Soil to GW Res	ND	72	13	13	ug/Kg
CU45646	$8270_TCLR	2,6-Dinitrotoluene	PA / Reg Fill MSCs / Soil to GW NonRes	ND	72	53	53	ug/Kg
CU45646	$8270_TCLR	2-Nitroaniline	PA / Clean Fill MSCs / Soil to GW Res	ND	72	2	2	ug/Kg
CU45646	$8270_TCLR	2-Nitroaniline	PA / Reg Fill MSCs / Soil to GW NonRes	ND	72	7.9	7.9	ug/Kg
CU45646	$PESTSM_NY	4,4' -DDE	NY / 375-6.8 PCBs/Pesticides / Unrestricted Use Soil	10	2.1	3.3	3.3	ug/Kg
CU45646	$PESTSM_NY	4,4' -DDT	NY / 375-6.8 PCBs/Pesticides / Unrestricted Use Soil	14	2.1	3.3	3.3	ug/Kg
CU45646	$PESTSM_NY	4,4' -DDD	NY / 375-6.8 PCBs/Pesticides / Unrestricted Use Soil	9.2	2.1	3.3	3.3	ug/Kg
CU45646	12DIPHENYSM	1,2-Diphenylhydrazine	PA / Clean Fill MSCs / Soil to GW Res	ND	72	39	39	ug/Kg
CU45646	CO-SM	Cobalt	NJ / Soil Remediation Standard / Migration GW	34.6	0.37	1.8	0.5	mg/Kg
CU45646	CO-SM	Cobalt	NJ / Soil Remediation Standard / Res. Ingestion-Dermal	34.6	0.37	23	23	mg/Kg
CU45646	HG-SM	Mercury	NJ / Soil Remediation Standard / Migration GW	0.29	0.03	0.105	0.105	mg/Kg
CU45646	HG-SM	Mercury	NY / 375-6.8 Metals / Unrestricted Use Soil	0.29	0.03	0.18	0.18	mg/Kg
CU45646	NI-SM	Nickel	NJ / Soil Remediation Standard / Migration GW	563	3.7	48	48	mg/Kg
CU45646	NI-SM	Nickel	NY / 375-6.8 Metals / Commercial	563	3.7	310	310	mg/Kg
CU45646	NI-SM	Nickel	NY / 375-6.8 Metals / Residential	563	3.7	140	140	mg/Kg
CU45646	NI-SM	Nickel	NY / 375-6.8 Metals / Residential Restricted	563	3.7	310	310	mg/Kg
CU45646	NI-SM	Nickel	NY / 375-6.8 Metals / Unrestricted Use Soil	563	3.7	30	30	mg/Kg
CU45646	PB-SM	Lead	NJ / Soil Remediation Standard / Migration GW	93.8	0.37	90	90	mg/Kg
CU45646	PB-SM	Lead	NY / 375-6.8 Metals / Unrestricted Use Soil	93.8	0.37	63	63	mg/Kg
CU45646	TCLP-PB	TCLP Lead	NJ / Soil Remediation Standard / Leachate Migration G	0.40	0.10	0.1	0.1	mg/L
CU45646	TRI-CRSM	Trivalent Chromium	NY / 375-6.8 Metals / Residential	43.3	0.37	36	36	mg/kg
CU45646	TRI-CRSM	Trivalent Chromium	NY / 375-6.8 Metals / Unrestricted Use Soil	43.3	0.37	30	30	mg/kg
CU45647	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Res Direct Contact	ND	36	12	12	ug/Kg
CU45647	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	36	0.019	0.019	ug/Kg
CU45647	$8270_TCLR	N-Nitrosodimethylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	36	0.24	0.24	ug/Kg
CU45647	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Clean Fill MSCs / Soil to GW Res	ND	36	4.5	4.5	ug/Kg
CU45647	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Reg Fill MSCs / Soil to GW NonRes	ND	36	23	23	ug/Kg
CU45647	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	36	0.35	0.35	ug/Kg
CU45647	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	36	1.8	1.8	ug/Kg
CU45647	$8270_TCLR	2,6-Dinitrotoluene	PA / Clean Fill MSCs / Soil to GW Res	ND	72	13	13	ug/Kg
CU45647	$8270_TCLR	2,6-Dinitrotoluene	PA / Reg Fill MSCs / Soil to GW NonRes	ND	72	53	53	ug/Kg

Thursday, October 23, 2025

Criteria: NJ: MGW, NRC, RC; NY: 375, 375COM, 375IN

State: NY

Sample Criteria Exceedances Report

GCU45642 - FACTOR

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CU45647	$8270_TCLR	2-Nitroaniline	PA / Clean Fill MSCs / Soil to GW Res	ND	72	2	2	ug/Kg
CU45647	$8270_TCLR	2-Nitroaniline	PA / Reg Fill MSCs / Soil to GW NonRes	ND	72	7.9	7.9	ug/Kg
CU45647	12DIPHENYSM	1,2-Diphenylhydrazine	PA / Clean Fill MSCs / Soil to GW Res	ND	72	39	39	ug/Kg
CU45647	CO-SM	Cobalt	NJ / Soil Remediation Standard / Migration GW	15.2	0.39	1.8	0.5	mg/Kg
CU45647	HG-SM	Mercury	NJ / Soil Remediation Standard / Migration GW	0.15	0.03	0.105	0.105	mg/Kg
CU45647	NI-SM	Nickel	NJ / Soil Remediation Standard / Migration GW	300	3.9	48	48	mg/Kg
CU45647	NI-SM	Nickel	NY / 375-6.8 Metals / Residential	300	3.9	140	140	mg/Kg
CU45647	NI-SM	Nickel	NY / 375-6.8 Metals / Unrestricted Use Soil	300	3.9	30	30	mg/Kg
CU45647	TCLP-PB	TCLP Lead	NJ / Soil Remediation Standard / Leachate Migration G	0.25	0.10	0.1	0.1	mg/L
CU45647	TRI-CRSM	Trivalent Chromium	NY / 375-6.8 Metals / Unrestricted Use Soil	31.4	0.39	30	30	mg/kg

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

October 23, 2025 SDG I.D.: GCU45642

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report:

EPH NJ Narration

AU-FID22 10/15/25-1: CU45642, CU45643, CU45644

The following Continuing Calibration compounds did not meet % deviation criteria:
Samples: CU45642, CU45643
Preceding CC O15A027 - o-COD (surr) 29%L (25%)
Succeeding CC O15A037 - o-COD (surr) 27%L (25%)
Samples: CU45644
Preceding CC O15A015 - None.
Succeeding CC O15A027 - o-COD (surr) 29%L (25%)

Herbicide Narration

AU-ECD2 10/15/25-1: CU45642, CU45643, CU45644, CU45645, CU45646, CU45647

The following Continuing Calibration compounds did not meet % deviation criteria:
Samples: CU45642, CU45643, CU45644, CU45645, CU45646, CU45647
Preceding CC O15B015 - None.
Succeeding CC O15B027 - Dalapon (1) 27%H (20%)

PEST Narration

AU-ECD33 10/17/25-2: CU45642, CU45643, CU45644, CU45645, CU45646

The following Continuing Calibration compounds did not meet % deviation criteria:
Samples: CU45643, CU45644, CU45645
Preceding CC O17A028 - a-BHC 30%H (20%), Aldrin 21%L (20%), b-BHC 32%H (20%), Endosulfan I 22%H (20%)
Succeeding CC O17A036 - a-BHC 29%H (20%), Aldrin 21%L (20%)
A low "1A" standard was run after the samples to demonstrate capability to detect any compounds outside of the CC acceptance criteria. All reported samples were ND for the affected compounds.
Samples: CU45642, CU45646
Preceding CC O17A014 - a-BHC 24%H (20%), Aldrin 24%L (20%), b-BHC 34%H (20%), Endosulfan I 22%H (20%)
Succeeding CC O17A028 - a-BHC 30%H (20%), Aldrin 21%L (20%), b-BHC 32%H (20%), Endosulfan I 22%H (20%)
A low "1A" standard was run after the samples to demonstrate capability to detect any compounds outside of the CC acceptance criteria. All reported samples were ND for the affected compounds.

SVOA Narration

CHEM36 10/16/25-2: CU45642, CU45643, CU45644, CU45645, CU45646, CU45647

The following Initial Calibration compounds did not meet recommended response factors: 2-Nitrophenol 0.052 (0.1), Hexachlorobenzene 0.092 (0.1)
The following Initial Calibration compounds did not meet minimum response factors: None.

The following Continuing Calibration compounds did not meet % deviation criteria: Hexachlorocyclopentadiene 23%L (20%)
The following Continuing Calibration compounds did not meet Maximum % deviation criteria: None.
The following Continuing Calibration compounds did not meet recommended response factors: 2-Nitrophenol 0.060 (0.1), Hexachlorobenzene 0.085 (0.1)
The following Continuing Calibration compounds did not meet minimum response factors: None.

Up to eight compounds can be outside of ICAL %RSD criteria and up to sixteen compounds can be outside of CCAL %Dev criteria if less than 40%.

VOA Narration

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

October 23, 2025 SDG I.D.: GCU45642

CHEM41 10/12/25-1: CU45642, CU45643, CU45644, CU45645, CU45646, CU45647

The following Initial Calibration compounds did not meet RSD% criteria: Acetone 24% (20%), Bromoform 22% (20%)
The following Initial Calibration compounds did not meet maximum RSD% criteria: None.

The following Continuing Calibration compounds did not meet % deviation criteria: Dichlorodifluoromethane 28%H (20%)
The following Continuing Calibration compounds did not meet Maximum % deviation criteria: None.

Up to eight compounds can be outside of ICAL %RSD criteria and up to sixteen compounds can be outside of CCAL %Dev criteria if less than 40%.

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NY Temperature Narration

October 23, 2025

SDG I.D.: GCU45642

The samples in this delivery group were received at 1.3°C.
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)

Cooler: Yes ☑ No ☐
Coolant: IPK ☐ ICE ☐ No ☐
Temp 1.3 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

NY/NJ/PA CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: Makrina Nolan, makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Contact Options:
☐ Phone:
☐ Fax:
☐ Email:

Customer: Factor Corp
Address: 111 Town Sq Place
Jersey City, NJ 07

Project: NYCDEP SANDY HOOK RIVER
Report to: J. Rogers / K Pate (
Invoice to: cc "
QUOTE # :

Project P.O: 00379

This section MUST be completed with Bottle Quantities.

Sampler's Signature: [signature] Date: 10/6/2025

Client Sample - Information - Identification

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	MS/MSD (May be billable at analysis unit rate)	Factor Grp 1	Factor Grp 2	Factor Grp 3*	GL Amber 8 oz. [ ] w/H$_3$PO$_4$ [ ] NaHSO$_4$	Soil VOA Vials [ ] methanol [ ] H$_2$O	GL Soil container (8) oz.	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H$_2$SO$_4$	PL As is [ ] 250ml [ ] As is [ ] 500ml [ ] 1000ml	PL H$_2$SO$_4$ [ ] 250ml [ ] 1250ml [ ] 500ml	PL NaOH 250ml	PL HNO$_3$ 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
45642	WC-16-1	S	10/6/25	0800		X					4	3								
45643	WC-16-2	S		0830		X					4	3								
45644	WC-16-3	S		1200		X					4	3								
45645	WC-15-1	S		1330		X					4	3								
45646	WC-15-2	S		1400		X					4	3								
45647	WC-15-3	S		1430		X					4	3								

Relinquished by:	Accepted by:	Date:	Time:
		10/8/25	
MG/BH	[signature]	10-8-25	18:35

Comments, Special Requirements or Regulations:
VOCs: WC-16-1: 31' WC-15-3: 8.5
WC-16-2: 6
WC-16-3: 10'
WC-15-1: 31
WC-15-2: 6'
10D: *IF REQUIRED

*MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

Data Format:
☑ Phoenix Std Report ☐ EQuIS
☑ Excel ☐ NJ Hazsite EDD
☑ PDF ☐ NY EZ EDD (ASP)
☐ GIS/Key ☐ Other

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☐ 4 Days*
☐ 5 Days*
☑ Standard
* SURCHARGE APPLIES

NJ
☑ Res. Criteria
☑ Non-Res. Criteria
☐ Impact to GW Soil Cleanup Criteria
☐ Impact to GW soil screen Criteria
☑ MGW-NJ
☐ GW Criteria

NY
☐ TOGS GW
☐ CP-51 SOIL
☑ 375SCO Unrestricted Soil
☑ 375SCO Residential Soil
☑ 375SCO Residential Restricted Soil
☑ 375SCO Commercial Soil
☑ 375SCO Industrial Soil
☐ Subpart 5 DW

PA
☑ Clean Fill Limits
☐ PA-GW
☑ Reg Fill Limits
☐ PA Soil Restricted
☐ PA Soil non-restricted

Data Package:
☐ NJ Reduced Deliv. *
☐ Other
☐ NY Enhanced (ASP B) *

State Samples Collected? NY

PEL-111 Rev 1/2023

GCU 45647

Tara Banning

From: Shannon Wilhelm
Sent: Wednesday, October 8, 2025 3:23 PM
To: Christine Paradise; Tara Banning
Cc: Krystal Delgado; Emily Stokes; Ben Horton; Jordan Wesoloskie
Subject: FYI-Factor
Attachments: RHCR COC 10-6-2025[58] copy.pdf

From: Michael Lapman <michael@phoenixlabs.com>
Sent: Wednesday, October 8, 2025 3:20 PM
To: Shannon Wilhelm <shannon@phoenixlabs.com>
Subject: Re: Factor

I think Brian gave JD this chain, but just in case I wanted to send it over. The additional samples do not have a chain and are in a separate cooler.

All the analysis is Factor Group 2. There are 4 additional samples in the cooler w/o a chain.

Regards,
Michael Lapman
Phoenix Environmental Laboratories, Inc.
587 East Middle Turnpike
Manchester, CT 06040
Direct Line: 917.449.0850
www.phoenixlabs.com



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Shannon Wilhelm
Client Services Representative
Phoenix Environmental Laboratories
587 East Middle Turnpike
Manchester CT 06040
860-645-1102

From: Michael Lapman <michael@phoenixlabs.com>
Sent: Wednesday, October 8, 2025 3:14 PM
To: Shannon Wilhelm <shannon@phoenixlabs.com>
Subject: Factor

GCV 45642

Shannon:

Attached is one chain for a set of samples picked up today. Brian is emailing the other chain for the other set of samples.

I will send you and Tara the additional chain when received, it may be after COB.

Regards,
Michael Lapman
Phoenix Environmental Laboratories, Inc.
587 East Middle Turnpike
Manchester, CT 06040
Direct Line: 917.449.0850
www.phoenixlabs.com

PHOENIX
Environmental Laboratories, Inc.

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PHOENIX
Environmental Laboratories, Inc.

Wednesday, October 15, 2025

Attn: Joel Rogers
Factor Group Inc
42 Crest Dr
South Orange, NJ 07079-1039

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
SDG ID: GCU42003
Sample ID#s: CU42003 - CU42008

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

October 15, 2025

SDG I.D.: GCU42003

PA Fill comment:
Some compounds were evaluated below the lowest calibration standard in order to meet the requested criteria. The requested criteria could not be achieved for some compounds because the limit of detection (LOD) was greater than the criteria.

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

Sample Id Cross Reference

October 15, 2025

SDG I.D.: GCU42003

Project ID: RHCR-RED HOOK COASTAL RESILIENCY

Client Id	Lab Id	Matrix	Col Date
WC-17A-1	CU42003	SOIL	10/02/25 14:00
WC-17A-2	CU42004	SOIL	10/02/25 14:20
WC-17B	CU42005	SOIL	10/02/25 13:45
WC-18-1	CU42006	SOIL	10/02/25 11:50
WC-18-2	CU42007	SOIL	10/02/25 13:00
WC-18-3	CU42008	SOIL	10/02/25 13:15

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

October 15, 2025

FOR: Attn: Joel Rogers
Factor Group Inc
42 Crest Dr
South Orange, NJ 07079-1039

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		10/02/25	14:00
Location Code:	FACTOR	Received by:	CP	10/03/25	19:28
Rush Request:	96 Hour	Analyzed by:	see "By" below		
P.O.#:	00379				

Laboratory Data

SDG ID: GCU42003
Phoenix ID: CU42003

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-17A-1

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.39	0.39		mg/Kg	1	10/07/25	CPP	SW6010D
Aluminum	4560	5.8		mg/Kg	1	10/07/25	CPP	SW6010D
Arsenic	2.47	0.78		mg/Kg	1	10/07/25	CPP	SW6010D
Barium	32.7	0.39		mg/Kg	1	10/07/25	CPP	SW6010D
Beryllium	0.34	0.31		mg/Kg	1	10/07/25	CPP	SW6010D
Boron	3.2	1.6		mg/Kg	1	10/07/25	CPP	SW6010D
Calcium	4820	5.8		mg/Kg	1	10/07/25	CPP	SW6010D
Cadmium	< 0.39	0.39		mg/Kg	1	10/07/25	TH	SW6010D
Cobalt	9.01	0.39		mg/Kg	1	10/07/25	CPP	SW6010D
Chromium	15.1	0.39		mg/Kg	1	10/07/25	CPP	SW6010D
Copper	15.8	0.8		mg/kg	1	10/07/25	CPP	SW6010D
Iron	11500	5.8		mg/Kg	1	10/07/25	CPP	SW6010D
Mercury	< 0.03	0.03		mg/Kg	2	10/06/25	AJ1	SW7471B
Potassium	1070	58		mg/Kg	10	10/06/25	CPP	SW6010D
Magnesium	5470	5.8		mg/Kg	1	10/07/25	CPP	SW6010D
Manganese	99.1	0.39		mg/Kg	1	10/07/25	CPP	SW6010D
Molybdenum	< 0.39	0.39		mg/Kg	1	10/07/25	CPP	SW6010D
Sodium	489	5.8		mg/Kg	1	10/07/25	CPP	SW6010D
Nickel	72.9	0.39		mg/Kg	1	10/07/25	CPP	SW6010D
Lead	16.3	0.39		mg/Kg	1	10/07/25	CPP	SW6010D
Antimony	< 3.9	3.9		mg/Kg	1	10/07/25	CPP	SW6010D
Selenium	< 1.6	1.6		mg/Kg	1	10/07/25	CPP	SW6010D
TCLP Silver	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Arsenic	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Barium	0.17	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Cadmium	< 0.050	0.050		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Chromium	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Mercury	< 0.0002	0.0002		mg/L	1	10/06/25	AJ1	SW846 1311/7470

Ver 1

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-17A-1

Phoenix I.D.: CU42003

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
TCLP Lead	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010	
TCLP Selenium	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010D	
Thallium	< 2.2	2.2		mg/Kg	1	10/07/25	CPP	SW6010D	
TCLP Metals Digestion	Completed					10/06/25	AK/GW	SW3010A	
Trivalent Chromium	15.1	0.39		mg/kg	1	10/07/25		CALC 6010-7196	
Vanadium	15.0	0.39		mg/Kg	1	10/07/25	CPP	SW6010D	
Zinc	34.5	0.8		mg/Kg	1	10/07/25	CPP	SW6010D	
Percent Solid	88			%		10/03/25	H	SW846-%Solid	
Corrosivity	Negative			Pos/Neg	1	10/03/25	KG	SW846-Corr	1
Flash Point	>200	200		Degree F	1	10/06/25	G	SW1010B	
Fluoride	< 5.7	5.7		mg/Kg	10	10/04/25	DD/EG	SW9056A	
Chromium, Hex. (SW3060A digestion	< 0.40	0.40		mg/Kg	1	10/06/25	NP	SW7196A	
Ignitability	Passed	140		degree F	1	10/06/25	G	SW846-Ignit	1
Ammonia as Nitrogen	161	75.2		mg/Kg	1	10/09/25	KDB	E350.1	1
pH at 21C - Soil	11.2	1.00		pH Units	1	10/03/25 23:23	KG	SW846 9045D	
Reactivity Cyanide	< 6	6		mg/Kg	1	10/07/25	EG	SW846 7.3.3.1/90	1
Reactivity Sulfide	< 20	20		mg/Kg	1	10/07/25	EG	SW846 CH7	1
Reactivity	Negative			Pos/Neg	1	10/07/25	EG	SW846-React	1
Redox Potential	173			mV	1	10/03/25	KG	SM2580B-09	1
SPLP Chloride	5.4	1.0		mg/L	1	10/06/25	DD/EG	SW1312/300.0	
SPLP Sulfate	4.9	3.0		mg/L	1	10/06/25	DD/EG	SW1312/300.0	1
Total Cyanide (SW9010C Distill.)	< 0.57	0.57		mg/Kg	1	10/07/25	EG	SW9012B	
Mercury Digestion	Completed					10/04/25	GW/GW	SW7471B	
Soil Extraction for Herbicide	Completed					10/05/25	Y/D	SW3546	
NJ EPH Extraction	Completed					10/08/25	S/Z	NJDEP 10-08 R3	
Soil Extraction for PCB	Completed					10/08/25	C/Q	SW3546	
Soil Extraction for Pesticide	Completed					10/08/25	C/Q	SW3546	
Soil Extraction for SVOA	Completed					10/08/25	C/A	SW3546	
Paint Filter Test	Passed			PASS/FAIL		10/03/25	O	SW9095B	
SPLP Extraction, Wet Chemistry	Completed					10/03/25	AK	SW1312	
TCLP Digestion Mercury	Completed					10/06/25	AK/GW	SW7470A	
TCLP Extraction for Metals	Completed					10/03/25	AK	SW1311	
Total Metals Digest	Completed					10/04/25	P/AG	SW3050B	
NJ EPH Category 2									
Total EPH (C9-C40)	ND	27	27	mg/kg	1	10/09/25	JRB	NJEPH 10-08 R3	1
QA/QC Surrogates									
% COD (surr)	60			%	1	10/09/25	JRB	40 - 140 %	
% Terphenyl (surr)	95			%	1	10/09/25	JRB	40 - 140 %	
Chlorinated Herbicides									
2,4,5-T	ND	140		ug/Kg	10	10/07/25	JRB	SW8151A	
2,4,5-TP (Silvex)	ND	140		ug/Kg	10	10/07/25	JRB	SW8151A	
2,4-D	ND	280		ug/Kg	10	10/07/25	JRB	SW8151A	
2,4-DB	ND	1400		ug/Kg	10	10/07/25	JRB	SW8151A	
Dalapon	ND	140		ug/Kg	10	10/07/25	JRB	SW8151A	
Dicamba	ND	140		ug/Kg	10	10/07/25	JRB	SW8151A	
Dichloroprop	ND	280		ug/Kg	10	10/07/25	JRB	SW8151A	
Dinoseb	ND	280		ug/Kg	10	10/07/25	JRB	SW8151A	

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-17A-1

Phoenix I.D.: CU42003

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates									
% DCAA	103			%	10	10/07/25	JRB	30 - 150 %	
% DCAA (Confirmation)	97			%	10	10/07/25	JRB	30 - 150 %	
Polychlorinated Biphenyls									
PCB-1016	ND	74		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1221	ND	74		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1232	ND	74		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1242	ND	74		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1248	ND	74		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1254	ND	74		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1260	ND	74		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1262	ND	74		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1268	ND	74		ug/Kg	2	10/09/25	SC	SW8082A	
Total PCBs	ND	74		ug/Kg	2	10/09/25	SC	SW8082A	1
QA/QC Surrogates									
% DCBP	69			%	2	10/09/25	SC	30 - 150 %	
% DCBP (Confirmation)	73			%	2	10/09/25	SC	30 - 150 %	
% TCMX	76			%	2	10/09/25	SC	30 - 150 %	
% TCMX (Confirmation)	68			%	2	10/09/25	SC	30 - 150 %	
Pesticides - Soil									
4,4' -DDD	ND	2.2		ug/Kg	2	10/09/25	AW	SW8081B	
4,4' -DDE	ND	3.0		ug/Kg	2	10/09/25	AW	SW8081B	
4,4' -DDT	ND	2.2		ug/Kg	2	10/09/25	AW	SW8081B	
a-BHC	ND	7.4		ug/Kg	2	10/09/25	AW	SW8081B	
a-Chlordane	ND	3.7		ug/Kg	2	10/09/25	AW	SW8081B	
Aldrin	ND	3.7		ug/Kg	2	10/09/25	AW	SW8081B	
b-BHC	ND	7.4		ug/Kg	2	10/09/25	AW	SW8081B	
Chlordane	ND	37		ug/Kg	2	10/09/25	AW	SW8081B	
d-BHC	ND	7.4		ug/Kg	2	10/09/25	AW	SW8081B	
Dieldrin	ND	3.7		ug/Kg	2	10/09/25	AW	SW8081B	
Endosulfan I	ND	7.4		ug/Kg	2	10/09/25	AW	SW8081B	
Endosulfan II	ND	7.4		ug/Kg	2	10/09/25	AW	SW8081B	
Endosulfan sulfate	ND	7.4		ug/Kg	2	10/09/25	AW	SW8081B	
Endrin	ND	7.4		ug/Kg	2	10/09/25	AW	SW8081B	
Endrin aldehyde	ND	7.4		ug/Kg	2	10/09/25	AW	SW8081B	
Endrin ketone	ND	7.4		ug/Kg	2	10/09/25	AW	SW8081B	
g-BHC	ND	1.5		ug/Kg	2	10/09/25	AW	SW8081B	
g-Chlordane	ND	3.7		ug/Kg	2	10/09/25	AW	SW8081B	
Heptachlor	ND	20		ug/Kg	2	10/09/25	AW	SW8081B	
Heptachlor epoxide	ND	7.4		ug/Kg	2	10/09/25	AW	SW8081B	
Methoxychlor	ND	37		ug/Kg	2	10/09/25	AW	SW8081B	
Toxaphene	ND	150		ug/Kg	2	10/09/25	AW	SW8081B	
QA/QC Surrogates									
% DCBP	67			%	2	10/09/25	AW	30 - 150 %	
% DCBP (Confirmation)	59			%	2	10/09/25	AW	30 - 150 %	
% TCMX	80			%	2	10/09/25	AW	30 - 150 %	
% TCMX (Confirmation)	70			%	2	10/09/25	AW	30 - 150 %	

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-17A-1

Phoenix I.D.: CU42003

Volatiles (TCL)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
1,1,1-Trichloroethane	ND	5.0		ug/kg	1	10/04/25	JLI	SW8260D
1,1,2,2-Tetrachloroethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,1,2-Trichloroethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,1-Dichloroethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,1-Dichloroethene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,2,3-Trichlorobenzene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,2,4-Trichlorobenzene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,2,4-Trimethylbenzene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dibromo-3-chloropropane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dibromoethane	ND	1.2		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dichlorobenzene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dichloroethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dichloropropane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,3,5-Trimethylbenzene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,3-Dichlorobenzene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,4-Dichlorobenzene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
2-Hexanone	ND	27		ug/kg	1	10/04/25	JLI	SW8260D
4-Methyl-2-pentanone	ND	27		ug/kg	1	10/04/25	JLI	SW8260D
Acetone	ND	50		ug/kg	1	10/04/25	JLI	SW8260D
Benzene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Bromochloromethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Bromodichloromethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Bromoform	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Bromomethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Carbon Disulfide	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Carbon tetrachloride	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Chlorobenzene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Chloroethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Chloroform	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Chloromethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
cis-1,2-Dichloroethene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
cis-1,3-Dichloropropene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Cyclohexane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Dibromochloromethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Dichlorodifluoromethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Ethylbenzene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Isopropylbenzene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
m&p-Xylene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Methyl ethyl ketone	ND	32		ug/kg	1	10/04/25	JLI	SW8260D
Methyl t-butyl ether (MTBE)	ND	11		ug/kg	1	10/04/25	JLI	SW8260D
Methylacetate	ND	54		ug/kg	1	10/04/25	JLI	SW8260D
Methylcyclohexane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Methylene chloride	ND	27		ug/kg	1	10/04/25	JLI	SW8260D
o-Xylene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Styrene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Tetrachloroethene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Toluene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Total Xylenes	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D	
trans-1,3-Dichloropropene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D	
Trichloroethene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D	
Trichlorofluoromethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D	
Trichlorotrifluoroethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D	
Vinyl chloride	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D	
QA/QC Surrogates									
% 1,2-dichlorobenzene-d4	99			%	1	10/04/25	JLI	70 - 130 %	
% Bromofluorobenzene	95			%	1	10/04/25	JLI	70 - 130 %	
% Dibromofluoromethane	83			%	1	10/04/25	JLI	70 - 130 %	
% Toluene-d8	98			%	1	10/04/25	JLI	70 - 130 %	
1,4-dioxane									
1,4-dioxane	ND	81		ug/kg	1	10/04/25	JLI	SW8260D	
Volatiles									
1,1,1,2-Tetrachloroethane	ND	22		ug/Kg	1	10/04/25	JLI	SW8260D	
Acrolein	ND	0.47		ug/Kg	1	10/04/25	JLI	SW8260D	
Acrylonitrile	ND	10		ug/Kg	1	10/04/25	JLI	SW8260D	
Tert-butyl alcohol	ND	110		ug/Kg	1	10/04/25	JLI	SW8260D	
Vinyl Acetate	ND	54		ug/Kg	1	10/04/25	JLI	SW8260D	
Volatile Library Search	Completed					10/06/25	JLI		
FACTOR GROUP 2	Completed					10/03/25			
Semivolatiles									
1,1-Biphenyl	ND	260		ug/Kg	1	10/09/25	MR	SW8270E	
1,2,4,5-Tetrachlorobenzene	ND	260		ug/Kg	1	10/09/25	MR	SW8270E	
2,2'-Oxybis(1-Chloropropane)	ND	260		ug/Kg	1	10/09/25	MR	SW8270E	1
2,3,4,6-tetrachlorophenol	ND	260		ug/Kg	1	10/09/25	MR	SW8270E	
2,4,5-Trichlorophenol	ND	260		ug/Kg	1	10/09/25	MR	SW8270E	
2,4,6-Trichlorophenol	ND	260		ug/Kg	1	10/09/25	MR	SW8270E	
2,4-Dichlorophenol	ND	260		ug/Kg	1	10/09/25	MR	SW8270E	
2,4-Dimethylphenol	ND	260		ug/Kg	1	10/09/25	MR	SW8270E	
2,4-Dinitrophenol	ND	590		ug/Kg	1	10/09/25	MR	SW8270E	
2,4-Dinitrotoluene	ND	50		ug/Kg	1	10/09/25	MR	SW8270E	
2,6-Dinitrotoluene	ND	74		ug/Kg	1	10/09/25	MR	SW8270E	
2-Chloronaphthalene	ND	260		ug/Kg	1	10/09/25	MR	SW8270E	
2-Chlorophenol	ND	260		ug/Kg	1	10/09/25	MR	SW8270E	
2-Methylnaphthalene	ND	260		ug/Kg	1	10/09/25	MR	SW8270E	
2-Methylphenol (o-cresol)	ND	260		ug/Kg	1	10/09/25	MR	SW8270E	
2-Nitroaniline	ND	74		ug/Kg	1	10/09/25	MR	SW8270E	
2-Nitrophenol	ND	260		ug/Kg	1	10/09/25	MR	SW8270E	
3&4-Methylphenol (m&p-cresol)	ND	330		ug/Kg	1	10/09/25	MR	SW8270E	1
3,3'-Dichlorobenzidine	ND	450		ug/Kg	1	10/09/25	MR	SW8270E	
3-Nitroaniline	ND	590		ug/Kg	1	10/09/25	MR	SW8270E	
4,6-Dinitro-2-methylphenol	ND	210		ug/Kg	1	10/09/25	MR	SW8270E	
4-Bromophenyl phenyl ether	ND	370		ug/Kg	1	10/09/25	MR	SW8270E	
4-Chloro-3-methylphenol	ND	260		ug/Kg	1	10/09/25	MR	SW8270E	
4-Chloroaniline	ND	260		ug/Kg	1	10/09/25	MR	SW8270E	

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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
4-Chlorophenyl phenyl ether	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
4-Nitroaniline	ND	490		ug/Kg	1	10/09/25	MR	SW8270E
4-Nitrophenol	ND	1100		ug/Kg	1	10/09/25	MR	SW8270E
Acenaphthene	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Acenaphthylene	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Acetophenone	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Anthracene	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Atrazine	ND	130		ug/Kg	1	10/09/25	MR	SW8270E
Benz(a)anthracene	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Benzaldehyde	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Benzo(a)pyrene	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Benzo(b)fluoranthene	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Benzo(ghi)perylene	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Benzo(k)fluoranthene	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Benzyl butyl phthalate	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Bis(2-chloroethoxy)methane	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Bis(2-chloroethyl)ether	ND	37		ug/Kg	1	10/09/25	MR	SW8270E
Bis(2-ethylhexyl)phthalate	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Caprolactam	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Carbazole	ND	370		ug/Kg	1	10/09/25	MR	SW8270E
Chrysene	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Dibenz(a,h)anthracene	ND	190		ug/Kg	1	10/09/25	MR	SW8270E
Dibenzofuran	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Diethyl phthalate	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Dimethylphthalate	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Di-n-butylphthalate	ND	740		ug/Kg	1	10/09/25	MR	SW8270E
Di-n-octylphthalate	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Fluoranthene	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Fluorene	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Hexachlorobenzene	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Hexachlorobutadiene	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Hexachlorocyclopentadiene	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Hexachloroethane	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Indeno(1,2,3-cd)pyrene	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Isophorone	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Naphthalene	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Nitrobenzene	ND	52		ug/Kg	1	10/09/25	MR	SW8270E
N-Nitrosodimethylamine	ND	37		ug/Kg	1	10/09/25	MR	SW8270E
N-Nitrosodi-n-propylamine	ND	37		ug/Kg	1	10/09/25	MR	SW8270E
N-Nitrosodiphenylamine	ND	370		ug/Kg	1	10/09/25	MR	SW8270E
Pentachlorophenol	ND	370		ug/Kg	1	10/09/25	MR	SW8270E
Phenanthrene	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Phenol	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
Pyrene	ND	260		ug/Kg	1	10/09/25	MR	SW8270E
QA/QC Surrogates								
% 2,4,6-Tribromophenol	97			%	1	10/09/25	MR	30 - 130 %
% 2-Fluorobiphenyl	72			%	1	10/09/25	MR	30 - 130 %
% 2-Fluorophenol	79			%	1	10/09/25	MR	30 - 130 %
% Nitrobenzene-d5	74			%	1	10/09/25	MR	30 - 130 %

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-17A-1

Phoenix I.D.: CU42003

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
% Phenol-d5	80			%	1	10/09/25	MR	30 - 130 %
% Terphenyl-d14	74			%	1	10/09/25	MR	30 - 130 %
1,2-Diphenylhydrazine	ND	74		ug/Kg	1	10/09/25	MR	SW8270E
Aniline	ND	120		ug/Kg	1	10/09/25	MR	SW8270E
Benzoic Acid	ND	370		ug/Kg	1	10/09/25	MR	SW8270E
Benzyl Alcohol	ND	370		ug/Kg	1	10/09/25	MR	SW8270E
Semivolatile Library Search	Completed					10/09/25	MR	

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Corrosivity is based solely on the pH analysis performed above.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

Ignitability is based solely on the results of the closed cup flashpoint analysis performed above. Passed is >140 degree F.

Paint Filter Test:
Pass = no free liquids were detected. Fail = free liquids were detected.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Cyanide. This method is no longer listed in the current version of SW-846.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Sulfide. This method is no longer listed in the current version of SW-846.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Hexavalent Chromium:
This sample is neither in a reducing or an oxidizing state.

Semi-Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
October 16, 2025
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

October 15, 2025

FOR: Attn: Joel Rogers
Factor Group Inc
42 Crest Dr
South Orange, NJ 07079-1039

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		10/02/25	14:20
Location Code:	FACTOR	Received by:	CP	10/03/25	19:28
Rush Request:	96 Hour	Analyzed by:	see "By" below		
P.O.#:	00379				

Laboratory Data

SDG ID: GCU42003
Phoenix ID: CU42004

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-17A-2

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.42	0.42		mg/Kg	1	10/07/25	CPP	SW6010D
Aluminum	4590	6.2		mg/Kg	1	10/07/25	CPP	SW6010D
Arsenic	2.53	0.83		mg/Kg	1	10/07/25	CPP	SW6010D
Barium	29.6	0.42		mg/Kg	1	10/07/25	CPP	SW6010D
Beryllium	< 0.33	0.33		mg/Kg	1	10/07/25	CPP	SW6010D
Boron	3.2	1.7		mg/Kg	1	10/07/25	CPP	SW6010D
Calcium	2900	6.2		mg/Kg	1	10/07/25	CPP	SW6010D
Cadmium	< 0.42	0.42		mg/Kg	1	10/07/25	TH	SW6010D
Cobalt	7.20	0.42		mg/Kg	1	10/07/25	CPP	SW6010D
Chromium	13.0	0.42		mg/Kg	1	10/07/25	CPP	SW6010D
Copper	12.6	0.8		mg/kg	1	10/07/25	CPP	SW6010D
Iron	10200	6.2		mg/Kg	1	10/07/25	CPP	SW6010D
Mercury	< 0.03	0.03		mg/Kg	2	10/06/25	AJ1	SW7471B
Potassium	1840	62		mg/Kg	10	10/06/25	CPP	SW6010D
Magnesium	6160	6.2		mg/Kg	1	10/07/25	CPP	SW6010D
Manganese	119	0.42		mg/Kg	1	10/07/25	CPP	SW6010D
Molybdenum	< 0.42	0.42		mg/Kg	1	10/07/25	CPP	SW6010D
Sodium	688	6.2		mg/Kg	1	10/07/25	CPP	SW6010D
Nickel	65.3	0.42		mg/Kg	1	10/07/25	CPP	SW6010D
Lead	13.5	0.42		mg/Kg	1	10/07/25	CPP	SW6010D
Antimony	< 4.2	4.2		mg/Kg	1	10/07/25	CPP	SW6010D
Selenium	< 1.7	1.7		mg/Kg	1	10/07/25	CPP	SW6010D
TCLP Silver	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Arsenic	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Barium	0.32	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Cadmium	< 0.050	0.050		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Chromium	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Mercury	< 0.0002	0.0002		mg/L	1	10/06/25	AJ1	SW846 1311/7470

Ver 1

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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
TCLP Lead	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010	
TCLP Selenium	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010D	
Thallium	< 2.2	2.2		mg/Kg	1	10/07/25	CPP	SW6010D	
TCLP Metals Digestion	Completed					10/06/25	AK/GW	SW3010A	
Trivalent Chromium	13.0	0.42		mg/kg	1	10/07/25		CALC 6010-7196	
Vanadium	16.7	0.42		mg/Kg	1	10/07/25	CPP	SW6010D	
Zinc	26.6	0.8		mg/Kg	1	10/07/25	CPP	SW6010D	
Percent Solid	78			%		10/03/25	H	SW846-%Solid	
Corrosivity	Negative			Pos/Neg	1	10/03/25	KG	SW846-Corr	1
Flash Point	>200	200		Degree F	1	10/06/25	G	SW1010B	
Fluoride	< 6.4	6.4		mg/Kg	10	10/04/25	DD/EG	SW9056A	
Chromium, Hex. (SW3060A digestion	< 0.47	0.47		mg/Kg	1	10/06/25	NP	SW7196A	
Ignitability	Passed	140		degree F	1	10/06/25	G	SW846-Ignit	1
Ammonia as Nitrogen	< 103	103		mg/Kg	1	10/09/25	KDB	E350.1	1
pH at 21C - Soil	11.7	1.00		pH Units	1	10/03/25 23:23	KG	SW846 9045D	
Reactivity Cyanide	< 6	6		mg/Kg	1	10/07/25	EG	SW846 7.3.3.1/90	1
Reactivity Sulfide	< 20	20		mg/Kg	1	10/07/25	EG	SW846 CH7	1
Reactivity	Negative			Pos/Neg	1	10/07/25	EG	SW846-React	1
Redox Potential	115			mV	1	10/03/25	KG	SM2580B-09	1
SPLP Chloride	23.8	1.0		mg/L	1	10/06/25	DD/EG	SW1312/300.0	
SPLP Sulfate	6.2	3.0		mg/L	1	10/06/25	DD/EG	SW1312/300.0	1
Total Cyanide (SW9010C Distill.)	< 0.64	0.64		mg/Kg	1	10/07/25	EG	SW9012B	
Mercury Digestion	Completed					10/04/25	GW/GW	SW7471B	
Soil Extraction for Herbicide	Completed					10/05/25	Y/D	SW3546	
NJ EPH Extraction	Completed					10/08/25	S/Z	NJDEP 10-08 R3	
Soil Extraction for PCB	Completed					10/08/25	C/Q	SW3546	
Soil Extraction for Pesticide	Completed					10/08/25	C/Q	SW3546	
Soil Extraction for SVOA	Completed					10/08/25	C/Q	SW3546	
Paint Filter Test	Passed			PASS/FAIL		10/03/25	O	SW9095B	
SPLP Extraction, Wet Chemistry	Completed					10/03/25	AK	SW1312	
TCLP Digestion Mercury	Completed					10/06/25	AK/GW	SW7470A	
TCLP Extraction for Metals	Completed					10/03/25	AK	SW1311	
Total Metals Digest	Completed					10/04/25	P/AG	SW3050B	
NJ EPH Category 2									
Total EPH (C9-C40)	ND	150	150	mg/kg	5	10/09/25	JRB	NJEPH 10-08 R3	1
QA/QC Surrogates									
% COD (surr)	41			%	5	10/09/25	JRB	40 - 140 %	
% Terphenyl (surr)	89			%	5	10/09/25	JRB	40 - 140 %	
Chlorinated Herbicides									
2,4,5-T	ND	160		ug/Kg	10	10/07/25	JRB	SW8151A	
2,4,5-TP (Silvex)	ND	160		ug/Kg	10	10/07/25	JRB	SW8151A	
2,4-D	ND	320		ug/Kg	10	10/07/25	JRB	SW8151A	
2,4-DB	ND	1600		ug/Kg	10	10/07/25	JRB	SW8151A	
Dalapon	ND	160		ug/Kg	10	10/07/25	JRB	SW8151A	
Dicamba	ND	160		ug/Kg	10	10/07/25	JRB	SW8151A	
Dichloroprop	ND	320		ug/Kg	10	10/07/25	JRB	SW8151A	
Dinoseb	ND	160		ug/Kg	10	10/07/25	JRB	SW8151A	

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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates									
% DCAA	98			%	10	10/07/25	JRB	30 - 150 %	
% DCAA (Confirmation)	90			%	10	10/07/25	JRB	30 - 150 %	
Polychlorinated Biphenyls									
PCB-1016	ND	85		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1221	ND	85		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1232	ND	85		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1242	ND	85		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1248	ND	85		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1254	ND	85		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1260	ND	85		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1262	ND	85		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1268	ND	85		ug/Kg	2	10/09/25	SC	SW8082A	
Total PCBs	ND	85		ug/Kg	2	10/09/25	SC	SW8082A	1
QA/QC Surrogates									
% DCBP	83			%	2	10/09/25	SC	30 - 150 %	
% DCBP (Confirmation)	84			%	2	10/09/25	SC	30 - 150 %	
% TCMX	80			%	2	10/09/25	SC	30 - 150 %	
% TCMX (Confirmation)	76			%	2	10/09/25	SC	30 - 150 %	
Pesticides - Soil									
4,4' -DDD	ND	2.6		ug/Kg	2	10/09/25	AW	SW8081B	
4,4' -DDE	ND	2.6		ug/Kg	2	10/09/25	AW	SW8081B	
4,4' -DDT	ND	2.6		ug/Kg	2	10/09/25	AW	SW8081B	
a-BHC	ND	8.5		ug/Kg	2	10/09/25	AW	SW8081B	
a-Chlordane	ND	4.3		ug/Kg	2	10/09/25	AW	SW8081B	
Aldrin	ND	4.3		ug/Kg	2	10/09/25	AW	SW8081B	
b-BHC	ND	8.5		ug/Kg	2	10/09/25	AW	SW8081B	
Chlordane	ND	43		ug/Kg	2	10/09/25	AW	SW8081B	
d-BHC	ND	8.5		ug/Kg	2	10/09/25	AW	SW8081B	
Dieldrin	ND	4.3		ug/Kg	2	10/09/25	AW	SW8081B	
Endosulfan I	ND	8.5		ug/Kg	2	10/09/25	AW	SW8081B	
Endosulfan II	ND	8.5		ug/Kg	2	10/09/25	AW	SW8081B	
Endosulfan sulfate	ND	8.5		ug/Kg	2	10/09/25	AW	SW8081B	
Endrin	ND	8.5		ug/Kg	2	10/09/25	AW	SW8081B	
Endrin aldehyde	ND	8.5		ug/Kg	2	10/09/25	AW	SW8081B	
Endrin ketone	ND	8.5		ug/Kg	2	10/09/25	AW	SW8081B	
g-BHC	ND	1.7		ug/Kg	2	10/09/25	AW	SW8081B	
g-Chlordane	ND	4.3		ug/Kg	2	10/09/25	AW	SW8081B	
Heptachlor	ND	8.5		ug/Kg	2	10/09/25	AW	SW8081B	
Heptachlor epoxide	ND	8.5		ug/Kg	2	10/09/25	AW	SW8081B	
Methoxychlor	ND	43		ug/Kg	2	10/09/25	AW	SW8081B	
Toxaphene	ND	170		ug/Kg	2	10/09/25	AW	SW8081B	
QA/QC Surrogates									
% DCBP	87			%	2	10/09/25	AW	30 - 150 %	
% DCBP (Confirmation)	76			%	2	10/09/25	AW	30 - 150 %	
% TCMX	72			%	2	10/09/25	AW	30 - 150 %	
% TCMX (Confirmation)	64			%	2	10/09/25	AW	30 - 150 %	

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Volatiles (TCL)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
1,1,1-Trichloroethane	ND	5.0		ug/kg	1	10/04/25	JLI	SW8260D
1,1,2,2-Tetrachloroethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,1,2-Trichloroethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,1-Dichloroethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,1-Dichloroethene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,2,3-Trichlorobenzene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,2,4-Trichlorobenzene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,2,4-Trimethylbenzene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dibromo-3-chloropropane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dibromoethane	ND	1.2		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dichlorobenzene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dichloroethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dichloropropane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,3,5-Trimethylbenzene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,3-Dichlorobenzene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
1,4-Dichlorobenzene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
2-Hexanone	ND	27		ug/kg	1	10/04/25	JLI	SW8260D
4-Methyl-2-pentanone	ND	27		ug/kg	1	10/04/25	JLI	SW8260D
Acetone	ND	50		ug/kg	1	10/04/25	JLI	SW8260D
Benzene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Bromochloromethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Bromodichloromethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Bromoform	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Bromomethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Carbon Disulfide	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Carbon tetrachloride	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Chlorobenzene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Chloroethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Chloroform	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Chloromethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
cis-1,2-Dichloroethene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
cis-1,3-Dichloropropene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Cyclohexane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Dibromochloromethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Dichlorodifluoromethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Ethylbenzene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Isopropylbenzene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
m&p-Xylene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Methyl ethyl ketone	ND	33		ug/kg	1	10/04/25	JLI	SW8260D
Methyl t-butyl ether (MTBE)	ND	11		ug/kg	1	10/04/25	JLI	SW8260D
Methylacetate	ND	54		ug/kg	1	10/04/25	JLI	SW8260D
Methylcyclohexane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Methylene chloride	ND	27		ug/kg	1	10/04/25	JLI	SW8260D
o-Xylene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Styrene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Tetrachloroethene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Toluene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D
Total Xylenes	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D	
trans-1,3-Dichloropropene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D	
Trichloroethene	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D	
Trichlorofluoromethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D	
Trichlorotrifluoroethane	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D	
Vinyl chloride	ND	5.4		ug/kg	1	10/04/25	JLI	SW8260D	
QA/QC Surrogates									
% 1,2-dichlorobenzene-d4	98			%	1	10/04/25	JLI	70 - 130 %	
% Bromofluorobenzene	96			%	1	10/04/25	JLI	70 - 130 %	
% Dibromofluoromethane	93			%	1	10/04/25	JLI	70 - 130 %	
% Toluene-d8	98			%	1	10/04/25	JLI	70 - 130 %	
1,4-dioxane									
1,4-dioxane	ND	82		ug/kg	1	10/04/25	JLI	SW8260D	
Volatiles									
1,1,1,2-Tetrachloroethane	ND	22		ug/Kg	1	10/04/25	JLI	SW8260D	
Acrolein	ND	0.47		ug/Kg	1	10/04/25	JLI	SW8260D	
Acrylonitrile	ND	10		ug/Kg	1	10/04/25	JLI	SW8260D	
Tert-butyl alcohol	ND	110		ug/Kg	1	10/04/25	JLI	SW8260D	
Vinyl Acetate	ND	54		ug/Kg	1	10/04/25	JLI	SW8260D	
Volatile Library Search	Completed					10/06/25	JLI		
FACTOR GROUP 2	Completed					10/03/25			
Semivolatiles									
1,1-Biphenyl	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E	
1,2,4,5-Tetrachlorobenzene	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E	
2,2'-Oxybis(1-Chloropropane)	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E	1
2,3,4,6-tetrachlorophenol	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4,5-Trichlorophenol	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4,6-Trichlorophenol	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4-Dichlorophenol	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4-Dimethylphenol	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4-Dinitrophenol	ND	670		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4-Dinitrotoluene	ND	50		ug/Kg	1	10/09/25	KCA	SW8270E	
2,6-Dinitrotoluene	ND	84		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Chloronaphthalene	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Chlorophenol	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Methylnaphthalene	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Methylphenol (o-cresol)	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Nitroaniline	ND	84		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Nitrophenol	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E	
3&4-Methylphenol (m&p-cresol)	ND	330		ug/Kg	1	10/09/25	KCA	SW8270E	1
3,3'-Dichlorobenzidine	ND	500		ug/Kg	1	10/09/25	KCA	SW8270E	
3-Nitroaniline	ND	670		ug/Kg	1	10/09/25	KCA	SW8270E	
4,6-Dinitro-2-methylphenol	ND	210		ug/Kg	1	10/09/25	KCA	SW8270E	
4-Bromophenyl phenyl ether	ND	420		ug/Kg	1	10/09/25	KCA	SW8270E	
4-Chloro-3-methylphenol	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E	
4-Chloroaniline	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E	

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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
4-Chlorophenyl phenyl ether	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
4-Nitroaniline	ND	490		ug/Kg	1	10/09/25	KCA	SW8270E
4-Nitrophenol	ND	1200		ug/Kg	1	10/09/25	KCA	SW8270E
Acenaphthene	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Acenaphthylene	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Acetophenone	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Anthracene	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Atrazine	ND	130		ug/Kg	1	10/09/25	KCA	SW8270E
Benz(a)anthracene	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Benzaldehyde	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Benzo(a)pyrene	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Benzo(b)fluoranthene	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Benzo(ghi)perylene	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Benzo(k)fluoranthene	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Benzyl butyl phthalate	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Bis(2-chloroethoxy)methane	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Bis(2-chloroethyl)ether	ND	42		ug/Kg	1	10/09/25	KCA	SW8270E
Bis(2-ethylhexyl)phthalate	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Caprolactam	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Carbazole	ND	420		ug/Kg	1	10/09/25	KCA	SW8270E
Chrysene	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Dibenz(a,h)anthracene	ND	210		ug/Kg	1	10/09/25	KCA	SW8270E
Dibenzofuran	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Diethyl phthalate	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Dimethylphthalate	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Di-n-butylphthalate	ND	840		ug/Kg	1	10/09/25	KCA	SW8270E
Di-n-octylphthalate	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Fluoranthene	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Fluorene	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Hexachlorobenzene	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Hexachlorobutadiene	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Hexachlorocyclopentadiene	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Hexachloroethane	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Indeno(1,2,3-cd)pyrene	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Isophorone	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Naphthalene	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Nitrobenzene	ND	52		ug/Kg	1	10/09/25	KCA	SW8270E
N-Nitrosodimethylamine	ND	42		ug/Kg	1	10/09/25	KCA	SW8270E
N-Nitrosodi-n-propylamine	ND	42		ug/Kg	1	10/09/25	KCA	SW8270E
N-Nitrosodiphenylamine	ND	420		ug/Kg	1	10/09/25	KCA	SW8270E
Pentachlorophenol	ND	420		ug/Kg	1	10/09/25	KCA	SW8270E
Phenanthrene	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Phenol	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
Pyrene	ND	290		ug/Kg	1	10/09/25	KCA	SW8270E
QA/QC Surrogates								
% 2,4,6-Tribromophenol	82			%	1	10/09/25	KCA	30 - 130 %
% 2-Fluorobiphenyl	62			%	1	10/09/25	KCA	30 - 130 %
% 2-Fluorophenol	62			%	1	10/09/25	KCA	30 - 130 %
% Nitrobenzene-d5	71			%	1	10/09/25	KCA	30 - 130 %

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-17A-2

Phoenix I.D.: CU42004

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
% Phenol-d5	66			%	1	10/09/25	KCA	30 - 130 %
% Terphenyl-d14	60			%	1	10/09/25	KCA	30 - 130 %
1,2-Diphenylhydrazine	ND	84		ug/Kg	1	10/09/25	KCA	SW8270E
Aniline	ND	120		ug/Kg	1	10/09/25	KCA	SW8270E
Benzoic Acid	ND	420		ug/Kg	1	10/09/25	KCA	SW8270E
Benzyl Alcohol	ND	420		ug/Kg	1	10/09/25	KCA	SW8270E
Semivolatile Library Search	Completed					10/09/25	E	

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Corrosivity is based solely on the pH analysis performed above.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

Ignitability is based solely on the results of the closed cup flashpoint analysis performed above. Passed is >140 degree F.

Paint Filter Test:
Pass = no free liquids were detected. Fail = free liquids were detected.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Cyanide. This method is no longer listed in the current version of SW-846.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Sulfide. This method is no longer listed in the current version of SW-846.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Hexavalent Chromium:
This sample is in a reducing state.

Semi-Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
October 16, 2025
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

October 15, 2025

FOR: Attn: Joel Rogers
Factor Group Inc
42 Crest Dr
South Orange, NJ 07079-1039

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		10/02/25	13:45
Location Code:	FACTOR	Received by:	CP	10/03/25	19:28
Rush Request:	96 Hour	Analyzed by:	see "By" below		
P.O.#:	00379				

Laboratory Data

SDG ID: GCU42003
Phoenix ID: CU42005

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-17B

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.36	0.36		mg/Kg	1	10/07/25	CPP	SW6010D
Aluminum	4030	5.3		mg/Kg	1	10/07/25	CPP	SW6010D
Arsenic	3.15	0.71		mg/Kg	1	10/07/25	CPP	SW6010D
Barium	20.0	0.36		mg/Kg	1	10/07/25	CPP	SW6010D
Beryllium	0.28	0.28		mg/Kg	1	10/07/25	CPP	SW6010D
Boron	8.3	1.4		mg/Kg	1	10/07/25	CPP	SW6010D
Calcium	2330	5.3		mg/Kg	1	10/07/25	CPP	SW6010D
Cadmium	< 0.36	0.36		mg/Kg	1	10/07/25	TH	SW6010D
Cobalt	24.3	0.36		mg/Kg	1	10/07/25	CPP	SW6010D
Chromium	38.9	0.36		mg/Kg	1	10/07/25	CPP	SW6010D
Copper	19.6	0.7		mg/kg	1	10/07/25	CPP	SW6010D
Iron	18000	5.3		mg/Kg	1	10/07/25	CPP	SW6010D
Mercury	0.03	0.03		mg/Kg	2	10/06/25	aj1	SW7471B
Potassium	1090	53		mg/Kg	10	10/06/25	CPP	SW6010D
Magnesium	44600	53		mg/Kg	10	10/06/25	CPP	SW6010D
Manganese	245	0.36		mg/Kg	1	10/07/25	CPP	SW6010D
Molybdenum	< 0.36	0.36		mg/Kg	1	10/07/25	CPP	SW6010D
Sodium	421	5.3		mg/Kg	1	10/07/25	CPP	SW6010D
Nickel	479	3.6		mg/Kg	10	10/06/25	CPP	SW6010D
Lead	11.5	0.36		mg/Kg	1	10/07/25	CPP	SW6010D
Antimony	< 3.6	3.6		mg/Kg	1	10/07/25	CPP	SW6010D
Selenium	< 1.4	1.4		mg/Kg	1	10/07/25	CPP	SW6010D
TCLP Silver	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Arsenic	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Barium	0.39	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Cadmium	< 0.050	0.050		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Chromium	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Mercury	< 0.0002	0.0002		mg/L	1	10/06/25	AJ1	SW846 1311/7470

Ver 1

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-17B

Phoenix I.D.: CU42005

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
TCLP Lead	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010	
TCLP Selenium	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010D	
Thallium	< 2.2	2.2		mg/Kg	1	10/07/25	CPP	SW6010D	
TCLP Metals Digestion	Completed					10/06/25	AK/GW	SW3010A	
Trivalent Chromium	38.9	0.36		mg/kg	1	10/07/25		CALC 6010-7196	
Vanadium	16.3	0.36		mg/Kg	1	10/07/25	CPP	SW6010D	
Zinc	32.4	0.7		mg/Kg	1	10/07/25	CPP	SW6010D	
Percent Solid	90			%		10/03/25	H	SW846-%Solid	
Corrosivity	Negative			Pos/Neg	1	10/03/25	KG	SW846-Corr	1
Flash Point	>200	200		Degree F	1	10/06/25	G	SW1010B	
Fluoride	< 5.6	5.6		mg/Kg	10	10/04/25	DD/EG	SW9056A	
Chromium, Hex. (SW3060A digestion	< 0.41	0.41		mg/Kg	1	10/06/25	NP	SW7196A	
Ignitability	Passed	140		degree F	1	10/06/25	G	SW846-Ignit	1
Ammonia as Nitrogen	96.6	78.0		mg/Kg	1	10/09/25	KDB	E350.1	1
pH at 21C - Soil	8.75	1.00		pH Units	1	10/03/25 23:23	KG	SW846 9045D	
Reactivity Cyanide	< 5	5		mg/Kg	1	10/07/25	EG	SW846 7.3.3.1/90	1
Reactivity Sulfide	< 20	20		mg/Kg	1	10/07/25	EG	SW846 CH7	1
Reactivity	Negative			Pos/Neg	1	10/07/25	EG	SW846-React	1
Redox Potential	197			mV	1	10/03/25	KG	SM2580B-09	1
SPLP Chloride	2.0	1.0		mg/L	1	10/06/25	DD/EG	SW1312/300.0	
SPLP Sulfate	5.0	3.0		mg/L	1	10/06/25	DD/EG	SW1312/300.0	1
Total Cyanide (SW9010C Distill.)	< 0.56	0.56		mg/Kg	1	10/07/25	EG	SW9012B	
Mercury Digestion	Completed					10/04/25	GW/GW	SW7471B	
Soil Extraction for Herbicide	Completed					10/05/25	Y/D	SW3546	
NJ EPH Extraction	Completed					10/08/25	S/Z	NJDEP 10-08 R3	
Soil Extraction for PCB	Completed					10/08/25	C/Q	SW3546	
Soil Extraction for Pesticide	Completed					10/08/25	C/Q	SW3546	
Soil Extraction for SVOA	Completed					10/08/25	C/Q	SW3546	
Paint Filter Test	Passed			PASS/FAIL		10/03/25	O	SW9095B	
SPLP Extraction, Wet Chemistry	Completed					10/03/25	AK	SW1312	
TCLP Digestion Mercury	Completed					10/06/25	AK/GW	SW7470A	
TCLP Extraction for Metals	Completed					10/03/25	AK	SW1311	
Total Metals Digest	Completed					10/04/25	P/AG	SW3050B	
NJ EPH Category 2									
Total EPH (C9-C40)	ND	26	26	mg/kg	1	10/09/25	JRB	NJEPH 10-08 R3	1
QA/QC Surrogates									
% COD (surr)	60			%	1	10/09/25	JRB	40 - 140 %	
% Terphenyl (surr)	93			%	1	10/09/25	JRB	40 - 140 %	
Chlorinated Herbicides									
2,4,5-T	ND	140		ug/Kg	10	10/07/25	JRB	SW8151A	
2,4,5-TP (Silvex)	ND	140		ug/Kg	10	10/07/25	JRB	SW8151A	
2,4-D	ND	280		ug/Kg	10	10/07/25	JRB	SW8151A	
2,4-DB	ND	1400		ug/Kg	10	10/07/25	JRB	SW8151A	
Dalapon	ND	140		ug/Kg	10	10/07/25	JRB	SW8151A	
Dicamba	ND	140		ug/Kg	10	10/07/25	JRB	SW8151A	
Dichloroprop	ND	280		ug/Kg	10	10/07/25	JRB	SW8151A	
Dinoseb	ND	280		ug/Kg	10	10/07/25	JRB	SW8151A	

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-17B

Phoenix I.D.: CU42005

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates									
% DCAA	96			%	10	10/07/25	JRB	30 - 150 %	
% DCAA (Confirmation)	90			%	10	10/07/25	JRB	30 - 150 %	
Polychlorinated Biphenyls									
PCB-1016	ND	72		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1221	ND	72		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1232	ND	72		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1242	ND	72		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1248	ND	72		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1254	ND	72		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1260	ND	72		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1262	ND	72		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1268	ND	72		ug/Kg	2	10/09/25	SC	SW8082A	
Total PCBs	ND	72		ug/Kg	2	10/09/25	SC	SW8082A	1
QA/QC Surrogates									
% DCBP	69			%	2	10/09/25	SC	30 - 150 %	
% DCBP (Confirmation)	70			%	2	10/09/25	SC	30 - 150 %	
% TCMX	72			%	2	10/09/25	SC	30 - 150 %	
% TCMX (Confirmation)	70			%	2	10/09/25	SC	30 - 150 %	
Pesticides - Soil									
4,4' -DDD	ND	2.2		ug/Kg	2	10/09/25	AW	SW8081B	
4,4' -DDE	ND	2.2		ug/Kg	2	10/09/25	AW	SW8081B	
4,4' -DDT	ND	2.2		ug/Kg	2	10/09/25	AW	SW8081B	
a-BHC	ND	7.2		ug/Kg	2	10/09/25	AW	SW8081B	
a-Chlordane	ND	3.6		ug/Kg	2	10/09/25	AW	SW8081B	
Aldrin	ND	3.6		ug/Kg	2	10/09/25	AW	SW8081B	
b-BHC	ND	7.2		ug/Kg	2	10/09/25	AW	SW8081B	
Chlordane	ND	36		ug/Kg	2	10/09/25	AW	SW8081B	
d-BHC	ND	7.2		ug/Kg	2	10/09/25	AW	SW8081B	
Dieldrin	ND	3.6		ug/Kg	2	10/09/25	AW	SW8081B	
Endosulfan I	ND	7.2		ug/Kg	2	10/09/25	AW	SW8081B	
Endosulfan II	ND	7.2		ug/Kg	2	10/09/25	AW	SW8081B	
Endosulfan sulfate	ND	7.2		ug/Kg	2	10/09/25	AW	SW8081B	
Endrin	ND	7.2		ug/Kg	2	10/09/25	AW	SW8081B	
Endrin aldehyde	ND	7.2		ug/Kg	2	10/09/25	AW	SW8081B	
Endrin ketone	ND	7.2		ug/Kg	2	10/09/25	AW	SW8081B	
g-BHC	ND	1.4		ug/Kg	2	10/09/25	AW	SW8081B	
g-Chlordane	ND	3.6		ug/Kg	2	10/09/25	AW	SW8081B	
Heptachlor	ND	7.2		ug/Kg	2	10/09/25	AW	SW8081B	
Heptachlor epoxide	ND	7.2		ug/Kg	2	10/09/25	AW	SW8081B	
Methoxychlor	ND	36		ug/Kg	2	10/09/25	AW	SW8081B	
Toxaphene	ND	140		ug/Kg	2	10/09/25	AW	SW8081B	
QA/QC Surrogates									
% DCBP	76			%	2	10/09/25	AW	30 - 150 %	
% DCBP (Confirmation)	78			%	2	10/09/25	AW	30 - 150 %	
% TCMX	70			%	2	10/09/25	AW	30 - 150 %	
% TCMX (Confirmation)	69			%	2	10/09/25	AW	30 - 150 %	

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-17B

Phoenix I.D.: CU42005

Volatiles (TCL)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
1,1,1-Trichloroethane	ND	5.0		ug/kg	1	10/04/25	JLI	SW8260D
1,1,2,2-Tetrachloroethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,1,2-Trichloroethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,1-Dichloroethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,1-Dichloroethene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,2,3-Trichlorobenzene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,2,4-Trichlorobenzene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,2,4-Trimethylbenzene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dibromo-3-chloropropane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dibromoethane	ND	1.2		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dichlorobenzene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dichloroethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dichloropropane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,3,5-Trimethylbenzene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,3-Dichlorobenzene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,4-Dichlorobenzene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
2-Hexanone	ND	29		ug/kg	1	10/04/25	JLI	SW8260D
4-Methyl-2-pentanone	ND	29		ug/kg	1	10/04/25	JLI	SW8260D
Acetone	ND	50		ug/kg	1	10/04/25	JLI	SW8260D
Benzene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Bromochloromethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Bromodichloromethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Bromoform	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Bromomethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Carbon Disulfide	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Carbon tetrachloride	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Chlorobenzene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Chloroethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Chloroform	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Chloromethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
cis-1,2-Dichloroethene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
cis-1,3-Dichloropropene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Cyclohexane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Dibromochloromethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Dichlorodifluoromethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Ethylbenzene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Isopropylbenzene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
m&p-Xylene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Methyl ethyl ketone	ND	34		ug/kg	1	10/04/25	JLI	SW8260D
Methyl t-butyl ether (MTBE)	ND	11		ug/kg	1	10/04/25	JLI	SW8260D
Methylacetate	ND	57		ug/kg	1	10/04/25	JLI	SW8260D
Methylcyclohexane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Methylene chloride	ND	29		ug/kg	1	10/04/25	JLI	SW8260D
o-Xylene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Styrene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Tetrachloroethene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Toluene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Total Xylenes	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D	
trans-1,3-Dichloropropene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D	
Trichloroethene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D	
Trichlorofluoromethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D	
Trichlorotrifluoroethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D	
Vinyl chloride	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D	
QA/QC Surrogates									
% 1,2-dichlorobenzene-d4	98			%	1	10/04/25	JLI	70 - 130 %	
% Bromofluorobenzene	97			%	1	10/04/25	JLI	70 - 130 %	
% Dibromofluoromethane	104			%	1	10/04/25	JLI	70 - 130 %	
% Toluene-d8	98			%	1	10/04/25	JLI	70 - 130 %	
1,4-dioxane									
1,4-dioxane	ND	85		ug/kg	1	10/04/25	JLI	SW8260D	
Volatiles									
1,1,1,2-Tetrachloroethane	ND	23		ug/Kg	1	10/04/25	JLI	SW8260D	
Acrolein	ND	0.47		ug/Kg	1	10/04/25	JLI	SW8260D	
Acrylonitrile	ND	10		ug/Kg	1	10/04/25	JLI	SW8260D	
Tert-butyl alcohol	ND	110		ug/Kg	1	10/04/25	JLI	SW8260D	
Vinyl Acetate	ND	57		ug/Kg	1	10/04/25	JLI	SW8260D	
Volatile Library Search	Completed					10/06/25	JLI		
FACTOR GROUP 2	Completed					10/03/25			
Semivolatiles									
1,1-Biphenyl	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E	
1,2,4,5-Tetrachlorobenzene	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E	
2,2'-Oxybis(1-Chloropropane)	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E	1
2,3,4,6-tetrachlorophenol	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4,5-Trichlorophenol	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4,6-Trichlorophenol	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4-Dichlorophenol	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4-Dimethylphenol	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4-Dinitrophenol	ND	580		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4-Dinitrotoluene	ND	50		ug/Kg	1	10/09/25	KCA	SW8270E	
2,6-Dinitrotoluene	ND	72		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Chloronaphthalene	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Chlorophenol	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Methylnaphthalene	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Methylphenol (o-cresol)	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Nitroaniline	ND	72		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Nitrophenol	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E	
3&4-Methylphenol (m&p-cresol)	ND	330		ug/Kg	1	10/09/25	KCA	SW8270E	1
3,3'-Dichlorobenzidine	ND	430		ug/Kg	1	10/09/25	KCA	SW8270E	
3-Nitroaniline	ND	580		ug/Kg	1	10/09/25	KCA	SW8270E	
4,6-Dinitro-2-methylphenol	ND	210		ug/Kg	1	10/09/25	KCA	SW8270E	
4-Bromophenyl phenyl ether	ND	360		ug/Kg	1	10/09/25	KCA	SW8270E	
4-Chloro-3-methylphenol	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E	
4-Chloroaniline	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E	

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-17B

Phoenix I.D.: CU42005

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
4-Chlorophenyl phenyl ether	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
4-Nitroaniline	ND	490		ug/Kg	1	10/09/25	KCA	SW8270E
4-Nitrophenol	ND	1000		ug/Kg	1	10/09/25	KCA	SW8270E
Acenaphthene	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Acenaphthylene	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Acetophenone	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Anthracene	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Atrazine	ND	130		ug/Kg	1	10/09/25	KCA	SW8270E
Benz(a)anthracene	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Benzaldehyde	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Benzo(a)pyrene	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Benzo(b)fluoranthene	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Benzo(ghi)perylene	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Benzo(k)fluoranthene	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Benzyl butyl phthalate	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Bis(2-chloroethoxy)methane	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Bis(2-chloroethyl)ether	ND	36		ug/Kg	1	10/09/25	KCA	SW8270E
Bis(2-ethylhexyl)phthalate	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Caprolactam	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Carbazole	ND	360		ug/Kg	1	10/09/25	KCA	SW8270E
Chrysene	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Dibenz(a,h)anthracene	ND	180		ug/Kg	1	10/09/25	KCA	SW8270E
Dibenzofuran	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Diethyl phthalate	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Dimethylphthalate	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Di-n-butylphthalate	ND	720		ug/Kg	1	10/09/25	KCA	SW8270E
Di-n-octylphthalate	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Fluoranthene	360	250		ug/Kg	1	10/09/25	KCA	SW8270E
Fluorene	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Hexachlorobenzene	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Hexachlorobutadiene	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Hexachlorocyclopentadiene	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Hexachloroethane	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Indeno(1,2,3-cd)pyrene	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Isophorone	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Naphthalene	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Nitrobenzene	ND	52		ug/Kg	1	10/09/25	KCA	SW8270E
N-Nitrosodimethylamine	ND	36		ug/Kg	1	10/09/25	KCA	SW8270E
N-Nitrosodi-n-propylamine	ND	36		ug/Kg	1	10/09/25	KCA	SW8270E
N-Nitrosodiphenylamine	ND	360		ug/Kg	1	10/09/25	KCA	SW8270E
Pentachlorophenol	ND	360		ug/Kg	1	10/09/25	KCA	SW8270E
Phenanthrene	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Phenol	ND	250		ug/Kg	1	10/09/25	KCA	SW8270E
Pyrene	320	250		ug/Kg	1	10/09/25	KCA	SW8270E
QA/QC Surrogates								
% 2,4,6-Tribromophenol	105			%	1	10/09/25	KCA	30 - 130 %
% 2-Fluorobiphenyl	71			%	1	10/09/25	KCA	30 - 130 %
% 2-Fluorophenol	70			%	1	10/09/25	KCA	30 - 130 %
% Nitrobenzene-d5	76			%	1	10/09/25	KCA	30 - 130 %

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-17B

Phoenix I.D.: CU42005

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
% Phenol-d5	71			%	1	10/09/25	KCA	30 - 130 %
% Terphenyl-d14	73			%	1	10/09/25	KCA	30 - 130 %
1,2-Diphenylhydrazine	ND	72		ug/Kg	1	10/09/25	KCA	SW8270E
Aniline	ND	120		ug/Kg	1	10/09/25	KCA	SW8270E
Benzoic Acid	ND	360		ug/Kg	1	10/09/25	KCA	SW8270E
Benzyl Alcohol	ND	360		ug/Kg	1	10/09/25	KCA	SW8270E
Semivolatile Library Search	Completed					10/09/25	E	

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Corrosivity is based solely on the pH analysis performed above.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

Ignitability is based solely on the results of the closed cup flashpoint analysis performed above. Passed is >140 degree F.

Paint Filter Test:
Pass = no free liquids were detected. Fail = free liquids were detected.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Cyanide. This method is no longer listed in the current version of SW-846.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Sulfide. This method is no longer listed in the current version of SW-846.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Hexavalent Chromium:
This sample is in a reducing state.

Semi-Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 16, 2025
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

October 15, 2025

FOR: Attn: Joel Rogers
Factor Group Inc
42 Crest Dr
South Orange, NJ 07079-1039

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		10/02/25	11:50
Location Code:	FACTOR	Received by:	CP	10/03/25	19:28
Rush Request:	96 Hour	Analyzed by:	see "By" below		
P.O.#:	00379				

Laboratory Data

SDG ID: GCU42003
Phoenix ID: CU42006

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-18-1

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.39	0.39		mg/Kg	1	10/07/25	CPP	SW6010D
Aluminum	5140	5.8		mg/Kg	1	10/07/25	CPP	SW6010D
Arsenic	7.09	0.77		mg/Kg	1	10/07/25	CPP	SW6010D
Barium	197	0.39		mg/Kg	1	10/07/25	CPP	SW6010D
Beryllium	0.43	0.31		mg/Kg	1	10/07/25	CPP	SW6010D
Boron	5.2	1.5		mg/Kg	1	10/07/25	CPP	SW6010D
Calcium	6270	5.8		mg/Kg	1	10/07/25	CPP	SW6010D
Cadmium	< 0.39	0.39		mg/Kg	1	10/07/25	TH	SW6010D
Cobalt	7.07	0.39		mg/Kg	1	10/07/25	CPP	SW6010D
Chromium	16.3	0.39		mg/Kg	1	10/07/25	CPP	SW6010D
Copper	37.7	0.8		mg/kg	1	10/07/25	CPP	SW6010D
Iron	15800	5.8		mg/Kg	1	10/07/25	CPP	SW6010D
Mercury	0.28	0.03		mg/Kg	2	10/06/25	aj1	SW7471B
Potassium	1380	58		mg/Kg	10	10/06/25	CPP	SW6010D
Magnesium	3060	5.8		mg/Kg	1	10/07/25	CPP	SW6010D
Manganese	248	0.39		mg/Kg	1	10/07/25	CPP	SW6010D
Molybdenum	0.76	0.39		mg/Kg	1	10/07/25	CPP	SW6010D
Sodium	572	5.8		mg/Kg	1	10/07/25	CPP	SW6010D
Nickel	28.0	0.39		mg/Kg	1	10/07/25	CPP	SW6010D
Lead	77.7	0.39		mg/Kg	1	10/07/25	CPP	SW6010D
Antimony	< 3.9	3.9		mg/Kg	1	10/07/25	CPP	SW6010D
Selenium	< 1.5	1.5		mg/Kg	1	10/07/25	CPP	SW6010D
TCLP Silver	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Arsenic	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Barium	0.92	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Cadmium	< 0.050	0.050		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Chromium	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Mercury	< 0.0002	0.0002		mg/L	1	10/06/25	AJ1	SW846 1311/7470

Ver 1

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-18-1

Phoenix I.D.: CU42006

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
TCLP Lead	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010	
TCLP Selenium	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010D	
Thallium	< 2.2	2.2		mg/Kg	1	10/07/25	CPP	SW6010D	
TCLP Metals Digestion	Completed					10/06/25	AK/GW	SW3010A	
Trivalent Chromium	16.3	0.39		mg/kg	1	10/07/25		CALC 6010-7196	
Vanadium	19.9	0.39		mg/Kg	1	10/07/25	CPP	SW6010D	
Zinc	54.4	0.8		mg/Kg	1	10/07/25	CPP	SW6010D	
Percent Solid	90			%		10/03/25	H	SW846-%Solid	
Corrosivity	Negative			Pos/Neg	1	10/03/25	KG	SW846-Corr	1
Flash Point	>200	200		Degree F	1	10/06/25	G	SW1010B	
Fluoride	< 5.6	5.6		mg/Kg	10	10/04/25	DD/EG	SW9056A	
Chromium, Hex. (SW3060A digestion	< 0.41	0.41		mg/Kg	1	10/06/25	NP	SW7196A	
Ignitability	Passed	140		degree F	1	10/06/25	G	SW846-Ignit	1
Ammonia as Nitrogen	194	82.2		mg/Kg	1	10/09/25	KDB	E350.1	1
pH at 21C - Soil	8.19	1.00		pH Units	1	10/03/25 23:23	KG	SW846 9045D	
Reactivity Cyanide	< 6	6		mg/Kg	1	10/07/25	EG	SW846 7.3.3.1/90	1
Reactivity Sulfide	< 20	20		mg/Kg	1	10/07/25	EG	SW846 CH7	1
Reactivity	Negative			Pos/Neg	1	10/07/25	EG	SW846-React	1
Redox Potential	235			mV	1	10/03/25	KG	SM2580B-09	1
SPLP Chloride	27.3	1.0		mg/L	1	10/06/25	DD/EG	SW1312/300.0	
SPLP Sulfate	8.1	3.0		mg/L	1	10/06/25	DD/EG	SW1312/300.0	1
Total Cyanide (SW9010C Distill.)	< 0.56	0.56		mg/Kg	1	10/07/25	EG	SW9012B	
Mercury Digestion	Completed					10/04/25	GW/GW	SW7471B	
Soil Extraction for Herbicide	Completed					10/05/25	Y/D	SW3546	
NJ EPH Extraction	Completed					10/08/25	S/Z	NJDEP 10-08 R3	
Soil Extraction for PCB	Completed					10/08/25	C/Q	SW3546	
Soil Extraction for Pesticide	Completed					10/08/25	C/Q	SW3546	
Soil Extraction for SVOA	Completed					10/08/25	C/Q	SW3546	
Paint Filter Test	Passed			PASS/FAIL		10/03/25	O	SW9095B	
SPLP Extraction, Wet Chemistry	Completed					10/03/25	AK	SW1312	
TCLP Digestion Mercury	Completed					10/06/25	AK/GW	SW7470A	
TCLP Extraction for Metals	Completed					10/03/25	AK	SW1311	
Total Metals Digest	Completed					10/04/25	P/AG	SW3050B	
NJ EPH Category 2									
Total EPH (C9-C40)	ND	130	130	mg/kg	5	10/09/25	JRB	NJEPH 10-08 R3	1
QA/QC Surrogates									
% COD (surr)	Interference			%	5	10/09/25	JRB	40 - 140 %	
% Terphenyl (surr)	63			%	5	10/09/25	JRB	40 - 140 %	
Chlorinated Herbicides									
2,4,5-T	ND	140		ug/Kg	10	10/07/25	JRB	SW8151A	
2,4,5-TP (Silvex)	ND	140		ug/Kg	10	10/07/25	JRB	SW8151A	
2,4-D	ND	280		ug/Kg	10	10/07/25	JRB	SW8151A	
2,4-DB	ND	1400		ug/Kg	10	10/07/25	JRB	SW8151A	
Dalapon	ND	140		ug/Kg	10	10/07/25	JRB	SW8151A	
Dicamba	ND	140		ug/Kg	10	10/07/25	JRB	SW8151A	
Dichloroprop	ND	280		ug/Kg	10	10/07/25	JRB	SW8151A	
Dinoseb	ND	280		ug/Kg	10	10/07/25	JRB	SW8151A	

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-18-1

Phoenix I.D.: CU42006

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates									
% DCAA	92			%	10	10/07/25	JRB	30 - 150 %	
% DCAA (Confirmation)	84			%	10	10/07/25	JRB	30 - 150 %	
Polychlorinated Biphenyls									
PCB-1016	ND	74		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1221	ND	74		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1232	ND	74		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1242	ND	74		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1248	ND	74		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1254	ND	74		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1260	ND	74		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1262	ND	74		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1268	ND	74		ug/Kg	2	10/09/25	SC	SW8082A	
Total PCBs	ND	74		ug/Kg	2	10/09/25	SC	SW8082A	1
QA/QC Surrogates									
% DCBP	73			%	2	10/09/25	SC	30 - 150 %	
% DCBP (Confirmation)	70			%	2	10/09/25	SC	30 - 150 %	
% TCMX	73			%	2	10/09/25	SC	30 - 150 %	
% TCMX (Confirmation)	68			%	2	10/09/25	SC	30 - 150 %	
Pesticides - Soil									
4,4' -DDD	ND	2.2		ug/Kg	2	10/09/25	AW	SW8081B	
4,4' -DDE	ND	2.2		ug/Kg	2	10/09/25	AW	SW8081B	
4,4' -DDT	ND	2.2		ug/Kg	2	10/09/25	AW	SW8081B	
a-BHC	ND	7.4		ug/Kg	2	10/09/25	AW	SW8081B	
a-Chlordane	11	3.7		ug/Kg	2	10/09/25	AW	SW8081B	
Aldrin	ND	3.7		ug/Kg	2	10/09/25	AW	SW8081B	
b-BHC	ND	7.4		ug/Kg	2	10/09/25	AW	SW8081B	
Chlordane	44	37		ug/Kg	2	10/09/25	AW	SW8081B	
d-BHC	ND	7.4		ug/Kg	2	10/09/25	AW	SW8081B	
Dieldrin	ND	3.7		ug/Kg	2	10/09/25	AW	SW8081B	
Endosulfan I	ND	7.4		ug/Kg	2	10/09/25	AW	SW8081B	
Endosulfan II	ND	7.4		ug/Kg	2	10/09/25	AW	SW8081B	
Endosulfan sulfate	ND	7.4		ug/Kg	2	10/09/25	AW	SW8081B	
Endrin	ND	7.4		ug/Kg	2	10/09/25	AW	SW8081B	
Endrin aldehyde	ND	7.4		ug/Kg	2	10/09/25	AW	SW8081B	
Endrin ketone	ND	7.4		ug/Kg	2	10/09/25	AW	SW8081B	
g-BHC	ND	1.5		ug/Kg	2	10/09/25	AW	SW8081B	
g-Chlordane	6.0	3.7		ug/Kg	2	10/09/25	AW	SW8081B	
Heptachlor	ND	7.4		ug/Kg	2	10/09/25	AW	SW8081B	
Heptachlor epoxide	ND	7.4		ug/Kg	2	10/09/25	AW	SW8081B	
Methoxychlor	ND	37		ug/Kg	2	10/09/25	AW	SW8081B	
Toxaphene	ND	150		ug/Kg	2	10/09/25	AW	SW8081B	
QA/QC Surrogates									
% DCBP	77			%	2	10/09/25	AW	30 - 150 %	
% DCBP (Confirmation)	84			%	2	10/09/25	AW	30 - 150 %	
% TCMX	70			%	2	10/09/25	AW	30 - 150 %	
% TCMX (Confirmation)	67			%	2	10/09/25	AW	30 - 150 %	

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-18-1

Phoenix I.D.: CU42006

Volatiles (TCL)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
1,1,1-Trichloroethane	ND	5.0		ug/kg	1	10/04/25	JLI	SW8260D
1,1,2,2-Tetrachloroethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,1,2-Trichloroethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,1-Dichloroethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,1-Dichloroethene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,2,3-Trichlorobenzene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,2,4-Trichlorobenzene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,2,4-Trimethylbenzene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dibromo-3-chloropropane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dibromoethane	ND	1.2		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dichlorobenzene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dichloroethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dichloropropane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,3,5-Trimethylbenzene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,3-Dichlorobenzene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
1,4-Dichlorobenzene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
2-Hexanone	ND	28		ug/kg	1	10/04/25	JLI	SW8260D
4-Methyl-2-pentanone	ND	28		ug/kg	1	10/04/25	JLI	SW8260D
Acetone	ND	50		ug/kg	1	10/04/25	JLI	SW8260D
Benzene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Bromochloromethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Bromodichloromethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Bromoform	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Bromomethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Carbon Disulfide	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Carbon tetrachloride	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Chlorobenzene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Chloroethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Chloroform	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Chloromethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
cis-1,2-Dichloroethene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
cis-1,3-Dichloropropene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Cyclohexane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Dibromochloromethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Dichlorodifluoromethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Ethylbenzene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Isopropylbenzene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
m&p-Xylene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Methyl ethyl ketone	ND	34		ug/kg	1	10/04/25	JLI	SW8260D
Methyl t-butyl ether (MTBE)	ND	11		ug/kg	1	10/04/25	JLI	SW8260D
Methylacetate	ND	57		ug/kg	1	10/04/25	JLI	SW8260D
Methylcyclohexane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Methylene chloride	ND	28		ug/kg	1	10/04/25	JLI	SW8260D
o-Xylene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Styrene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Tetrachloroethene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Toluene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D
Total Xylenes	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D	
trans-1,3-Dichloropropene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D	
Trichloroethene	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D	
Trichlorofluoromethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D	
Trichlorotrifluoroethane	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D	
Vinyl chloride	ND	5.7		ug/kg	1	10/04/25	JLI	SW8260D	
QA/QC Surrogates									
% 1,2-dichlorobenzene-d4	100			%	1	10/04/25	JLI	70 - 130 %	
% Bromofluorobenzene	99			%	1	10/04/25	JLI	70 - 130 %	
% Dibromofluoromethane	101			%	1	10/04/25	JLI	70 - 130 %	
% Toluene-d8	98			%	1	10/04/25	JLI	70 - 130 %	
1,4-dioxane									
1,4-dioxane	ND	85		ug/kg	1	10/04/25	JLI	SW8260D	
Volatiles									
1,1,1,2-Tetrachloroethane	ND	23		ug/Kg	1	10/04/25	JLI	SW8260D	
Acrolein	ND	0.47		ug/Kg	1	10/04/25	JLI	SW8260D	
Acrylonitrile	ND	10		ug/Kg	1	10/04/25	JLI	SW8260D	
Tert-butyl alcohol	ND	110		ug/Kg	1	10/04/25	JLI	SW8260D	
Vinyl Acetate	ND	57		ug/Kg	1	10/04/25	JLI	SW8260D	
Volatile Library Search	Completed					10/06/25	JLI		
FACTOR GROUP 2	Completed					10/03/25			
Semivolatiles									
1,1-Biphenyl	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E	
1,2,4,5-Tetrachlorobenzene	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E	
2,2'-Oxybis(1-Chloropropane)	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E	1
2,3,4,6-tetrachlorophenol	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4,5-Trichlorophenol	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4,6-Trichlorophenol	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4-Dichlorophenol	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4-Dimethylphenol	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4-Dinitrophenol	ND	580		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4-Dinitrotoluene	ND	50		ug/Kg	1	10/09/25	KCA	SW8270E	
2,6-Dinitrotoluene	ND	73		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Chloronaphthalene	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Chlorophenol	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Methylnaphthalene	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Methylphenol (o-cresol)	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Nitroaniline	ND	73		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Nitrophenol	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E	
3&4-Methylphenol (m&p-cresol)	ND	330		ug/Kg	1	10/09/25	KCA	SW8270E	1
3,3'-Dichlorobenzidine	ND	440		ug/Kg	1	10/09/25	KCA	SW8270E	
3-Nitroaniline	ND	580		ug/Kg	1	10/09/25	KCA	SW8270E	
4,6-Dinitro-2-methylphenol	ND	210		ug/Kg	1	10/09/25	KCA	SW8270E	
4-Bromophenyl phenyl ether	ND	370		ug/Kg	1	10/09/25	KCA	SW8270E	
4-Chloro-3-methylphenol	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E	
4-Chloroaniline	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E	

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-18-1

Phoenix I.D.: CU42006

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
4-Chlorophenyl phenyl ether	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
4-Nitroaniline	ND	490		ug/Kg	1	10/09/25	KCA	SW8270E
4-Nitrophenol	ND	1100		ug/Kg	1	10/09/25	KCA	SW8270E
Acenaphthene	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Acenaphthylene	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Acetophenone	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Anthracene	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Atrazine	ND	130		ug/Kg	1	10/09/25	KCA	SW8270E
Benz(a)anthracene	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Benzaldehyde	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Benzo(a)pyrene	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Benzo(b)fluoranthene	260	260		ug/Kg	1	10/09/25	KCA	SW8270E
Benzo(ghi)perylene	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Benzo(k)fluoranthene	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Benzyl butyl phthalate	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Bis(2-chloroethoxy)methane	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Bis(2-chloroethyl)ether	ND	37		ug/Kg	1	10/09/25	KCA	SW8270E
Bis(2-ethylhexyl)phthalate	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Caprolactam	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Carbazole	ND	370		ug/Kg	1	10/09/25	KCA	SW8270E
Chrysene	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Dibenz(a,h)anthracene	ND	180		ug/Kg	1	10/09/25	KCA	SW8270E
Dibenzofuran	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Diethyl phthalate	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Dimethylphthalate	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Di-n-butylphthalate	ND	730		ug/Kg	1	10/09/25	KCA	SW8270E
Di-n-octylphthalate	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Fluoranthene	310	260		ug/Kg	1	10/09/25	KCA	SW8270E
Fluorene	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Hexachlorobenzene	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Hexachlorobutadiene	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Hexachlorocyclopentadiene	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Hexachloroethane	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Indeno(1,2,3-cd)pyrene	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Isophorone	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Naphthalene	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Nitrobenzene	ND	52		ug/Kg	1	10/09/25	KCA	SW8270E
N-Nitrosodimethylamine	ND	37		ug/Kg	1	10/09/25	KCA	SW8270E
N-Nitrosodi-n-propylamine	ND	37		ug/Kg	1	10/09/25	KCA	SW8270E
N-Nitrosodiphenylamine	ND	370		ug/Kg	1	10/09/25	KCA	SW8270E
Pentachlorophenol	ND	370		ug/Kg	1	10/09/25	KCA	SW8270E
Phenanthrene	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Phenol	ND	260		ug/Kg	1	10/09/25	KCA	SW8270E
Pyrene	300	260		ug/Kg	1	10/09/25	KCA	SW8270E
QA/QC Surrogates								
% 2,4,6-Tribromophenol	95			%	1	10/09/25	KCA	30 - 130 %
% 2-Fluorobiphenyl	69			%	1	10/09/25	KCA	30 - 130 %
% 2-Fluorophenol	68			%	1	10/09/25	KCA	30 - 130 %
% Nitrobenzene-d5	74			%	1	10/09/25	KCA	30 - 130 %

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-18-1

Phoenix I.D.: CU42006

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
% Phenol-d5	70			%	1	10/09/25	KCA	30 - 130 %
% Terphenyl-d14	69			%	1	10/09/25	KCA	30 - 130 %
1,2-Diphenylhydrazine	ND	73		ug/Kg	1	10/09/25	KCA	SW8270E
Aniline	ND	120		ug/Kg	1	10/09/25	KCA	SW8270E
Benzoic Acid	ND	370		ug/Kg	1	10/09/25	KCA	SW8270E
Benzyl Alcohol	ND	370		ug/Kg	1	10/09/25	KCA	SW8270E
Semivolatile Library Search	Completed					10/09/25	E	

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Corrosivity is based solely on the pH analysis performed above.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

Ignitability is based solely on the results of the closed cup flashpoint analysis performed above. Passed is >140 degree F.

Paint Filter Test:
Pass = no free liquids were detected. Fail = free liquids were detected.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Cyanide. This method is no longer listed in the current version of SW-846.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Sulfide. This method is no longer listed in the current version of SW-846.

Hexavalent Chromium:
This sample is in a reducing state.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Semi-Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
October 16, 2025
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

October 15, 2025

FOR: Attn: Joel Rogers
Factor Group Inc
42 Crest Dr
South Orange, NJ 07079-1039

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		10/02/25	13:00
Location Code:	FACTOR	Received by:	CP	10/03/25	19:28
Rush Request:	96 Hour	Analyzed by:	see "By" below		
P.O.#:	00379				

Laboratory Data

SDG ID: GCU42003
Phoenix ID: CU42007

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-18-2

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.47	0.47		mg/Kg	1	10/07/25	CPP	SW6010D
Aluminum	5290	7.0		mg/Kg	1	10/07/25	CPP	SW6010D
Arsenic	4.60	0.94		mg/Kg	1	10/07/25	CPP	SW6010D
Barium	38.1	0.47		mg/Kg	1	10/07/25	CPP	SW6010D
Beryllium	0.52	0.38		mg/Kg	1	10/07/25	CPP	SW6010D
Boron	4.3	1.9		mg/Kg	1	10/07/25	CPP	SW6010D
Calcium	4010	7.0		mg/Kg	1	10/07/25	CPP	SW6010D
Cadmium	< 0.47	0.47		mg/Kg	1	10/07/25	TH	SW6010D
Cobalt	7.44	0.47		mg/Kg	1	10/07/25	CPP	SW6010D
Chromium	16.3	0.47		mg/Kg	1	10/07/25	CPP	SW6010D
Copper	34.5	0.9		mg/kg	1	10/07/25	CPP	SW6010D
Iron	15100	7.0		mg/Kg	1	10/07/25	CPP	SW6010D
Mercury	0.07	0.03		mg/Kg	2	10/06/25	AJ1	SW7471B
Potassium	1700	70		mg/Kg	10	10/06/25	CPP	SW6010D
Magnesium	6750	7.0		mg/Kg	1	10/07/25	CPP	SW6010D
Manganese	412	0.47		mg/Kg	1	10/07/25	CPP	SW6010D
Molybdenum	< 0.47	0.47		mg/Kg	1	10/07/25	CPP	SW6010D
Sodium	329	7.0		mg/Kg	1	10/07/25	CPP	SW6010D
Nickel	50.3	0.47		mg/Kg	1	10/07/25	CPP	SW6010D
Lead	36.1	0.47		mg/Kg	1	10/07/25	CPP	SW6010D
Antimony	< 4.7	4.7		mg/Kg	1	10/07/25	CPP	SW6010D
Selenium	< 1.9	1.9		mg/Kg	1	10/07/25	CPP	SW6010D
TCLP Silver	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Arsenic	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Barium	0.51	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Cadmium	< 0.050	0.050		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Chromium	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Mercury	< 0.0002	0.0002		mg/L	1	10/06/25	AJ1	SW846 1311/7470

Ver 1

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-18-2

Phoenix I.D.: CU42007

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
TCLP Lead	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010	
TCLP Selenium	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010D	
Thallium	< 2.2	2.2		mg/Kg	1	10/07/25	CPP	SW6010D	
TCLP Metals Digestion	Completed					10/06/25	AK/GW	SW3010A	
Trivalent Chromium	16.3	0.47		mg/kg	1	10/07/25		CALC 6010-7196	
Vanadium	21.6	0.47		mg/Kg	1	10/07/25	CPP	SW6010D	
Zinc	73.8	0.9		mg/Kg	1	10/07/25	CPP	SW6010D	
Percent Solid	75			%		10/03/25	H	SW846-%Solid	
Corrosivity	Negative			Pos/Neg	1	10/03/25	KG	SW846-Corr	1
Flash Point	>200	200		Degree F	1	10/06/25	G	SW1010B	
Fluoride	< 6.7	6.7		mg/Kg	10	10/04/25	DD/EG	SW9056A	
Chromium, Hex. (SW3060A digestion	< 0.50	0.50		mg/Kg	1	10/06/25	NP	SW7196A	
Ignitability	Passed	140		degree F	1	10/06/25	G	SW846-Ignit	1
Ammonia as Nitrogen	< 82.9	82.9		mg/Kg	1	10/09/25	KDB	E350.1	1
pH at 21C - Soil	8.10	1.00		pH Units	1	10/03/25 23:23	KG	SW846 9045D	
Reactivity Cyanide	< 7	7		mg/Kg	1	10/07/25	EG	SW846 7.3.3.1/90	1
Reactivity Sulfide	< 20	20		mg/Kg	1	10/07/25	EG	SW846 CH7	1
Reactivity	Negative			Pos/Neg	1	10/07/25	EG	SW846-React	1
Redox Potential	228			mV	1	10/03/25	KG	SM2580B-09	1
SPLP Chloride	21.6	1.0		mg/L	1	10/06/25	DD/EG	SW1312/300.0	
SPLP Sulfate	6.8	3.0		mg/L	1	10/06/25	DD/EG	SW1312/300.0	1
Total Cyanide (SW9010C Distill.)	< 0.67	0.67		mg/Kg	1	10/07/25	EG	SW9012B	
Mercury Digestion	Completed					10/04/25	GW/GW	SW7471B	
Soil Extraction for Herbicide	Completed					10/05/25	Y/D	SW3546	
NJ EPH Extraction	Completed					10/08/25	S/Z	NJDEP 10-08 R3	
Soil Extraction for PCB	Completed					10/08/25	C/Q	SW3546	
Soil Extraction for Pesticide	Completed					10/08/25	C/Q	SW3546	
Soil Extraction for SVOA	Completed					10/08/25	C/Q	SW3546	
Paint Filter Test	Passed			PASS/FAIL		10/03/25	O	SW9095B	
SPLP Extraction, Wet Chemistry	Completed					10/03/25	AK	SW1312	
TCLP Digestion Mercury	Completed					10/06/25	AK/GW	SW7470A	
TCLP Extraction for Metals	Completed					10/03/25	AK	SW1311	
Total Metals Digest	Completed					10/04/25	P/AG	SW3050B	
NJ EPH Category 2									
Total EPH (C9-C40)	ND	32	32	mg/kg	1	10/09/25	JRB	NJEPH 10-08 R3	1
QA/QC Surrogates									
% COD (surr)	60			%	1	10/09/25	JRB	40 - 140 %	
% Terphenyl (surr)	94			%	1	10/09/25	JRB	40 - 140 %	
Chlorinated Herbicides									
2,4,5-T	ND	160		ug/Kg	10	10/07/25	JRB	SW8151A	
2,4,5-TP (Silvex)	ND	160		ug/Kg	10	10/07/25	JRB	SW8151A	
2,4-D	ND	330		ug/Kg	10	10/07/25	JRB	SW8151A	
2,4-DB	ND	1600		ug/Kg	10	10/07/25	JRB	SW8151A	
Dalapon	ND	160		ug/Kg	10	10/07/25	JRB	SW8151A	
Dicamba	ND	160		ug/Kg	10	10/07/25	JRB	SW8151A	
Dichloroprop	ND	330		ug/Kg	10	10/07/25	JRB	SW8151A	
Dinoseb	ND	160		ug/Kg	10	10/07/25	JRB	SW8151A	

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-18-2

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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates									
% DCAA	88			%	10	10/07/25	JRB	30 - 150 %	
% DCAA (Confirmation)	84			%	10	10/07/25	JRB	30 - 150 %	
Polychlorinated Biphenyls									
PCB-1016	ND	87		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1221	ND	87		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1232	ND	87		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1242	ND	87		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1248	ND	87		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1254	ND	87		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1260	ND	87		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1262	ND	87		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1268	ND	87		ug/Kg	2	10/09/25	SC	SW8082A	
Total PCBs	ND	87		ug/Kg	2	10/09/25	SC	SW8082A	1
QA/QC Surrogates									
% DCBP	70			%	2	10/09/25	SC	30 - 150 %	
% DCBP (Confirmation)	78			%	2	10/09/25	SC	30 - 150 %	
% TCMX	70			%	2	10/09/25	SC	30 - 150 %	
% TCMX (Confirmation)	68			%	2	10/09/25	SC	30 - 150 %	
Pesticides - Soil									
4,4' -DDD	ND	2.6		ug/Kg	2	10/09/25	AW	SW8081B	
4,4' -DDE	ND	2.6		ug/Kg	2	10/09/25	AW	SW8081B	
4,4' -DDT	ND	2.6		ug/Kg	2	10/09/25	AW	SW8081B	
a-BHC	ND	8.7		ug/Kg	2	10/09/25	AW	SW8081B	
a-Chlordane	ND	4.4		ug/Kg	2	10/09/25	AW	SW8081B	
Aldrin	ND	4.4		ug/Kg	2	10/09/25	AW	SW8081B	
b-BHC	ND	8.7		ug/Kg	2	10/09/25	AW	SW8081B	
Chlordane	ND	44		ug/Kg	2	10/09/25	AW	SW8081B	
d-BHC	ND	8.7		ug/Kg	2	10/09/25	AW	SW8081B	
Dieldrin	ND	4.4		ug/Kg	2	10/09/25	AW	SW8081B	
Endosulfan I	ND	8.7		ug/Kg	2	10/09/25	AW	SW8081B	
Endosulfan II	ND	8.7		ug/Kg	2	10/09/25	AW	SW8081B	
Endosulfan sulfate	ND	8.7		ug/Kg	2	10/09/25	AW	SW8081B	
Endrin	ND	8.7		ug/Kg	2	10/09/25	AW	SW8081B	
Endrin aldehyde	ND	8.7		ug/Kg	2	10/09/25	AW	SW8081B	
Endrin ketone	ND	8.7		ug/Kg	2	10/09/25	AW	SW8081B	
g-BHC	ND	1.7		ug/Kg	2	10/09/25	AW	SW8081B	
g-Chlordane	ND	4.4		ug/Kg	2	10/09/25	AW	SW8081B	
Heptachlor	ND	8.7		ug/Kg	2	10/09/25	AW	SW8081B	
Heptachlor epoxide	ND	8.7		ug/Kg	2	10/09/25	AW	SW8081B	
Methoxychlor	ND	44		ug/Kg	2	10/09/25	AW	SW8081B	
Toxaphene	ND	170		ug/Kg	2	10/09/25	AW	SW8081B	
QA/QC Surrogates									
% DCBP	77			%	2	10/09/25	AW	30 - 150 %	
% DCBP (Confirmation)	73			%	2	10/09/25	AW	30 - 150 %	
% TCMX	71			%	2	10/09/25	AW	30 - 150 %	
% TCMX (Confirmation)	66			%	2	10/09/25	AW	30 - 150 %	

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-18-2

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Volatiles (TCL)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
1,1,1-Trichloroethane	ND	5.0		ug/kg	1	10/04/25	JLI	SW8260D
1,1,2,2-Tetrachloroethane	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
1,1,2-Trichloroethane	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
1,1-Dichloroethane	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
1,1-Dichloroethene	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
1,2,3-Trichlorobenzene	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
1,2,4-Trichlorobenzene	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
1,2,4-Trimethylbenzene	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dibromo-3-chloropropane	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dibromoethane	ND	1.2		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dichlorobenzene	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dichloroethane	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dichloropropane	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
1,3,5-Trimethylbenzene	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
1,3-Dichlorobenzene	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
1,4-Dichlorobenzene	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
2-Hexanone	ND	30		ug/kg	1	10/04/25	JLI	SW8260D
4-Methyl-2-pentanone	ND	30		ug/kg	1	10/04/25	JLI	SW8260D
Acetone	ND	50		ug/kg	1	10/04/25	JLI	SW8260D
Benzene	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
Bromochloromethane	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
Bromodichloromethane	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
Bromoform	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
Bromomethane	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
Carbon Disulfide	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
Carbon tetrachloride	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
Chlorobenzene	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
Chloroethane	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
Chloroform	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
Chloromethane	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
cis-1,2-Dichloroethene	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
cis-1,3-Dichloropropene	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
Cyclohexane	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
Dibromochloromethane	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
Dichlorodifluoromethane	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
Ethylbenzene	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
Isopropylbenzene	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
m&p-Xylene	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
Methyl ethyl ketone	ND	36		ug/kg	1	10/04/25	JLI	SW8260D
Methyl t-butyl ether (MTBE)	ND	12		ug/kg	1	10/04/25	JLI	SW8260D
Methylacetate	ND	59		ug/kg	1	10/04/25	JLI	SW8260D
Methylcyclohexane	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
Methylene chloride	ND	30		ug/kg	1	10/04/25	JLI	SW8260D
o-Xylene	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
Styrene	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
Tetrachloroethene	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
Toluene	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D
Total Xylenes	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D	
trans-1,3-Dichloropropene	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D	
Trichloroethene	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D	
Trichlorofluoromethane	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D	
Trichlorotrifluoroethane	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D	
Vinyl chloride	ND	5.9		ug/kg	1	10/04/25	JLI	SW8260D	
QA/QC Surrogates									
% 1,2-dichlorobenzene-d4	101			%	1	10/04/25	JLI	70 - 130 %	
% Bromofluorobenzene	96			%	1	10/04/25	JLI	70 - 130 %	
% Dibromofluoromethane	100			%	1	10/04/25	JLI	70 - 130 %	
% Toluene-d8	100			%	1	10/04/25	JLI	70 - 130 %	
1,4-dioxane									
1,4-dioxane	ND	85		ug/kg	1	10/04/25	JLI	SW8260D	
Volatiles									
1,1,1,2-Tetrachloroethane	ND	24		ug/Kg	1	10/04/25	JLI	SW8260D	
Acrolein	ND	0.47		ug/Kg	1	10/04/25	JLI	SW8260D	
Acrylonitrile	ND	10		ug/Kg	1	10/04/25	JLI	SW8260D	
Tert-butyl alcohol	ND	120		ug/Kg	1	10/04/25	JLI	SW8260D	
Vinyl Acetate	ND	59		ug/Kg	1	10/04/25	JLI	SW8260D	
Volatile Library Search	Completed					10/06/25	JLI		
FACTOR GROUP 2	Completed					10/03/25			
Semivolatiles									
1,1-Biphenyl	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E	
1,2,4,5-Tetrachlorobenzene	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E	
2,2'-Oxybis(1-Chloropropane)	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E	1
2,3,4,6-tetrachlorophenol	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4,5-Trichlorophenol	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4,6-Trichlorophenol	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4-Dichlorophenol	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4-Dimethylphenol	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4-Dinitrophenol	ND	690		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4-Dinitrotoluene	ND	50		ug/Kg	1	10/09/25	KCA	SW8270E	
2,6-Dinitrotoluene	ND	86		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Chloronaphthalene	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Chlorophenol	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Methylnaphthalene	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Methylphenol (o-cresol)	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Nitroaniline	ND	86		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Nitrophenol	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E	
3&4-Methylphenol (m&p-cresol)	ND	330		ug/Kg	1	10/09/25	KCA	SW8270E	1
3,3'-Dichlorobenzidine	ND	520		ug/Kg	1	10/09/25	KCA	SW8270E	
3-Nitroaniline	ND	690		ug/Kg	1	10/09/25	KCA	SW8270E	
4,6-Dinitro-2-methylphenol	ND	210		ug/Kg	1	10/09/25	KCA	SW8270E	
4-Bromophenyl phenyl ether	ND	430		ug/Kg	1	10/09/25	KCA	SW8270E	
4-Chloro-3-methylphenol	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E	
4-Chloroaniline	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E	

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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
4-Chlorophenyl phenyl ether	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
4-Nitroaniline	ND	490		ug/Kg	1	10/09/25	KCA	SW8270E
4-Nitrophenol	ND	1200		ug/Kg	1	10/09/25	KCA	SW8270E
Acenaphthene	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Acenaphthylene	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Acetophenone	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Anthracene	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Atrazine	ND	130		ug/Kg	1	10/09/25	KCA	SW8270E
Benz(a)anthracene	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Benzaldehyde	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Benzo(a)pyrene	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Benzo(b)fluoranthene	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Benzo(ghi)perylene	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Benzo(k)fluoranthene	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Benzyl butyl phthalate	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Bis(2-chloroethoxy)methane	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Bis(2-chloroethyl)ether	ND	43		ug/Kg	1	10/09/25	KCA	SW8270E
Bis(2-ethylhexyl)phthalate	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Caprolactam	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Carbazole	ND	430		ug/Kg	1	10/09/25	KCA	SW8270E
Chrysene	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Dibenz(a,h)anthracene	ND	220		ug/Kg	1	10/09/25	KCA	SW8270E
Dibenzofuran	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Diethyl phthalate	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Dimethylphthalate	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Di-n-butylphthalate	ND	860		ug/Kg	1	10/09/25	KCA	SW8270E
Di-n-octylphthalate	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Fluoranthene	450	300		ug/Kg	1	10/09/25	KCA	SW8270E
Fluorene	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Hexachlorobenzene	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Hexachlorobutadiene	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Hexachlorocyclopentadiene	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Hexachloroethane	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Indeno(1,2,3-cd)pyrene	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Isophorone	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Naphthalene	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Nitrobenzene	ND	52		ug/Kg	1	10/09/25	KCA	SW8270E
N-Nitrosodimethylamine	ND	43		ug/Kg	1	10/09/25	KCA	SW8270E
N-Nitrosodi-n-propylamine	ND	43		ug/Kg	1	10/09/25	KCA	SW8270E
N-Nitrosodiphenylamine	ND	430		ug/Kg	1	10/09/25	KCA	SW8270E
Pentachlorophenol	ND	430		ug/Kg	1	10/09/25	KCA	SW8270E
Phenanthrene	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Phenol	ND	300		ug/Kg	1	10/09/25	KCA	SW8270E
Pyrene	520	300		ug/Kg	1	10/09/25	KCA	SW8270E
QA/QC Surrogates								
% 2,4,6-Tribromophenol	103			%	1	10/09/25	KCA	30 - 130 %
% 2-Fluorobiphenyl	69			%	1	10/09/25	KCA	30 - 130 %
% 2-Fluorophenol	67			%	1	10/09/25	KCA	30 - 130 %
% Nitrobenzene-d5	75			%	1	10/09/25	KCA	30 - 130 %

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-18-2

Phoenix I.D.: CU42007

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
% Phenol-d5	70			%	1	10/09/25	KCA	30 - 130 %
% Terphenyl-d14	70			%	1	10/09/25	KCA	30 - 130 %
1,2-Diphenylhydrazine	ND	86		ug/Kg	1	10/09/25	KCA	SW8270E
Aniline	ND	120		ug/Kg	1	10/09/25	KCA	SW8270E
Benzoic Acid	ND	430		ug/Kg	1	10/09/25	KCA	SW8270E
Benzyl Alcohol	ND	430		ug/Kg	1	10/09/25	KCA	SW8270E
Semivolatile Library Search	Completed					10/09/25	E	

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Corrosivity is based solely on the pH analysis performed above.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

Ignitability is based solely on the results of the closed cup flashpoint analysis performed above. Passed is >140 degree F.

Paint Filter Test:
Pass = no free liquids were detected. Fail = free liquids were detected.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Cyanide. This method is no longer listed in the current version of SW-846.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Sulfide. This method is no longer listed in the current version of SW-846.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Hexavalent Chromium:
This sample is in a reducing state.

Semi-Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
October 16, 2025
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

October 15, 2025

FOR: Attn: Joel Rogers
Factor Group Inc
42 Crest Dr
South Orange, NJ 07079-1039

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		10/02/25	13:15
Location Code:	FACTOR	Received by:	CP	10/03/25	19:28
Rush Request:	96 Hour	Analyzed by:	see "By" below		
P.O.#:	00379				

Laboratory Data

SDG ID: GCU42003
Phoenix ID: CU42008

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-18-3

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.42	0.42		mg/Kg	1	10/07/25	CPP	SW6010D
Aluminum	1360	6.3		mg/Kg	1	10/07/25	CPP	SW6010D
Arsenic	< 0.84	0.84		mg/Kg	1	10/07/25	CPP	SW6010D
Barium	6.86	0.42		mg/Kg	1	10/07/25	CPP	SW6010D
Beryllium	< 0.33	0.33		mg/Kg	1	10/07/25	CPP	SW6010D
Boron	< 1.7	1.7		mg/Kg	1	10/07/25	CPP	SW6010D
Calcium	486	6.3		mg/Kg	1	10/07/25	CPP	SW6010D
Cadmium	< 0.42	0.42		mg/Kg	1	10/07/25	TH	SW6010D
Cobalt	1.62	0.42		mg/Kg	1	10/07/25	CPP	SW6010D
Chromium	4.16	0.42		mg/Kg	1	10/07/25	CPP	SW6010D
Copper	4.0	0.8		mg/kg	1	10/07/25	CPP	SW6010D
Iron	3660	6.3		mg/Kg	1	10/07/25	CPP	SW6010D
Mercury	< 0.03	0.03		mg/Kg	2	10/06/25	AJ1	SW7471B
Potassium	354	6.3		mg/Kg	1	10/07/25	CPP	SW6010D
Magnesium	1140	6.3		mg/Kg	1	10/07/25	CPP	SW6010D
Manganese	32.0	0.42		mg/Kg	1	10/07/25	CPP	SW6010D
Molybdenum	< 0.42	0.42		mg/Kg	1	10/07/25	CPP	SW6010D
Sodium	59.1	6.3		mg/Kg	1	10/07/25	CPP	SW6010D
Nickel	10.8	0.42		mg/Kg	1	10/07/25	CPP	SW6010D
Lead	4.11	0.42		mg/Kg	1	10/07/25	CPP	SW6010D
Antimony	< 4.2	4.2		mg/Kg	1	10/07/25	CPP	SW6010D
Selenium	< 1.7	1.7		mg/Kg	1	10/07/25	CPP	SW6010D
TCLP Silver	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Arsenic	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Barium	0.29	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Cadmium	< 0.050	0.050		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Chromium	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010
TCLP Mercury	< 0.0002	0.0002		mg/L	1	10/06/25	AJ1	SW846 1311/7470

Ver 1

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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
TCLP Lead	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010	
TCLP Selenium	< 0.10	0.10		mg/L	1	10/06/25	TH	SW846 1311/6010D	
Thallium	< 2.2	2.2		mg/Kg	1	10/07/25	CPP	SW6010D	
TCLP Metals Digestion	Completed					10/06/25	AK/GW	SW3010A	
Trivalent Chromium	4.16	0.42		mg/kg	1	10/07/25		CALC 6010-7196	
Vanadium	4.95	0.42		mg/Kg	1	10/07/25	CPP	SW6010D	
Zinc	11.6	0.8		mg/Kg	1	10/07/25	CPP	SW6010D	
Percent Solid	83			%		10/03/25	H	SW846-%Solid	
Corrosivity	Negative			Pos/Neg	1	10/03/25	KG	SW846-Corr	1
Flash Point	>200	200		Degree F	1	10/06/25	G	SW1010B	
Fluoride	< 6.0	6.0		mg/Kg	10	10/04/25	DD/EG	SW9056A	
Chromium, Hex. (SW3060A digestion	< 0.45	0.45		mg/Kg	1	10/06/25	NP	SW7196A	
Ignitability	Passed	140		degree F	1	10/06/25	G	SW846-Ignit	1
Ammonia as Nitrogen	< 67.2	67.2		mg/Kg	1	10/09/25	KDB	E350.1	1
pH at 21C - Soil	7.64	1.00		pH Units	1	10/03/25 23:23	KG	SW846 9045D	
Reactivity Cyanide	< 6	6		mg/Kg	1	10/07/25	EG	SW846 7.3.3.1/90	1
Reactivity Sulfide	< 20	20		mg/Kg	1	10/07/25	EG	SW846 CH7	1
Reactivity	Negative			Pos/Neg	1	10/07/25	EG	SW846-React	1
Redox Potential	242			mV	1	10/03/25	KG	SM2580B-09	1
SPLP Chloride	1.7	1.0		mg/L	1	10/06/25	DD/EG	SW1312/300.0	
SPLP Sulfate	4.1	3.0		mg/L	1	10/06/25	DD/EG	SW1312/300.0	1
Total Cyanide (SW9010C Distill.)	< 0.60	0.60		mg/Kg	1	10/07/25	EG	SW9012B	
Mercury Digestion	Completed					10/04/25	GW/GW	SW7471B	
Soil Extraction for Herbicide	Completed					10/05/25	Y/D	SW3546	
NJ EPH Extraction	Completed					10/08/25	S/Z	NJDEP 10-08 R3	
Soil Extraction for PCB	Completed					10/08/25	C/Q	SW3546	
Soil Extraction for Pesticide	Completed					10/08/25	C/Q	SW3546	
Soil Extraction for SVOA	Completed					10/08/25	C/Q	SW3546	
Paint Filter Test	Passed			PASS/FAIL		10/03/25	O	SW9095B	
SPLP Extraction, Wet Chemistry	Completed					10/03/25	AK	SW1312	
TCLP Digestion Mercury	Completed					10/06/25	AK/GW	SW7470A	
TCLP Extraction for Metals	Completed					10/03/25	AK	SW1311	
Total Metals Digest	Completed					10/04/25	P/AG	SW3050B	
NJ EPH Category 2									
Total EPH (C9-C40)	ND	29	29	mg/kg	1	10/09/25	JRB	NJEPH 10-08 R3	1
QA/QC Surrogates									
% COD (surr)	55			%	1	10/09/25	JRB	40 - 140 %	
% Terphenyl (surr)	89			%	1	10/09/25	JRB	40 - 140 %	
Chlorinated Herbicides									
2,4,5-T	ND	150		ug/Kg	10	10/07/25	JRB	SW8151A	
2,4,5-TP (Silvex)	ND	150		ug/Kg	10	10/07/25	JRB	SW8151A	
2,4-D	ND	300		ug/Kg	10	10/07/25	JRB	SW8151A	
2,4-DB	ND	1500		ug/Kg	10	10/07/25	JRB	SW8151A	
Dalapon	ND	150		ug/Kg	10	10/07/25	JRB	SW8151A	
Dicamba	ND	150		ug/Kg	10	10/07/25	JRB	SW8151A	
Dichloroprop	ND	300		ug/Kg	10	10/07/25	JRB	SW8151A	
Dinoseb	ND	150		ug/Kg	10	10/07/25	JRB	SW8151A	

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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates									
% DCAA	93			%	10	10/07/25	JRB	30 - 150 %	
% DCAA (Confirmation)	84			%	10	10/07/25	JRB	30 - 150 %	
Polychlorinated Biphenyls									
PCB-1016	ND	80		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1221	ND	80		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1232	ND	80		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1242	ND	80		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1248	ND	80		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1254	ND	80		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1260	ND	80		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1262	ND	80		ug/Kg	2	10/09/25	SC	SW8082A	
PCB-1268	ND	80		ug/Kg	2	10/09/25	SC	SW8082A	
Total PCBs	ND	80		ug/Kg	2	10/09/25	SC	SW8082A	1
QA/QC Surrogates									
% DCBP	70			%	2	10/09/25	SC	30 - 150 %	
% DCBP (Confirmation)	72			%	2	10/09/25	SC	30 - 150 %	
% TCMX	72			%	2	10/09/25	SC	30 - 150 %	
% TCMX (Confirmation)	70			%	2	10/09/25	SC	30 - 150 %	
Pesticides - Soil									
4,4' -DDD	ND	2.4		ug/Kg	2	10/09/25	AW	SW8081B	
4,4' -DDE	ND	2.4		ug/Kg	2	10/09/25	AW	SW8081B	
4,4' -DDT	ND	2.4		ug/Kg	2	10/09/25	AW	SW8081B	
a-BHC	ND	8.0		ug/Kg	2	10/09/25	AW	SW8081B	
a-Chlordane	ND	4.0		ug/Kg	2	10/09/25	AW	SW8081B	
Aldrin	ND	4.0		ug/Kg	2	10/09/25	AW	SW8081B	
b-BHC	ND	8.0		ug/Kg	2	10/09/25	AW	SW8081B	
Chlordane	ND	40		ug/Kg	2	10/09/25	AW	SW8081B	
d-BHC	ND	8.0		ug/Kg	2	10/09/25	AW	SW8081B	
Dieldrin	ND	4.0		ug/Kg	2	10/09/25	AW	SW8081B	
Endosulfan I	ND	8.0		ug/Kg	2	10/09/25	AW	SW8081B	
Endosulfan II	ND	8.0		ug/Kg	2	10/09/25	AW	SW8081B	
Endosulfan sulfate	ND	8.0		ug/Kg	2	10/09/25	AW	SW8081B	
Endrin	ND	8.0		ug/Kg	2	10/09/25	AW	SW8081B	
Endrin aldehyde	ND	8.0		ug/Kg	2	10/09/25	AW	SW8081B	
Endrin ketone	ND	8.0		ug/Kg	2	10/09/25	AW	SW8081B	
g-BHC	ND	1.6		ug/Kg	2	10/09/25	AW	SW8081B	
g-Chlordane	ND	4.0		ug/Kg	2	10/09/25	AW	SW8081B	
Heptachlor	ND	8.0		ug/Kg	2	10/09/25	AW	SW8081B	
Heptachlor epoxide	ND	8.0		ug/Kg	2	10/09/25	AW	SW8081B	
Methoxychlor	ND	40		ug/Kg	2	10/09/25	AW	SW8081B	
Toxaphene	ND	160		ug/Kg	2	10/09/25	AW	SW8081B	
QA/QC Surrogates									
% DCBP	77			%	2	10/09/25	AW	30 - 150 %	
% DCBP (Confirmation)	65			%	2	10/09/25	AW	30 - 150 %	
% TCMX	66			%	2	10/09/25	AW	30 - 150 %	
% TCMX (Confirmation)	68			%	2	10/09/25	AW	30 - 150 %	

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Volatiles (TCL)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
1,1,1-Trichloroethane	ND	5.0		ug/kg	1	10/04/25	JLI	SW8260D
1,1,2,2-Tetrachloroethane	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
1,1,2-Trichloroethane	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
1,1-Dichloroethane	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
1,1-Dichloroethene	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
1,2,3-Trichlorobenzene	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
1,2,4-Trichlorobenzene	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
1,2,4-Trimethylbenzene	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dibromo-3-chloropropane	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dibromoethane	ND	1.2		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dichlorobenzene	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dichloroethane	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
1,2-Dichloropropane	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
1,3,5-Trimethylbenzene	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
1,3-Dichlorobenzene	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
1,4-Dichlorobenzene	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
2-Hexanone	ND	26		ug/kg	1	10/04/25	JLI	SW8260D
4-Methyl-2-pentanone	ND	26		ug/kg	1	10/04/25	JLI	SW8260D
Acetone	ND	50		ug/kg	1	10/04/25	JLI	SW8260D
Benzene	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
Bromochloromethane	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
Bromodichloromethane	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
Bromoform	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
Bromomethane	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
Carbon Disulfide	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
Carbon tetrachloride	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
Chlorobenzene	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
Chloroethane	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
Chloroform	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
Chloromethane	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
cis-1,2-Dichloroethene	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
cis-1,3-Dichloropropene	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
Cyclohexane	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
Dibromochloromethane	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
Dichlorodifluoromethane	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
Ethylbenzene	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
Isopropylbenzene	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
m&p-Xylene	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
Methyl ethyl ketone	ND	31		ug/kg	1	10/04/25	JLI	SW8260D
Methyl t-butyl ether (MTBE)	ND	10		ug/kg	1	10/04/25	JLI	SW8260D
Methylacetate	ND	52		ug/kg	1	10/04/25	JLI	SW8260D
Methylcyclohexane	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
Methylene chloride	ND	26		ug/kg	1	10/04/25	JLI	SW8260D
o-Xylene	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
Styrene	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
Tetrachloroethene	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
Toluene	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D
Total Xylenes	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D	
trans-1,3-Dichloropropene	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D	
Trichloroethene	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D	
Trichlorofluoromethane	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D	
Trichlorotrifluoroethane	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D	
Vinyl chloride	ND	5.2		ug/kg	1	10/04/25	JLI	SW8260D	
QA/QC Surrogates									
% 1,2-dichlorobenzene-d4	99			%	1	10/04/25	JLI	70 - 130 %	
% Bromofluorobenzene	94			%	1	10/04/25	JLI	70 - 130 %	
% Dibromofluoromethane	100			%	1	10/04/25	JLI	70 - 130 %	
% Toluene-d8	99			%	1	10/04/25	JLI	70 - 130 %	
1,4-dioxane									
1,4-dioxane	ND	79		ug/kg	1	10/04/25	JLI	SW8260D	
Volatiles									
1,1,1,2-Tetrachloroethane	ND	21		ug/Kg	1	10/04/25	JLI	SW8260D	
Acrolein	ND	0.47		ug/Kg	1	10/04/25	JLI	SW8260D	
Acrylonitrile	ND	10		ug/Kg	1	10/04/25	JLI	SW8260D	
Tert-butyl alcohol	ND	100		ug/Kg	1	10/04/25	JLI	SW8260D	
Vinyl Acetate	ND	52		ug/Kg	1	10/04/25	JLI	SW8260D	
Volatile Library Search	Completed					10/06/25	JLI		
FACTOR GROUP 2	Completed					10/03/25			
Semivolatiles									
1,1-Biphenyl	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E	
1,2,4,5-Tetrachlorobenzene	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E	
2,2'-Oxybis(1-Chloropropane)	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E	1
2,3,4,6-tetrachlorophenol	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4,5-Trichlorophenol	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4,6-Trichlorophenol	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4-Dichlorophenol	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4-Dimethylphenol	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4-Dinitrophenol	ND	630		ug/Kg	1	10/09/25	KCA	SW8270E	
2,4-Dinitrotoluene	ND	50		ug/Kg	1	10/09/25	KCA	SW8270E	
2,6-Dinitrotoluene	ND	79		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Chloronaphthalene	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Chlorophenol	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Methylnaphthalene	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Methylphenol (o-cresol)	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Nitroaniline	ND	79		ug/Kg	1	10/09/25	KCA	SW8270E	
2-Nitrophenol	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E	
3&4-Methylphenol (m&p-cresol)	ND	330		ug/Kg	1	10/09/25	KCA	SW8270E	1
3,3'-Dichlorobenzidine	ND	470		ug/Kg	1	10/09/25	KCA	SW8270E	
3-Nitroaniline	ND	630		ug/Kg	1	10/09/25	KCA	SW8270E	
4,6-Dinitro-2-methylphenol	ND	210		ug/Kg	1	10/09/25	KCA	SW8270E	
4-Bromophenyl phenyl ether	ND	390		ug/Kg	1	10/09/25	KCA	SW8270E	
4-Chloro-3-methylphenol	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E	
4-Chloroaniline	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E	

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Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
4-Chlorophenyl phenyl ether	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
4-Nitroaniline	ND	490		ug/Kg	1	10/09/25	KCA	SW8270E
4-Nitrophenol	ND	1100		ug/Kg	1	10/09/25	KCA	SW8270E
Acenaphthene	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Acenaphthylene	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Acetophenone	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Anthracene	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Atrazine	ND	130		ug/Kg	1	10/09/25	KCA	SW8270E
Benz(a)anthracene	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Benzaldehyde	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Benzo(a)pyrene	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Benzo(b)fluoranthene	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Benzo(ghi)perylene	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Benzo(k)fluoranthene	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Benzyl butyl phthalate	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Bis(2-chloroethoxy)methane	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Bis(2-chloroethyl)ether	ND	39		ug/Kg	1	10/09/25	KCA	SW8270E
Bis(2-ethylhexyl)phthalate	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Caprolactam	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Carbazole	ND	390		ug/Kg	1	10/09/25	KCA	SW8270E
Chrysene	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Dibenz(a,h)anthracene	ND	200		ug/Kg	1	10/09/25	KCA	SW8270E
Dibenzofuran	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Diethyl phthalate	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Dimethylphthalate	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Di-n-butylphthalate	ND	790		ug/Kg	1	10/09/25	KCA	SW8270E
Di-n-octylphthalate	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Fluoranthene	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Fluorene	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Hexachlorobenzene	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Hexachlorobutadiene	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Hexachlorocyclopentadiene	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Hexachloroethane	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Indeno(1,2,3-cd)pyrene	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Isophorone	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Naphthalene	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Nitrobenzene	ND	52		ug/Kg	1	10/09/25	KCA	SW8270E
N-Nitrosodimethylamine	ND	39		ug/Kg	1	10/09/25	KCA	SW8270E
N-Nitrosodi-n-propylamine	ND	39		ug/Kg	1	10/09/25	KCA	SW8270E
N-Nitrosodiphenylamine	ND	390		ug/Kg	1	10/09/25	KCA	SW8270E
Pentachlorophenol	ND	390		ug/Kg	1	10/09/25	KCA	SW8270E
Phenanthrene	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Phenol	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
Pyrene	ND	280		ug/Kg	1	10/09/25	KCA	SW8270E
QA/QC Surrogates								
% 2,4,6-Tribromophenol	100			%	1	10/09/25	KCA	30 - 130 %
% 2-Fluorobiphenyl	69			%	1	10/09/25	KCA	30 - 130 %
% 2-Fluorophenol	72			%	1	10/09/25	KCA	30 - 130 %
% Nitrobenzene-d5	77			%	1	10/09/25	KCA	30 - 130 %

Project ID: RHCR-RED HOOK COASTAL RESILIENCY
Client ID: WC-18-3

Phoenix I.D.: CU42008

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
% Phenol-d5	72			%	1	10/09/25	KCA	30 - 130 %
% Terphenyl-d14	72			%	1	10/09/25	KCA	30 - 130 %
1,2-Diphenylhydrazine	ND	79		ug/Kg	1	10/09/25	KCA	SW8270E
Aniline	ND	120		ug/Kg	1	10/09/25	KCA	SW8270E
Benzoic Acid	ND	390		ug/Kg	1	10/09/25	KCA	SW8270E
Benzyl Alcohol	ND	390		ug/Kg	1	10/09/25	KCA	SW8270E
Semivolatile Library Search	Completed					10/09/25	E	

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Corrosivity is based solely on the pH analysis performed above.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

Ignitability is based solely on the results of the closed cup flashpoint analysis performed above. Passed is >140 degree F.

Paint Filter Test:
Pass = no free liquids were detected. Fail = free liquids were detected.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Cyanide. This method is no longer listed in the current version of SW-846.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Sulfide. This method is no longer listed in the current version of SW-846.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Hexavalent Chromium:
This sample is in a reducing state.

Semi-Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
October 16, 2025
Reviewed and Released by: Phyllis Shiller, Laboratory Director

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-17A-1

Lab Name: Phoenix Environmental Labs Client: FACTOR

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCU42003

Matrix:(soil/water) SOIL Lab Sample ID: CU42003

Sample wt/vol: 5.24 (g/mL) g Lab File ID: 1003R45.D

Level: (low/med) Low Date Received: 10/03/25

% Moisture: not dec. 12 Date Analyzed: 10/04/25

GC Column: RTX-VMS ID: 0.18mm Dilution Factor: 1

Purge Volume: 5000 (uL) Soil Aliquot Vol (uL): 5000

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

J - Used when estimating a concentration for TIC where a 1:1 response is assumed or when the result indicates the presence of a compound that meets the indentification criteria, but the results is less than the quantitation limit, but greater than zero.

N - The concentration is based on the response of the nearest internal. This flag is used on the TIC form for all compounds identified

Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-17A-2

Lab Name: Phoenix Environmental Labs Client: FACTOR

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCU4200

Matrix:(soil/water) SOIL Lab Sample ID: CU42004

Sample wt/vol: 5.85 (g/mL) g Lab File ID: 1003R46.D

Level: (low/med) Low Date Received: 10/03/25

% Moisture: not dec. 22 Date Analyzed: 10/04/25

GC Column: RTX-VMS ID: 0.18mm Dilution Factor: 1

Purge Volume: 5000 (uL) Soil Aliquot Vol (uL): 5000

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

J - Used when estimating a concentration for TIC where a 1:1 response is assumed or when the result indicates the presence of a compound that meets the indentification criteria, but the results is less than the quantitation limit, but greater than zero.
N - The concentration is based on the response of the nearest internal. This flag is used on the TIC form for all compounds identified
Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-17B

Lab Name: Phoenix Environmental Labs Client: FACTOR

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCU4200

Matrix:(soil/water): SOIL Lab Sample ID: CU42005

Sample wt/vol: 4.85 (g/mL) g Lab File ID: 1003R47.D

Level: (low/med): Low Date Received: 10/03/25

% Moisture: not dec. 10 Date Analyzed: 10/04/25

GC Column: RTX-VMS ID: 0.18mm Dilution Factor: 1

Purge Volume: 5000 (uL) Soil Aliquot Vol (uL): 5000

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

J - Used when estimating a concentration for TIC where a 1:1 response is assumed or when the result indicates the presence of a compound that meets the indentification criteria, but the results is less than the quantitation limit, but greater than zero.

N - The concentration is based on the response of the nearest internal. This flag is used on the TIC form for all compounds identified

Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: CU42006 BLK

Lab Name: Phoenix Environmental Labs Client:

Lab Code: Phoenix Case No.: SAS No.: SDG No.:

Matrix:(soil/water) Soil Lab Sample ID: CU42006 BLK

Sample wt/vol: 5 (g/mL) g Lab File ID: 1004R09.D

Level: (low/med) Low Date Received: 10/03/25

% Moisture: not dec. n.a. Date Analyzed: 10/04/25

GC Column: RTX-VMS ID: 0.18mm Dilution Factor: 1

Purge Volume: 5000 (uL) Soil Aliquot Vol (uL): 5000

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

J - Used when estimating a concentration for TIC where a 1:1 response is assumed or when the result indicates the presence of a compound that meets the indentification criteria, but the results is less than the quantitation limit, but greater than zero.

N - The concentration is based on the response of the nearest internal. This flag is used on the TIC form for all compounds identified

Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-18-1

Lab Name: Phoenix Environmental Labs Client: FACTOR

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCU4200

Matrix:(soil/water) SOIL Lab Sample ID: CU42006

Sample wt/vol: 4.89 (g/mL) g Lab File ID: 1004R12.D

Level: (low/med) Low Date Received: 10/03/25

% Moisture: not dec. 10 Date Analyzed: 10/04/25

GC Column: RTX-VMS ID: 0.18mm Dilution Factor: 1

Purge Volume: 5000 (uL) Soil Aliquot Vol (uL): 5000

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

J - Used when estimating a concentration for TIC where a 1:1 response is assumed or when the result indicates the presence of a compound that meets the indentification criteria, but the results is less than the quantitation limit, but greater than zero.

N - The concentration is based on the response of the nearest internal. This flag is used on the TIC form for all compounds identified

Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-18-2

Lab Name: Phoenix Environmental Labs Client: FACTOR

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCU4200

Matrix:(soil/water) SOIL Lab Sample ID: CU42007

Sample wt/vol: 5.59 (g/mL) g Lab File ID: 1003R49.D

Level: (low/med) Low Date Received: 10/03/25

% Moisture: not dec. 25 Date Analyzed: 10/04/25

GC Column: RTX-VMS ID: 0.18mm Dilution Factor: 1

Purge Volume: 5000 (uL) Soil Aliquot Vol (uL): 5000

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

J - Used when estimating a concentration for TIC where a 1:1 response is assumed or when the result indicates the presence of a compound that meets the indentification criteria, but the results is less than the quantitation limit, but greater than zero.

N - The concentration is based on the response of the nearest internal. This flag is used on the TIC form for all compounds identified

Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-18-3

Lab Name: Phoenix Environmental Labs Client: FACTOR

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCU4200

Matrix:(soil/water): SOIL Lab Sample ID: CU42008

Sample wt/vol: 5.76 (g/mL) g Lab File ID: 1003R50.D

Level: (low/med): Low Date Received: 10/03/25

% Moisture: not dec. 17 Date Analyzed: 10/04/25

GC Column: RTX-VMS ID: 0.18mm Dilution Factor: 1

Purge Volume: 5000 (uL) Soil Aliquot Vol (uL): 5000

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

J - Used when estimating a concentration for TIC where a 1:1 response is assumed or when the result indicates the presence of a compound that meets the indentification criteria, but the results is less than the quantitation limit, but greater than zero.

N - The concentration is based on the response of the nearest internal. This flag is used on the TIC form for all compounds identified

Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-17A-1

Lab Name: Phoenix Environmental Labs | Client: FACTOR

Lab Code: Phoenix | Case No.: | SAS No.: | SDG No.: GCU42003

Matrix:(soil/water): SOIL | Lab Sample ID: CU42003

Sample wt/vol: 15.29 (g/mL) g | Lab File ID: 1009_10.D

Level: (low/med): Low | Date Received: 10/03/25

% Moisture: not dec. 12 | decanted:(Y/N) NA | Date Extracted: 10/09/25

GPC Cleanup (Y/N): N | pH: NA | Date Analyzed: 10/9/2025

Conc. Extract Volume: 1000 (uL) | Dilution Factor 1

Injection Volume: 1 (uL)

Number TICs found: 7 | CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	2.713	1900	JNA
023676-09-7	Benzoic acid, 4-ethoxy-, ethyl est	6.473	1300	JNC
000112-88-9	1-Octadecene	7.560	950	JN
000057-10-3	n-Hexadecanoic acid	8.171	360	JN
000296-56-0	Cycloeicosane	9.082	1200	JN
	unknown hydrocarbon	16.756	320	J
000556-71-8	Cyclononasiloxane, octadecamethyl-	17.543	320	JN

FORM I SEMIVOA-TIC

A - Indicates that the tentatively identified compound is a suspected aldol condensation product. Aldol condensation products are produced during the extraction process.
C - Indicates that the tentatively identified compound is a suspected prep artifact produced during extraction process.
Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-17A-2

Lab Name: Phoenix Environmental Labs | Client: FACTOR

Lab Code: Phoenix | Case No.: | SAS No.: | SDG No.: GCU42003

Matrix:(soil/water): SOIL | Lab Sample ID: CU42004

Sample wt/vol: 15.3 (g/mL) g | Lab File ID: 1008_48.D

Level: (low/med): Low | Date Received: 10/03/25

% Moisture: not dec. 22 | decanted:(Y/N) NA | Date Extracted: 10/09/25

GPC Cleanup (Y/N): N | pH: NA | Date Analyzed: 10/9/2025

Conc. Extract Volume: 1000 (uL) | Dilution Factor 1

Injection Volume: 1 (uL)

Number TICs found: 3 | CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	2.625	5400	JNA
023676-09-7	Benzoic acid, 4-ethoxy-, ethyl est	6.361	850	JNC
000112-88-9	1-Octadecene	7.448	560	JN

FORM I SEMIVOA-TIC

A - Indicates that the tentatively identified compound is a suspected aldol condensation product. Aldol condensation products are produced during the extraction process.
C - Indicates that the tentatively identified compound is a suspected prep artifact produced during extraction process.
Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-17B

Lab Name: Phoenix Environmental Labs | Client: FACTOR

Lab Code: Phoenix | Case No.: | SAS No.: | SDG No.: GCU42003

Matrix:(soil/water): SOIL | Lab Sample ID: CU42005

Sample wt/vol: 15.39 (g/mL) g | Lab File ID: 1008_41.D

Level: (low/med): Low | Date Received: 10/03/25

% Moisture: not dec. 10 | decanted:(Y/N) NA | Date Extracted: 10/09/25

GPC Cleanup (Y/N): N | pH: NA | Date Analyzed: 10/9/2025

Conc. Extract Volume: 1000 (uL) | Dilution Factor 1

Injection Volume: 1 (uL)

Number TICs found: 3 | CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	2.625	1200	JNA
023676-09-7	Benzoic acid, 4-ethoxy-, ethyl est	6.362	810	JNC
018435-45-5	1-Nonadecene	7.449	570	JN

FORM I SEMIVOA-TIC

A - Indicates that the tentatively identified compound is a suspected aldol condensation product. Aldol condensation products are produced during the extraction process.

C - Indicates that the tentatively identified compound is a suspected prep artifact produced during extraction process.

Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: CU42006 BLK

Lab Name: Phoenix Environmental Labs Client:

Lab Code: Phoenix Case No.: SAS No.: SDG No.:

Matrix:(soil/water) Soil Lab Sample ID: CU42006 BLK

Sample wt/vol: 15 (g/mL) g Lab File ID: 1008_31.D

Level: (low/med) Low Date Received: 10/03/25

% Moisture: not dec. n.a. decanted:(Y/N) NA Date Extracted: 10/09/25

GPC Cleanup (Y/N): N pH: NA Date Analyzed: 10/9/2025

Conc. Extract Volume: 1000 (uL) Dilution Factor 1

Injection Volume: 1 (uL)

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	2.625	850	JNA
023676-09-7	Benzoic acid, 4-ethoxy-, ethyl est	6.362	840	JNC
1000130-97-9	E-15-Heptadecenal	7.449	580	JN
018435-45-5	1-Nonadecene	8.935	780	JN

FORM I SEMIVOA-TIC

A - Indicates that the tentatively identified compound is a suspected aldol condensation product. Aldol condensation products are produced during the extraction process.
C - Indicates that the tentatively identified compound is a suspected prep artifact produced during extraction process.
Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-18-1

Lab Name: Phoenix Environmental Labs | Client: FACTOR

Lab Code: Phoenix | Case No.: | SAS No.: | SDG No.: GCU42003

Matrix:(soil/water): SOIL | Lab Sample ID: CU42006

Sample wt/vol: 15.2 (g/mL) g | Lab File ID: 1008_38.D

Level: (low/med): Low | Date Received: 10/03/25

% Moisture: not dec. 10 | decanted:(Y/N) NA | Date Extracted: 10/09/25

GPC Cleanup (Y/N): N | pH: NA | Date Analyzed: 10/9/2025

Conc. Extract Volume: 1000 (uL) | Dilution Factor 1

Injection Volume: 1 (uL)

Number TICs found: 3 | CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	2.619	1300	JNA
023676-09-7	Benzoic acid, 4-ethoxy-, ethyl ester	6.362	790	JNC
1000130-97-9	E-15-Heptadecenal	7.449	520	JN

FORM I SEMIVOA-TIC

A - Indicates that the tentatively identified compound is a suspected aldol condensation product. Aldol condensation products are produced during the extraction process.
C - Indicates that the tentatively identified compound is a suspected prep artifact produced during extraction process.
Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-18-2

Lab Name: Phoenix Environmental Labs | Client: FACTOR

Lab Code: Phoenix | Case No.: | SAS No.: | SDG No.: GCU42003

Matrix:(soil/water): SOIL | Lab Sample ID: CU42007

Sample wt/vol: 15.49 (g/mL) g | Lab File ID: 1008_42.D

Level: (low/med): Low | Date Received: 10/03/25

% Moisture: not dec. 25 | decanted:(Y/N) NA | Date Extracted: 10/09/25

GPC Cleanup (Y/N): N | pH: NA | Date Analyzed: 10/9/2025

Conc. Extract Volume: 1000 (uL) | Dilution Factor 1

Injection Volume: 1 (uL)

Number TICs found: 3 | CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	2.625	3100	JNA
023676-09-7	Benzoic acid, 4-ethoxy-, ethyl est	6.362	1100	JNC
1000130-97-9	E-15-Heptadecenal	7.449	740	JN

FORM I SEMIVOA-TIC

A - Indicates that the tentatively identified compound is a suspected aldol condensation product. Aldol condensation products are produced during the extraction process.

C - Indicates that the tentatively identified compound is a suspected prep artifact produced during extraction process.

Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: CU42008 BLK

Lab Name: Phoenix Environmental Labs Client:

Lab Code: Phoenix Case No.: SAS No.: SDG No.:

Matrix:(soil/water): Soil Lab Sample ID: CU42008 BLK

Sample wt/vol: 15 (g/mL) g Lab File ID: 1013_07.D

Level: (low/med): Low Date Received: 10/03/25

% Moisture: not dec. n.a. decanted:(Y/N) NA Date Extracted: 10/13/25

GPC Cleanup (Y/N): N pH: NA Date Analyzed: 10/13/2025

Conc. Extract Volume: 2000 (uL) Dilution Factor 1

Injection Volume: 1 (uL)

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
023676-09-7	Benzoic acid, 4-ethoxy-, ethyl est	6.356	630	JNC
001599-67-3	1-Docosene	8.941	580	JN

FORM I SEMIVOA-TIC

A - Indicates that the tentatively identified compound is a suspected aldol condensation product. Aldol condensation products are produced during the extraction process.
C - Indicates that the tentatively identified compound is a suspected prep artifact produced during extraction process.
Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: WC-18-3

Lab Name: Phoenix Environmental Labs Client: FACTOR

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCU4200

Matrix:(soil/water) SOIL Lab Sample ID: CU42008

Sample wt/vol: 15.28 (g/mL) g Lab File ID: 1008_43.D

Level: (low/med) Low Date Received: 10/03/25

% Moisture: not dec. 17 decanted:(Y/N) NA Date Extracted: 10/09/25

GPC Cleanup (Y/N): N pH: NA Date Analyzed: 10/9/2025

Conc. Extract Volume: 1000 (uL) Dilution Factor 1

Injection Volume: 1 (uL)

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	2.625	1500	JNA
023676-09-7	Benzoic acid, 4-ethoxy-, ethyl est	6.362	930	JNC
018435-45-5	1-Nonadecene	7.449	630	JN
074685-30-6	5-Eicosene, (E)-	8.935	830	JN

FORM I SEMIVOA-TIC

A - Indicates that the tentatively identified compound is a suspected aldol condensation product. Aldol condensation products are produced during the extraction process.
C - Indicates that the tentatively identified compound is a suspected prep artifact produced during extraction process.
Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
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NY # 11301

QA/QC Report

October 16, 2025

QA/QC Data

SDG I.D.: GCU42003

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 806676 (mg/kg), QC Sample No: CU41615 (CU42003, CU42004, CU42005, CU42006, CU42007, CU42008)														
Chromium, Hexavalent - Soil														
Chromium, Hexavalent	BRL	0.40	<0.38	<0.38	NC	98.4						80 - 120	30	
Chromium, Hexavalent (Ins)						91.7			90.1			80 - 120	30	
Chromium, Hexavalent (Sol)						97.6			92.8			80 - 120	30	
Comment:														
Additional Hexavalent Chromium criteria: MS acceptance range is 75-125%.														
QA/QC Batch 806634 (mg/kg), QC Sample No: CU35361 (CU42003, CU42004, CU42005, CU42006, CU42007, CU42008)														
Mercury - Soil	BRL	0.02	0.05	<0.03	NC	97.9	98.6	0.7	103	91.9	11.4	70 - 130	30	
Comment:														
Additional Mercury Criteria: LCS acceptance range is 80-120% for aqueous and for soils the acceptance range is set by vendor limits. MS acceptance range is 75-125% for aqueous and 80-120% for soils.														
QA/QC Batch 806683 (mg/L), QC Sample No: CU40983 (CU42003, CU42004, CU42005, CU42006, CU42007, CU42008)														
Mercury - Water	BRL	0.0002	<0.0002	<0.0002	NC	97.9			94.8			80 - 120	20	
Comment:														
Additional Mercury Criteria: LCS acceptance range is 80-120% for aqueous and for soils the acceptance range is set by vendor limits. MS acceptance range is 75-125% for aqueous and 80-120% for soils.														
QA/QC Batch 806559 (mg/kg), QC Sample No: CU41615 (CU42003, CU42004, CU42005, CU42006, CU42007, CU42008)														
ICP Metals - Soil														
Aluminum	BRL	5.0	14600	15000	2.70	97.8	101	3.2	NC	NC	NC	75 - 125	30	
Antimony	BRL	3.3	<3.3	<3.6	NC	87.6	92.1	5.0	71.9	73.7	2.5	75 - 125	30	m
Arsenic	BRL	0.67	5.32	5.42	1.90	94.5	99.2	4.9	87.4	89.6	2.5	75 - 125	30	
Barium	BRL	0.33	55.8	55.6	0.40	93.0	103	10.2	114	114	0.0	75 - 125	30	
Beryllium	BRL	0.27	0.79	0.79	NC	95.2	103	7.9	94.7	96.7	2.1	75 - 125	30	
Boron	BRL	1.3	3.5	4.0	NC	103	107	3.8	88.2	90.2	2.2	75 - 125	30	
Cadmium	BRL	0.33	0.60	0.56	NC	87.8	99.3	12.3	94.5	96.3	1.9	75 - 125	30	
Calcium	BRL	5.0	2080	1970	5.40	96.2	102	5.9	NC	NC	NC	75 - 125	30	
Chromium	BRL	0.33	21.3	22.5	5.50	95.6	101	5.5	97.6	97.8	0.2	75 - 125	30	
Cobalt	BRL	0.33	13.4	13.7	2.20	98.5	104	5.4	94.2	95.7	1.6	75 - 125	30	
Copper	BRL	0.67	41.3	36.6	12.1	93.9	99.1	5.4	91.9	93.7	1.9	75 - 125	30	
Iron	BRL	5.0	33000	34200	3.60	101	103	2.0	NC	NC	NC	75 - 125	30	
Lead	BRL	0.33	18.3	21.9	17.9	92.4	98.7	6.6	93.5	118	23.2	75 - 125	30	
Magnesium	BRL	5.0	5500	5780	5.00	98.3	98.5	0.2	NC	NC	NC	75 - 125	30	
Manganese	BRL	0.33	852	583	37.5	94.0	101	7.2	NC	NC	NC	75 - 125	30	r
Molybdenum	BRL	0.33	1.27	1.35	NC	92.1	96.4	4.6	93.4	95.2	1.9	75 - 125	30	
Nickel	BRL	0.33	30.5	30.4	0.30	95.2	102	6.9	92.8	93.4	0.6	75 - 125	30	
Potassium	BRL	5.0	1630	1740	6.50	94.0	97.6	3.8	>130	>130	NC	75 - 125	30	m
Selenium	BRL	1.3	<1.3	<1.4	NC	85.1	90.7	6.4	76.6	78.3	2.2	75 - 125	30	
Silver	BRL	0.33	<0.33	<0.36	NC	101	105	3.9	92.5	94.5	2.1	75 - 125	30	
Sodium	BRL	5.0	118	126	6.60	93.8	101	7.4	114	110	3.6	75 - 125	30	
Thallium	BRL	3.0	<1.3	<3.3	NC	85.8	97.2	12.5	92.0	93.9	2.0	75 - 125	30	
Vanadium	BRL	0.33	23.4	25.2	7.40	94.6	99.7	5.2	101	101	0.0	75 - 125	30	

QA/QC Data

SDG I.D.: GCU42003

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Zinc	BRL	0.67	105	99.4	5.50	91.5	96.0	4.8	88.9	86.8	2.4	75 - 125	30

Comment:

Additional Criteria: LCS acceptance range is 80-120% for aqueous and for soils the acceptance range is set by vendor limits. MS acceptance range 75-125%.

QA/QC Batch 806687 (mg/L), QC Sample No: CU41823 (CU42003, CU42004, CU42005, CU42006, CU42007, CU42008)

ICP Metals - TCLP Extraction

Arsenic	BRL	0.01	<0.01	<0.01	NC	106	105	0.9	109			80 - 120	20
Barium	BRL	0.01	1.12	1.09	2.70	103	102	1.0	91.0			80 - 120	20
Cadmium	BRL	0.005	0.026	0.025	3.90	98.5	98.4	0.1	92.1			80 - 120	20
Chromium	BRL	0.010	0.014	0.013	NC	100	99.9	0.1	97.0			80 - 120	20
Lead	BRL	0.010	0.322	0.310	3.80	98.7	98.0	0.7	102			80 - 120	20
Selenium	BRL	0.05	<0.04	<0.05	NC	110	109	0.9	86.3			80 - 120	20
Silver	BRL	0.010	<0.005	<0.010	NC	108	107	0.9	108			80 - 120	20

Comment:

Additional Criteria: LCS acceptance range is 80-120% for aqueous and for soils the acceptance range is set by vendor limits. MS acceptance range 75-125%.

m = This parameter is outside laboratory MS/MSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

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NY # 11301

QA/QC Report

October 16, 2025

QA/QC Data

SDG I.D.: GCU42003

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 806695 (mg/Kg), QC Sample No: CU41177 (CU42003, CU42004, CU42005, CU42006, CU42007, CU42008)													
Reactivity Cyanide	BRL	5	<5	<5.0	NC	95.4						85 - 115	30
Reactivity Sulfide	BRL	20	<20	<20	NC	96.0						80 - 120	30
QA/QC Batch 806680 (mg/Kg), QC Sample No: CU41963 (CU42003, CU42004, CU42005, CU42006, CU42007, CU42008)													
Total Cyanide (SW9010C Distill.)	BRL	0.50	<0.56	<0.56	NC	90.6	103	12.8	100			80 - 120	30
Comment:													
Additional: MS acceptance range is 75-125%.													
QA/QC Batch 806747 (Degree F), QC Sample No: CU41177 (CU42003, CU42004, CU42005, CU42006, CU42007, CU42008)													
Flash Point			>200	>200	NC	100						75 - 125	30
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 806585 (PH), QC Sample No: CU41879 (CU42003, CU42004, CU42005, CU42006, CU42007, CU42008)													
pH			6.96	7.01	0.70	100						85 - 115	20
QA/QC Batch 806586 (mV), QC Sample No: CU41879 (CU42003, CU42004, CU42005, CU42006, CU42007, CU42008)													
Redox Potential			578	579	NC							75 - 125	30
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 806619 (mg/L), QC Sample No: CU41724 (CU42003, CU42004, CU42005, CU42006, CU42007, CU42008)													
Chloride	BRL	5.0	37.1	36.5	1.60	94.1			102			90 - 110	20
Fluoride	BRL	0.10	<0.10	<0.10	NC	95.0			102			90 - 110	20
QA/QC Batch 806953 (mg/L), QC Sample No: CU42041 (CU42003, CU42004, CU42005, CU42006, CU42007, CU42008)													
Chloride	BRL	5.0	8.4	8.4	NC	99.1			94.4			90 - 110	20
QA/QC Batch 807130 (mg/Kg), QC Sample No: CU44230 (CU42003, CU42004, CU42005, CU42006, CU42007, CU42008)													
Ammonia as Nitrogen	BRL	3.51	3120	3700	17.0	94.9			104			75 - 125	30
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													

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NY # 11301

QA/QC Report

October 16, 2025

QA/QC Data

SDG I.D.: GCU42003

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 807283 (mg/kg), QC Sample No: CU42008 (CU42003, CU42004, CU42005, CU42006, CU42007, CU42008)											
Extractable Petroleum Hydrocarbons - Soil											
Total EPH (C9-C40)	ND	10	74	80	7.8	73	77	5.3	40 - 140	25	
C9 - Nonane	ND	3.3	70	76	8.2	65	72	10.2	40 - 140	25	
C10 - Decane	ND	3.3	66	72	8.7	56	67	17.9	40 - 140	25	
C12 - Dodecane	ND	3.3	69	74	7.0	51	69	30.0	40 - 140	25	r
C14 - Tetradecane	ND	3.3	73	79	7.9	68	75	9.8	40 - 140	25	
C16 - Hexadecane	ND	3.3	76	82	7.6	98	78	22.7	40 - 140	25	
C18 - Octadecane	ND	3.3	82	92	11.5	96	88	8.7	40 - 140	25	
C20 - Eicosane	ND	3.3	78	84	7.4	86	81	6.0	40 - 140	25	
C21 - Heneicosane	ND	3.3	91	95	4.3	87	90	3.4	40 - 140	25	
C22 - Docosane	ND	3.3	79	87	9.6	78	83	6.2	40 - 140	25	
C24 - Tetracosane	ND	3.3	75	80	6.5	59	76	25.2	40 - 140	25	
C26 - Hexacosane	ND	3.3	76	81	6.4	59	77	26.5	40 - 140	25	r
C28 - Octacosane	ND	3.3	75	82	8.9	66	78	16.7	40 - 140	25	
C30 - Tricotane	ND	3.3	75	81	7.7	80	78	2.5	40 - 140	25	
C32 - Dotriacontance	ND	3.3	74	81	9.0	72	79	9.3	40 - 140	25	
C34 - Tetratriacontane	ND	3.3	74	82	10.3	76	79	3.9	40 - 140	25	
C36 - Hexatriacontane	ND	3.3	69	77	11.0	71	76	6.8	40 - 140	25	
C38 - Octatriacontane	ND	3.3	66	73	10.1	65	72	10.2	40 - 140	25	
C40 - Tetracontane	ND	3.3	61	66	7.9	58	64	9.8	40 - 140	25	
% COD (surr)	54	%	70	77	9.5	52	74	34.9	40 - 140	25	r
% Terphenyl (surr)	85	%	96	103	7.0	99	98	1.0	40 - 140	25	
Comment:											
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%											
QA/QC Batch 806668 (ug/Kg), QC Sample No: CU41962 (CU42003, CU42004, CU42005, CU42006, CU42007, CU42008)											
Chlorinated Herbicides - Soil											
2,4,5-T	ND	130	69	61	12.3	73	71	2.8	40 - 140	30	
2,4,5-TP (Silvex)	ND	130	89	78	13.2	87	84	3.5	40 - 140	30	
2,4-D	ND	250	76	67	12.6	74	73	1.4	40 - 140	30	
2,4-DB	ND	2500	64	57	11.6	66	63	4.7	40 - 140	30	
Dalapon	ND	130	87	75	14.8	80	84	4.9	40 - 140	30	
Dicamba	ND	130	92	78	16.5	80	82	2.5	40 - 140	30	
Dichloroprop	ND	130	90	78	14.3	88	84	4.7	40 - 140	30	
Dinoseb	ND	130	95	79	18.4	90	88	2.2	40 - 140	30	
% DCAA (Surrogate Rec)	100	%	107	93	14.0	104	100	3.9	30 - 150	30	
% DCAA (Surrogate Rec) (Confirm	100	%	102	90	12.5	98	95	3.1	30 - 150	30	
Comment:											
8151 additional criteria: (LCS/LCSD)10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. LCS acceptance range is 40-140% MS acceptance range 30-150%.											

QA/QC Data

SDG I.D.: GCU42003

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 807313 (ug/Kg), QC Sample No: CU42007 (CU42003, CU42004, CU42005, CU42006, CU42007, CU42008)											
Polychlorinated Biphenyls - Soil											
PCB-1016	ND	33	61	51	17.9	62	52	17.5	40 - 140	30	
PCB-1221	ND	33							40 - 140	30	
PCB-1232	ND	33							40 - 140	30	
PCB-1242	ND	33							40 - 140	30	
PCB-1248	ND	33							40 - 140	30	
PCB-1254	ND	33							40 - 140	30	
PCB-1260	ND	33	72	59	19.8	75	57	27.3	40 - 140	30	
PCB-1262	ND	33							40 - 140	30	
PCB-1268	ND	33							40 - 140	30	
% DCBP (Surrogate Rec)	88	%	78	64	19.7	84	58	36.6	30 - 150	30	r
% DCBP (Surrogate Rec) (Confirm	78	%	69	58	17.3	75	51	38.1	30 - 150	30	r
% TCMX (Surrogate Rec)	83	%	72	60	18.2	73	62	16.3	30 - 150	30	
% TCMX (Surrogate Rec) (Confirm	76	%	70	59	17.1	70	58	18.8	30 - 150	30	
QA/QC Batch 807315 (ug/Kg), QC Sample No: CU42007 (CU42003, CU42004, CU42005, CU42006, CU42007, CU42008)											
Pesticides - Soil											
4,4' -DDD	ND	1.7	76	70	8.2	82	78	5.0	40 - 140	30	
4,4' -DDE	ND	1.7	74	70	5.6	82	78	5.0	40 - 140	30	
4,4' -DDT	ND	1.7	73	68	7.1	82	79	3.7	40 - 140	30	
a-BHC	ND	1.0	72	68	5.7	81	75	7.7	40 - 140	30	
a-Chlordane	ND	3.3	72	65	10.2	81	77	5.1	40 - 140	30	
Aldrin	ND	1.0	70	66	5.9	76	73	4.0	40 - 140	30	
b-BHC	ND	1.0	85	81	4.8	96	88	8.7	40 - 140	30	
Chlordane	ND	33	79	77	2.6	84	100	17.4	40 - 140	30	
d-BHC	ND	3.3	65	58	11.4	72	64	11.8	40 - 140	30	
Dieldrin	ND	1.0	71	67	5.8	79	75	5.2	40 - 140	30	
Endosulfan I	ND	3.3	72	71	1.4	76	76	0.0	40 - 140	30	
Endosulfan II	ND	3.3	77	73	5.3	86	81	6.0	40 - 140	30	
Endosulfan sulfate	ND	3.3	74	70	5.6	83	78	6.2	40 - 140	30	
Endrin	ND	3.3	83	77	7.5	91	86	5.6	40 - 140	30	
Endrin aldehyde	ND	3.3	69	65	6.0	71	72	1.4	40 - 140	30	
Endrin ketone	ND	3.3	79	75	5.2	89	86	3.4	40 - 140	30	
g-BHC	ND	1.0	76	73	4.0	88	82	7.1	40 - 140	30	
g-Chlordane	ND	3.3	79	77	2.6	84	100	17.4	40 - 140	30	
Heptachlor	ND	3.3	75	70	6.9	81	77	5.1	40 - 140	30	
Heptachlor epoxide	ND	3.3	74	70	5.6	86	77	11.0	40 - 140	30	
Methoxychlor	ND	3.3	73	71	2.8	83	80	3.7	40 - 140	30	
Toxaphene	ND	130	NA	NA	NC	NA	NA	NC	40 - 140	30	
% DCBP	65	%	72	68	5.7	78	77	1.3	30 - 150	30	
% DCBP (Confirmation)	70	%	70	62	12.1	68	72	5.7	30 - 150	30	
% TCMX	64	%	70	68	2.9	74	66	11.4	30 - 150	30	
% TCMX (Confirmation)	62	%	67	64	4.6	69	61	12.3	30 - 150	30	

Comment:

8081 additional criteria: (LCS/LCSD)10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. LCS acceptance range is 40-140% MS acceptance range 30-150%.

QA/QC Batch 807208 (ug/kg), QC Sample No: CU38344 (CU42003)											
Semivolatiles - Soil											
1,1-Biphenyl	ND	230	71	68	4.3	62	66	6.3	40 - 140	30	
1,2,4,5-Tetrachlorobenzene	ND	230	66	65	1.5	60	64	6.5	40 - 140	30	
1,2-Diphenylhydrazine	ND	230	79	76	3.9	70	76	8.2	40 - 140	30	

QA/QC Data

SDG I.D.: GCU42003

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
2,2'-Oxybis(1-Chloropropane)	ND	230	63	59	6.6	56	63	11.8	40 - 140	30	
2,3,4,6-tetrachlorophenol	ND	230	82	82	0.0	73	79	7.9	30 - 130	30	
2,4,5-Trichlorophenol	ND	230	81	80	1.2	72	78	8.0	40 - 140	30	
2,4,6-Trichlorophenol	ND	130	92	87	5.6	78	83	6.2	30 - 130	30	
2,4-Dichlorophenol	ND	130	83	79	4.9	76	80	5.1	30 - 130	30	
2,4-Dimethylphenol	ND	230	82	81	1.2	73	78	6.6	30 - 130	30	
2,4-Dinitrophenol	ND	230	94	91	3.2	39	43	9.8	30 - 130	30	
2,4-Dinitrotoluene	ND	130	91	89	2.2	79	86	8.5	30 - 130	30	
2,6-Dinitrotoluene	ND	130	89	87	2.3	77	85	9.9	40 - 140	30	
2-Chloronaphthalene	ND	230	74	71	4.1	64	70	9.0	40 - 140	30	
2-Chlorophenol	ND	230	76	70	8.2	70	79	12.1	30 - 130	30	
2-Methylnaphthalene	ND	230	78	76	2.6	72	76	5.4	40 - 140	30	
2-Methylphenol (o-cresol)	ND	230	72	65	10.2	66	74	11.4	40 - 140	30	
2-Nitroaniline	ND	330	117	100	15.7	105	116	10.0	40 - 140	30	
2-Nitrophenol	ND	230	94	90	4.3	84	91	8.0	40 - 140	30	
3&4-Methylphenol (m&p-cresol)	ND	230	82	75	8.9	77	84	8.7	30 - 130	30	
3,3'-Dichlorobenzidine	ND	130	90	42	72.7	87	91	4.5	40 - 140	30	r
3-Nitroaniline	ND	330	99	64	42.9	90	98	8.5	40 - 140	30	r
4,6-Dinitro-2-methylphenol	ND	230	99	96	3.1	54	59	8.8	30 - 130	30	
4-Bromophenyl phenyl ether	ND	230	78	75	3.9	68	72	5.7	40 - 140	30	
4-Chloro-3-methylphenol	ND	230	86	84	2.4	81	86	6.0	30 - 130	30	
4-Chloroaniline	ND	230	73	60	19.5	70	71	1.4	40 - 140	30	
4-Chlorophenyl phenyl ether	ND	230	76	72	5.4	67	73	8.6	40 - 140	30	
4-Nitroaniline	ND	230	94	90	4.3	82	89	8.2	40 - 140	30	
4-Nitrophenol	ND	230	140	144	2.8	126	143	12.6	30 - 130	30	l,m
Acenaphthene	ND	230	75	74	1.3	64	69	7.5	30 - 130	30	
Acenaphthylene	ND	130	66	62	6.3	58	63	8.3	40 - 140	30	
Acetophenone	ND	230	75	69	8.3	69	77	11.0	40 - 140	30	
Aniline	ND	330	58	<10	NC	51	60	16.2	40 - 140	30	l
Anthracene	ND	230	76	73	4.0	67	72	7.2	40 - 140	30	
Atrazine	ND	130	73	51	35.5	62	68	9.2	40 - 140	30	r
Benz(a)anthracene	ND	230	74	72	2.7	67	71	5.8	40 - 140	30	
Benzaldehyde	ND	230	147	141	4.2	126	151	18.1	40 - 140	30	l,m
Benzo(a)pyrene	ND	130	76	77	1.3	67	72	7.2	40 - 140	30	
Benzo(b)fluoranthene	ND	160	79	81	2.5	70	73	4.2	40 - 140	30	
Benzo(ghi)perylene	ND	230	77	80	3.8	67	71	5.8	40 - 140	30	
Benzo(k)fluoranthene	ND	230	76	80	5.1	67	72	7.2	40 - 140	30	
Benzoic Acid	ND	670	104	107	2.8	66	82	21.6	30 - 130	30	
Benzyl Alcohol	ND	230	78	69	12.2	70	78	10.8	30 - 130	30	
Benzyl butyl phthalate	ND	230	85	83	2.4	71	74	4.1	40 - 140	30	
Bis(2-chloroethoxy)methane	ND	230	72	69	4.3	66	71	7.3	40 - 140	30	
Bis(2-chloroethyl)ether	ND	130	76	71	6.8	62	76	20.3	40 - 140	30	
Bis(2-ethylhexyl)phthalate	ND	230	86	85	1.2	73	76	4.0	40 - 140	30	
Caprolactam	ND	230	79	76	3.9	71	81	13.2	40 - 140	30	
Carbazole	ND	230	77	76	1.3	69	75	8.3	40 - 140	30	
Chrysene	ND	230	72	71	1.4	64	69	7.5	40 - 140	30	
Dibenz(a,h)anthracene	ND	130	79	82	3.7	68	72	5.7	40 - 140	30	
Dibenzofuran	ND	230	76	73	4.0	67	72	7.2	40 - 140	30	
Diethyl phthalate	ND	230	81	79	2.5	72	78	8.0	40 - 140	30	
Dimethylphthalate	ND	230	79	76	3.9	68	75	9.8	40 - 140	30	
Di-n-butylphthalate	ND	670	84	84	0.0	74	81	9.0	40 - 140	30	
Di-n-octylphthalate	ND	230	94	90	4.3	81	86	6.0	40 - 140	30	
Fluoranthene	ND	230	74	73	1.4	67	74	9.9	40 - 140	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Fluorene	ND	230	76	74	2.7	68	74	8.5	40 - 140	30	
Hexachlorobenzene	ND	130	80	78	2.5	68	73	7.1	40 - 140	30	
Hexachlorobutadiene	ND	230	67	70	4.4	59	62	5.0	40 - 140	30	
Hexachlorocyclopentadiene	ND	230	47	59	22.6	16	<10	NC	40 - 140	30	m
Hexachloroethane	ND	130	65	68	4.5	51	55	7.5	40 - 140	30	
Indeno(1,2,3-cd)pyrene	ND	230	81	83	2.4	70	74	5.6	40 - 140	30	
Isophorone	ND	130	69	67	2.9	63	68	7.6	40 - 140	30	
Naphthalene	ND	230	67	67	0.0	60	65	8.0	40 - 140	30	
Nitrobenzene	ND	130	81	76	6.4	73	83	12.8	40 - 140	30	
N-Nitrosodimethylamine	ND	230	70	67	4.4	59	73	21.2	40 - 140	30	
N-Nitrosodi-n-propylamine	ND	130	75	68	9.8	67	77	13.9	40 - 140	30	
N-Nitrosodiphenylamine	ND	130	74	67	9.9	66	73	10.1	40 - 140	30	
Pentachlorophenol	ND	230	90	91	1.1	82	86	4.8	30 - 130	30	
Phenanthrene	ND	130	74	72	2.7	66	70	5.9	40 - 140	30	
Phenol	ND	230	83	76	8.8	76	85	11.2	30 - 130	30	
Pyrene	ND	230	74	73	1.4	68	75	9.8	30 - 130	30	
% 2,4,6-Tribromophenol	103	%	91	93	2.2	80	88	9.5	30 - 130	30	
% 2-Fluorobiphenyl	75	%	70	70	0.0	62	68	9.2	30 - 130	30	
% 2-Fluorophenol	80	%	72	68	5.7	65	77	16.9	30 - 130	30	
% Nitrobenzene-d5	75	%	68	65	4.5	63	71	11.9	30 - 130	30	
% Phenol-d5	82	%	74	68	8.5	69	79	13.5	30 - 130	30	
% Terphenyl-d14	84	%	74	74	0.0	68	75	9.8	30 - 130	30	

Comment:

Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

QA/QC Batch 807308 (ug/kg), QC Sample No: CU42006 (CU42004, CU42005, CU42006, CU42007, CU42008)

Semivolatiles - Soil

1,1-Biphenyl	ND	230	55	66	18.2	53			40 - 140	30	
1,2,4,5-Tetrachlorobenzene	ND	230	44	51	14.7	43			40 - 140	30	
1,2-Diphenylhydrazine	ND	230	61	72	16.5	60			40 - 140	30	
2,2'-Oxybis(1-Chloropropane)	ND	230	55	61	10.3	60			40 - 140	30	
2,3,4,6-tetrachlorophenol	ND	230	64	76	17.1	63			30 - 130	30	
2,4,5-Trichlorophenol	ND	230	61	73	17.9	62			40 - 140	30	
2,4,6-Trichlorophenol	ND	130	64	78	19.7	65			30 - 130	30	
2,4-Dichlorophenol	ND	130	59	68	14.2	64			30 - 130	30	
2,4-Dimethylphenol	ND	230	66	79	17.9	70			30 - 130	30	
2,4-Dinitrophenol	ND	230	91	107	16.2	86			30 - 130	30	
2,4-Dinitrotoluene	ND	130	74	88	17.3	74			30 - 130	30	
2,6-Dinitrotoluene	ND	130	70	84	18.2	71			40 - 140	30	
2-Chloronaphthalene	ND	230	57	69	19.0	56			40 - 140	30	
2-Chlorophenol	ND	230	63	67	6.2	71			30 - 130	30	
2-Methylnaphthalene	ND	230	59	69	15.6	60			40 - 140	30	
2-Methylphenol (o-cresol)	ND	230	70	76	8.2	80			40 - 140	30	
2-Nitroaniline	ND	330	97	121	22.0	110			40 - 140	30	
2-Nitrophenol	ND	230	70	81	14.6	72			40 - 140	30	
3&4-Methylphenol (m&p-cresol)	ND	230	67	72	7.2	77			30 - 130	30	
3,3'-Dichlorobenzidine	ND	130	69	97	33.7	70			40 - 140	30	r
3-Nitroaniline	ND	330	85	109	24.7	96			40 - 140	30	
4,6-Dinitro-2-methylphenol	ND	230	86	99	14.1	82			30 - 130	30	
4-Bromophenyl phenyl ether	ND	230	62	72	14.9	55			40 - 140	30	
4-Chloro-3-methylphenol	ND	230	72	84	15.4	78			30 - 130	30	
4-Chloroaniline	ND	230	60	74	20.9	65			40 - 140	30	

QA/QC Data

SDG I.D.: GCU42003

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
4-Chlorophenyl phenyl ether	ND	230	56	66	16.4	53			40 - 140	30	
4-Nitroaniline	ND	230	78	93	17.5	82			40 - 140	30	
4-Nitrophenol	ND	230	110	135	20.4	127			30 - 130	30	l
Acenaphthene	ND	230	63	72	13.3	58			30 - 130	30	
Acenaphthylene	ND	130	52	63	19.1	52			40 - 140	30	
Acetophenone	ND	230	59	63	6.6	66			40 - 140	30	
Aniline	ND	330	17	54	104.2	47			40 - 140	30	l,r
Anthracene	ND	230	63	75	17.4	61			40 - 140	30	
Atrazine	ND	130	53	64	18.8	56			40 - 140	30	
Benz(a)anthracene	ND	230	58	68	15.9	54			40 - 140	30	
Benzaldehyde	ND	230	119	129	8.1	134			40 - 140	30	
Benzo(a)pyrene	ND	130	56	66	16.4	51			40 - 140	30	
Benzo(b)fluoranthene	ND	160	57	65	13.1	52			40 - 140	30	
Benzo(ghi)perylene	ND	230	62	74	17.6	48			40 - 140	30	
Benzo(k)fluoranthene	ND	230	57	66	14.6	53			40 - 140	30	
Benzoic Acid	ND	670	98	113	14.2	81			30 - 130	30	
Benzyl Alcohol	ND	230	64	70	9.0	76			30 - 130	30	
Benzyl butyl phthalate	ND	230	68	79	15.0	60			40 - 140	30	
Bis(2-chloroethoxy)methane	ND	230	56	65	14.9	60			40 - 140	30	
Bis(2-chloroethyl)ether	ND	130	63	67	6.2	63			40 - 140	30	
Bis(2-ethylhexyl)phthalate	ND	230	73	85	15.2	63			40 - 140	30	
Caprolactam	ND	230	65	77	16.9	73			40 - 140	30	
Carbazole	ND	230	63	76	18.7	68			40 - 140	30	
Chrysene	ND	230	62	72	14.9	59			40 - 140	30	
Dibenz(a,h)anthracene	ND	130	64	75	15.8	50			40 - 140	30	
Dibenzofuran	ND	230	59	71	18.5	59			40 - 140	30	
Diethyl phthalate	ND	230	65	77	16.9	66			40 - 140	30	
Dimethylphthalate	ND	230	61	73	17.9	64			40 - 140	30	
Di-n-butylphthalate	ND	670	66	79	17.9	63			40 - 140	30	
Di-n-octylphthalate	ND	230	75	91	19.3	65			40 - 140	30	
Fluoranthene	ND	230	60	70	15.4	62			40 - 140	30	
Fluorene	ND	230	59	70	17.1	58			40 - 140	30	
Hexachlorobenzene	ND	130	58	69	17.3	46			40 - 140	30	
Hexachlorobutadiene	ND	230	47	58	21.0	43			40 - 140	30	
Hexachlorocyclopentadiene	ND	230	39	35	10.8	<10			40 - 140	30	l,m
Hexachloroethane	ND	130	56	67	17.9	55			40 - 140	30	
Indeno(1,2,3-cd)pyrene	ND	230	63	75	17.4	48			40 - 140	30	
Isophorone	ND	130	55	63	13.6	59			40 - 140	30	
Naphthalene	ND	230	54	64	16.9	57			40 - 140	30	
Nitrobenzene	ND	130	61	64	4.8	68			40 - 140	30	
N-Nitrosodimethylamine	ND	230	63	70	10.5	73			40 - 140	30	
N-Nitrosodi-n-propylamine	ND	130	60	64	6.5	69			40 - 140	30	
N-Nitrosodiphenylamine	ND	130	57	69	19.0	60			40 - 140	30	
Pentachlorophenol	ND	230	90	106	16.3	86			30 - 130	30	
Phenanthrene	ND	130	64	75	15.8	62			40 - 140	30	
Phenol	ND	230	69	78	12.2	83			30 - 130	30	
Pyrene	ND	230	60	69	14.0	65			30 - 130	30	
% 2,4,6-Tribromophenol	106	%	74	89	18.4	74			30 - 130	30	
% 2-Fluorobiphenyl	71	%	55	67	19.7	55			30 - 130	30	
% 2-Fluorophenol	71	%	65	71	8.8	75			30 - 130	30	
% Nitrobenzene-d5	76	%	59	63	6.6	66			30 - 130	30	
% Phenol-d5	70	%	62	69	10.7	73			30 - 130	30	
% Terphenyl-d14	78	%	63	74	16.1	62			30 - 130	30	

Comment:

This batch consists of a Blank, LCS, LCSD and MS.

Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

QA/QC Batch 806617 (ug/kg), QC Sample No: CU39770 (CU42003, CU42004, CU42005, CU42007, CU42008)

Volatiles - Soil (Low Level)

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,1,1,2-Tetrachloroethane	ND	5.0	120	119	0.8	111	117	5.3	70 - 130	20	
1,1,1-Trichloroethane	ND	5.0	107	107	0.0	105	107	1.9	70 - 130	20	
1,1,2,2-Tetrachloroethane	ND	3.0	100	100	0.0	115	124	7.5	70 - 130	20	
1,1,2-Trichloroethane	ND	5.0	111	108	2.7	95	93	2.1	70 - 130	20	
1,1-Dichloroethane	ND	5.0	100	99	1.0	99	99	0.0	70 - 130	20	
1,1-Dichloroethene	ND	5.0	101	102	1.0	98	100	2.0	70 - 130	20	
1,2,3-Trichlorobenzene	ND	5.0	109	112	2.7	46	45	2.2	70 - 130	20	m
1,2,4-Trichlorobenzene	ND	5.0	110	111	0.9	51	51	0.0	70 - 130	20	m
1,2,4-Trimethylbenzene	ND	1.0	106	108	1.9	87	105	18.8	70 - 130	20	
1,2-Dibromo-3-chloropropane	ND	5.0	114	106	7.3	96	101	5.1	70 - 130	20	
1,2-Dibromoethane	ND	5.0	111	108	2.7	92	90	2.2	70 - 130	20	
1,2-Dichlorobenzene	ND	5.0	105	104	1.0	84	89	5.8	70 - 130	20	
1,2-Dichloroethane	ND	5.0	107	104	2.8	96	92	4.3	70 - 130	20	
1,2-Dichloropropane	ND	5.0	104	103	1.0	99	99	0.0	70 - 130	20	
1,3,5-Trimethylbenzene	ND	1.0	108	111	2.7	106	120	12.4	70 - 130	20	
1,3-Dichlorobenzene	ND	5.0	107	106	0.9	93	97	4.2	70 - 130	20	
1,4-Dichlorobenzene	ND	5.0	105	105	0.0	84	89	5.8	70 - 130	20	
1,4-dioxane	ND	100	93	89	4.4	112	101	10.3	70 - 130	20	
2-Hexanone	ND	25	100	92	8.3	33	42	24.0	70 - 130	20	m,r
4-Methyl-2-pentanone	ND	25	104	101	2.9	47	61	25.9	70 - 130	20	m,r
Acetone	ND	10	85	86	1.2	70	64	9.0	70 - 130	20	m
Acrolein	ND	25	96	93	3.2	<10	<10	NC	70 - 130	20	m
Acrylonitrile	ND	5.0	96	94	2.1	71	65	8.8	70 - 130	20	m
Benzene	ND	1.0	106	106	0.0	101	101	0.0	70 - 130	20	
Bromochloromethane	ND	5.0	108	106	1.9	93	87	6.7	70 - 130	20	
Bromodichloromethane	ND	5.0	111	109	1.8	97	96	1.0	70 - 130	20	
Bromoform	ND	5.0	126	123	2.4	92	91	1.1	70 - 130	20	
Bromomethane	ND	5.0	90	94	4.3	93	89	4.4	70 - 130	20	
Carbon Disulfide	ND	5.0	101	100	1.0	71	72	1.4	70 - 130	20	
Carbon tetrachloride	ND	5.0	107	109	1.9	103	104	1.0	70 - 130	20	
Chlorobenzene	ND	5.0	109	110	0.9	94	97	3.1	70 - 130	20	
Chloroethane	ND	5.0	103	99	4.0	96	97	1.0	70 - 130	20	
Chloroform	ND	5.0	101	100	1.0	97	97	0.0	70 - 130	20	
Chloromethane	ND	5.0	100	101	1.0	102	97	5.0	70 - 130	20	
cis-1,2-Dichloroethene	ND	5.0	110	105	4.7	92	88	4.4	70 - 130	20	
cis-1,3-Dichloropropene	ND	5.0	111	110	0.9	84	77	8.7	70 - 130	20	
Cyclohexane	ND	5.0	102	101	1.0	98	98	0.0	70 - 130	20	
Dibromochloromethane	ND	3.0	116	115	0.9	101	101	0.0	70 - 130	20	
Dichlorodifluoromethane	ND	5.0	113	110	2.7	132	132	0.0	70 - 130	20	m
Ethylbenzene	ND	1.0	113	108	4.5	104	108	3.8	70 - 130	20	
Isopropylbenzene	ND	1.0	111	101	9.4	138	148	7.0	70 - 130	20	m
m&p-Xylene	ND	2.0	114	110	3.6	101	106	4.8	70 - 130	20	
Methyl ethyl ketone	ND	5.0	80	77	3.8	56	54	3.6	70 - 130	20	m
Methyl t-butyl ether (MTBE)	ND	1.0	101	98	3.0	100	99	1.0	70 - 130	20	
Methylacetate	ND	5.0	91	89	2.2	101	90	11.5	70 - 130	20	
Methylcyclohexane	ND	5.0	106	106	0.0	89	89	0.0	70 - 130	20	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Methylene chloride	ND	5.0	90	90	0.0	83	81	2.4	70 - 130	20	
o-Xylene	ND	2.0	113	108	4.5	101	104	2.9	70 - 130	20	
Styrene	ND	5.0	117	112	4.4	87	90	3.4	70 - 130	20	
tert-butyl alcohol	ND	100	110	97	12.6	122	113	7.7	70 - 130	20	
Tetrachloroethene	ND	5.0	116	117	0.9	101	104	2.9	70 - 130	20	
Toluene	ND	1.0	107	109	1.9	96	97	1.0	70 - 130	20	
trans-1,2-Dichloroethene	ND	5.0	101	101	0.0	84	82	2.4	70 - 130	20	
trans-1,3-Dichloropropene	ND	5.0	115	110	4.4	76	68	11.1	70 - 130	20	m
Trichloroethene	ND	5.0	113	115	1.8	99	98	1.0	70 - 130	20	
Trichlorofluoromethane	ND	5.0	100	100	0.0	102	103	1.0	70 - 130	20	
Trichlorotrifluoroethane	ND	5.0	117	115	1.7	119	122	2.5	70 - 130	20	
Vinyl Acetate	ND	5.0	93	87	6.7	13	12	8.0	70 - 130	20	m
Vinyl chloride	ND	5.0	103	103	0.0	102	102	0.0	70 - 130	20	
% 1,2-dichlorobenzene-d4	99	%	100	99	1.0	98	97	1.0	70 - 130	20	
% Bromofluorobenzene	96	%	104	99	4.9	91	90	1.1	70 - 130	20	
% Dibromofluoromethane	101	%	106	105	0.9	108	110	1.8	70 - 130	20	
% Toluene-d8	98	%	98	100	2.0	97	95	2.1	70 - 130	20	

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

QA/QC Batch 806726 (ug/kg), QC Sample No: CU42006 (CU42006)

Volatiles - Soil (Low Level)

1,1,1,2-Tetrachloroethane	ND	5.0	106	111	4.6	113	113	0.0	70 - 130	20	
1,1,1-Trichloroethane	ND	5.0	93	96	3.2	102	105	2.9	70 - 130	20	
1,1,2,2-Tetrachloroethane	ND	3.0	85	91	6.8	94	95	1.1	70 - 130	20	
1,1,2-Trichloroethane	ND	5.0	97	100	3.0	104	105	1.0	70 - 130	20	
1,1-Dichloroethane	ND	5.0	86	89	3.4	96	98	2.1	70 - 130	20	
1,1-Dichloroethene	ND	5.0	85	88	3.5	98	100	2.0	70 - 130	20	
1,2,3-Trichlorobenzene	ND	5.0	97	101	4.0	86	76	12.3	70 - 130	20	
1,2,4-Trichlorobenzene	ND	5.0	98	104	5.9	86	77	11.0	70 - 130	20	
1,2,4-Trimethylbenzene	ND	1.0	93	98	5.2	97	95	2.1	70 - 130	20	
1,2-Dibromo-3-chloropropane	ND	5.0	96	102	6.1	114	113	0.9	70 - 130	20	
1,2-Dibromoethane	ND	5.0	97	100	3.0	102	104	1.9	70 - 130	20	
1,2-Dichlorobenzene	ND	5.0	92	97	5.3	96	93	3.2	70 - 130	20	
1,2-Dichloroethane	ND	5.0	94	97	3.1	103	105	1.9	70 - 130	20	
1,2-Dichloropropane	ND	5.0	92	94	2.2	99	100	1.0	70 - 130	20	
1,3,5-Trimethylbenzene	ND	1.0	94	99	5.2	103	100	3.0	70 - 130	20	
1,3-Dichlorobenzene	ND	5.0	96	101	5.1	98	95	3.1	70 - 130	20	
1,4-Dichlorobenzene	ND	5.0	94	98	4.2	94	92	2.2	70 - 130	20	
1,4-dioxane	ND	100	83	83	0.0	89	94	5.5	70 - 130	20	
2-Hexanone	ND	25	85	88	3.5	94	96	2.1	70 - 130	20	
4-Methyl-2-pentanone	ND	25	90	93	3.3	101	103	2.0	70 - 130	20	
Acetone	ND	10	78	76	2.6	90	88	2.2	70 - 130	20	
Acrolein	ND	25	81	83	2.4	62	64	3.2	70 - 130	20	m
Acrylonitrile	ND	5.0	81	83	2.4	91	91	0.0	70 - 130	20	
Benzene	ND	1.0	95	97	2.1	100	103	3.0	70 - 130	20	
Bromochloromethane	ND	5.0	93	95	2.1	101	104	2.9	70 - 130	20	
Bromodichloromethane	ND	5.0	98	102	4.0	105	107	1.9	70 - 130	20	
Bromoform	ND	5.0	110	115	4.4	116	117	0.9	70 - 130	20	
Bromomethane	ND	5.0	80	82	2.5	94	94	0.0	70 - 130	20	
Carbon Disulfide	ND	5.0	86	88	2.3	93	96	3.2	70 - 130	20	
Carbon tetrachloride	ND	5.0	96	95	1.0	100	103	3.0	70 - 130	20	
Chlorobenzene	ND	5.0	97	100	3.0	99	99	0.0	70 - 130	20	

QA/QC Data

SDG I.D.: GCU42003

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Chloroethane	ND	5.0	85	88	3.5	91	95	4.3	70 - 130	20	
Chloroform	ND	5.0	88	91	3.4	97	99	2.0	70 - 130	20	
Chloromethane	ND	5.0	84	86	2.4	99	102	3.0	70 - 130	20	
cis-1,2-Dichloroethene	ND	5.0	93	95	2.1	99	101	2.0	70 - 130	20	
cis-1,3-Dichloropropene	ND	5.0	98	102	4.0	102	104	1.9	70 - 130	20	
Cyclohexane	ND	5.0	88	90	2.2	98	98	0.0	70 - 130	20	
Dibromochloromethane	ND	3.0	102	106	3.8	108	110	1.8	70 - 130	20	
Dichlorodifluoromethane	ND	5.0	93	93	0.0	127	127	0.0	70 - 130	20	
Ethylbenzene	ND	1.0	99	104	4.9	105	106	0.9	70 - 130	20	
Isopropylbenzene	ND	1.0	97	101	4.0	112	110	1.8	70 - 130	20	
m&p-Xylene	ND	2.0	101	106	4.8	107	106	0.9	70 - 130	20	
Methyl ethyl ketone	ND	5.0	67	68	1.5	76	77	1.3	70 - 130	20	l
Methyl t-butyl ether (MTBE)	ND	1.0	85	87	2.3	97	99	2.0	70 - 130	20	
Methylacetate	ND	5.0	71	74	4.1	90	94	4.3	70 - 130	20	
Methylcyclohexane	ND	5.0	94	96	2.1	99	97	2.0	70 - 130	20	
Methylene chloride	ND	5.0	78	80	2.5	86	87	1.2	70 - 130	20	
o-Xylene	ND	2.0	100	103	3.0	108	107	0.9	70 - 130	20	
Styrene	ND	5.0	103	107	3.8	107	107	0.0	70 - 130	20	
tert-butyl alcohol	ND	100	98	100	2.0	111	117	5.3	70 - 130	20	
Tetrachloroethene	ND	5.0	105	109	3.7	109	109	0.0	70 - 130	20	
Toluene	ND	1.0	96	99	3.1	99	101	2.0	70 - 130	20	
trans-1,2-Dichloroethene	ND	5.0	86	88	2.3	93	97	4.2	70 - 130	20	
trans-1,3-Dichloropropene	ND	5.0	103	106	2.9	103	107	3.8	70 - 130	20	
Trichloroethene	ND	5.0	100	102	2.0	107	110	2.8	70 - 130	20	
Trichlorofluoromethane	ND	5.0	85	88	3.5	94	96	2.1	70 - 130	20	
Trichlorotrifluoroethane	ND	5.0	99	101	2.0	116	116	0.0	70 - 130	20	
Vinyl Acetate	ND	5.0	85	93	9.0	46	40	14.0	70 - 130	20	m
Vinyl chloride	ND	5.0	86	88	2.3	102	105	2.9	70 - 130	20	
% 1,2-dichlorobenzene-d4	98	%	99	101	2.0	101	99	2.0	70 - 130	20	
% Bromofluorobenzene	99	%	102	102	0.0	104	102	1.9	70 - 130	20	
% Dibromofluoromethane	101	%	105	105	0.0	111	109	1.8	70 - 130	20	
% Toluene-d8	99	%	100	99	1.0	98	99	1.0	70 - 130	20	

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
m = This parameter is outside laboratory MS/MSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference
(ISO) - Isotope Dilution

Phyllis Shiller, Laboratory Director
October 16, 2025

Thursday, October 16, 2025

Criteria: NJ: ISCC, NRC, RC; NY: 375, 375COM, 375IN

State: NJ

Sample Criteria Exceedances Report

GCU42003 - FACTOR

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CU42003	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Res Direct Contact	ND	37	12	12	ug/Kg
CU42003	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	37	0.019	0.019	ug/Kg
CU42003	$8270_TCLR	2,6-Dinitrotoluene	PA / Clean Fill MSCs / Soil to GW Res	ND	74	13	13	ug/Kg
CU42003	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	37	0.35	0.35	ug/Kg
CU42003	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Clean Fill MSCs / Soil to GW Res	ND	37	4.5	4.5	ug/Kg
CU42003	$8270_TCLR	2-Nitroaniline	PA / Clean Fill MSCs / Soil to GW Res	ND	74	2	2	ug/Kg
CU42003	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Reg Fill MSCs / Soil to GW NonRes	ND	37	23	23	ug/Kg
CU42003	$8270_TCLR	2-Nitroaniline	PA / Reg Fill MSCs / Soil to GW NonRes	ND	74	7.9	7.9	ug/Kg
CU42003	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	37	1.8	1.8	ug/Kg
CU42003	$8270_TCLR	2,6-Dinitrotoluene	PA / Reg Fill MSCs / Soil to GW NonRes	ND	74	53	53	ug/Kg
CU42003	$8270_TCLR	N-Nitrosodimethylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	37	0.24	0.24	ug/Kg
CU42003	12DIPHENYSM	1,2-Diphenylhydrazine	PA / Clean Fill MSCs / Soil to GW Res	ND	74	39	39	ug/Kg
CU42003	NI-SM	Nickel	NY / 375-6.8 Metals / Unrestricted Use Soil	72.9	0.39	30	30	mg/Kg
CU42004	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Res Direct Contact	ND	42	12	12	ug/Kg
CU42004	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	42	0.019	0.019	ug/Kg
CU42004	$8270_TCLR	N-Nitrosodimethylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	42	0.24	0.24	ug/Kg
CU42004	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Clean Fill MSCs / Soil to GW Res	ND	42	4.5	4.5	ug/Kg
CU42004	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Reg Fill MSCs / Soil to GW NonRes	ND	42	23	23	ug/Kg
CU42004	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	42	0.35	0.35	ug/Kg
CU42004	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	42	1.8	1.8	ug/Kg
CU42004	$8270_TCLR	2,6-Dinitrotoluene	PA / Clean Fill MSCs / Soil to GW Res	ND	84	13	13	ug/Kg
CU42004	$8270_TCLR	2,6-Dinitrotoluene	PA / Reg Fill MSCs / Soil to GW NonRes	ND	84	53	53	ug/Kg
CU42004	$8270_TCLR	2-Nitroaniline	PA / Clean Fill MSCs / Soil to GW Res	ND	84	2	2	ug/Kg
CU42004	$8270_TCLR	2-Nitroaniline	PA / Reg Fill MSCs / Soil to GW NonRes	ND	84	7.9	7.9	ug/Kg
CU42004	12DIPHENYSM	1,2-Diphenylhydrazine	PA / Clean Fill MSCs / Soil to GW Res	ND	84	39	39	ug/Kg
CU42004	NI-SM	Nickel	NY / 375-6.8 Metals / Unrestricted Use Soil	65.3	0.42	30	30	mg/Kg
CU42005	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Res Direct Contact	ND	36	12	12	ug/Kg
CU42005	$8270_TCLR	2-Nitroaniline	PA / Clean Fill MSCs / Soil to GW Res	ND	72	2	2	ug/Kg
CU42005	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	36	0.35	0.35	ug/Kg
CU42005	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	36	0.019	0.019	ug/Kg
CU42005	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Clean Fill MSCs / Soil to GW Res	ND	36	4.5	4.5	ug/Kg
CU42005	$8270_TCLR	2,6-Dinitrotoluene	PA / Clean Fill MSCs / Soil to GW Res	ND	72	13	13	ug/Kg
CU42005	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Reg Fill MSCs / Soil to GW NonRes	ND	36	23	23	ug/Kg
CU42005	$8270_TCLR	2,6-Dinitrotoluene	PA / Reg Fill MSCs / Soil to GW NonRes	ND	72	53	53	ug/Kg
CU42005	$8270_TCLR	N-Nitrosodimethylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	36	0.24	0.24	ug/Kg
CU42005	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	36	1.8	1.8	ug/Kg
CU42005	$8270_TCLR	2-Nitroaniline	PA / Reg Fill MSCs / Soil to GW NonRes	ND	72	7.9	7.9	ug/Kg
CU42005	12DIPHENYSM	1,2-Diphenylhydrazine	PA / Clean Fill MSCs / Soil to GW Res	ND	72	39	39	ug/Kg
CU42005	CO-SM	Cobalt	NJ / Soil Remediation Standard / Res. Ingestion-Dermal	24.3	0.36	23	23	mg/Kg
CU42005	NI-SM	Nickel	NY / 375-6.8 Metals / Commercial	479	3.6	310	310	mg/Kg

Thursday, October 16, 2025

Criteria: NJ: ISCC, NRC, RC; NY: 375, 375COM, 375IN

State: NJ

Sample Criteria Exceedances Report

GCU42003 - FACTOR

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CU42005	NI-SM	Nickel	NY / 375-6.8 Metals / Residential	479	3.6	140	140	mg/Kg
CU42005	NI-SM	Nickel	NY / 375-6.8 Metals / Residential Restricted	479	3.6	310	310	mg/Kg
CU42005	NI-SM	Nickel	NY / 375-6.8 Metals / Unrestricted Use Soil	479	3.6	30	30	mg/Kg
CU42005	TRI-CRSM	Trivalent Chromium	NY / 375-6.8 Metals / Residential	38.9	0.36	36	36	mg/kg
CU42005	TRI-CRSM	Trivalent Chromium	NY / 375-6.8 Metals / Unrestricted Use Soil	38.9	0.36	30	30	mg/kg
CU42006	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Res Direct Contact	ND	37	12	12	ug/Kg
CU42006	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	37	0.35	0.35	ug/Kg
CU42006	$8270_TCLR	2,6-Dinitrotoluene	PA / Clean Fill MSCs / Soil to GW Res	ND	73	13	13	ug/Kg
CU42006	$8270_TCLR	2-Nitroaniline	PA / Clean Fill MSCs / Soil to GW Res	ND	73	2	2	ug/Kg
CU42006	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Clean Fill MSCs / Soil to GW Res	ND	37	4.5	4.5	ug/Kg
CU42006	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	37	0.019	0.019	ug/Kg
CU42006	$8270_TCLR	N-Nitrosodimethylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	37	0.24	0.24	ug/Kg
CU42006	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Reg Fill MSCs / Soil to GW NonRes	ND	37	23	23	ug/Kg
CU42006	$8270_TCLR	2-Nitroaniline	PA / Reg Fill MSCs / Soil to GW NonRes	ND	73	7.9	7.9	ug/Kg
CU42006	$8270_TCLR	2,6-Dinitrotoluene	PA / Reg Fill MSCs / Soil to GW NonRes	ND	73	53	53	ug/Kg
CU42006	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	37	1.8	1.8	ug/Kg
CU42006	12DIPHENYSM	1,2-Diphenylhydrazine	PA / Clean Fill MSCs / Soil to GW Res	ND	73	39	39	ug/Kg
CU42006	HG-SM	Mercury	NY / 375-6.8 Metals / Unrestricted Use Soil	0.28	0.03	0.18	0.18	mg/Kg
CU42006	PB-SM	Lead	NY / 375-6.8 Metals / Unrestricted Use Soil	77.7	0.39	63	63	mg/Kg
CU42007	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Res Direct Contact	ND	43	12	12	ug/Kg
CU42007	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Clean Fill MSCs / Soil to GW Res	ND	43	4.5	4.5	ug/Kg
CU42007	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	43	0.019	0.019	ug/Kg
CU42007	$8270_TCLR	2,6-Dinitrotoluene	PA / Clean Fill MSCs / Soil to GW Res	ND	86	13	13	ug/Kg
CU42007	$8270_TCLR	2-Nitroaniline	PA / Clean Fill MSCs / Soil to GW Res	ND	86	2	2	ug/Kg
CU42007	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	43	0.35	0.35	ug/Kg
CU42007	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	43	1.8	1.8	ug/Kg
CU42007	$8270_TCLR	N-Nitrosodimethylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	43	0.24	0.24	ug/Kg
CU42007	$8270_TCLR	2,6-Dinitrotoluene	PA / Reg Fill MSCs / Soil to GW NonRes	ND	86	53	53	ug/Kg
CU42007	$8270_TCLR	2-Nitroaniline	PA / Reg Fill MSCs / Soil to GW NonRes	ND	86	7.9	7.9	ug/Kg
CU42007	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Reg Fill MSCs / Soil to GW NonRes	ND	43	23	23	ug/Kg
CU42007	12DIPHENYSM	1,2-Diphenylhydrazine	PA / Clean Fill MSCs / Soil to GW Res	ND	86	39	39	ug/Kg
CU42007	NI-SM	Nickel	NY / 375-6.8 Metals / Unrestricted Use Soil	50.3	0.47	30	30	mg/Kg
CU42008	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Res Direct Contact	ND	39	12	12	ug/Kg
CU42008	$8270_TCLR	2-Nitroaniline	PA / Clean Fill MSCs / Soil to GW Res	ND	79	2	2	ug/Kg
CU42008	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	39	0.35	0.35	ug/Kg
CU42008	$8270_TCLR	N-Nitrosodimethylamine	PA / Clean Fill MSCs / Soil to GW Res	ND	39	0.019	0.019	ug/Kg
CU42008	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Clean Fill MSCs / Soil to GW Res	ND	39	4.5	4.5	ug/Kg
CU42008	$8270_TCLR	2,6-Dinitrotoluene	PA / Clean Fill MSCs / Soil to GW Res	ND	79	13	13	ug/Kg
CU42008	$8270_TCLR	Bis(2-chloroethyl)ether	PA / Reg Fill MSCs / Soil to GW NonRes	ND	39	23	23	ug/Kg
CU42008	$8270_TCLR	2,6-Dinitrotoluene	PA / Reg Fill MSCs / Soil to GW NonRes	ND	79	53	53	ug/Kg

Thursday, October 16, 2025

Criteria: NJ: ISCC, NRC, RC; NY: 375, 375COM, 375IN

State: NJ

Sample Criteria Exceedances Report

GCU42003 - FACTOR

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CU42008	$8270_TCLR	N-Nitrosodimethylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	39	0.24	0.24	ug/Kg
CU42008	$8270_TCLR	N-Nitrosodi-n-propylamine	PA / Reg Fill MSCs / Soil to GW NonRes	ND	39	1.8	1.8	ug/Kg
CU42008	$8270_TCLR	2-Nitroaniline	PA / Reg Fill MSCs / Soil to GW NonRes	ND	79	7.9	7.9	ug/Kg
CU42008	12DIPHENYSM	1,2-Diphenylhydrazine	PA / Clean Fill MSCs / Soil to GW Res	ND	79	39	39	ug/Kg

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

October 16, 2025 SDG I.D.: GCU42003

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report:

ICP Metals Narration

ARCOS-3 10/06/25 12:01 CU42003, CU42004, CU42005, CU42006, CU42007, CU42008
The following Continuing Calibration Verification (CCV) compounds did not meet criteria:
CCV 10/07/25 00:17: Calcium 113% (90-110) CU42003, CU42004, CU42005, CU42006, CU42007, CU42008

Additional criteria for CCV; Sodium and Potassium are poor performing elements, the laboratory's in-house limits are 85-115% (CCV).

SVOA Narration

CHEM29 10/08/25-2: CU42004, CU42005, CU42006, CU42007, CU42008
For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.
For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

The following Initial Calibration compounds did not meet recommended response factors: % 2,4,6-Tribromophenol 0.048 (0.05), 2-Nitrophenol 0.051 (0.1), Hexachlorobenzene 0.079 (0.1)
The following Initial Calibration compounds did not meet minimum response factors: % 2,4,6-Tribromophenol 0.048 (0.05)

The following Continuing Calibration compounds did not meet % deviation criteria: % 2,4,6-Tribromophenol 21%H (20%), Pentachlorophenol 29%H (20%)
The following Continuing Calibration compounds did not meet Maximum % deviation criteria: None.
The following Continuing Calibration compounds did not meet recommended response factors: 2-Nitrophenol 0.058 (0.1), Hexachlorobenzene 0.078 (0.1)
The following Continuing Calibration compounds did not meet minimum response factors: None.

Up to eight compounds can be outside of ICAL %RSD criteria and up to sixteen compounds can be outside of CCAL %Dev criteria if less than 40%.

CHEM36 10/09/25-1: CU42003
The following Initial Calibration compounds did not meet recommended response factors: 2-Nitrophenol 0.052 (0.1), Hexachlorobenzene 0.092 (0.1)
The following Initial Calibration compounds did not meet minimum response factors: None.

The following Continuing Calibration compounds did not meet % deviation criteria: % 2,4,6-Tribromophenol 23%H (20%), 2-Nitrophenol 27%H (20%), 4-Nitrophenol 26%H (20%)
The following Continuing Calibration compounds did not meet Maximum % deviation criteria: None.
The following Continuing Calibration compounds did not meet recommended response factors: 2-Nitrophenol 0.066 (0.1), Hexachlorobenzene 0.097 (0.1)
The following Continuing Calibration compounds did not meet minimum response factors: None.

Up to eight compounds can be outside of ICAL %RSD criteria and up to sixteen compounds can be outside of CCAL %Dev criteria if less than 40%.

VOA Narration

CHEM41 10/03/25-2: CU42003, CU42004, CU42005, CU42007, CU42008

Environmental Laboratories, Inc.
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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

October 16, 2025 SDG I.D.: GCU42003

The following Initial Calibration compounds did not meet RSD% criteria: Bromoform 24% (20%), Methyl ethyl ketone 22% (20%)
The following Initial Calibration compounds did not meet maximum RSD% criteria: None.

The following Continuing Calibration compounds did not meet % deviation criteria: Bromoform 22%H (20%), Methyl ethyl ketone 23%L (20%)
The following Continuing Calibration compounds did not meet Maximum % deviation criteria: None.

Up to eight compounds can be outside of ICAL %RSD criteria and up to sixteen compounds can be outside of CCAL %Dev criteria if less than 40%.

CHEM41 10/04/25-1: CU42006

The following Initial Calibration compounds did not meet RSD% criteria: Bromoform 24% (20%), Methyl ethyl ketone 22% (20%)
The following Initial Calibration compounds did not meet maximum RSD% criteria: None.

The following Continuing Calibration compounds did not meet % deviation criteria: Methyl ethyl ketone 30%L (20%), Methylacetate 30%L (20%)
The following Continuing Calibration compounds did not meet Maximum % deviation criteria: None.

Up to eight compounds can be outside of ICAL %RSD criteria and up to sixteen compounds can be outside of CCAL %Dev criteria if less than 40%.

Phoenix Environmental Labs

TCLP/SPLP Prep Logbook 10/3/2025

Date	Sample #	Rsh	Acode	C#	Param	Initial pH (1)	After HCl pH (2)	Fluid Used	Free Liquid Portion (3)	Sample Wgt (g)	Sample Wgt 2 (g)	Extract Vol(mL)	ZHE #	ZHE EP	Time Set	Initial Analyst	Final pH	Time End	Press Filter	Final Analyst	Comment
10/03/25	CU42003	96	SPLPEXTWET		HG	-	-	S	-	100.03	-	2000	-		8:20 PM	O	-	12:20 PM	No	AK	
10/03/25	CU42003	96	TCLPEXTM		HG	-	2.0	1	-	100.26	-	2000	-		8:20 PM	O	4.7	12:20 PM	No	AK	
10/03/25	CU42004	96	SPLPEXTWET		HG	-	-	S	-	100.30	-	2000	-		8:20 PM	O	-	12:20 PM	No	AK	
10/03/25	CU42004	96	TCLPEXTM		HG	-	2.0	1	-	100.35	-	2000	-		8:20 PM	O	4.7	12:20 PM	No	AK	
10/03/25	CU42005	96	SPLPEXTWET		HG	-	-	S	-	100.50	-	2000	-		8:20 PM	O	-	12:20 PM	No	AK	
10/03/25	CU42005	96	TCLPEXTM		HG	-	2.0	1	-	100.33	-	2000	-		8:20 PM	O	4.7	12:20 PM	No	AK	
10/03/25	CU42006	96	SPLPEXTWET		HG	-	-	S	-	100.26	-	2000	-		8:20 PM	O	-	12:20 PM	No	AK	
10/03/25	CU42006	96	TCLPEXTM		HG	-	2.0	1	-	100.23	-	2000	-		8:20 PM	O	4.7	12:20 PM	No	AK	
10/03/25	CU42007	96	SPLPEXTWET		HG	-	-	S	-	100.34	-	2000	-		8:20 PM	O	-	12:20 PM	No	AK	
10/03/25	CU42007	96	TCLPEXTM		HG	-	2.0	1	-	100.29	-	2000	-		8:20 PM	O	4.7	12:20 PM	No	AK	
10/03/25	CU42008	96	SPLPEXTWET		HG	-	-	S	-	100.40	-	2000	-		8:20 PM	O	-	12:20 PM	No	AK	
10/03/25	CU42008	96	TCLPEXTM		HG	-	2.0	1	-	100.28	-	2000	-		8:20 PM	O	4.7	12:20 PM	No	AK	

Comment **Temp In** 22.4 **Temp Out** 21.5

SCALE T

1. If initial pH of 5g to 100ml is <5, Fluid choice is Fluid 1, if >5 proceed to next step.
2. If pH of sample after addition of 6 drops of HCl (heat) is <5 TCLP Fluid choice is Fluid 1, if >5 Fluid 2.
3. The value recorded in this column is the amount of free liquid separated from the solid protion of the sample which needs to be added back after the extraction.

Cooler: Yes ☑ No ☐
Coolant: IPK ☐ ICE ☑ No ☐
Temp 1.1 °C Pg 1 of 1

NY/NJ/PA CHAIN OF CUSTODY RECORD

PHOENIX Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Contact Options:
☐ Phone:
☐ Fax:
☐ Email:

Customer: Factor Group Inc.
Address: 111 Town Square Place
Jersey City, NJ

Project: BHCR-Red Hook Coastal Resiliency
Report to: Katie/Janine
Invoice to: Katie/Joel
QUOTE # :

Project P.O: 00379

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: _____ Date: 10/2/25

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe
OIL=Oil **B**=Bulk **L**=Liquid

Analysis Request: Factor Group 2, Factor Group 3

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled			GL Amber 8 oz. w/H3PO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container (8) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml [ ] 1500ml	PL NaOH 250ml	PL HNO3 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
42003	WC-17a-1	S	10/2	1400	X	H			3	3								
42004	WC-17a-2	S	10/2	1420	X	H			3	3								
42005	WC-17b	S	10/2	1345	X	H			3	3								
42006	WC-18-1	S	10/2	1150	X	H			3	3								
42007	WC-18-2	S	10/2	1300	X	H			3	3								
42008	WC-18-3	S	10/2	1315	X	H			3	3								

Relinquished by:	Accepted by:	Date:	Time:
		10/3/2025	1227
		10/3/25	1:30pm
		10/3/25	19:28

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☐ 5 Days
☐ ~~Next Day~~
☒ Other
* SURCHARGE APPLIES

NJ
☒ Res. Criteria
☒ Non-Res. Criteria
☒ Impact to GW Soil Cleanup Criteria
☐ Impact to GW soil screen Criteria
☐ GW Criteria

NY
☐ TOGS GW
☐ CP-51 SOIL
☑ 375SCO Unrestricted Soil
☒ 375SCO Residential Soil
☒ 375SCO Residential Restricted Soil
☑ 375SCO Commercial Soil
☒ 375SCO Industrial Soil
☐ Subpart 5 DW

PA
☒ Clean Fill Limits
☐ PA-GW
☒ Reg Fill Limits
☐ PA Soil Restricted
☐ PA Soil non-restricted

State Samples Collected? _____

Comments, Special Requirements or Regulations:
H: Hold sample
* 4-Day TAT *

Data Format:
☑ Phoenix Std Report
☒ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ NJ Hazsite EDD
☐ NY EZ EDD
☐ Other

Data Package:
☐ NJ Reduced Deliv. *
☐ NY Enhanced (ASP B) *
☐ Other

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Appendix E

Published Cleanup Criteria - Soil

375-6.8 Soil cleanup objective tables.

(a) Unrestricted use soil cleanup objectives.

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

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

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

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

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

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

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

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

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

Footnotes

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

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

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

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

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

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

(b) Restricted use soil cleanup objectives.

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

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

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

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

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

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

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

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

All soil cleanup objectives (SCOs) are in parts per million (ppm).
NS=Not specified. See Technical Support Document (TSD).

Footnotes

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

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

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

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

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

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

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

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

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

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

Toxicity Characteristic Leaching Procedure (TCLP) Regulatory Levels

METALS	TCLP Regulatory Level, mg/L	EPA Hazardous Waste Number	Recommended Test Method
Arsenic	5.0	D004	7061
Barium	100.0	D005	7080
Cadmium	1.0	D006	7130
Chromium	5.0	D007	7190
Lead	5.0	D008	7420
Mercury	0.2	D009	7471
Selenium	1.0	D010	7741
Silver	5.0	D011	7760

VOLATILE ORGANICS	TCLP Regulatory Level, mg/L	EPA Hazardous Waste Number	Recommended Test Method
Benzene	0.5	D018	8260B
Carbon Tetrachloride	0.5	D019	8260B
Chlorobenzene	100.0	D021	8260B
Chloroform	6.0	D022	8260B
1,4-Dichlorobenzene	7.5	D027	8260B
1,2-Dichloroethane	0.5	D028	8260B
1,1-Dichloroethylene	0.7	D029	8260B
Methyl Ethyl Ketone	200.0	D035	8260B
Tetrachloroethylene	0.7	D039	8260B
Trichloroethylene	0.5	D040	8260B
Vinyl Chloride	0.2	D043	8260B

SEMIVOLATILE ORGANICS	TCLP Regulatory Level, mg/L	EPA Hazardous Waste Number	Recommended Test Method
o-Cresol	[1] 200	D023	8270C
m-Cresol	[1] 200	D024	8270C
p-Cresol	[1] 200	D025	8270C
Cresol	[1] 200	D026	8270C
2,4-Dinitrotoluene	0.13	D030	8270C
Hexachlorobenzene	0.13	D032	8270C
Hexachlorobutadiene	0.5	D033	8270C
Hexachloroethane	3.0	D034	8270C
Nitrobenzene	2.0	D036	8270C
Pentachlorophenol	100.0	D037	8270C
Pyridine	2 5.0	D038	8270C
2,4,5-Trichlorophenol	400.0	D041	8270C
2,4,6-Trichlorophenol	2.0	D042	8270C

[1]If Cresols cannot be differentiated, total cresol may be used.

ORGANOCHLORINE PESTICIDES	TCLP Regulatory Level, mg/L	EPA Hazardous Waste Number	Recommended Test Method
Chlordane	0.03	D020	8081A
Endrin	0.02	D012	8081A
Heptachlor (and its Epoxide)	0.008	D031	8081A
Lindane	0.4	D013	8081A
Methoxychlor	10.0	D014	8081A
Toxaphene	0.5	D015	8081A

CHLOROPHENOXY ACID HERBICIDES	TCLP Regulatory Level, mg/L	EPA Hazardous Waste Number	Recommended Test Method
2,4-D	10.0	D016	8150
2,4,5-TP (Silvex)	1.0	D017	8150

Reference: 40 CFR 261, Appendix II, 1993 ed., as amended by 58 FR 46040, August 31, 1993.

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NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

N.J.A.C. 7:26D

REMEDIATION STANDARDS

Statutory authority:

N.J.S.A. 13:1D-1 et seq., 58:10-23.11a et seq., 58:10A-1 et seq. and 58:10B-1 et seq.

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CHAPTER 26D

REMEDIATION STANDARDS

SUBCHAPTER 1. GENERAL INFORMATION

7:26D-1.1 Purpose

This chapter implements the Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-1 et seq., and other statutes, by establishing remediation standards for ground water, surface water, soil, soil leachate, and indoor air.

7:26D-1.2 Scope

(a) Unless otherwise provided by rule or statute, this chapter shall constitute the rules of the Department concerning standards for the remediation of contaminants in ground water, surface water, soil, soil leachate, and indoor air.

(b) Remediating ground water, surface water, soil, or indoor air to any applicable remediation standard set forth in this chapter shall not relieve any person from:

1. Complying with more stringent requirements or provisions imposed under any other Federal, State, or local applicable statutes, rules, or regulations; and

2. Obtaining any and all permits required by Federal, State, or local statutes, rules, or regulations.

(c) No provision of this chapter shall be construed to limit the Department's authority to require additional remediation based upon site-specific conditions in order to protect human health, safety and the environment.

(d) Nothing in this chapter shall be construed to limit the authority of the Department to establish discharge limits for pollutants, or to prescribe penalties for violations of those limits pursuant to any statutory authority, or to require the complete removal of any illegally discharged hazardous substances, hazardous waste, or pollutants pursuant to law.

(e) The person responsible for conducting the remediation shall not be required to remediate to a level or concentration that is lower than the regional natural background level.

7:26D-1.3 Construction and severability

(a) This chapter shall be liberally construed to permit the Department to effectuate the purposes of the statutes listed in N.J.A.C. 7:26D-1.4(a).

(b) If any subchapter, section, subsection, provision, clause, or portion of this chapter, or the application thereof to any person, is adjudged unconstitutional or invalid by a court of competent jurisdiction, such judgment shall be confined in its operation to the subchapter, section, subsection, provision, clause, portion, or application directly involved in the controversy in which such judgment shall have been rendered and it shall not affect or impair the remainder of this chapter or the application thereof to other persons.

7:26D-1.4 Applicability

(a) This chapter establishes the remediation standards for ground water, surface water, soil, soil leachate, and indoor air for contaminated site**s** in New Jersey including, without limitation, those sites subject to:

1. The Industrial Site Recovery Act (ISRA), N.J.S.A. 13:1K-6 et seq.;

2. The New Jersey Underground Storage of Hazardous Substances Act (UST), N.J.S.A. 58:10A-21 et seq.;

3. The Spill Compensation and Control Act, N.J.S.A. 58:10-23.11a et seq.;

4. The Solid Waste Management Act, N.J.S.A. 13:E-1 et seq.;

5. The Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq.;

6. The Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-1 et seq.;

7. The Comprehensive Regulated Medical Waste Management Act, N.J.S.A. 13:1E-48.1 et seq.;

8. The Major Hazardous Waste Facilities Siting Act, N.J.S.A. 13:1E-49 et seq.;

9. The Sanitary Landfill Facility Closure and Contingency Fund Act, N.J.S.A. 13:1E-100 et seq.; and

10. The Regional Low-Level Radioactive Waste Disposal Facility Siting Act, N.J.S.A. 13:1E-177 et seq.

(b) The person responsible for conducting the remediation shall comply with the remediation standards set forth in this chapter, except as provided at (b)1, 2, and 3 below. The exceptions provided at (b)1, 2, and 3 below may be applied only to a site or an area of concern that is identified in a remedial action workplan or remedial action report.

1. The person responsible for conducting the remediation may use a standard or criterion the Department developed under N.J.S.A. 58:10B-12a, or other authority, prior to June 2, 2008, if:

i. The standard or criterion is not greater by an order of magnitude than the otherwise applicable remediation standard pursuant to this chapter;

ii. A remedial action workplan or a remedial action report containing standards or criteria developed for the site or an area of concern under N.J.S.A. 58:10B-12a, or other authority, was submitted to the Department before December 2, 2008;

iii. The remedial action workplan or remedial action report was either approved by the Department or certified by a licensed site remediation professional; and

iv. The person responsible for conducting the remediation completes the remedial action within the applicable remedial action regulatory timeframe pursuant to the Technical Requirements for Site Remediation, N.J.A.C. 7:26E-5.8.

2. The person responsible for conducting the remediation may use a remediation standard that was in effect between June 2, 2008, and September 17, 2017, which the Department adopted or developed under N.J.S.A. 58:10B-12a, or other authority, if:

i. The standard is not greater by an order of magnitude than the otherwise applicable remediation standard pursuant to this chapter;

ii. A remedial action workplan or a remedial action report containing standards or criteria developed for the site or an area of concern under N.J.S.A. 58:10B-12a, or other authority, was submitted to the Department between December 2, 2008, and March 17, 2018;

iii. The remedial action workplan or remedial action report was either approved by the Department or certified by a licensed site remediation professional; and

iv. The person responsible for conducting the remediation completes the remedial action within the applicable remedial action regulatory timeframe pursuant to the Technical Requirements for Site Remediation, N.J.A.C. 7:26E-5.8.

3. The person responsible for conducting the remediation may use a remediation standard the Department adopted or developed pursuant to N.J.S.A. 58:10B-12a, or other authority, that was in effect between September 18, 2017, and May 17,2021; if:

i. The standard is not greater by an order of magnitude than the otherwise applicable remediation standard pursuant to this chapter;

ii. A remedial action workplan or a remedial action report containing standards or criteria developed for the site or an area of concern under N.J.S.A. 58:10B-12a was submitted to the Department between March 18, 2018, and November 17, 2021;

iii. The remedial action workplan or remedial action report was either approved by the Department or certified by a licensed site remediation professional; and

iv. The person responsible for conducting the remediation completes the remedial action within the applicable remedial action regulatory timeframe pursuant to the Technical Requirements for Site Remediation, N.J.A.C. 7:26E-5.8.

(c) Notwithstanding any other provision of this chapter, all applicable remediation standards and remedial actions that involve real property located in the Pinelands area shall be consistent with the provisions of the Pinelands Protection Act, N.J.S.A. 13:18A-1 et seq., and any rules promulgated pursuant thereto, and with Section 502 of the National Parks and Recreation Act of 1978, 16 U.S.C. § 4711. (c).

7:26D-1.5 Definitions

The following words and terms, when used in this chapter, shall have the following meanings unless the context clearly indicates otherwise:

"Alternative remediation standard" or "ARS" means a remediation standard that is established using site-specific factors following the procedures set forth at N.J.A.C. 7:26D-8 and 7:26D Appendices 6, 7, 8, and 9.

“Area of concern” has the same meaning as the definition of the term in the Technical Requirements for Site Remediation, N.J.A.C. 7:26E-1.8.

"Carcinogen" means a contaminant capable of inducing a cancer response, including Group A (Human Carcinogen), Group B (Probable Human Carcinogen) and Group C (Possible Human Carcinogen) categorized in accordance with the USEPA Guidelines for Carcinogen Risk Assessment, 51 Fed. Reg. 33932 (1986), as amended and supplemented.

"Contaminated site" means a contaminated site as defined pursuant to the Technical Requirements for Site Remediation rules at N.J.A.C. 7:26E-1.8.

"Contamination" or "contaminant" means contamination or a contaminant as defined pursuant to the Technical Requirements for Site Remediation rules at N.J.A.C. 7:26E-1.8.

“Criterion” or “criteria” means, for the ingestion-dermal, inhalation, and vapor intrusion exposure pathways, the health-based value(s) that is (are) derived from the equations contained at N.J.A.C. 7:26D Appendices 2, 3, and 5 using the applicable chemical and physical properties of contaminants contained at N.J.A.C. 7:26D Appendix 10 and toxicity factors contained at N.J.A.C. 7:26D Appendix 11. For the migration to ground water exposure pathway, “criterion” or “criteria” means the soil-water partitioning value(s) that are derived from N.J.A.C. 7:26D Appendix 4, Equations 1 through 4, using the applicable chemical and physical properties of contaminants contained at N.J.A.C. 7:26D Appendix 10.

"Department" means the New Jersey Department of Environmental Protection.

"Discharge" means a discharge as defined pursuant to the Technical Requirements for Site Remediation rules at N.J.A.C. 7:26E-1.8.

"Exposure pathway" means the routes by which contaminants in soil, water, or other media come in contact with humans. Examples include the ingestion-dermal exposure pathway, the inhalation exposure pathway, the migration to ground water exposure pathway, and the vapor intrusion exposure pathway.

“Extractable petroleum hydrocarbons” or “EPH” means extractable aliphatic and aromatic petroleum hydrocarbons identified using the Department’s “Extractable Petroleum Hydrocarbons Methodology,” found at https://nj.gov/dep/srp/guidance/srra/eph_method.pdf. EPH includes, but is not limited to, No. 2 heating oil and diesel fuel (Category 1), and heavier petroleum products (Category 2), but excludes the lighter petroleum products including gasoline and mineral spirits.

"Ground water" means ground water as defined pursuant to the Ground Water Quality Standards at N.J.A.C. 7:9C-1.4.

"Ground water quality criteria" means any ground water quality criteria as defined pursuant to the Ground Water Quality Standards at N.J.A.C. 7:9C-1.4.

"Ingestion-dermal exposure pathway" means an exposure pathway involving potential human contact with contaminants through incidental ingestion of soil and through dermal contact with soil.

"Inhalation exposure pathway" means an exposure pathway involving potential human contact with contaminants through the inhalation of particulates or vapors, or a combination

of particulates and vapors, emanating from contaminated soil. This pathway is distinct from the vapor intrusion exposure pathway.

“Interim remediation standard” means a remediation standard that is established pursuant to N.J.A.C. 7:26D-6.

“Migration to ground water exposure pathway” means an exposure pathway involving the migration of contaminants in the vadose zone to ground water and subsequent potential human exposure through the ingestion of ground water.

“Nonresidential” or “NR” means used for commercial or industrial purposes.

"Person responsible for conducting the remediation" means the person responsible for conducting the remediation as defined in the Administrative Requirements for the Remediation of Contaminated Sites at N.J.A.C. 7:26C-1.3.

"Pollutant" means any substance defined as such pursuant to the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq.

“Practical quantitation level” or “PQL” means a practical quantitation level or PQL as defined pursuant to Technical Requirements for Site Remediation rules at N.J.A.C. 7:26E-1.8.

"Regional natural background level" means the concentration of a contaminant consistently present in the environment of the region of the site and which has not been influenced by localized human activities.

"Remediation" or "remediate" means remediation or remediate as defined pursuant to the Technical Requirements for Site Remediation at N.J.A.C. 7:26E-1.8.

"Remediation standard" means the combination of a numeric standard that establish a level or concentration, and a narrative standard, as appropriate, to which a contaminant

must be treated, removed, or otherwise cleaned for soil, soil leachate, ground water, surface water, or indoor air, as established by this chapter.

"Reporting limit" means a reporting limit as defined pursuant to the Technical Requirements for Site Remediation at N.J.A.C. 7:26E-1.8.

"Residential" means used for residences, private and public schools as defined at N.J.S.A. 18A:1-1, charter schools established pursuant to N.J.S.A. 18A:36A-1 et seq., and childcare centers licensed pursuant to N.J.S.A. 30:5B-1 et seq.

"Surface water" means "surface water" as defined pursuant to the Surface Water Quality Standards, N.J.A.C. 7:9B.

"Surface Water Quality Standards" has the same meaning as the definition of the term at N.J.A.C. 7:9B-1.4.

"USEPA" means the United States Environmental Protection Agency.

"Vapor intrusion exposure pathway" is an exposure pathway involving potential human contact with contaminants through the inhalation of contaminated indoor air resulting from the migration of volatile contaminants from the subsurface into buildings. This pathway is distinct from the inhalation exposure pathway.

SUBCHAPTER 2. GROUND WATER REMEDIATION STANDARDS

7:26D-2.1 Purpose

This subchapter establishes the remediation standards for ground water.

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7:26D-2.2 Ground water remediation standards

(a) The remediation standards for ground water are:

1. For Class II ground water, the Ground Water Quality Standards developed pursuant to N.J.A.C. 7:9C-1.7(c) and (d);

2. For Class I-A and Class I-PL, Ground Water Quality Standards developed pursuant to N.J.A.C. 7:9C-1.7(a) and (b);

3. For Class III-A and Class III-B, Ground Water Quality Standards developed pursuant to N.J.A.C. 7:9C-1.7(e) and (f); and

4. For all ground water, regardless of classification, each of the following narrative ground water remediation standards, as applicable:

i. The general ground water quality policies in N.J.A.C. 7:9C-1.2;

ii. The narrative ground water quality criteria in N.J.A.C. 7:9C-1.7;

iii. The ground water quality antidegradation policy in N.J.A.C. 7:9C-1.8;

iv. The remediation requirements in N.J.A.C. 7:26E-1 through 5 in order to both:

(1) Address the adverse impact of the contamination on the ground water itself; and

(2) Limit additional risks posed by the contamination to the human health and safety and to the environment;

v. The free and residual product removal, treatment, or containment requirements of N.J.A.C. 7:26E-5.1(e); and

vi. The contaminants have not migrated to the ground surface, structures, or air in concentrations in excess of a remediation standard.

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SUBCHAPTER 3. SURFACE WATER REMEDIATION STANDARDS

7:26D-3.1 Purpose

This subchapter establishes the remediation standards for surface water.

7:26D-3.2 Surface water remediation standards

(a) The remediation standards for surface water are:

1. The numeric New Jersey Surface Water Quality Standards, N.J.A.C. 7:9B-1.14(c) through (h); and

2. The following narrative surface water remediation standards:

i. The general surface water quality policies in N.J.A.C. 7:9B-1.5;

ii. The surface water quality criteria at N.J.A.C. 7:9B-1.14(a) and (b);

iii. The remediation requirements at N.J.A.C. 7:26E-1 through 5 in order to both:

(1) Address the adverse impact of the contamination on the surface water itself; and

(2) Limit additional risks posed by the contamination to the public health and safety and to the environment; and

iv. The free and residual product removal, treatment, or containment requirements of N.J.A.C. 7:26E-5.1(e).

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SUBCHAPTER 4. SOIL AND SOIL LEACHATE REMEDIATION STANDARDS

7:26D-4.1. Purpose

This subchapter establishes remediation standards for soil and soil leachate.

7:26D-4.2 Soil remediation standards for the ingestion-dermal exposure pathway

(a) The soil remediation standard for the ingestion-dermal exposure pathway for each contaminant listed at N.J.A.C. 7:26D Appendix 1, Tables 1 and 2, is:

1. The more stringent value of the carcinogenic or noncarcinogenic ingestion-dermal human health-based criterion; or

2. The reporting limit, if the reporting limit is greater than the value determined at (a)1 above.

(b) The ingestion-dermal human health-based criteria at N.J.A.C. 7:26D Appendix 1, Tables 1 and 2, incorporated herein by reference, are the residential and nonresidential human health-based criteria for the ingestion-dermal exposure pathway, based on the equations, data sources, and conventions provided at N.J.A.C. 7:26D Appendix 2, incorporated herein by reference, using the data provided at N.J.A.C. 7:26D Appendices 10 and 11, incorporated herein by reference.

(c) N.J.A.C. 7:26D Appendix 1, Table 1 shall be used for sites where the anticipated use is residential. N.J.A.C. 7:26D Appendix 1, Table 2 shall be used for sites where the anticipated use is nonresidential.

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7:26D-4.3 Soil remediation standards for the inhalation exposure pathway

(a) The soil remediation standard for the inhalation exposure pathway for each contaminant listed at N.J.A.C. 7:26D Appendix 1, Tables 3 and 4, is:

1. The more stringent value of the carcinogenic or noncarcinogenic inhalation human health-based criterion; or

2. The reporting limit, if the reporting limit is greater than the value determined at (a)1 above.

(b) The inhalation human health-based criteria at N.J.A.C. 7:26D Appendix 1, Tables 3 and 4, incorporated herein by reference, are the residential and nonresidential human health-based criteria for the inhalation exposure pathway, based on the equations, data sources, and conventions provided at N.J.A.C. 7:26D Appendix 3, incorporated herein by reference, using the data provided at N.J.A.C. 7:26D Appendices 10 and 11, incorporated herein by reference.

(c) N.J.A.C. 7:26D Appendix 1, Table 3 shall be used for sites where the anticipated use is residential. N.J.A.C. 7:26D 1, Table 4 shall be used for sites where the anticipated use is nonresidential.

7:26D-4.4 Soil and soil leachate remediation standards for the migration to ground water exposure pathway

(a) The soil remediation standard for the migration to groundwater exposure pathway for each contaminant listed at N.J.A.C. 7:26D Appendix 1, Table 5 is the greater of:

1. The migration to ground water soil criterion; or

2. The reporting limit.

(b) The migration to ground water soil criteria at N.J.A.C. 7:26D Appendix 1, Table 5, incorporated herein by reference, are based on the equations, data sources, and conventions provided at N.J.A.C. 7:26D Appendix 4, Equations 1 through 4, incorporated herein by reference, using the data at N.J.A.C. 7:26D Appendix 10, incorporated herein by reference.

(c) The soil leachate remediation standards for the migration to ground water exposure pathway at N.J.A.C. 7:26D Appendix 1, Table 6, incorporated herein by reference, are based upon the equations, data sources, and conventions provided at N.J.A.C. 7:26D Appendix 4, Equation 5, incorporated herein by reference.

SUBCHAPTER 5. INDOOR AIR REMEDIATION STANDARDS

7:26D-5.1 Purpose

This subchapter establishes remediation standards for indoor air for the vapor intrusion exposure pathway.

7:26D-5.2 Indoor air remediation standards

(a) The indoor air remediation standards for the vapor intrusion exposure pathway for each contaminant listed at N.J.A.C. 7:26D Appendix 1, Tables 7 and 8, incorporated herein by reference, were developed as follows:

1. The more stringent value of the carcinogenic or noncarcinogenic indoor air human health-based criterion; or

2. The reporting limit, if the reporting limit is greater than the value determined at (a)1 above.

(b) N.J.A.C. 7:26D Appendix 1, Table 7, shall be used for sites where the anticipated use is residential. N.J.A.C. 7:26D Appendix 1, Table 8, shall be used for sites where the anticipated use is nonresidential.

(c) The methodology used to develop the indoor air remediation criteria is provided at N.J.A.C. 7:26D Appendix 5, incorporated herein by reference.

SUBCHAPTER 6. INTERIM REMEDIATION STANDARDS

7:26D-6.1 Purpose

This subchapter sets forth the procedures that the Department will use to establish interim remediation standards.

7:26D-6.2 Interim remediation standards

(a) The Department may establish an interim remediation standard for:

1. Soil, soil leachate, and indoor air when a contaminant is not listed at N.J.A.C. 7:26D Appendix 1; and

2. Ground water when a contaminant is not listed in the Ground Water Quality Standards, N.J.A.C. 7:9C Appendix, Table 1.

(b) The person responsible for conducting the remediation may request that the Department develop an interim remediation standard pursuant to this subchapter and shall use only a Department-developed or approved interim remediation standard.

(c) An interim remediation standard shall be developed as follows:

1. For ground water, using the procedures set forth in the Ground Water Quality Standards at N.J.A.C. 7:9C-1.7(c);

2. For soil:

i. For the ingestion-dermal exposure pathway, using the procedures set forth at N.J.A.C. 7:26D Appendix 2, incorporated herein by reference;

ii. For the inhalation exposure pathway, using the procedures set forth at N.J.A.C. 7:26D Appendix 3, incorporated herein by reference; or

iii. For the migration to ground water exposure pathway, using procedures set forth at N.J.A.C. 7:26D Appendix 4, incorporated herein by reference; or

3. For indoor air for the vapor intrusion exposure pathway, using procedures set forth at N.J.A.C. 7:26D Appendix 5, incorporated herein by reference.

7:26D-6.3 Publication and promulgation of interim remediation standards

(a) The Department shall publish on its website a listing of all interim remediation standards developed pursuant to this chapter and the technical basis used in their derivation.

(b) Interim soil remediation standards developed pursuant to this chapter shall be replaced with duly promulgated soil remediation standards as soon as reasonably possible.

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SUBCHAPTER 7. UPDATING REMEDIATION STANDARDS

7:26D-7.1 Purpose

This subchapter sets forth the procedures that the Department will use to update remediation standards.

7:26D-7.2 Procedures for updating remediation standards

(a) The Department shall update a remediation standard for soil or indoor air at N.J.A.C. 7:26D Appendix 1 when:

1. The USEPA revises toxicity information contained in the Integrated Risk Information System (IRIS) database;

2. The Department uses new or revised toxicity information developed by the New Jersey Drinking Water Quality Institute when promulgating a new or revised maximum contaminant level (MCL) for a drinking water constituent;

3. The Department uses new or revised toxicity information when promulgating a new or revised ground water quality standard; or

4. The USEPA revises or replaces its Integrated Environmental Uptake Biokinetic (IEUBK) Model and Adult Lead Model (ALM) and input parameters for lead.

(b) The Department shall update a soil and a soil leachate remediation standard for the migration to ground water exposure pathway at N.J.A.C. 7:26D Appendix 1 when a ground water quality criterion is updated pursuant to the Ground Water Quality Standards at N.J.A.C. 7:9C-1.7(c).

(c) When the Department develops an updated remediation standard, the Department shall post on its website at https://www.nj.gov/dep/rules/adminchg.html and publish in the New Jersey Register a notice of administrative change. The notice of administrative change shall identify the remediation standard to be updated including the relevant media and exposure pathway, the contaminant, the basis for the administrative change, and the revised criterion to be listed at N.J.A.C. 7:26D Appendix 1.

(d) An updated remediation standard shall be effective on the date the notice of administrative change is filed with the Office of Administrative Law.

(e) An updated remediation standard shall be applied to all sites except, in lieu of the updated remediation standard established pursuant to this subchapter, the person responsible for conducting the remediation may continue to use a remediation standard that is specified in a remedial action workplan or remedial action report for a site, provided that:

1. The remedial action workplan or remedial action report is submitted no later than six months after the effective date of the updated standard;

2. The remedial action workplan or remedial action report is approved by the Department or is certified by a licensed site remediation professional;

3. The remediation standard specified in the remedial action workplan or remedial action report for a given contaminant is not greater by an order of magnitude than the updated remediation standard; and

4. The remedial action shall comply with the applicable regulatory timeframes pursuant to the Technical Requirements for Site Remediation at N.J.A.C. 7:26E-5.

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SUBCHAPTER 8. ALTERNATIVE REMEDIATION STANDARDS

7:26D-8.1 Purpose

(a) This subchapter sets forth the procedures for the development and approval of alternative remediation standards for:

1. Soil for the ingestion-dermal exposure pathway and inhalation exposure pathway;

2. Soil and soil leachate for the migration to ground water exposure pathway; and

3. Indoor air for the vapor intrusion exposure pathway.

7:26D-8.2 Applicability

An alternative remediation standard developed pursuant to this subchapter in lieu of a remediation standard established by N.J.A.C. 7:26D-2, 3, 4, 5, or 6, shall be used only at the site or area of concern for which it is developed and approved.

7:26D-8.3 Development of an alternative remediation standard

(a) An alternative remediation standard for a site or area of concern:

1. May be developed for soil, for the following exposure pathways:

i. Ingestion-dermal exposure pathway using the procedures at N.J.A.C. 7:26D Appendix 6, incorporated herein by reference;

ii. Inhalation exposure pathway using the procedures at N.J.A.C. 7:26D Appendix 7, incorporated herein by reference; and

iii. Migration to ground water exposure pathway using the procedures at N.J.A.C. 7:26D Appendix 8, incorporated herein by reference;

2. May be developed for indoor air, for the vapor intrusion exposure pathway, using the procedures at N.J.A.C. 7:26D Appendix 9, incorporated herein by reference.

(b) The Department may, upon its own initiative and in accordance with N.J.S.A. 58:10B-12.f(2), require the development and use of an alternative remediation standard for a particular contaminant for a particular site or area of concern that is either more or less stringent than the remediation standards established by this chapter.

(c) The person responsible for conducting the remediation who develops an alternative remediation standard that requires prior approval from the Department shall follow the approval process outlined at N.J.A.C. 7:26D-8.4.

(d) The person responsible for conducting the remediation who develops an alternative remediation standard that does not require prior approval from the Department shall follow the process outlined at N.J.A.C. 7:26D-8.5.

(e) In accordance with the Site Remediation Reform Act, at N.J.S.A. 58:10C-21, the alternative remediation standards developed pursuant to this subchapter shall be subject to the Department inspection and review process as described in the Site Remediation Reform Act at N.J.S.A. 58:10C-21a.

7:26D-8.4 Approval process for alternative remediation standards requiring prior approval from the Department

(a) Except as provided at N.J.A.C. 7:26D-8.5, the person responsible for conducting the remediation shall obtain prior approval from the Department, in accordance with (b) and (c)

below, for an alternative remediation standard developed pursuant to this subchapter before using the alternative remediation standard at a specific site or area of concern.

(b) For each proposed alternative remediation standard, the person responsible for conducting the remediation shall collect and submit to the Department, along with the appropriate form(s) found on the Department's website at www.nj.gov/dep/srp/srra/forms, the information indicated for the proposed alternative remediation standard as described at N.J.A.C. 7:26D Appendices 6 through 9, incorporated herein by reference.

(c) The Department shall review the information the person responsible for conducting the remediation submits in accordance with (b) above, and shall respond as follows:

1. If the Department determines that the submitted information is acceptable, then the Department shall provide the person responsible for conducting the remediation with a written approval for the use of the alternative soil remediation standard at the specific site or area of concern; or

2. If the Department determines that the submitted information is deficient, then the Department shall provide comments to the person responsible for conducting the remediation describing the deficiencies, in which case:

i. The person responsible for conducting the remediation may correct the deficiencies and may resubmit the information to the Department for its review pursuant to (c) above; or

ii. The person responsible for conducting the remediation may withdraw the request for approval of a proposed alternative remediation standard.

(d) The person responsible for conducting the remediation shall not use the proposed alternative remediation standard if that person does not correct a deficiency noted by the Department pursuant to N.J.A.C. 7:26D-8.4(c)2.

7:26D-8.5 Process for the development of alternative remediation standards not requiring prior approval by the Department

(a) When the person responsible for conducting the remediation is not required to obtain prior approval from the Department for the implementation of an alternative remediation standard developed pursuant to this subchapter, the person responsible shall:

1. For each proposed alternative remediation standard, collect the information indicated for each applicable exposure pathway as described at N.J.A.C. 7:26D Appendices 6, 7, 8, and 9, incorporated herein by reference; and

2. Submit to the Department the information described in (a)1 above with the applicable remedial phase report or workplan pursuant to the Technical Requirements for Site Remediation, N.J.A.C. 7:26E.

APPENDIX 1

REMEDIATION STANDARDS TABLES

Table 1 – Soil Remediation Standards for the Ingestion-Dermal Exposure Pathway -

Residential (mg/kg) (All numeric values are rounded to two significant figures)

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

	CAS No.	Residential Carcinogenic Ingestion-Dermal Human Health-based Criterion	Residential Noncarcinogenic Ingestion-Dermal Human Health-based Criterion	Reporting Limit	Soil Remediation Standard Ingestion-Dermal Residential
Acenaphthene	83-32-9	NA	3,600	0.17	3,600
Acetone (2-Propanone)	67-64-1	NA	70,000	0.010	70,000
Acetophenone	98-86-2	NA	7,800	0.33	7,800
Aldrin	309-00-2	0.041	2.3	0.0017	0.041
Aluminum (total)	7429-90-5	NA	78,000	20	78,000
Anthracene	120-12-7	NA	18,000	0.17	18,000
Antimony (total)	7440-36-0	NA	31	1.0	31
Arsenic (total)	7440-38-2	0.43	22	0.50	19[1]
Atrazine	1912-24-9	NA	220	0.33	220
Barium (total)	7440-39-3	NA	16,000	5.0	16,000
Benzaldehyde	100-52-7	170	7,800	0.33	170
Benzene	71-43-2	3.0	310	0.0050	3.0
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	5.1	NA	0.17	5.1
Benzo(a)pyrene	50-32-8	0.51	18	0.17	0.51
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	5.1	NA	0.17	5.1
Benzo(k)fluoranthene	207-08-9	51	NA	0.17	51
Beryllium	7440-41-7	NA	160	0.50	160
1,1'-Biphenyl	92-52-4	87	39,000	0.17	87
Bis(2-chloroethoxy)methane	111-91-1	NA	190	0.17	190
Bis(2-chloroethyl)ether	111-44-4	0.63	NA	0.33	0.63
Bis(2-ethylhexyl)phthalate	117-81-7	39	1,300	0.17	39
Bromodichloromethane (Dichlorobromomethane)	75-27-4	11	1,600	0.0050	11
Bromoform	75-25-2	88	1,600	0.0050	88
Bromomethane (Methyl bromide)	74-83-9	NA	110	0.0050	110
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	NA	47,000	0.010	47,000
Butylbenzyl phthalate	85-68-7	290	13,000	0.17	290
Cadmium	7440-43-9	NA	71	0.50	71
Caprolactam	105-60-2	NA	32,000	0.33	32,000
Carbon disulfide	75-15-0	NA	NA	0.0050	NA
Carbon tetrachloride	56-23-5	7.6	310	0.0050	7.6

Chlordane (alpha and gamma forms summed)	57-74-9	0.27	36	0.0017	0.27
4-Chloroaniline	106-47-8	2.7	250	0.17	2.7
Chlorobenzene	108-90-7	NA	510	0.0050	510
Chloroethane (Ethyl chloride)	75-00-3	NA	NA	0.0050	NA
Chloroform	67-66-3	NA	780	0.0050	780
Chloromethane (Methyl chloride)	74-87-3	NA	NA	0.0050	NA
2-Chloronaphthalene	91-58-7	NA	4,800	0.17	4,800
2-Chlorophenol (o-Chlorophenol)	95-57-8	NA	390	0.17	390
Chrysene	218-01-9	510	NA	0.17	510
Cobalt (total)	7440-48-4	NA	23	0.50	23
Copper (total)	7440-50-8	NA	3,100	1.0	3,100
Cyanide	57-12-5	NA	47	0.50	47
Cyclohexane	110-82-7	NA	NA	0.0050	NA
4,4'-DDD (p,p'-TDE)	72-54-8	2.3	NA	0.0033	2.3
4,4'-DDE (p,p'-DDX)	72-55-9	2.0	NA	0.0033	2.0
4,4'-DDT	50-29-3	1.9	37	0.0033	1.9
Dibenz(a,h)anthracene	53-70-3	0.51	NA	0.17	0.51
Dibromochloromethane (Chlorodibromomethane)	124-48-1	8.3	1,600	0.0050	8.3
1,2-Dibromo-3-chloropropane	96-12-8	0.87	16	0.0050	0.87
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	0.35	700	0.0050	0.35
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	NA	6,700	0.0050	6,700
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	NA	6,700	0.0050	6,700
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	NA	780	0.0050	780
3,3'-Dichlorobenzidine	91-94-1	1.2	NA	0.33	1.2
Dichlorodifluoromethane (Freon 12)	75-71-8	NA	16,000	0.0050	16,000
1,1-Dichloroethane	75-34-3	120	16,000	0.0050	120
1,2-Dichloroethane	107-06-2	5.8	NA	0.0050	5.8
1,1-Dichloroethene (1,1-Dichloroethylene)	75-35-4	NA	11	0.0050	11
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	156-59-2	NA	780	0.0050	780

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	156-60-5	NA	1,300	0.0050	1,300
2,4-Dichlorophenol	120-83-2	NA	190	0.17	190
1,2-Dichloropropane	78-87-5	19	3,100	0.0050	19
1,3-Dichloropropene (total)	542-75-6	7.0	2,300	0.0050	7.0
Dieldrin	60-57-1	0.034	3.2	0.0033	0.034
Diethylphthalate	84-66-2	NA	51,000	0.17	51,000
2,4-Dimethylphenol	105-67-9	NA	1,300	0.17	1,300
Di-n-butyl phthalate	84-74-2	NA	6,300	0.17	6,300
2,4-Dinitrophenol	51-28-5	NA	130	0.33	130
2,4-Dinitrotoluene/2,6-Dinitrotoluene (mixture)	25321-14-6	0.80	NA	0.17	0.80
Di-n-octyl phthalate	117-84-0	NA	630	0.33	630
1,4-Dioxane	123-91-1	7.0	2,300	0.067	7.0
Endosulfan I and Endosulfan II (alpha and beta) (summed)	115-29-7	NA	470	0.0033	470
Endrin	72-20-8	NA	19	0.0033	19
Ethylbenzene	100-41-4	NA	7,800	0.0050	7,800
Extractable Petroleum Hydrocarbons (Category 1)	various	NA	5,300[3]	80	5,300[3]
Extractable Petroleum Hydrocarbons (Category 2)	various	NA	Sample-specific[4]	80	Sample-specific[4]
Fluoranthene	206-44-0	NA	2,400	0.33	2,400
Fluorene	86-73-7	NA	2,400	0.17	2,400
alpha-HCH (alpha-BHC)	319-84-6	0.086	510	0.0017	0.086
beta-HCH (beta-BHC)	319-85-7	0.30	NA	0.0017	0.30
Heptachlor	76-44-8	0.15	39	0.0017	0.15
Heptachlor epoxide	1024-57-3	0.076	1.0	0.0017	0.076
Hexachlorobenzene	118-74-1	0.43	63	0.17	0.43
Hexachloro-1,3-butadiene	87-68-3	8.9	78	0.17	8.9
Hexachlorocyclopentadiene	77-47-4	NA	470	0.33	470
Hexachloroethane	67-72-1	17	55	0.17	17
n-Hexane	110-54-3	NA	NA	-[7]	NA
2-Hexanone	591-78-6	NA	390	0.010	390
Indeno(1,2,3-cd)pyrene	193-39-5	5.1	NA	0.17	5.1
Isophorone	78-59-1	570	13,000	0.17	570
Isopropylbenzene	98-82-8	NA	7,800	0.0050	7,800
Lead (total)	7439-92-1	NA	NA	0.50	200[5]
Lindane (gamma-HCH)(gamma-BHC)	58-89-9	0.57	21	0.0017	0.57
Manganese (total)	7439-96-5	NA	1,900	0.50	1,900
Mercury (total)	7439-97-6	NA	23	0.10	23

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

Methoxychlor	72-43-5	NA	320	0.017	320
Methyl acetate	79-20-9	NA	78,000	0.0050	78,000
Methylene chloride (Dichloromethane)	75-09-2	50	470	0.0050	50
2-Methylnaphthalene	91-57-6	NA	240	0.17	240
4-Methyl-2-pentanone (MIBK)	108-10-1	NA	NA	0.010	NA
2-Methylphenol (o-cresol)	95-48-7	NA	320	0.33	320
4-Methylphenol (p-cresol)	106-44-5	NA	630	0.33	630
Methyl tert-butyl ether (MTBE)	1634-04-4	NA	780	0.0050	780
Naphthalene	91-20-3	NA	2,500	0.17	2,500
Nickel (total)	7440-02-0	NA	1,600	0.50	1,600
4-Nitroaniline	100-01-6	27	250	0.33	27
Nitrobenzene	98-95-3	NA	160	0.17	160
N-Nitrosodi-n-propylamine	621-64-7	0.078	NA	0.17	0.17[2]
N-Nitrosodiphenylamine	86-30-6	110	NA	0.17	110
2,2'-oxybis (1-chloropropane)	108-60-1	NA	3,100	0.33	3,100
Pentachlorophenol	87-86-5	1.0	250	0.33	1.0
Phenol	108-95-2	NA	19,000	0.33	19,000
Polychlorinated biphenyls (PCBs)	1336-36-3	0.25	NA	0.030	0.25
Pyrene	129-00-0	NA	1,800	0.17	1,800
Selenium (total)	7782-49-2	NA	390	2.5	390
Silver (total)	7440-22-4	NA	390	0.50	390
Styrene	100-42-5	NA	16,000	0.0050	16,000
Tertiary butyl alcohol (TBA)	75-65-0	NA	1,400	0.10	1,400
1,2,4,5-Tetrachlorobenzene	95-94-3	NA	23	0.17	23
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	NA	0.000051	0.0000010	0.000051[6]
1,1,2,2-Tetrachloroethane	79-34-5	3.5	1,600	0.0050	3.5
Tetrachloroethene (PCE) (Tetrachloroethylene)	127-18-4	330	470	0.0050	330
2,3,4,6-Tetrachlorophenol	58-90-2	NA	1,900	0.17	1,900
Toluene	108-88-3	NA	6,300	0.0050	6,300
Toxaphene	8001-35-2	0.49	NA	0.17	0.49
1,2,4-Trichlorobenzene	120-82-1	NA	780	0.0050	780
1,1,1-Trichloroethane	71-55-6	NA	160,000	0.0050	160,000
1,1,2-Trichloroethane	79-00-5	12	310	0.0050	12
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	15	39	0.0050	15
Trichlorofluoromethane (Freon 11)	75-69-4	NA	23,000	0.0050	23,000
2,4,5-Trichlorophenol	95-95-4	NA	6,300	0.20	6,300

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2,4,6-Trichlorophenol	88-06-2	49	63	0.20	49
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	NA	NA	0.0050	NA
1,2,4-Trimethylbenzene	95-63-6	NA	780	0.076	780
Vanadium (total)	7440-62-2	NA	390	2.5	390
Vinyl chloride	75-01-4	0.97	230	0.0050	0.97
Xylenes (total)	1330-20-7	NA	12,000	0.0050	12,000
Zinc (total)	7440-66-6	NA	23,000	1.0	23,000

NA – Not applicable because appropriate toxicological information is not available

[1] Standard is based on natural background

[2] Standard set at reporting limit

[3] Special calculation for EPH – see at N.J.A.C. 7:26D Appendix 2

[4] Sample-specific calculation using EPH calculator – see at N.J.A.C. 7:26D Appendix 2

[5] Standard based on the Integrated Exposure Uptake Biokinetic (IEUBK) model for lead in children

[6] This standard is used for comparison to site soil data that have been converted to sample-specific TCDD-TEQ values through application of the Toxicity Equivalence Factor Methodology (USEPA 2010) and using the WHO 2005 Mammalian Toxic Equivalency Factors (TEFs)

[7] Although n-Hexane does not have a specific reporting limit, quantification is required to be less than the applicable remediation standard

Table 2 – Soil Remediation Standards for the Ingestion-Dermal Exposure Pathway -

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

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Nonresidential (mg/kg) (All numeric values are rounded to two significant figures)

Contaminant	CAS No.	Nonresidential Carcinogenic Ingestion-Dermal Human Health-based Criterion	Nonresidential Noncarcinogenic Ingestion-Dermal Human Health-based Criterion	Reporting Limit	Soil Remediation Standard Ingestion-Dermal Nonresidential
Acenaphthene	83-32-9	NA	50,000	0.17	50,000
Acetone (2-Propanone)	67-64-1	NA	1,200,000	0.010	NA[1]
Acetophenone	98-86-2	NA	130,000	0.33	130,000
Aldrin	309-00-2	0.21	39	0.0017	0.21
Aluminum (total)	7429-90-5	NA	1,300,000	20	NA[1]
Anthracene	120-12-7	NA	250,000	0.17	250,000
Antimony (total)	7440-36-0	NA	520	1.0	520
Arsenic (total)	7440-38-2	2.1	350	0.50	19[2]
Atrazine	1912-24-9	NA	3,200	0.33	3,200
Barium (total)	7440-39-3	NA	260,000	5.0	260,000
Benzaldehyde	100-52-7	910	130,000	0.33	910
Benzene	71-43-2	16	5,200	0.0050	16
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	23	250	0.17	23
Benzo(a)pyrene	50-32-8	2.3	250	0.17	2.3
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	23	NA	0.17	23
Benzo(k)fluoranthene	207-08-9	230	NA	0.17	230
Beryllium	7440-41-7	NA	2,600	0.50	2,600
1,1'-Biphenyl	92-52-4	450	650,000	0.17	450
Bis(2-chloroethoxy)methane	111-91-1	NA	2,700	0.17	2,700
Bis(2-chloroethyl)ether	111-44-4	3.3	NA	0.33	3.3
Bis(2-ethylhexyl)phthalate	117-81-7	180	18,000	0.17	180
Bromodichloromethane (Dichlorobromomethane)	75-27-4	59	26,000	0.0050	59
Bromoform	75-25-2	460	26,000	0.0050	460
Bromomethane (Methyl bromide)	74-83-9	NA	1,800	0.0050	1,800
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	NA	780,000	0.010	780,000
Butylbenzyl phthalate	85-68-7	1,300	180,000	0.17	1,300
Cadmium	7440-43-9	NA	1,100	0.50	1,100
Caprolactam	105-60-2	NA	460,000	0.33	460,000
Carbon disulfide	75-15-0	NA	NA	0.0050	NA
Carbon tetrachloride	56-23-5	40	5,200	0.0050	40

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

Chlordane (alpha and gamma forms summed)	57-74-9	1.4	550	0.0017	1.4
4-Chloroaniline	106-47-8	13	3,600	0.17	13
Chlorobenzene	108-90-7	NA	8,400	0.0050	8,400
Chloroethane (Ethyl chloride)	75-00-3	NA	NA	0.0050	NA
Chloroform	67-66-3	NA	13,000	0.0050	13,000
Chloromethane (Methyl chloride)	74-87-3	NA	NA	0.0050	NA
2-Chloronaphthalene	91-58-7	NA	67,000	0.17	67,000
2-Chlorophenol (o-Chlorophenol)	95-57-8	NA	6,500	0.17	6,500
Chrysene	218-01-9	2,300	NA	0.17	2,300
Cobalt (total)	7440-48-4	NA	390	0.50	390
Copper (total)	7440-50-8	NA	52,000	1.0	52,000
Cyanide	57-12-5	NA	780	0.50	780
Cyclohexane	110-82-7	NA	NA	0.0050	NA
4,4'-DDD (p,p'-TDE)	72-54-8	11	NA	0.0033	11
4,4'-DDE (p,p'-DDX)	72-55-9	11	NA	0.0033	11
4,4'-DDT	50-29-3	9.5	580	0.0033	9.5
Dibenz(a,h)anthracene	53-70-3	2.3	NA	0.17	2.3
Dibromochloromethane (Chlorodibromomethane)	124-48-1	43	26,000	0.0050	43
1,2-Dibromo-3-chloropropane	96-12-8	4.5	260	0.0050	4.5
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	1.8	12,000	0.0050	1.8
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	NA	110,000	0.0050	110,000
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	NA	110,000	0.0050	110,000
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	NA	13,000	0.0050	13,000
3,3'-Dichlorobenzidine	91-94-1	5.7	NA	0.33	5.7
Dichlorodifluoromethane (Freon 12)	75-71-8	NA	260,000	0.0050	260,000
1,1-Dichloroethane	75-34-3	640	260,000	0.0050	640
1,2-Dichloroethane	107-06-2	30	NA	0.0050	30
1,1-Dichloroethene (1,1-Dichloroethylene)	75-35-4	NA	180	0.0050	180
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	156-59-2	NA	13,000	0.0050	13,000

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1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	156-60-5	NA	22,000	0.0050	22,000
2,4-Dichlorophenol	120-83-2	NA	2,700	0.17	2,700
1,2-Dichloropropane	78-87-5	98	52,000	0.0050	98
1,3-Dichloropropene (total)	542-75-6	36	39,000	0.0050	36
Dieldrin	60-57-1	0.16	46	0.0033	0.16
Diethylphthalate	84-66-2	NA	730,000	0.17	730,000
2,4-Dimethylphenol	105-67-9	NA	18,000	0.17	18,000
Di-n-butyl phthalate	84-74-2	NA	91,000	0.17	91,000
2,4-Dinitrophenol	51-28-5	NA	1,800	0.33	1,800
2,4-Dinitrotoluene/2,6-Dinitrotoluene (mixture)	25321-14-6	3.8	NA	0.17	3.8
Di-n-octyl phthalate	117-84-0	NA	9,100	0.33	9,100
1,4-Dioxane	123-91-1	36	39,000	0.067	36
Endosulfan I and Endosulfan II (alpha and beta) (summed)	115-29-7	NA	7,800	0.0033	7,800
Endrin	72-20-8	NA	270	0.0033	270
Ethylbenzene	100-41-4	NA	130,000	0.0050	130,000
Extractable Petroleum Hydrocarbons (Category 1)	various	NA	75,000[3]	80	75,000[3]
Extractable Petroleum Hydrocarbons (Category 2)	various	NA	Sample-specific[4]	80	Sample-specific[4]
Fluoranthene	206-44-0	NA	33,000	0.33	33,000
Fluorene	86-73-7	NA	33,000	0.17	33,000
alpha-HCH (alpha-BHC)	319-84-6	0.41	7,300	0.0017	0.41
beta-HCH (beta-BHC)	319-85-7	1.4	NA	0.0017	1.4
Heptachlor	76-44-8	0.81	650	0.0017	0.81
Heptachlor epoxide	1024-57-3	0.40	17	0.0017	0.40
Hexachlorobenzene	118-74-1	2.3	1,000	0.17	2.3
Hexachloro-1,3-butadiene	87-68-3	47	1,300	0.17	47
Hexachlorocyclopentadiene	77-47-4	NA	7,800	0.33	7,800
Hexachloroethane	67-72-1	91	910	0.17	91
n-Hexane	110-54-3	NA	NA	-[7]	NA
2-Hexanone	591-78-6	NA	6,500	0.010	6,500
Indeno(1,2,3-cd)pyrene	193-39-5	23	NA	0.17	23
Isophorone	78-59-1	2,700	180,000	0.17	2,700
Isopropylbenzene	98-82-8	NA	130,000	0.0050	130,000
Lead (total)	7439-92-1	NA	NA	0.5	800[5]
Lindane (gamma-HCH)(gamma-BHC)	58-89-9	2.8	330	0.0017	2.8
Manganese (total)	7439-96-5	NA	31,000	0.50	31,000
Mercury (total)	7439-97-6	NA	390	0.10	390

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Methoxychlor	72-43-5	NA	4,600	0.017	4,600
Methyl acetate	79-20-9	NA	1,300,000	0.0050	NA[1]
Methylene chloride (Dichloromethane)	75-09-2	260	7,800	0.0050	260
2-Methylnaphthalene	91-57-6	NA	3,300	0.17	3,300
4-Methyl-2-pentanone (MIBK)	108-10-1	NA	NA	0.010	NA
2-Methylphenol (o-cresol)	95-48-7	NA	4,600	0.33	4,600
4-Methylphenol (p-cresol)	106-44-5	NA	9,100	0.33	9,100
Methyl tert-butyl ether (MTBE)	1634-04-4	NA	13,000	0.0050	13,000
Naphthalene	91-20-3	NA	34,000	0.17	34,000
Nickel (total)	7440-02-0	NA	26,000	0.50	26,000
4-Nitroaniline	100-01-6	130	3,600	0.33	130
Nitrobenzene	98-95-3	NA	2,600	0.17	2,600
N-Nitrosodi-n-propylamine	621-64-7	0.36	NA	0.17	0.36
N-Nitrosodiphenylamine	86-30-6	520	NA	0.17	520
2,2'-oxybis(1-chloropropane)	108-60-1	NA	52,000	0.33	52,000
Pentachlorophenol	87-86-5	4.4	3,200	0.33	4.4
Phenol	108-95-2	NA	270,000	0.33	270,000
Polychlorinated biphenyls (PCBs)	1336-36-3	1.1	NA	0.030	1.1
Pyrene	129-00-0	NA	25,000	0.17	25,000
Selenium (total)	7782-49-2	NA	6,500	2.5	6,500
Silver (total)	7440-22-4	NA	6,500	0.50	6,500
Styrene	100-42-5	NA	260,000	0.0050	260,000
Tertiary butyl alcohol (TBA)	75-65-0	NA	23,000	0.10	23,000
1,2,4,5-Tetrachlorobenzene	95-94-3	NA	390	0.17	390
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	NA	0.00081	0.0000010	0.00081[6]
1,1,2,2-Tetrachloroethane	79-34-5	18	26,000	0.0050	18
Tetrachloroethene (PCE) (Tetrachloroethylene)	127-18-4	1,700	7,800	0.0050	1,700
2,3,4,6-Tetrachlorophenol	58-90-2	NA	27,000	0.17	27,000
Toluene	108-88-3	NA	100,000	0.0050	100,000
Toxaphene	8001-35-2	2.3	NA	0.17	2.3
1,2,4-Trichlorobenzene	120-82-1	NA	13,000	0.0050	13,000
1,1,1-Trichloroethane	71-55-6	NA	2,600,000	0.0050	NA[1]
1,1,2-Trichloroethane	79-00-5	64	5,200	0.0050	64
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	79	650	0.0050	79
Trichlorofluoromethane (Freon 11)	75-69-4	NA	390,000	0.0050	390,000
2,4,5-Trichlorophenol	95-95-4	NA	91,000	0.20	91,000

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2,4,6-Trichlorophenol	88-06-2	230	910	0.20	230
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	NA	NA	0.0050	NA
1,2,4-Trimethylbenzene	95-63-6	NA	13,000	0.076	13,000
Vanadium (total)	7440-62-2	NA	6,500	2.5	6,500
Vinyl chloride	75-01-4	5.0	3,900	0.0050	5.0
Xylenes (total)	1330-20-7	NA	190,000	0.0050	190,000
Zinc (total)	7440-66-6	NA	390,000	1.0	390,000

NA – Not applicable because appropriate toxicological information is not available

[1] Standard not applicable because calculated health-based criterion exceeds one million mg/kg

[2] Standard is based on natural background

[3] Special calculation for EPH– see N.J.A.C. 7:26D Appendix 2

[4] Sample-specific calculation using EPH calculator – see N.J.A.C. 7:26D Appendix 2

[5] Standard based on the Adult Lead Model (ALM)

[6] This standard is used for comparison to site soil data that have been converted to sample-specific TCDD-TEQ values through application of the Toxicity Equivalence Factor Methodology (USEPA 2010) and using the WHO 2005 Mammalian Toxic Equivalency Factors (TEFs)

[7] Although n-Hexane does not have a specific reporting limit, quantification is required to be less than the applicable remediation standard

Table 3 – Soil Remediation Standards for the Inhalation Exposure Pathway – Residential (mg/kg) (All numeric values are rounded to two significant figures)

Contaminant	CAS No.	Carcinogenic Inhalation Human Health-based Criterion	Noncarcinogenic Inhalation Human Health-based Criterion	Soil Saturation Limit	Reporting Limit	Soil Remediation Standard Inhalation Residential

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Acenaphthene	83-32-9	NA[1]	NA[1]	40	0.17	NA[1]
Acetone (2-Propanone)	67-64-1	NA[1]	NA[1]	160,000	0.010	NA[1]
Acetophenone	98-86-2	NA[1]	NA[1]	1,600	0.33	NA[1]
Aldrin	309-00-2	NA[1]	NA[1]	2.8	0.0017	NA[1]
Aluminum (total)	7429-90-5	NA[1]	NA[2]	NA	20	NA[2]
Anthracene	120-12-7	NA[1]	NA[1]	1.4	0.17	NA[1]
Antimony (total)	7440-36-0	NA[1]	NA[1]	NA	1.0	NA[1]
Arsenic (total)	7440-38-2	1,100	NA[1]	NA	0.50	1,100
Atrazine	1912-24-9	NA[1]	NA[1]	21	0.33	NA[1]
Barium (total)	7440-39-3	NA[1]	870,000	NA	5.0	870,000
Benzaldehyde	100-52-7	NA[1]	NA[1]	1,200	0.33	NA[1]
Benzene	71-43-2	2.2	190	850	0.0050	2.2
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	78,000[4]	NA[1]	3.3	0.17	78,000[4]
Benzo(a)pyrene	50-32-8	7,800[4]	3,500[4]	1.9	0.17	3,500[4]
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	78,000[4]	NA[1]	1.8	0.17	78,000[4]
Benzo(k)fluoranthene	207-08-9	780,000[4]	NA[1]	0.94	0.17	780,000[4]
Beryllium	7440-41-7	2,000	35,000	NA	0.50	2,000
1,1'-Biphenyl	92-52-4	NA[1]	NA[1]	78	0.17	NA[1]
Bis(2-chloroethoxy)methane	111-91-1	NA[1]	NA[1]	1,400	0.17	NA[1]
Bis(2-chloroethyl)ether	111-44-4	NA[1]	NA[1]	3,700	0.33	NA[1]
Bis(2-ethylhexyl)phthalate	117-81-7	NA[1]	NA[1]	65	0.17	NA[1]
Bromodichloromethane (Dichlorobromomethane)	75-27-4	NA[1]	NA[1]	690	0.0050	NA[1]
Bromoform	75-25-2	NA[1]	NA[1]	680	0.0050	NA[1]
Bromomethane (Methyl bromide)	74-83-9	NA[1]	18	3,300	0.0050	18
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	NA[1]	NA[2,3]	36,000	0.010	NA[2,3]
Butylbenzyl phthalate	85-68-7	NA[1]	NA[1]	39	0.17	NA[1]
Cadmium	7440-43-9	2,600	17,000	NA	0.50	2,600
Caprolactam	105-60-2	NA[1]	290	160,000	0.33	290
Carbon disulfide	75-15-0	NA[1]	NA[2,3]	580	0.0050	NA[2,3]
Carbon tetrachloride	56-23-5	1.4	NA[2,3]	300	0.0050	1.4
Chlordane (alpha and gamma forms summed)	57-74-9	NA[1]	NA[2,3]	7.6	0.0017	NA[2,3]
4-Chloroaniline	106-47-8	NA[1]	NA[1]	1,500	0.17	NA[1]
Chlorobenzene	108-90-7	NA[1]	NA[2,3]	320	0.0050	NA[2,3]
Chloroethane (Ethyl chloride)	75-00-3	NA[1]	NA[2,3]	1,700	0.0050	NA[2,3]
Chloroform	67-66-3	NA[1]	590	1,900	0.0050	590
Chloromethane (Methyl chloride)	74-87-3	NA[1]	270	1,200	0.0050	270

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2-Chloronaphthalene	91-58-7	NA[1]	NA[1]	60	0.17	NA[1]
2-Chlorophenol (o-Chlorophenol)	95-57-8	NA[1]	NA[1]	11,000	0.17	NA[1]
Chrysene	218-01-9	NA[2,3]	NA[1]	0.72	0.17	NA[2,3]
Cobalt (total)	7440-48-4	520	10,000	NA	0.50	520
Copper (total)	7440-50-8	NA[1]	NA[1]	NA	1.0	NA[1]
Cyanide	57-12-5	NA[1]	NA[2]	NA	0.50	NA[2]
Cyclohexane	110-82-7	NA[1]	NA[2,3]	65	0.0050	NA[2,3]
4,4'-DDD (p,p'-TDE)	72-54-8	NA[1]	NA[1]	21	0.0033	NA[1]
4,4'-DDE (p,p'-DDX)	72-55-9	NA[1]	NA[1]	9.4	0.0033	NA[1]
4,4'-DDT	50-29-3	NA[1]	NA[1]	1.9	0.0033	NA[1]
Dibenz(a,h)anthracene	53-70-3	7,800[4]	NA[1]	9.5	0.17	7,800[4]
Dibromochloromethane (Chlorodibromomethane)	124-48-1	NA[1]	NA[1]	600	0.0050	NA[1]
1,2-Dibromo-3-chloropropane	96-12-8	0.026	11	470	0.0050	0.026
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	0.085	170	920	0.0050	0.085
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	NA[1]	NA[2,3]	140	0.0050	NA[2,3]
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	NA[1]	NA[1]	110	0.0050	NA[1]
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	NA[1]	NA[2,3]	74	0.0050	NA[2,3]
3,3'-Dichlorobenzidine	91-94-1	NA[1]	NA[1]	20	0.33	NA[1]
Dichlorodifluoromethane (Freon 12)	75-71-8	NA[1]	NA[1]	540	0.0050	NA[1]
1,1-Dichloroethane	75-34-3	NA[1]	NA[1]	1,200	0.0050	NA[1]
1,2-Dichloroethane	107-06-2	NA[1]	71	2,000	0.0050	71
1,1-Dichloroethene (1,1-Dichloroethylene)	75-35-4	NA[1]	52	830	0.0050	52
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	156-59-2	NA[1]	NA[1]	1,600	0.0050	NA[1]
1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	156-60-5	NA[1]	NA[1]	1,300	0.0050	NA[1]
2,4-Dichlorophenol	120-83-2	NA[1]	NA[1]	2,600	0.17	NA[1]
1,2-Dichloropropane	78-87-5	5.7	31	810	0.0050	5.7
1,3-Dichloropropene (total)	542-75-6	4.8	140	880	0.0050	4.8
Dieldrin	60-57-1	NA[1]	NA[1]	7.9	0.0033	NA[1]
Diethylphthalate	84-66-2	NA[1]	NA[1]	390	0.17	NA[1]
2,4-Dimethylphenol	105-67-9	NA[1]	NA[1]	8,900	0.17	NA[1]
Di-n-butyl phthalate	84-74-2	NA[1]	NA[1]	28	0.17	NA[1]
2,4-Dinitrophenol	51-28-5	NA[1]	NA[1]	430	0.33	NA[1]
2,4-Dinitrotoluene/2,6-Dinitrotoluene (mixture)	25321-14-6	NA[1]	NA[1]	360	0.17	NA[1]
Di-n-octyl phthalate	117-84-0	NA[1]	NA[1]	6.2	0.33	NA[1]

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1,4-Dioxane	123-91-1	45	2,500	160,000	0.067	45
Endosulfan I and Endosulfan II (alpha and beta) (summed)	115-29-7	NA[1]	NA[1]	4.4	0.0033	NA[1]
Endrin	72-20-8	NA[1]	NA[1]	10	0.0033	NA[1]
Ethylbenzene	100-41-4	10	NA[2,3]	180	0.0050	10
Extractable Petroleum Hydrocarbons (Category 1)	various	NA[1]	NA[1]	NA	80	NA[1]
Extractable Petroleum Hydrocarbons (Category 2)	various	NA[1]	NA[1]	NA	80	NA[1]
Fluoranthene	206-44-0	NA[1]	NA[1]	29	0.33	NA[1]
Fluorene	86-73-7	NA[1]	NA[1]	31	0.17	NA
alpha-HCH (alpha-BHC)	319-84-6	NA[1]	NA[1]	12	0.0017	NA[1]
beta-HCH (beta-BHC)	319-85-7	NA[1]	NA[1]	1.4	0.0017	NA[1]
Heptachlor	76-44-8	NA[1]	NA[1]	15	0.0017	NA[1]
Heptachlor epoxide	1024-57-3	NA[1]	NA[1]	4.1	0.0017	NA[1]
Hexachlorobenzene	118-74-1	NA[1]	NA[1]	0.078	0.17	NA[1]
Hexachloro-1,3-butadiene	87-68-3	NA[1]	NA[1]	6.1	0.17	NA[1]
Hexachlorocyclopentadiene	77-47-4	NA[1]	2.7	5.6	0.33	2.7
Hexachloroethane	67-72-1	NA[1]	NA[2,3]	28	0.17	NA[2,3]
n-Hexane	110-54-3	NA[1]	NA[2,3]	88	NA	NA[2,3]
2-Hexanone	591-78-6	NA[1]	1,000	3,200	0.010	1,000
Indeno(1,2,3-cd)pyrene	193-39-5	78,000[4]	NA[1]	0.74	0.17	78,000[4]
Isophorone	78-59-1	NA[1]	NA[2,3]	3,400	0.17	NA[2,3]
Isopropylbenzene	98-82-8	NA[1]	NA[2,3]	98	0.0050	NA[2,3]
Lead (total)	7439-92-1	NA[1]	NA[1]	NA	0.50	NA[1]
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	NA[1]	NA[1]	42	0.0017	NA[1]
Manganese (total)	7439-96-5	NA[1]	87,000	NA	0.50	87,000
Mercury (total)	7439-97-6	NA[1]	520,000[4]	3.1[5]	0.10	520,000[4]
Methoxychlor	72-43-5	NA[1]	NA[1]	5.4	0.017	NA[1]
Methyl acetate	79-20-9	NA[1]	NA[1]	39,000	0.0050	NA[1]
Methylene chloride (Dichloromethane)	75-09-2	1,400	NA[2,3]	2,800	0.0050	1,400
2-Methylnaphthalene	91-57-6	NA[1]	NA[1]	130	0.17	NA[1]
4-Methyl-2-pentanone (MIBK)	108-10-1	NA[1]	NA[2,3]	3,400	0.010	NA[2,3]
2-Methylphenol (o-cresol)	95-48-7	NA[1]	NA[1]	20,000	0.33	NA[1]
4-Methylphenol (p-cresol)	106-44-5	NA[1]	NA[1]	16,000	0.33	NA[1]
Methyl tert-butyl ether (MTBE)	1634-04-4	140	NA[2,3]	9,100	0.0050	140
Naphthalene	91-20-3	5.7	NA[2,3]	100	0.17	5.7
Nickel (total)	7440-02-0	20,000	24,000	NA	0.50	20,000
4-Nitroaniline	100-01-6	NA[1]	NA[2,3]	270	0.33	NA[2,3]
Nitrobenzene	98-95-3	7.5	1,000	1,300	0.17	7.5

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N-Nitrosodi-n-propylamine	621-64-7	NA[1]	NA[1]	9,200	0.17	NA[1]
N-Nitrosodiphenylamine	86-30-6	NA[1]	NA[1]	190	0.17	NA[1]
2,2'-oxybis(1-chloropropane)	108-60-1	NA[1]	NA[1]	540	0.33	NA[1]
Pentachlorophenol	87-86-5	NA[1]	NA[1]	140	0.33	NA[1]
Phenol	108-95-2	NA[1]	39,000	44,000	0.33	39,000
Polychlorinated biphenyls (PCBs)	1336-36-3	NA[1]	NA[1]	110	0.030	NA[1]
Pyrene	129-00-0	NA[1]	NA[1]	15	0.17	NA[1]
Selenium (total)	7782-49-2	NA[1]	NA[1]	NA	2.5	NA[1]
Silver (total)	7440-22-4	NA[1]	NA[1]	NA	0.50	NA[1]
Styrene	100-42-5	NA[1]	NA[2,3]	330	0.0050	NA[2,3]
Tertiary butyl alcohol (TBA)	75-65-0	NA[1]	NA[1]	160,000	0.10	NA[1]
1,2,4,5-Tetrachlorobenzene	95-94-3	NA[1]	NA[1]	2.7	0.17	NA[1]
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	NA[1]	NA[1]	0.10	0.0000010	NA[1]
1,1,2,2-Tetrachloroethane	79-34-5	NA[1]	NA[1]	980	0.0050	NA[1]
Tetrachloroethene (PCE) (Tetrachloroethylene)	127-18-4	47	NA[2,3]	89	0.0050	47
2,3,4,6-Tetrachlorophenol	58-90-2	NA[1]	NA[1]	150	0.17	NA[1]
Toluene	108-88-3	NA[1]	NA[2,3]	340	0.0050	NA[2,3]
Toxaphene	8001-35-2	NA[1]	NA[1]	85	0.17	NA[1]
1,2,4-Trichlorobenzene	120-82-1	NA[1]	94	140	0.0050	94
1,1,1-Trichloroethane	71-55-6	NA[1]	NA[2,3]	420	0.0050	NA[2,3]
1,1,2-Trichloroethane	79-00-5	NA[1]	NA[1]	1,300	0.0050	NA[1]
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	3.0	9.1	410	0.0050	3.0
Trichlorofluoromethane (Freon 11)	75-69-4	NA[1]	NA[1]	790	0.0050	NA[1]
2,4,5-Trichlorophenol	95-95-4	NA[1]	NA[1]	5,800	0.20	NA[1]
2,4,6-Trichlorophenol	88-06-2	NA[1]	NA[1]	1,700	0.20	NA[1]
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	NA[1]	NA[2,3]	530	0.0050	NA[2,3]
1,2,4-Trimethylbenzene	95-63-6	NA[1]	NA[2,3]	80	0.076	NA[2,3]
Vanadium (total)	7440-62-2	NA[1]	170,000	NA	2.5	170,000
Vinyl chloride	75-01-4	1.4	220	2,900	0.0050	1.4
Xylenes (total)	1330-20-7	NA[1]	NA[2,3]	100	0.0050	NA[2,3]
Zinc (total)	7440-66-6	NA[1]	NA[1]	NA	1.0	NA[1]

NA – Not applicable because soil saturation limit does not apply to this contaminant

NA[1] – Not applicable because appropriate toxicological information is not available

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

NA[2] – Standard not applicable because the calculated health-based criterion exceeds one million mg/kg

NA[3] – Standard not applicable because the calculated health-based criterion exceeds the soil saturation limit

[4] Exceeds soil saturation limit; however, health-based criterion based on particulate portion of the equation

[5] Value is for elemental mercury

Table 4 – Soil Remediation Standards for the Inhalation Exposure Pathway – Nonresidential (mg/kg) (All numeric values are rounded to two significant figures)

Contaminant	CAS No.	Carcinogenic Inhalation Human Health-based Criterion	Noncarcinogenic Inhalation Human Health-based Criterion	Soil Saturation Concentration	Reporting Limit	Soil Remediation Standard Inhalation Nonresidential
Acenaphthene	83-32-9	NA[1]	NA[1]	40	0.17	NA[1]
Acetone (2-Propanone)	67-64-1	NA[1]	NA[1]	160,000	0.010	NA[1]
Acetophenone	98-86-2	NA[1]	NA[1]	1,600	0.33	NA[1]
Aldrin	309-00-2	NA[1]	NA[1]	2.8	0.0017	NA[1]
Aluminum (total)	7429-90-5	NA[1]	NA[2]	NA	20	NA[2]
Anthracene	120-12-7	NA[1]	NA[1]	1.4	0.17	NA[1]
Antimony (total)	7440-36-0	NA[1]	NA[1]	NA	1.0	NA[1]
Arsenic (total)	7440-38-2	5,200	NA[1]	NA	0.50	5,200
Atrazine	1912-24-9	NA[1]	NA[1]	21	0.33	NA[1]
Barium (total)	7440-39-3	NA[1]	NA[2]	NA	5.0	NA[2]
Benzaldehyde	100-52-7	NA[1]	NA[1]	1,200	0.33	NA[1]
Benzene	71-43-2	11	NA[2,3]	850	0.0050	11
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	370,000[4]	NA[1]	3.3	0.17	370,000[4]
Benzo(a)pyrene	50-32-8	37,000[4]	16,000[4]	1.9	0.17	16,000[4]
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	370,000[4]	NA[1]	1.8	0.17	370,000[4]
Benzo(k)fluoranthene	207-08-9	NA[2,3]	NA[1]	0.94	0.17	NA[2,3]
Beryllium	7440-41-7	9,300	160,000	NA	0.50	9,300
1,1'-Biphenyl	92-52-4	NA[1]	NA[1]	78	0.17	NA[1]

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Bis(2-chloroethoxy)methane	111-91-1	NA[1]	NA[1]	1,400	0.17	NA[1]
Bis(2-chloroethyl)ether	111-44-4	NA[1]	NA[1]	3,700	0.33	NA[1]
Bis(2-ethylhexyl)phthalate	117-81-7	NA[1]	NA[1]	65	0.17	NA[1]
Bromodichloromethane (Dichlorobromomethane)	75-27-4	NA[1]	NA[1]	690	0.0050	NA[1]
Bromoform	75-25-2	NA[1]	NA[1]	680	0.0050	NA[1]
Bromomethane (Methyl bromide)	74-83-9	NA[1]	82	3,300	0.0050	82
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	NA[1]	NA[2,3]	36,000	0.010	NA[2,3]
Butylbenzyl phthalate	85-68-7	NA[1]	NA[1]	39	0.17	NA[1]
Cadmium	7440-43-9	12,000	80,000	NA	0.50	12,000
Caprolactam	105-60-2	NA[1]	1,300	160,000	0.33	1,300
Carbon disulfide	75-15-0	NA[1]	NA[2,3]	580	0.0050	NA[2,3]
Carbon tetrachloride	56-23-5	6.9	NA[2,3]	300	0.0050	6.9
Chlordane (alpha and gamma forms summed)	57-74-9	NA[1]	NA[2,3]	7.6	0.0017	NA[2,3]
4-Chloroaniline	106-47-8	NA[1]	NA[1]	1,500	0.17	NA[1]
Chlorobenzene	108-90-7	NA[1]	NA[2,3]	320	0.0050	NA[2,3]
Chloroethane (Ethyl chloride)	75-00-3	NA[1]	NA[2,3]	1,700	0.0050	NA[2,3]
Chloroform	67-66-3	NA[1]	NA[2,3]	1,900	0.0050	NA[2,3]
Chloromethane (Methyl chloride)	74-87-3	NA[1]	1,200	1,200	0.0050	1,200
2-Chloronaphthalene	91-58-7	NA[1]	NA[1]	60	0.17	NA[1]
2-Chlorophenol (o-Chlorophenol)	95-57-8	NA[1]	NA[1]	11,000	0.17	NA[1]
Chrysene	218-01-9	NA[2,3]	NA[1]	0.72	0.17	NA[2,3]
Cobalt (total)	7440-48-4	2,500	48,000	NA	0.50	2,500
Copper (total)	7440-50-8	NA[1]	NA[1]	NA	1.0	NA[1]
Cyanide	57-12-5	NA[1]	NA[2]	NA	0.50	NA[2]
Cyclohexane	110-82-7	NA[1]	NA[2,3]	65	0.0050	NA[2,3]
4,4'-DDD (p,p'-TDE)	72-54-8	NA[1]	NA[1]	21	0.0033	NA[1]
4,4'-DDE (p,p'-DDX)	72-55-9	NA[1]	NA[1]	9.4	0.0033	NA[1]
4,4'-DDT	50-29-3	NA[1]	NA[1]	1.9	0.0033	NA[1]
Dibenz(a,h)anthracene	53-70-3	37,000[4]	NA[1]	9.5	0.17	37,000[4]
Dibromochloromethane (Chlorodibromomethane)	124-48-1	NA[1]	NA[1]	600	0.0050	NA[1]
1,2-Dibromo-3-chloropropane	96-12-8	0.12	52	470	0.0050	0.12
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	0.41	780	920	0.0050	0.41
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	NA[1]	NA[2,3]	140	0.0050	NA[2,3]
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	NA[1]	NA[1]	110	0.0050	NA[1]

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1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	NA[1]	NA[2,3]	74	0.0050	NA[2,3]
3,3'-Dichlorobenzidine	91-94-1	NA[1]	NA[1]	20	0.33	NA[1]
Dichlorodifluoromethane (Freon 12)	75-71-8	NA[1]	NA[1]	540	0.0050	NA[1]
1,1-Dichloroethane	75-34-3	NA[1]	NA[1]	1,200	0.0050	NA[1]
1,2-Dichloroethane	107-06-2	NA[1]	320	2,000	0.0050	320
1,1-Dichloroethene (1,1-Dichloroethylene)	75-35-4	NA[1]	240	830	0.0050	240
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	156-59-2	NA[1]	NA[1]	1,600	0.0050	NA[1]
1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	156-60-5	NA[1]	NA[1]	1,300	0.0050	NA[1]
2,4-Dichlorophenol	120-83-2	NA[1]	NA[1]	2,600	0.17	NA[1]
1,2-Dichloropropane	78-87-5	27	140	810	0.0050	27
1,3-Dichloropropene (total)	542-75-6	23	650	880	0.0050	23
Dieldrin	60-57-1	NA[1]	NA[1]	7.9	0.0033	NA[1]
Diethylphthalate	84-66-2	NA[1]	NA[1]	390	0.17	NA[1]
2,4-Dimethylphenol	105-67-9	NA[1]	NA[1]	8,900	0.17	NA[1]
Di-n-butyl phthalate	84-74-2	NA[1]	NA[1]	28	0.17	NA[1]
2,4-Dinitrophenol	51-28-5	NA[1]	NA[1]	430	0.33	NA[1]
2,4-Dinitrotoluene/2,6-Dinitrotoluene (mixture)	25321-14-6	NA[1]	NA[1]	360	0.17	NA[1]
Di-n-octyl phthalate	117-84-0	NA[1]	NA[1]	6.2	0.33	NA[1]
1,4-Dioxane	123-91-1	210	11,000	160,000	0.067	210
Endosulfan I and Endosulfan II (alpha and beta) (summed)	115-29-7	NA[1]	NA[1]	4.4	0.0033	NA[1]
Endrin	72-20-8	NA[1]	NA[1]	10	0.0033	NA[1]
Ethylbenzene	100-41-4	48	NA[2,3]	180	0.0050	48
Extractable Petroleum Hydrocarbons (Category 1)	various	NA[1]	NA[1]	NA	80	NA[1]
Extractable Petroleum Hydrocarbons (Category 2)	various	NA[1]	NA[1]	NA	80	NA[1]
Fluoranthene	206-44-0	NA[1]	NA[1]	29	0.33	NA[1]
Fluorene	86-73-7	NA[1]	NA[1]	31	0.17	NA[1]
alpha-HCH (alpha-BHC)	319-84-6	NA[1]	NA[1]	12	0.0017	NA[1]
beta-HCH (beta-BHC)	319-85-7	NA[1]	NA[1]	1.4	0.0017	NA[1]
Heptachlor	76-44-8	NA[1]	NA[1]	15	0.0017	NA[1]
Heptachlor epoxide	1024-57-3	NA[1]	NA[1]	4.1	0.0017	NA[1]
Hexachlorobenzene	118-74-1	NA[1]	NA[1]	0.078	0.17	NA[1]
Hexachloro-1,3-butadiene	87-68-3	NA[1]	NA[1]	6.1	0.17	NA[1]
Hexachlorocyclopentadiene	77-47-4	NA[1]	NA[2,3]	5.6	0.33	NA[2,3]
Hexachloroethane	67-72-1	NA[1]	NA[2,3]	28	0.17	NA[2,3]
n-Hexane	110-54-3	NA[1]	NA[2,3]	88	NA	NA[2,3]

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2-Hexanone	591-78-6	NA[1]	NA[2,3]	3,200	0.010	NA[2,3]
Indeno(1,2,3-cd)pyrene	193-39-5	370,000[4]	NA[1]	0.74	0.17	370,000[4]
Isophorone	78-59-1	NA[1]	NA[2,3]	3,400	0.17	NA[2,3]
Isopropylbenzene	98-82-8	NA[1]	NA[2,3]	98	0.0050	NA[2,3]
Lead (total)	7439-92-1	NA[1]	NA[1]	NA	0.50	NA[1]
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	NA[1]	NA[1]	42	0.0017	NA[1]
Manganese (total)	7439-96-5	NA[1]	400,000	NA	0.50	400,000
Mercury (total)	7439-97-6	NA[1]	NA[2,3]	3.1[5]	0.10	NA[2,3]
Methoxychlor	72-43-5	NA[1]	NA[1]	5.4	0.017	NA[1]
Methyl acetate	79-20-9	NA[1]	NA[1]	39,000	0.0050	NA[1]
Methylene chloride (Dichloromethane)	75-09-2	NA[2,3]	NA[2,3]	2,800	0.0050	NA[2,3]
2-Methylnaphthalene	91-57-6	NA[1]	NA[1]	130	0.17	NA[1]
4-Methyl-2-pentanone (MIBK)	108-10-1	NA[1]	NA[2,3]	3,400	0.010	NA[2,3]
2-Methylphenol (o-cresol)	95-48-7	NA[1]	NA[1]	20,000	0.33	NA[1]
4-Methylphenol (p-cresol)	106-44-5	NA[1]	NA[1]	16,000	0.33	NA[1]
Methyl tert-butyl ether (MTBE)	1634-04-4	650	NA[2,3]	9,100	0.0050	650
Naphthalene	91-20-3	27	NA[2,3]	100	0.17	27
Nickel (total)	7440-02-0	93,000	110,000	NA	0.50	93,000
4-Nitroaniline	100-01-6	NA[1]	NA[2,3]	270	0.33	NA[2,3]
Nitrobenzene	98-95-3	36	NA[2,3]	1,300	0.17	36
N-Nitrosodi-n-propylamine	621-64-7	NA[1]	NA[1]	9,200	0.17	NA[1]
N-Nitrosodiphenylamine	86-30-6	NA[1]	NA[1]	190	0.17	NA[1]
2,2'-oxybis(1-chloropropane)	108-60-1	NA[1]	NA[1]	540	0.33	NA[1]
Pentachlorophenol	87-86-5	NA[1]	NA[1]	140	0.33	NA[1]
Phenol	108-95-2	NA[1]	NA[2,3]	44,000	0.33	NA[2,3]
Polychlorinated biphenyls (PCBs)	1336-36-3	NA[1]	NA[1]	110	0.030	NA[1]
Pyrene	129-00-0	NA[1]	NA[1]	15	0.17	NA[1]
Selenium (total)	7782-49-2	NA[1]	NA[1]	NA	2.5	NA[1]
Silver (total)	7440-22-4	NA[1]	NA[1]	NA	0.50	NA[1]
Styrene	100-42-5	NA[1]	NA[2,3]	330	0.0050	NA[2,3]
Tertiary butyl alcohol (TBA)	75-65-0	NA[1]	NA[1]	160,000	0.10	NA[1]
1,2,4,5-Tetrachlorobenzene	95-94-3	NA[1]	NA[1]	2.7	0.17	NA[1]
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	NA[1]	NA[1]	0.10	0.0000010	NA[1]
1,1,2,2-Tetrachloroethane	79-34-5	NA[1]	NA[1]	980	0.0050	NA[1]
Tetrachloroethene (PCE) (Tetrachloroethylene)	127-18-4	NA[2,3]	NA[2,3]	89	0.0050	NA[2,3]
2,3,4,6-Tetrachlorophenol	58-90-2	NA[1]	NA[1]	150	0.17	NA[1]
Toluene	108-88-3	NA[1]	NA[2,3]	340	0.0050	NA[2,3]

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Toxaphene	8001-35-2	NA[1]	NA[1]	85	0.17	NA[1]
1,2,4-Trichlorobenzene	120-82-1	NA[1]	NA[2,3]	140	0.0050	NA[2,3]
1,1,1-Trichloroethane	71-55-6	NA[1]	NA[2,3]	420	0.0050	NA[2,3]
1,1,2-Trichloroethane	79-00-5	NA[1]	NA[1]	1,300	0.0050	NA[1]
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	14	42	410	0.0050	14
Trichlorofluoromethane (Freon 11)	75-69-4	NA[1]	NA[1]	790	0.0050	NA[1]
2,4,5-Trichlorophenol	95-95-4	NA[1]	NA[1]	5,800	0.20	NA[1]
2,4,6-Trichlorophenol	88-06-2	NA[1]	NA[1]	1,700	0.20	NA[1]
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	NA[1]	NA[2,3]	530	0.0050	NA[2,3]
1,2,4-Trimethylbenzene	95-63-6	NA[1]	NA[2,3]	80	0.076	NA[2,3]
Vanadium (total)	7440-62-2	NA[1]	800,000	NA	2.5	800,000
Vinyl chloride	75-01-4	6.4	1,000	2,900	0.0050	6.4
Xylenes (total)	1330-20-7	NA[1]	NA[2,3]	100	0.0050	NA[2,3]
Zinc (total)	7440-66-6	NA[1]	NA[1]	NA	1.0	NA[1]

NA – Not applicable because soil saturation limit does not apply to this contaminant

NA[1] Not applicable because appropriate toxicological information is not available

NA[2] Standard not applicable because the calculated health-based criterion exceeds one million mg/kg

NA[3] Standard not applicable because the calculated health-based criterion exceeds the soil saturation limit

[4] Exceeds soil saturation limit; however, health-based criterion based on particulate portion of the equation

[5] Value is for elemental mercury

Table 5 – Soil Remediation Standards for the Migration to Ground Water Exposure Pathway (mg/kg) (All ground water remediation standards are rounded to two significant figures when scientifically supportable)[A]

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Contaminant	CAS No.	Ground Water Remediation Standard (µg/L)	Migration to Ground Water Soil Criterion (mg/kg)	Soil Saturation Limit (mg/kg)	Reporting Limit (mg/kg)	Soil Remediation Standard Migration to Ground Water (mg/kg)
Acenaphthene	83-32-9	400	82	40	0.17	NA[1]
Acetone (2-Propanone)	67-64-1	6,000	19	160,000	0.010	19
Acetophenone	98-86-2	700	3.6	1,600	0.33	3.6
Aldrin	309-00-2	0.020	0.066	2.8	0.0017	0.066
Aluminum (total)	7429-90-5	NA[2]	NA[2]	NA[3]	20	NA[2]
Anthracene	120-12-7	2,000	1,300	1.4	0.17	NA[1]
Antimony (total)	7440-36-0	6	5.4	NA[3]	1.0	5.4
Arsenic (total)	7440-38-2	3	1.6	NA[3]	0.50	19[4]
Atrazine	1912-24-9	3	0.036	21	0.33	0.33[5]
Barium (total)	7440-39-3	6,000	2,100	NA[3]	5.0	2,100
Benzaldehyde	100-52-7	NA[6]	NA[6]	1,200	0.33	NA[6]
Benzene	71-43-2	0.45	0.0042	850	0.0050	0.0050[5]
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	0.1	0.71	3.3	0.17	0.71
Benzo(a)pyrene	50-32-8	0.1	2.3	1.9	0.17	NA[1]
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	0.2	4.8	1.8	0.17	NA[1]
Benzo(k)fluoranthene	207-08-9	1	23	0.94	0.17	NA[1]
Beryllium	7440-41-7	1	0.70	NA[3]	0.50	0.70
1,1'-Biphenyl	92-52-4	5.0	1.0	78	0.17	1.0
Bis(2-chloroethoxy)methane	111-91-1	NA[6]	NA[6]	1,400	0.17	NA[6]
Bis(2-chloroethyl)ether	111-44-4	1.3	0.0057	3,700	0.33	0.33[5]
Bis(2-ethylhexyl)phthalate	117-81-7	3	14	65	0.17	14
Bromodichloromethane (Dichlorobromomethane)	75-27-4	0.98	0.0045	690	0.0050	0.0050[5]
Bromoform	75-25-2	7.4	0.033	680	0.0050	0.033
Bromomethane (Methyl bromide)	74-83-9	10	0.043	3,300	0.0050	0.043
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	4,300	14	36,000	0.010	14
Butylbenzyl phthalate	85-68-7	18	5.2	39	0.17	5.2
Cadmium	7440-43-9	0.92	0.43	NA[3]	0.50	0.50[5]
Caprolactam	105-60-2	4,000	16	160,000	0.33	16
Carbon disulfide	75-15-0	700	3.7	580	0.0050	3.7
Carbon tetrachloride	56-23-5	1	0.0075	300	0.0050	0.0075
Chlordane (alpha and gamma forms summed)	57-74-9	0.20	0.54	7.6	0.0017	0.54

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

4-Chloroaniline	106-47-8	5.0	0.038	1,500	0.17	0.17[5]
Chlorobenzene	108-90-7	50	0.64	320	0.0050	0.64
Chloroethane (Ethyl chloride)	75-00-3	NA[6]	NA[6]	1,700	0.0050	NA[6]
Chloroform	67-66-3	70	0.33	1,900	0.0050	0.33
Chloromethane (Methyl chloride)	74-87-3	NA[6]	NA[6]	1,200	0.0050	NA[6]
2-Chloronaphthalene	91-58-7	600	61	60	0.17	NA[1]
2-Chlorophenol (o-Chlorophenol)	95-57-8	40	0.76	11,000	0.17	0.76
Chrysene	218-01-9	10	72	0.72	0.17	NA[1]
Cobalt (total)	7440-48-4	2	1.8	NA[3]	0.50	1.8
Copper (total)	7440-50-8	1,300	910	NA[3]	1.0	910
Cyanide	57-12-5	5.0	1.0	NA[3]	0.50	1.0
Cyclohexane	110-82-7	NA[6]	NA[6]	65	0.0050	NA[6]
4,4'-DDD (p,p'-TDE)	72-54-8	0.1	0.47	21	0.0033	0.47
4,4'-DDE (p,p'-DDX)	72-55-9	0.20	0.94	9.4	0.0033	0.94
4,4'-DDT	50-29-3	0.1	0.67	1.9	0.0033	0.67
Dibenz(a,h)anthracene	53-70-3	0.3	23	9.5	0.17	NA[1]
Dibromochloromethane (Chlorodibromomethane)	124-48-1	0.78	0.0034	600	0.0050	0.0050[5]
1,2-Dibromo-3-chloropropane	96-12-8	0.02	0.00015	470	0.0050	0.0050[5]
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	0.03	0.00014	920	0.0050	0.0050[5]
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	210	3.9	140	0.0050	3.9
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	5	0.092	110	0.0050	0.092
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	15	0.27	74	0.0050	0.27
3,3'-Dichlorobenzidine	91-94-1	5.2	0.68	20	0.33	0.68
Dichlorodifluoromethane (Freon 12)	75-71-8	1,000	38	540	0.0050	38
1,1-Dichloroethane	75-34-3	22	0.11	1,200	0.0050	0.11
1,2-Dichloroethane	107-06-2	0.3	0.0014	2,000	0.0050	0.0050[5]
1,1-Dichloroethene (1,1-Dichloroethylene)	75-35-4	31	0.21	830	0.0050	0.21
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	156-59-2	11	0.056	1,600	0.0050	0.056
1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	156-60-5	100	0.56	1,300	0.0050	0.56
2,4-Dichlorophenol	120-83-2	20	0.19	2,600	0.17	0.19

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1,2-Dichloropropane	78-87-5	0.92	0.0053	810	0.0050	0.0053
1,3-Dichloropropene (total)	542-75-6	0.45	0.0028	880	0.0050	0.0050[5]
Dieldrin	60-57-1	0.020	0.016	7.9	0.0033	0.016
Diethylphthalate	84-66-2	6,000	44	390	0.17	44
2,4-Dimethylphenol	105-67-9	100	2.3	8,900	0.17	2.3
Di-n-butyl phthalate	84-74-2	700	35	28	0.17	NA[1]
2,4-Dinitrophenol	51-28-5	10	0.031	430	0.33	0.33[5]
2,4-Dinitrotoluene/2,6-Dinitrotoluene (mixture)	25321-14-6	5.2	0.14	360	0.17	0.17[5]
Di-n-octyl phthalate	117-84-0	80	450	6.2	0.33	NA[1]
1,4-Dioxane	123-91-1	0.4	0.0013	160,000	0.067	0.067[5]
Endosulfan I and Endosulfan II (alpha and beta) (summed)	115-29-7	40	11	4.4	0.0033	NA[1]
Endrin	72-20-8	2	1.6	10	0.0033	1.6
Ethylbenzene	100-41-4	150	3.3	180	0.0050	3.3
Extractable Petroleum Hydrocarbons (Category 1)	various	NA[6]	NA[6]	NA[3]	80	NA[6]
Extractable Petroleum Hydrocarbons (Category 2)	various	NA[6]	NA[6]	NA[3]	80	NA[6]
Fluoranthene	206-44-0	300	670	29	0.33	NA[1]
Fluorene	86-73-7	300	110	31	0.17	NA[1]
alpha-HCH (alpha-BHC)	319-84-6	0.02	0.0023	12	0.0017	0.0023
beta-HCH (beta-BHC)	319-85-7	0.02	0.0023	1.4	0.0017	0.0023
Heptachlor	76-44-8	0.020	0.033	15	0.0017	0.033
Heptachlor epoxide	1024-57-3	0.020	0.0081	4.1	0.0017	0.0081
Hexachlorobenzene	118-74-1	0.033	0.0083	0.078	0.17	0.17[5]
Hexachloro-1,3-butadiene	87-68-3	1	0.038	6.1	0.17	0.17[5]
Hexachlorocyclopentadiene	77-47-4	40	2.5	5.6	0.33	2.5
Hexachloroethane	67-72-1	0.8	0.0091	28	0.17	0.17[5]
n-Hexane	110-54-3	30	5.5	88	-	5.5
2-Hexanone	591-78-6	40	0.15	3,200	0.010	0.15
Indeno(1,2,3-cd)pyrene	193-39-5	0.2	16	0.74	0.17	NA[1]
Isophorone	78-59-1	40	0.23	3,400	0.17	0.23
Isopropylbenzene	98-82-8	700	22	98	0.0050	22
Lead (total)	7439-92-1	5	90	NA[3]	0.50	90
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	0.03	0.0035	42	0.0017	0.0035
Manganese (total)	7439-96-5	NA[2]	NA[2]	NA[3]	0.50	NA[2]
Mercury (total)	7439-97-6	2	0.014	NA[3]	0.10	0.10[5]
Methoxychlor	72-43-5	0.1	0.11	5.4	0.017	0.11
Methyl acetate	79-20-9	7,000	22	39,000	0.0050	22

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

Methylene chloride (Dichloromethane)	75-09-2	6	0.026	2,800	0.0050	0.026
2-Methylnaphthalene	91-57-6	30	3.1	130	0.17	3.1
4-Methyl-2-pentanone (MIBK)	108-10-1	NA[6]	NA[6]	3,400	0.010	NA[6]
2-Methylphenol (o-cresol)	95-48-7	50	0.77	20,000	0.33	0.77
4-Methylphenol (p-cresol)	106-44-5	50	0.75	16,000	0.33	0.75
Methyl tert-butyl ether (MTBE)	1634-04-4	70	0.25	9,100	0.0050	0.25
Naphthalene	91-20-3	300	19	100	0.17	19
Nickel (total)	7440-02-0	100	48	NA[3]	0.50	48
4-Nitroaniline	100-01-6	NA[6]	NA[6]	270	0.33	NA[6]
Nitrobenzene	98-95-3	1.2	0.015	1,300	0.17	0.17[5]
N-Nitrosodi-n-propylamine	621-64-7	1.6	0.023	9,200	0.17	0.17[5]
N-Nitrosodiphenylamine	86-30-6	10	1.1	190	0.17	1.1
2,2'-oxybis(1-chloropropane)	108-60-1	300	1.9	540	0.33	1.9
Pentachlorophenol	87-86-5	0.1	0.021	140	0.33	0.33[5]
Phenol	108-95-2	2,000	21	44,000	0.33	21
Polychlorinated biphenyls (PCBs)	1336-36-3	0.20	0.63	110	0.030	0.63
Pyrene	129-00-0	200	440	15	0.17	NA[1]
Selenium (total)	7782-49-2	40	11	NA[3]	2.5	11
Silver (total)	7440-22-4	40	0.33	NA[3]	0.50	0.50[5]
Styrene	100-42-5	100	2.1	330	0.0050	2.1
Tertiary butyl alcohol (TBA)	75-65-0	100	0.32	160,000	0.10	0.32
1,2,4,5-Tetrachlorobenzene	95-94-3	NA[6]	NA[6]	2.7	0.17	NA[6]
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	0.00001	0.00010	0.10	0.0000010	0.00010[7]
1,1,2,2-Tetrachloroethane	79-34-5	0.2	0.0014	980	0.0050	0.0050[5]
Tetrachloroethene (PCE) (Tetrachloroethylene)	127-18-4	0.4	0.0034	89	0.0050	0.0050[5]
2,3,4,6-Tetrachlorophenol	58-90-2	200	26	150	0.17	26
Toluene	108-88-3	600	7.8	340	0.0050	7.8
Toxaphene	8001-35-2	1.2	3.7	85	0.17	3.7
1,2,4-Trichlorobenzene	120-82-1	1.1	0.063	140	0.0050	0.063
1,1,1-Trichloroethane	71-55-6	1,900	12	420	0.0050	12
1,1,2-Trichloroethane	79-00-5	0.58	0.0032	1,300	0.0050	0.0050[5]
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	0.28	0.0018	410	0.0050	0.0050[5]
Trichlorofluoromethane (Freon 11)	75-69-4	2,000	29	790	0.0050	29
2,4,5-Trichlorophenol	95-95-4	700	68	5,800	0.20	68
2,4,6-Trichlorophenol	88-06-2	3.0	0.13	1,700	0.20	0.20[5]

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	20,000	1,300	530	0.0050	NA[1]
1,2,4-Trimethylbenzene	95-63-6	NA[6]	NA[6]	80	0.076	NA[6]
Vanadium (total)	7440-62-2	NA[6]	NA[6]	NA[3]	2.5	NA[6]
Vinyl chloride	75-01-4	0.035	0.0023	2,900	0.0050	0.0050[5]
Xylenes (total)	1330-20-7	1,000	19	100	0.0050	19
Zinc (total)	7440-66-6	2,000	930	NA[3]	1.0	930

[A] The ground water remediation standards are listed using one or two significant figures to be consistent with the Ground Water Quality Standards, N.J.A.C. 7:9C

NA – Not applicable

[1] Standard not applicable because the calculated health-based criterion exceeds the soil saturation limit

[2] Standard not applicable because ground water remediation standard is a secondary standard

[3] Not applicable because soil saturation limit does not apply to this contaminant

[4] Standard is based on natural background

[5] Standard set to reporting limit

[6] Standard not applicable because a ground water remediation standard does not exist

[7] This standard is used for comparison to site soil data that have been converted to sample-specific TCDD-TEQ values through application of the Toxicity Equivalence Factor Methodology (USEPA 2010) and using the WHO 2005 Mammalian Toxic Equivalency Factors (TEFs)

Table 6 – Soil Leachate Remediation Standards for the Migration to Ground Water Exposure Pathway (µg/L) (All ground water remediation standards are rounded to two significant

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

figures when scientifically supportable)[A]

Contaminant	CAS No.	Ground Water Remediation Standard	Soil Leachate Remediation Standard - Migration to Ground Water
Acenaphthene	83-32-9	400	NA[1]
Acetone (2-Propanone)	67-64-1	6,000	120,000
Acetophenone	98-86-2	700	14,000
Aldrin	309-00-2	0.020	0.40
Aluminum (total)	7429-90-5	NA[2]	NA[2]
Anthracene	120-12-7	2,000	NA[1]
Antimony (total)	7440-36-0	6	120
Arsenic (total)	7440-38-2	3	60
Atrazine	1912-24-9	3	60
Barium (total)	7440-39-3	6,000	120,000
Benzaldehyde	100-52-7	NA[3]	NA[3]
Benzene	71-43-2	0.45	9.0
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	0.1	2.0
Benzo(a)pyrene	50-32-8	0.1	NA[1]
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	0.2	NA[1]
Benzo(k)fluoranthene	207-08-9	1	NA[1]
Beryllium	7440-41-7	1	20
1,1'-Biphenyl	92-52-4	5.0	100
Bis(2-chloroethoxy)methane	111-91-1	NA[3]	NA[3]
Bis(2-chloroethyl)ether	111-44-4	1.3	26
Bis(2-ethylhexyl)phthalate	117-81-7	3	60
Bromodichloromethane (Dichlorobromomethane)	75-27-4	0.98	20
Bromoform	75-25-2	7.4	150
Bromomethane (Methyl bromide)	74-83-9	10	200
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	4,300	86,000
Butylbenzyl phthalate	85-68-7	18	360
Cadmium	7440-43-9	0.92	18
Caprolactam	105-60-2	4,000	80,000
Carbon disulfide	75-15-0	700	14,000
Carbon tetrachloride	56-23-5	1	20
Chlordane (alpha and gamma forms summed)	57-74-9	0.20	4.0
4-Chloroaniline	106-47-8	5.0	100
Chlorobenzene	108-90-7	50	1,000

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

Chloroethane (Ethyl chloride)	75-00-3	NA[3]	NA[3]
Chloroform	67-66-3	70	1,400
Chloromethane (Methyl chloride)	74-87-3	NA[3]	NA[3]
2-Chloronaphthalene	91-58-7	600	NA[1]
2-Chlorophenol (o-Chlorophenol)	95-57-8	40	800
Chrysene	218-01-9	10	NA[1]
Cobalt (total)	7440-48-4	2	40
Copper (total)	7440-50-8	1,300	26,000
Cyanide	57-12-5	5.0	100
Cyclohexane	110-82-7	NA[3]	NA[3]
4,4'-DDD (p,p'-TDE)	72-54-8	0.1	2.0
4,4'-DDE (p,p'-DDX)	72-55-9	0.20	4.0
4,4'-DDT	50-29-3	0.1	2.0
Dibenz(a,h)anthracene	53-70-3	0.3	NA[1]
Dibromochloromethane (Chlorodibromomethane)	124-48-1	0.78	16
1,2-Dibromo-3-chloropropane	96-12-8	0.02	0.40
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	0.03	0.60
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	210	4,200
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	5	100
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	15	300
3,3'-Dichlorobenzidine	91-94-1	5.2	100
Dichlorodifluoromethane (Freon 12)	75-71-8	1,000	20,000
1,1-Dichloroethane	75-34-3	22	440
1,2-Dichloroethane	107-06-2	0.3	6.0
1,1-Dichloroethene (1,1-Dichloroethylene)	75-35-4	31	620
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	156-59-2	11	220
1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	156-60-5	100	2,000
2,4-Dichlorophenol	120-83-2	20	400
1,2-Dichloropropane	78-87-5	0.92	18
1,3-Dichloropropene (total)	542-75-6	0.45	9.0
Dieldrin	60-57-1	0.020	0.40
Diethylphthalate	84-66-2	6,000	120,000
2,4-Dimethylphenol	105-67-9	100	2,000
Di-n-butyl phthalate	84-74-2	700	NA[1]
2,4-Dinitrophenol	51-28-5	10	200
2,4-Dinitrotoluene/2,6-Dinitrotoluene (mixture)	25321-14-6	5.2	100
Di-n-octyl phthalate	117-84-0	80	NA[1]

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

1,4-Dioxane	123-91-1	0.4	8.0
Endosulfan I and Endosulfan II (alpha and beta) (summed)	115-29-7	40	NA[1]
Endrin	72-20-8	2	40
Ethylbenzene	100-41-4	150	3,000
Extractable Petroleum Hydrocarbons (Category 1)	various	NA[3]	NA[3]
Extractable Petroleum Hydrocarbons (Category 2)	various	NA[3]	NA[3]
Fluoranthene	206-44-0	300	NA[1]
Fluorene	86-73-7	300	NA[1]
alpha-HCH (alpha-BHC)	319-84-6	0.02	0.40
beta-HCH (beta-BHC)	319-85-7	0.02	0.40
Heptachlor	76-44-8	0.020	0.40
Heptachlor epoxide	1024-57-3	0.020	0.40
Hexachlorobenzene	118-74-1	0.033	0.66
Hexachloro-1,3-butadiene	87-68-3	1	20
Hexachlorocyclopentadiene	77-47-4	40	800
Hexachloroethane	67-72-1	0.8	16
n-Hexane	110-54-3	30	600
2-Hexanone	591-78-6	40	800
Indeno(1,2,3-cd)pyrene	193-39-5	0.2	NA[1]
Isophorone	78-59-1	40	800
Isopropylbenzene	98-82-8	700	14,000
Lead (total)	7439-92-1	5	100
Lindane (gamma-HCH)(gamma-BHC)	58-89-9	0.03	0.60
Manganese (total)	7439-96-5	NA[2]	NA[2]
Mercury (total)	7439-97-6	2	40
Methoxychlor	72-43-5	0.1	2.0
Methyl acetate	79-20-9	7,000	140,000
Methylene chloride (Dichloromethane)	75-09-2	6	120
2-Methylnaphthalene	91-57-6	30	600
4-Methyl-2-pentanone (MIBK)	108-10-1	NA[3]	NA[3]
2-Methylphenol (o-cresol)	95-48-7	50	1,000
4-Methylphenol (p-cresol)	106-44-5	50	1,000
Methyl tert-butyl ether (MTBE)	1634-04-4	70	1,400
Naphthalene	91-20-3	300	6,000
Nickel (total)	7440-02-0	100	2,000
4-Nitroaniline	100-01-6	NA[3]	NA[3]
Nitrobenzene	98-95-3	1.2	24
N-Nitrosodi-n-propylamine	621-64-7	1.6	32
N-Nitrosodiphenylamine	86-30-6	10	200

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

2,2'-oxybis(1-chloropropane)	108-60-1	300	6,000
Pentachlorophenol	87-86-5	0.1	2.0
Phenol	108-95-2	2,000	40,000
Polychlorinated biphenyls (PCBs)	1336-36-3	0.20	4.0
Pyrene	129-00-0	200	NA[1]
Selenium (total)	7782-49-2	40	800
Silver (total)	7440-22-4	40	800
Styrene	100-42-5	100	2,000
Tertiary butyl alcohol (TBA)	75-65-0	100	2,000
1,2,4,5-Tetrachlorobenzene	95-94-3	NA[3]	NA[3]
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	0.00001	0.00020[4]
1,1,2,2-Tetrachloroethane	79-34-5	0.2	4.0
Tetrachloroethene (PCE) (Tetrachloroethylene)	127-18-4	0.4	8.0
2,3,4,6-Tetrachlorophenol	58-90-2	200	4,000
Toluene	108-88-3	600	12,000
Toxaphene	8001-35-2	1.2	24
1,2,4-Trichlorobenzene	120-82-1	1.1	22
1,1,1-Trichloroethane	71-55-6	1,900	38,000
1,1,2-Trichloroethane	79-00-5	0.58	12
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	0.28	5.6
Trichlorofluoromethane (Freon 11)	75-69-4	2,000	40,000
2,4,5-Trichlorophenol	95-95-4	700	14,000
2,4,6-Trichlorophenol	88-06-2	3.0	60
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	20,000	NA[1]
1,2,4-Trimethylbenzene	95-63-6	NA[3]	NA[3]
Vanadium (total)	7440-62-2	NA[3]	NA[3]
Vinyl chloride	75-01-4	0.035	0.70
Xylenes (total)	1330-20-7	1,000	20,000
Zinc (total)	7440-66-6	2,000	40,000

[A] The ground water remediation standards are listed using one or two significant figures to be consistent with the Ground Water Quality Standards, N.J.A.C. 7:9C

NA – Not applicable

[1] Standard not applicable because the calculated health-based soil criterion exceeds the soil saturation limit

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

[2] Not applicable because ground water remediation standard is a secondary standard

[3] Not applicable because a ground water remediation standard does not exist

[4] This standard is used for comparison to site soil leachate data that have been converted to sample-specific TCDD-TEQ values through application of the Toxicity Equivalence Factor Methodology (USEPA 2010) and using the WHO 2005 Mammalian Toxic Equivalency Factors (TEFs)

Table 7 – Indoor Air Remediation Standards for the Vapor Intrusion Exposure Pathway - Residential (µg/m^3) (All numeric values are rounded to two significant figures)

Contaminant	CAS No.	Carcinogenic Indoor Air Human Health-based Criterion	Noncarcinogenic Indoor Air Human Health-based Criterion	Reporting Limit	Indoor Air Remediation Standard Residential
Acetone	67-64-1	NA	NA	12	NA
Benzene	71-43-2	0.36	31	0.64	0.64[1]
Bromodichloromethane	75-27-4	NA	NA	1.3	NA
Bromoform	75-25-2	NA	NA	2.1	NA
Bromomethane (Methyl bromide)	74-83-9	NA	5.2	0.78	5.2
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	NA	5,200	1.5	5,200
Carbon disulfide	75-15-0	NA	730	1.6	730
Carbon tetrachloride	56-23-5	0.47	100	1.3	1.3[1]
Chlorobenzene	108-90-7	NA	52	0.92	52
Chloroethane (Ethyl chloride)	75-00-3	NA	10,000	1.3	10,000
Chloroform	67-66-3	NA	100	0.98	100
Chloromethane (Methyl chloride)	74-87-3	NA	94	1.0	94
Cyclohexane	110-82-7	NA	6,300	0.69	6,300
Dibromochloromethane	124-48-1	NA	NA	1.7	NA
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	0.0047	9.4	1.5	1.5[1]
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	NA	210	1.2	210

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	NA	830	1.2	830
Dichlorodifluoromethane (Freon 12)	75-71-8	NA	NA	2.5	NA
1,1-Dichloroethane	75-34-3	NA	NA	0.81	NA
1,2-Dichloroethane	107-06-2	NA	7.3	0.81	7.3
1,1-Dichloroethene (1,1-Dichloroethylene)	75-35-4	NA	21	0.79	21
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	156-59-2	NA	NA	0.79	NA
1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	156-60-5	NA	NA	0.79	NA
1,2-Dichloropropane	78-87-5	0.76	4.2	0.92	0.92[1]
1,3-Dichloropropene (total)	542-75-6	0.70	21	0.91	0.91[1]
1,4-Dioxane	123-91-1	0.56	31	0.72	0.72[1]
Ethylbenzene	100-41-4	1.1	1,000	0.87	1.1
Hexachlorobutadiene	87-68-3	NA	NA	2.1	NA
n-Hexane	110-54-3	NA	730	0.70	730
Mercury (elemental)	7439-97-6	NA	0.31	1.0	1.0[1]
Methylene chloride (Dichloromethane)	75-09-2	280	630	1.7	280
4-Methyl-2-pentanone (MIBK)	108-10-1	NA	3,100	2.0	3,100
Methyl tert-butyl ether (MTBE)	1634-04-4	11	3,100	0.72	11
Naphthalene	91-20-3	0.083	3.1	2.6	2.6[1]
Styrene	100-42-5	NA	1,000	0.85	1,000
1,1,2,2-Tetrachloroethane	79-34-5	NA	NA	1.4	NA
Tetrachloroethene (PCE) (Tetrachloroethylene)	127-18-4	11	42	1.4	11
Toluene	108-88-3	NA	5,200	0.75	5,200
1,2,4-Trichlorobenzene	120-82-1	NA	2.1	3.7	3.7[1]
1,1,1-Trichloroethane	71-55-6	NA	5,200	1.1	5,200
1,1,2-Trichloroethane	79-00-5	NA	NA	1.1	NA
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	0.68	2.1	1.1	1.1[1]
Trichlorofluoromethane	75-69-4	NA	NA	1.1	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	NA	5,200	1.5	5,200
1,2,4-Trimethylbenzene	95-63-6	NA	63	0.98	63
Vinyl chloride	75-01-4	0.64	100	0.51	0.64
Xylenes (total)	1330-20-7	NA	100	0.87	100

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

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NA – Not applicable because appropriate toxicological information is not available

[1] Standard set at reporting limit

Table 8 – Indoor Air Remediation Standards for the Vapor Intrusion Exposure Pathway - Nonresidential (µg/m^3) (All numeric values are rounded to two significant figures)

Contaminant	CAS No.	Carcinogenic Indoor Air Human Health-based Criterion	Noncarcinogenic Indoor Air Human Health-based Criterion	Reporting Limit	Indoor Air Remediation Standard Nonresidential
Acetone	67-64-1	NA	NA	12	NA
Benzene	71-43-2	1.6	130	0.64	1.6
Bromodichloromethane	75-27-4	NA	NA	1.3	NA
Bromoform	75-25-2	NA	NA	2.1	NA
Bromomethane (Methyl bromide)	74-83-9	NA	22	0.78	22
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	NA	22,000	1.5	22,000
Carbon disulfide	75-15-0	NA	3,100	1.6	3,100
Carbon tetrachloride	56-23-5	2.0	440	1.3	2.0
Chlorobenzene	108-90-7	NA	220	0.92	220
Chloroethane (Ethyl chloride)	75-00-3	NA	44,000	1.3	44,000
Chloroform	67-66-3	NA	430	0.98	430
Chloromethane (Methyl chloride)	74-87-3	NA	390	1.0	390
Cyclohexane	110-82-7	NA	26,000	0.69	26,000
Dibromochloromethane	124-48-1	NA	NA	1.7	NA
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	0.020	39	1.5	1.5[1]
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	NA	880	1.2	880
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	NA	3,500	1.2	3,500
Dichlorodifluoromethane (Freon 12)	75-71-8	NA	NA	2.5	NA
1,1-Dichloroethane	75-34-3	NA	NA	0.81	NA
1,2-Dichloroethane	107-06-2	NA	31	0.81	31
1,1-Dichloroethene (1,1-Dichloroethylene)	75-35-4	NA	88	0.79	88

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	156-59-2	NA	NA	0.79	NA
1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	156-60-5	NA	NA	0.79	NA
1,2-Dichloropropane	78-87-5	3.3	18	0.92	3.3
1,3-Dichloropropene (total)	542-75-6	3.1	88	0.91	3.1
1,4-Dioxane	123-91-1	2.5	130	0.72	2.5
Ethylbenzene	100-41-4	4.9	4,400	0.87	4.9
Hexachlorobutadiene	87-68-3	NA	NA	2.1	NA
n-Hexane	110-54-3	NA	3,100	0.70	3,100
Mercury (elemental)	7439-97-6	NA	1.3	1.0	1.3
Methylene chloride (Dichloromethane)	75-09-2	1,200	2,600	1.7	1,200
4-Methyl-2-pentanone (MIBK)	108-10-1	NA	13,000	2.0	13,000
Methyl tert-butyl ether (MTBE)	1634-04-4	47	13,000	0.72	47
Naphthalene	91-20-3	0.36	13	2.6	2.6[1]
Styrene	100-42-5	NA	4,400	0.85	4,400
1,1,2,2-Tetrachloroethane	79-34-5	NA	NA	1.4	NA
Tetrachloroethene (PCE) (Tetrachloroethylene)	127-18-4	47	180	1.4	47
Toluene	108-88-3	NA	22,000	0.75	22,000
1,2,4-Trichlorobenzene	120-82-1	NA	8.8	3.7	8.8
1,1,1-Trichloroethane	71-55-6	NA	22,000	1.1	22,000
1,1,2-Trichloroethane	79-00-5	NA	NA	1.1	NA
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	3.0	8.8	1.1	3.0
Trichlorofluoromethane	75-69-4	NA	NA	1.1	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	NA	22,000	1.5	22,000
1,2,4-Trimethylbenzene	95-63-6	NA	260	0.98	260
Vinyl chloride	75-01-4	2.8	440	0.51	2.8
Xylenes (total)	1330-20-7	NA	440	0.87	440

NA – Not applicable because appropriate toxicological information is not available

[1] Standard set at reporting limit

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

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APPENDIX 2

DEVELOPMENT OF SOIL REMEDIATION STANDARDS FOR THE INGESTION-DERMAL EXPOSURE PATHWAY

This appendix describes the procedures and equations used by the Department to develop the soil remediation standards for the ingestion-dermal exposure pathway as contained in N.J.A.C. 7:26D Appendix 1 Tables 1 and 2. This appendix is also used to develop interim soil remediation standards for the ingestion-dermal exposure pathway pursuant to N.J.A.C. 7:26D-6 and for updating soil remediation standards for the ingestion-dermal exposure pathway pursuant to N.J.A.C. 7:26D-7.

If the calculated soil criterion for a contaminant for the ingestion-dermal exposure pathway is greater than one million mg/kg, a soil remediation standard for the ingestion-dermal exposure pathway for that contaminant does not apply.

If the calculated soil criterion for a contaminant for the ingestion-dermal exposure pathway is less than the reporting limit for that contaminant, the soil remediation standard for the ingestion-dermal exposure pathway for that contaminant defaults to the soil reporting limit.

Equations 1 through 4 below are derived from the USEPA, Regional Screening Levels (RSLs) – Equations (November 2018). A detailed explanation of the derivation of Equations 1 through 4 is contained at N.J.A.C. 7:26D Appendix 12.

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

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Equation 1 – Residential Carcinogenic Ingestion-Dermal Human Health-Based Criteria

$$ID_c = \frac{TR * AT * LT}{(10^{-6} kg/mg) * [(CSF_O * IFS_{adj}) + (CSF_D * DFS_{adj} * ABS_d)]}$$

Parameter	Definition	Units	Default
ID_c	Carcinogenic ingestion-dermal human health-based criterion	mg/kg	Chemical specific
TR	Target cancer risk	unitless	1×10^{-6}
AT	Averaging time	days/year	365
LT	Lifetime	years	70
CSF_o	Oral cancer slope factor	$(mg/kg\text{-}day)^{-1}$	Chemical specific
IFS_{adj}	Age-adjusted soil ingestion rate	mg/kg	36,750
CSF_D	Dermal cancer slope factor	$(mg/kg\text{-}day)^{-1}$	Chemical specific
DFS_{adj}	Age-adjusted soil dermal contact factor	mg/kg	103,390
ABS_d	Dermal absorption fraction	unitless	Chemical specific

Where:

$$IFS_{adj} = \frac{EF_c * ED_c * IR_c}{BW_c} + \frac{EF_a * ED_a * IR_a}{BW_a}$$

Parameter	Definition	Units	Default

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

IFS_{adj}	Age-adjusted soil ingestion rate	mg/kg	36,750
EF_c	Exposure frequency – child	days/year	350
EF_a	Exposure frequency – adult	days/year	350
ED_c	Exposure duration – child	years	6
ED_a	Exposure duration – adult	years	20
IR_c	Soil ingestion rate – child	mg/day	200
IR_a	Soil ingestion rate – adult	mg/day	100
BW_c	Body weight – child	kg	15
BW_a	Body weight – adult	kg	80

Where:

$$DFS_{adj} = \frac{EF_c * ED_c * SA_c * AF_c}{BW_c} + \frac{EF_a * ED_a * SA_a * AF_a}{BW_a}$$

Parameter	Definition	Units	Default
DFS_{adj}	Age-adjusted soil dermal contact factor	mg/kg	103,390
EF_c	Exposure frequency – child	days/year	350
EF_a	Exposure frequency – adult	days/year	350
ED_c	Exposure duration – child	years	6
ED_a	Exposure duration – adult	years	20
SA_c	Skin surface area – child	cm^2/day	2,373
SA_a	Skin surface area – adult	cm^2/day	6,032

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

AF_c	Soil adherence factor – child	mg/cm^2	0.2
AF_a	Soil adherence factor – adult	mg/cm^2	0.07
BW_c	Body weight – child	kg	15
BW_a	Body weight – adult	kg	80

Where:

$$CSF_D = \frac{CSF_O}{GIABS}$$

Parameter	Definition	Units	Default
CSF_D	Dermal cancer slope factor	(mg/kg-day)$^{-1}$	Chemical specific
CSF_O	Oral cancer slope factor	(mg/kg-day)$^{-1}$	Chemical specific
GIABS	Gastro-intestinal absorption fraction	unitless	Chemical specific

Equation 2 – Residential Noncarcinogenic Ingestion-Dermal Human Health-Based Criteria

$$ID_{nc} = \frac{THQ * AT * ED * BW}{(EF * ED * 10^{-6}\,kg/mg) * [(\frac{1}{RfD_O} * IR) + (\frac{1}{RfD_D} * SA * AF * ABS_d)]}$$

Parameter	Definition	Units	Default
ID_{nc}	Noncarcinogenic ingestion-dermal human health-based criterion	mg/kg	Chemical specific
THQ	Target hazard quotient	unitless	1

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

AT	Averaging time	days/year	365
ED	Exposure duration	years	6
BW	Body weight-child	kg	15
EF	Exposure frequency	days/year	350
RfD_O	Oral reference dose	mg/kg-day	Chemical specific
IR	Soil ingestion rate-child	mg/day	200
RfD_D	Dermal reference dose	mg/kg-day	Chemical specific
SA	Skin surface area -child	cm^2/day	2,373
AF	Soil adherence factor-child	mg/cm^2	0.2
ABS_d	Dermal absorption fraction	unitless	Chemical specific

Where:

$$RfD_D = RfD_O * GIABS$$

Parameter	Definition	Units	Default
RfD_D	Dermal reference dose	mg/kg-day	Chemical specific
RfD_O	Oral reference dose	mg/kg-day	Chemical specific
GIABS	Gastro-intestinal absorption fraction	unitless	Chemical specific

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

Equation 3 – Nonresidential Carcinogenic Ingestion-Dermal Human Health-Based Criteria

$$ID_c = \frac{TR * AT * LT * BW}{EF * ED * 10^{-6} kg/mg * [(CSF_O * IR) + (CSF_D * SA * AF * ABS_d)]}$$

Parameter	Definition	Units	Default
ID_c	Carcinogenic ingestion-dermal human health-based criterion	mg/kg	Chemical specific
TR	Target cancer risk	unitless	1×10^{-6}
AT	Averaging time	days/year	365
LT	Lifetime	years	70
BW	Body weight - adult	kg	80
EF	Exposure frequency-outdoor worker	days/year	225
ED	Exposure duration	years	25
CSF_o	Oral cancer slope factor	$(mg/kg\text{-}day)^{-1}$	Chemical specific
IR	Soil ingestion rate -outdoor worker	mg/day	100
CSF_D	Dermal cancer slope factor	$(mg/kg\text{-}day)^{-1}$	Chemical specific
SA	Skin surface area - worker	cm^2/day	3,527
AF	Soil adherence factor-worker	mg/cm^2	0.12
ABS_d	Dermal absorption fraction	unitless	Chemical specific

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

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Where:

$$CSF_D = \frac{CSF_O}{GIABS}$$

Parameter	Definition	Units	Default
CSF_D	Dermal cancer slope factor	$(mg/kg\text{-}day)^{-1}$	Chemical specific
CSF_O	Oral cancer slope factor	$(mg/kg\text{-}day)^{-1}$	Chemical specific
GIABS	Gastro-intestinal absorption fraction	unitless	Chemical specific

Equation 4 – Nonresidential Noncarcinogenic Ingestion-Dermal Human Health-Based Criteria

$$ID_{nc} = \frac{THQ * AT * ED * BW}{(EF * ED * 10^{-6} kg/mg) * [(\frac{1}{RfD_O} * IR) + (\frac{1}{RfD_D} * SA * AF * ABS_d)]}$$

Parameter	Definition	Units	Default
ID_{nc}	Noncarcinogenic ingestion-dermal human health-based criterion	mg/kg	Chemical specific
THQ	Target hazard quotient	unitless	1
AT	Averaging time	days/year	365
ED	Exposure duration	years	25
BW	Body weight-adult	kg	80
EF	Exposure frequency- outdoor worker	days/year	225

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

RfD_O	Oral reference dose	mg/kg-day	Chemical specific
IR	Soil ingestion rate- outdoor worker	mg/day	100
RfD_D	Dermal reference dose	mg/kg-day	Chemical specific
SA	Skin surface area - worker	cm^2/day	3,527
AF	Soil adherence factor-worker	mg/cm^2	0.12
ABS_d	Dermal absorption fraction	unitless	Chemical specific

Where:

$$RfD_D = RfD_O * GIABS$$

Parameter	Definition	Units	Default
RfD_D	Dermal reference dose	mg/kg-day	Chemical specific
RfD_O	Oral reference dose	mg/kg-day	Chemical specific
GIABS	Gastro-intestinal absorption fraction	unitless	Chemical specific

Equation 5 – Residential and Nonresidential Noncarcinogenic Ingestion-Dermal Human Health-Based Criteria for EPH

$$ID_{nc} = \frac{THQ}{\frac{f_{(1)}}{ECFV_{(1)}} + \frac{f_{(2)}}{ECFV_{(2)}} + \frac{f_{(3)}}{ECFV_{(3)}} + \frac{f_{(4)}}{ECFV_{(4)}} + \frac{f_{(5)}}{ECFV_{(5)}} + \frac{f_{(6)}}{ECFV_{(6)}} + \frac{f_{(7)}}{ECFV_{(7)}} + \frac{f_{(8)}}{ECFV_{(8)}}}$$

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

Parameter	Definition	Units	Default
ID_{nc}	Noncarcinogenic soil criterion for the ingestion-dermal exposure pathway	mg/kg	Chemical specific
THQ	Target hazard quotient	unitless	1
f	Equivalent carbon weight fraction	unitless	Chemical specific
ECFV	Equivalent carbon fraction value	mg/kg	Chemical specific

ID_{nc} is the noncarcinogenic soil criterion for the ingestion-dermal exposure pathway for total EPH for the EPH composition established by the eight equivalent carbon (EC) range fractions. This equation was used to calculate a single numeric total EPH soil criterion for EPH (Category 1). This equation will be used to calculate a sample-specific total EPH soil criterion for all EPH (Category 2) using the Department's online EPH Calculator.

The equivalent carbon fraction value (ECFV) equation and default input variables are the same as used to calculate the noncarcinogenic soil criteria for the specific individual contaminants for the ingestion-dermal absorption exposure pathway shown in Equations 2 and 4. That is, each EC range is treated as if it is a single contaminant.

APPENDIX 3

DEVELOPMENT OF SOIL REMEDIATION STANDARDS FOR THE INHALATION EXPOSURE PATHWAY

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

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This appendix describes the procedures and equations used by the Department to develop the soil remediation standards for the inhalation exposure pathway as contained in N.J.A.C. 7:26D Appendix 1, Tables 3 and 4. This appendix is also used to develop interim soil remediation standards for the inhalation exposure pathway pursuant to N.J.A.C. 7:26D-6 and for updating soil remediation standards for the inhalation exposure pathway pursuant to N.J.A.C. 7:26D-7.

If a calculated soil criterion for a contaminant for the inhalation exposure pathway is greater than its soil saturation limit for the volatile portion of the equation, the volatile component of the equation is not applicable in the development of the soil criterion for the inhalation exposure pathway.

If the calculated soil criterion for a contaminant for the inhalation exposure pathway is greater than one million parts per million, a soil remediation standard for that contaminant for the inhalation exposure pathway does not apply.

If the calculated soil criterion for a contaminant for the inhalation exposure pathway is less than the soil reporting limit for that contaminant, the soil remediation standard for that contaminant for the inhalation exposure pathway defaults to the soil reporting limit.

Equations 1 through 7 below are derived from the USEPA, Regional Screening Levels (RSLs) – Equations (November 2018). A detailed explanation of the derivation of Equations 1 and 2 is contained in N.J.A.C. 7:26D Appendix 12.

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

Equation 1 – Carcinogenic Inhalation Human Health-Based Criteria

$$Inh_c = \frac{TR * AT * LT}{IUR * 1000\,{}^{\mu g}/_{mg} * EF * \left(\frac{1}{VF} + \frac{1}{PEF}\right) * ED * ET * \frac{1day}{24hours}}$$

Parameter	Definition	Units	Default
Inh_c	Carcinogenic inhalation human health-based criterion	mg/kg	Chemical specific
TR	Target cancer risk	unitless	1×10^{-6}
AT	Averaging time	days/year	365
LT	Lifetime	years	70
IUR	Inhalation unit risk factor	$(\mu g/m^3)^{-1}$	Chemical specific
EF	Exposure frequency	days/year	350 (Residential) 225 (Nonresidential)
VF	Soil-to-air volatilization factor	m^3/kg	Chemical specific

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

PEF	Particulate emission factor	m^3/kg	1.67×10^9 (Residential) 1.64×10^9 (Nonresidential)
ED	Exposure duration	years	26 (Residential) 25 (Nonresidential)
ET	Exposure time	hours/day	24 (Residential) 8 (Nonresidential)

Equation 2 – Noncarcinogenic Inhalation Human Health-Based Criteria

$$Inh_{nc} = \frac{THQ * AT * ED}{EF * ED * ET * \frac{1day}{24hours} * \frac{1}{RfC} * \left(\frac{1}{VF} + \frac{1}{PEF}\right)}$$

Parameter	Definition	Units	Default
Inh_{nc}	Noncarcinogenic inhalation human health-based criterion	mg/kg	Chemical specific
THQ	Target hazard quotient	unitless	1
AT	Averaging time	days/year	365
EF	Exposure frequency	days/year	350 (Residential) 225 (Nonresidential)
ED	Exposure duration	years	26 (Residential) 25 (Nonresidential)
ET	Exposure time	hours/day	24 (Residential) 8 (Nonresidential)
RfC	Reference concentration	mg/m^3	Chemical specific

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

VF	Soil-to-air volatilization factor	m^3/kg	Chemical specific
PEF	Particulate emission factor	m^3/kg	1.67×10^9 (Residential) 1.64×10^9 (Nonresidential)

Equation 3 – Volatilization Factor (VF)

$$VF = Q/C * \frac{(3.14 * D_A * T)^{1/2}}{(2 * \rho_b * D_A)} * 10^{-4} \, m^2/cm^2$$

Parameter	Definition	Units	Default
VF	Soil-to-air volatilization factor	m^3/kg	Chemical specific
Q/C	Inverse concentration at center of source	$(g/m^2\text{-}s)/(kg/m^3)$	86.6 (Residential) 85 (Nonresidential)
D_A	Apparent diffusivity	cm^2/s	Chemical specific
T	Exposure interval	seconds	8.20×10^8
ρ_b	Dry soil bulk density	g/cm^3	1.5

Equation 4 – Apparent Diffusivity (D_A)

$$D_A = \frac{\left[\left(\theta_a^{10/3} * D_i * H'\right) + \left(\theta_w^{10/3} * D_w\right)\right] / n^2}{\left(\rho_b * K_d\right) + \theta_w + \left(\theta_a * H'\right)}$$

Parameter	Definition	Units	Default
D_A	Apparent diffusivity	cm^2/s	Chemical

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

			specific
Θ_a	Air-filled soil porosity	L_{air}/L_{soil}	0.18
D_i	Diffusivity in air	cm^2/s	Chemical specific
H'	Henry's law constant	unitless	Chemical specific
Θ_w	Water-filled soil porosity	L_{water}/L_{soil}	0.23
D_w	Diffusivity in water	cm^2/s	Chemical specific
n	Total soil porosity	L_{pore}/L_{soil}	0.41
ρ_b	Dry soil bulk density	g/cm^3	1.5
K_d	Soil-water partition coefficient	cm^3/g	Chemical specific

Equation 5 – Soil-Water Partition Coefficient (K_d)

$$K_d = K_{oc} * f_{oc}$$

Parameter	Definition	Units	Default
K_d	Soil-water partition coefficient	cm^3/g	Chemical specific
K_{oc}	Soil organic carbon-water partition coefficient	cm^3/g	Chemical specific
f_{oc}	Organic carbon content of soil	g/g	0.002

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

Equation 6 – Particulate Emission Factor (PEF)

$$PEF = Q/C * \left[\frac{3{,}600\ sec/hr}{0.036 * (1 - v) * \left(\frac{U_m}{U_t}\right)^3 * F(x)} \right]$$

Parameter	Definition	Units	Default
PEF	Particulate emission factor	m^3/kg	1.67×10^9 (Residential) 1.64×10^9 (Nonresidential)
Q/C	Inverse concentration at center of source	$(g/m^2\text{-}s)/(kg/m^3)$	86.6 (Residential) 85 (Nonresidential)
v	Percent vegetative cover	percent	50
Um	Mean annual wind speed	m/s	4.56
Ut	Equivalent threshold value of wind speed at 7 m	m/s	11.32
F(x)	Function dependent on Um/Ut derived using Cowherd et al. (1985)	unitless	0.159

Equation 7–Soil Saturation Limit (C_{sat})

$$C_{sat} = \frac{S}{\rho_b} * \left[\left(K_d * \rho_b\right) + \theta_w + \left(H' * \theta_a\right) \right]$$

Parameter	Definition	Units	Default
C_{sat}	Soil saturation limit	mg/kg	Chemical specific
S	Water solubility	mg/L_{water}	Chemical

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

			specific
ρ_b	Dry soil bulk density	g/cm^3	1.5
K_d	Soil-water partition coefficient	cm^3/g	Chemical specific
Θ_w	Water-filled soil porosity	L_{water}/L_{soil}	0.23
H'	Henry's law constant	unitless	Chemical specific
Θ_a	Air-filled soil porosity	L_{air}/L_{soil}	0.18

APPENDIX 4

DEVELOPMENT OF THE SOIL AND SOIL LEACHATE REMEDIATION STANDARDS FOR THE MIGRATION TO GROUND WATER EXPOSURE PATHWAY

This appendix describes the procedures used by the Department to develop the soil and soil leachate remediation standards for the migration to ground water exposure pathway as contained at N.J.A.C. 7:26D Appendix 1, Tables 5 and 6. This appendix is also used to develop interim soil and soil leachate remediation standards for the migration to ground water exposure pathway pursuant to N.J.A.C. 7:26D-6 and for updating soil and soil leachate remediation standards for the migration to ground water exposure pathway pursuant to N.J.A.C. 7:26D-7.

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

If a calculated soil criterion for a contaminant for the migration to ground water exposure pathway is greater than its soil saturation limit, a soil remediation standard for the migration to ground water exposure pathway does not apply.

If a calculated soil criterion for a contaminant for migration to ground water exposure pathway is less than the soil reporting limit for that contaminant, the soil remediation standard for the migration to ground water remediation exposure pathway defaults to the soil reporting limit.

Equation 1a – Migration to Ground Water Soil-Water Partitioning Criteria for Inorganic Contaminants

Source: USEPA Soil Screening Guidance: Technical Background Document EPA/540/R-95/128 (May 1996) (Equation 22)

$$MGW_c = GWRS * \frac{mg}{1000\,\mu g} * \left\{ K_d + \frac{\theta_w + (\theta_a * H')}{\rho_b} \right\} * DAF$$

Parameter	Definition	Units	Default
MGW_c	Migration to ground water soil-water partitioning criterion	mg/kg	Chemical specific
GWRS	Ground water remediation standard	µg/L	Chemical specific
K_d	Soil-water partition coefficient	L/kg	Chemical specific
ϑ_w	Water-filled soil porosity	L_{water}/L_{soil}	0.23
ϑ_a	Air-filled soil porosity	L_{air}/L_{soil}	0.18
H'	Henry's law constant	unitless	Chemical specific

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

ρ_b	Dry soil bulk density	kg/L	1.5
DAF	Dilution-attenuation factor	unitless	20

Equation 1b– Migration to Ground Water Soil-Water Partitioning Criteria for Organic Contaminants

Source: USEPA Soil Screening Guidance: Technical Background Document EPA/540/R-95/128 (May 1996) (Equation 24)

$$MGW_c = GWRS * \frac{mg}{1000\,\mu g} * \left\{ (K_{oc} * f_{oc}) + \frac{\theta_w + (\theta_a * H')}{\rho_b} \right\} * DAF$$

Parameter	Definition	Units	Default
MGW_c	Migration to ground water soil-water partitioning criterion	mg/kg	Chemical specific
GWRS	Ground water remediation standard	µg/L	Chemical specific
K_{oc}	Soil organic carbon-water partition coefficient	L/kg	Chemical specific
f_{oc}	Organic carbon content of soil	kg/kg	0.002
ϑ_w	Water-filled soil porosity	L_{water}/L_{soil}	0.23
ϑ_a	Air-filled soil porosity	L_{air}/L_{soil}	0.18
H'	Henry's law constant	unitless	Chemical specific
ρ_b	Dry soil bulk density	kg/L	1.5
DAF	Dilution-attenuation factor	unitless	20

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Equation 2 – Dilution-Attenuation Factor

Source: USEPA Soil Screening Guidance: Technical Background Document EPA/540/R-95/128

(May 1996) (Equation 37)

$$DAF = 1 + \frac{K * i * d}{I * L}$$

Parameter	Definition	Units	Default
DAF	Dilution-attenuation factor	unitless	20
K	Aquifer hydraulic conductivity	m/year	15,808
i	Hydraulic gradient	m/m	0.003
d	Mixing zone depth	m	3.4
I	Infiltration rate	m/year	0.28
L	Length of area of concern parallel to ground water flow	m	30.5

Equation 3 – Mixing Zone Depth

Source: USEPA Soil Screening Guidance: Technical Background Document EPA/540/R-95/128

(May 1996) (Equation 45)

$$d = (0.0112 * L^2)^{0.5} + d_a * \{1 - \exp[(-L * I)/(K * i * d_a)]\}$$

Parameter	Definition	Units	Default

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

d	Mixing zone depth	m	3.4
L	Length of area of concern parallel to ground water flow	m	30.5
d_a	Aquifer thickness	m	3.5
I	Infiltration rate	m/year	0.28
K	Aquifer hydraulic conductivity	m/year	15,808
i	Hydraulic gradient	m/m	0.003

Equation 4 – Soil Saturation Limit

Source: USEPA Soil Screening Guidance: Technical Background Document EPA/540/R-95/128

(May 1996) (Equation 9)

$$C_{sat} = \frac{S}{\rho_b} * [(K_{oc} * f_{oc} * \rho_b) + \theta_w + (H' * \theta_a)]$$

Parameter	Definition	Units	Default
C_{sat}	Soil saturation limit	mg/kg	Chemical specific
S	Water solubility	mg/L	Chemical specific
ρ_b	Dry soil bulk density	kg/L	1.5
K_{oc}	Soil organic carbon-water partition coefficient	L/kg	Chemical specific
f_{oc}	Organic carbon content of soil	kg/kg	0.002

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

ϑ_w	Water-filled soil porosity	L_{water}/L_{soil}	0.23
H'	Henry's law constant	unitless	Chemical specific
ϑ_a	Air-filled soil porosity	L_{air}/L_{soil}	0.18

Equation 5 – Soil Leachate Remediation Standards for the Migration to Ground Water Exposure Pathway

Source: USEPA Soil Screening Guidance: Technical Background Document EPA/540/R-95/128 (May 1996) (Target soil leachate concentration parameter in Equations 22 and 24)

$$MGW_{leachate} = GWRS * DAF$$

Parameter	Definition	Units	Default
$MGW_{leachate}$	Soil leachate remediation standard for the migration to ground water exposure pathway	µg/L	Chemical specific
GWRS	Ground water remediation standard	µg/L	Chemical specific
DAF	Dilution-attenuation factor	unitless	20

APPENDIX 5

DEVELOPMENT OF INDOOR AIR REMEDIATION STANDARDS FOR THE VAPOR INTRUSION

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

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This appendix describes the procedures and equations used by the Department to develop the indoor air remediation standards for the vapor intrusion exposure pathway as contained at N.J.A.C. 7:26D Appendix 1, Tables 7 and 8. This appendix is also used to develop interim indoor air remediation standards for the vapor intrusion exposure pathway pursuant to N.J.A.C. 7:26D-6 and for updating indoor air remediation standards for the vapor intrusion exposure pathway pursuant to N.J.A.C. 7:26D-7.

If the calculated indoor air human health-based criterion for a contaminant is less than the reporting limit, the indoor air remediation standard defaults to the reporting limit.

Equations 1 and 2 below are derived from the USEPA, Regional Screening Levels (RSLs) – Equations (November 2018). A detailed explanation of the derivation of Equations 1 and 2 is contained at N.J.A.C. 7:26D Appendix 12.

Equation 1 – Carcinogenic Indoor Air Human Health-Based Criteria

$$IA_c = \frac{TR * AT * LT}{EF * ED * ET * \frac{1}{24}\frac{day}{hours} * IUR}$$

Parameter	Definition	Units	Default

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

IA_c	Carcinogenic indoor air human health-based criterion	µg/m^3	Chemical specific
TR	Target cancer risk	unitless	1 x 10^{-6}
AT	Averaging time	days/year	365
LT	Lifetime	years	70
EF	Exposure frequency	days/year	350 (Residential) 250 (Nonresidential-indoor worker)
ED	Exposure duration	years	26 (Residential) 25 (Nonresidential)
ET	Exposure time	hours/day	24 (Residential) 8 (Nonresidential)
IUR	Inhalation unit risk	(µg/m^3)$^{-1}$	Chemical specific

Equation 2 – Noncarcinogenic Indoor Air Human Health-Based Criteria

$$IA_{nc} = \frac{THQ * AT * ED * \frac{1000\,\mu g}{mg}}{EF * ED * ET * \frac{1}{24}\frac{day}{hours} * \frac{1}{RfC}}$$

Parameter	Definition	Units	Default
IA_{nc}	Noncarcinogenic indoor air human health-based criterion	µg/m^3	Chemical specific
THQ	Target hazard quotient	unitless	1
AT	Averaging time	days/year	365

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ED	Exposure duration	years	26 (Residential) 25 (Nonresidential)
EF	Exposure frequency	days/year	350 (Residential) 250 (Nonresidential-indoor worker)
ET	Exposure time	hours/day	24 (Residential) 8 (Nonresidential)
RfC	Inhalation reference concentration	mg/m^3	Chemical specific

APPENDIX 6

DEVELOPMENT OF ALTERNATIVE REMEDIATION STANDARDS FOR SOIL FOR THE INGESTION-DERMAL EXPOSURE PATHWAY

Pursuant to N.J.A.C. 7:26D-8.3(a)1i, an alternative remediation standard (ARS) for soil for the ingestion-dermal exposure pathway may be developed for a site or an area of concern in accordance with the procedures provided in this appendix.

I. Overview

(a) An ARS for this exposure pathway may be developed at any time.

(b) The ARS options listed in III(a) of this appendix are applicable to carcinogenic and noncarcinogenic health end-points.

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

(c) An ARS for this exposure pathway may be developed based on site-specific alternative land uses in accordance with III(a) and III(b)1 of this appendix.

(d) An ARS for this exposure pathway may be developed based on site-specific modification of parameters in accordance with III(b)2 and 3 of this appendix.

(e) An ARS for lead for this exposure pathway may be developed based on use of other models and methods pursuant to III(b)4 of this appendix.

II. Required Approvals and Permits

(a) An ARS developed in accordance with III(a) and III(b) of this appendix must be approved by the Department prior to use at the specific site or area of concern.

(b) The Department shall require the use of an institutional control, engineering control (as needed), and a remedial action permit, pursuant to N.J.A.C. 7:26C-7, for an ARS developed pursuant to III(a) and III(b)1 and 3 of this appendix to ensure that the continued use of the ARS remains valid.

(c) The Department shall not require the use of an institutional control, engineering control, and a remedial action permit, pursuant to N.J.A.C. 7:26C-7, for an ARS developed pursuant to III(b)2 of this appendix.

(d) Depending on the site-specific conditions the Department may require the use of an institutional control, engineering control, and a remedial action permit, pursuant to N.J.A.C. 7:26C-7, for an ARS developed pursuant to III(b)4 of this appendix.

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

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III. Options and Procedures

(a) An ARS may be based on a site-specific alternative land use, which would involve an alternative exposure scenario (for example, exposure frequency and exposure duration) that is neither a residential nor a nonresidential land use scenario.

1. Examples of alternative land uses include, but are not limited to:

i. Active recreational land use, such as sports playing fields and playgrounds;

ii. Passive recreational land use, such as land and trails used for walking, cycling, and hunting;

iii. Restricted access areas, such as right-of-way areas used for the inspection and repair of utilities; and

iv. Infrequent access areas, such as ecological preservation and conservation areas.

2. The following actions shall be taken when developing an ARS pursuant to this appendix:

i. Determine the intended use of the site and the appropriate exposure frequency (EF) and exposure duration (ED) associated with the intended land use in accordance with Department guidance located on the Department's website;

ii. Use the EF and ED in the Department's calculator located on the Department's website to calculate an alternative ingestion-dermal remediation standard; and

iii. Provide the following information to the Department in addition to the applicable form found on the Department's website:

(1) The resultant ARS and the modified input parameters used in the Department's calculator;

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

(2) A description and basis of how the input parameters were selected; and

(3) A description of any institutional controls and engineering controls associated with the ARS.

(b) For lead contamination, an ARS for this exposure pathway can be developed as follows:

1. Alternative Land Use Scenarios

i. An ARS for lead for an alternative land use may be based on the assessment of non-continuous nonresidential exposures identified in the USEPA's Assessing Intermittent or Variable Exposures at Lead Sites (USEPA, 2003)[1]; and

ii. Prior to the development of an ARS under III(b) of this appendix, consultation with the Department shall be required in accordance with Department guidance.

2. Site-Specific Changes to Default Values – Residential Exposure Scenario

i. An ARS for lead for a residential scenario may be based on input parameters identified by the Integrated Exposure Uptake Biokinetic Model for Lead in Children (IEUBK) (USEPA, 1994)[2]; and

ii. Prior to the development of an ARS for lead under III(b) of this appendix, consultation with the Department shall be required in accordance with Department guidance.

3. Site-Specific Changes to Default Values – Nonresidential Exposure Scenario

i. An ARS for lead for a nonresidential scenario may be based on the input parameters identified in the document Recommendations of the Technical Review Workgroup (TRW) for Lead for an Interim Approach to Assessing Risk Associated with Adult Exposures to Lead in Soil (USEPA, 1996)[3]; and

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ii. Prior to the development of an ARS under III(b) of this appendix, consultation with the Department shall be required in accordance with Department guidance.

4. Other models and methods

i. With prior approval by the Department, an ARS for lead may also be developed using scientific models and methods other than those described in III(b)2 or 3 above.

[1] USEPA. 2003. Assessing Intermittent or Variable Exposures at Lead Sites, Office of Solid Waste and Emergency Response, OSWER 9285.7-76.

[2] USEPA. 1994. Guidance Manual for the Integrated Exposure Uptake Biokinetic Model for Lead in Children. Office of Solid Waste and Emergency response, Washington, DC. OSWER 9285.7-15-1.

[3] USEPA. 1996. Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil, USEPA Technical Workgroup for Lead. December 1996.

APPENDIX 7

DEVELOPMENT OF ALTERNATIVE REMEDIATION STANDARDS FOR SOIL FOR THE INHALATION EXPOSURE PATHWAY

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

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Pursuant to N.J.A.C. 7:26D-8.3(a)1ii, an alternative remediation standard (ARS) for soil for the inhalation exposure pathway may be developed for a site or an area of concern in accordance with the procedures provided in this appendix.

I. Overview

(a) An ARS for this exposure pathway may be developed at any time.

(b) The ARS options listed in III of this appendix are applicable to carcinogenic and noncarcinogenic health end-points.

(c) The ARS options outlined in III of this appendix may be utilized for residential and nonresidential land use scenarios, as well as alternative land use scenarios described in III(a) of this appendix.

(d) An ARS for this exposure pathway may be developed based on modification of site-specific exposure parameters listed in III(b) of this appendix.

II. Required Approvals and Permits

(a) An ARS developed in accordance with III(a) of this appendix must be approved by the Department prior to use at the specific site or area of concern.

(b) An ARS developed in accordance with III(b) of this appendix does not require approval by the Department prior to use at the specific site or area of concern.

(c) The Department shall require the use of an institutional control, engineering control (as needed), and a remedial action permit, pursuant to N.J.A.C. 7:26C-7 for an ARS developed

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pursuant to III(a), III(b)1iv, and III(b)3 of this appendix to ensure that the continued use of the ARS remains valid.

(d) The Department shall not require the use of an institutional control, engineering control (as needed), and a remedial action permit, pursuant to N.J.A.C. 7:26C-7 for an ARS developed pursuant to III(b)1v and III(b)2 of this appendix.

III. Options and Procedures

(a) An ARS for this exposure pathway may be based on a site-specific alternative land use, which would involve an alternative exposure scenario (for example, exposure frequency, exposure time, and exposure duration) that is neither a residential nor a nonresidential land use scenario.

1. Examples of alternative land uses include, but are not limited to:

i. Active recreational land use, such as sports playing fields and playgrounds;

ii. Passive recreational land use, such as land and trails used for walking, cycling, and hunting; and

iii. Access areas, such as right-of-way areas used for the inspection and repair of utilities.

2. The following actions shall be taken when developing an ARS pursuant to this appendix:

i. Determine the intended use of the site and the appropriate exposure frequency (EF), exposure time (ET), and exposure duration (ED) associated with the intended land use in accordance with Department guidance;

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

ii. Use the EF, ET, and ED in the Department's calculator located on the Department's website to calculate the ARS; and

iii. Submit the following information to the Department in addition to the applicable form found on the Department's website:

(1) The resultant ARS and the modified input parameters used in the Department's calculator;

(2) A description and basis of how the input parameters were selected; and

(3) A description of institutional controls and engineering controls associated with the ARS.

(b) An ARS for soil for this exposure pathway may be based site-specific parameter modifications as follows:

1. Depth Range of Contamination:

i. Determine the actual depth range of contamination by delineation sampling pursuant to the Technical Requirements for Site Remediation, N.J.A.C. 7:26E-4, and Department guidance;

ii. Use the actual depth range of contamination in the Department's calculator located on the Department's website to calculate an alternative inhalation remediation standard;

iii. Provide the following information to the Department in addition to the applicable form found on the Department's website with the applicable remedial phase report:

(1) The resultant ARS and the modified input parameters used in the Department's calculator;

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

(2) A description and basis of how the input parameters were selected, including all related laboratory results; and

(3) A description of any institutional controls and engineering controls associated with the ARS;

iv. The Department shall require the use of an institutional control, engineering control (as needed), and a remedial action permit, pursuant to N.J.A.C. 7:26C-7, for an ARS based on a site-specific depth range of contamination that begins at a depth greater than zero feet below ground surface to ensure that the continued use of the ARS remains valid; and

v. The Department shall not require the use of an institutional control, engineering control, or a remedial action permit, pursuant to N.J.A.C. 7:26C-7, for an ARS based on a site-specific depth range of contamination that begins at the ground surface.

2. Soil Organic Carbon Content (foc):

i. Collect and analyze samples for determining foc in accordance with the appropriate Department guidance;

ii. Input the appropriate foc value(s) in the Department's calculator located on the Department's website when calculating an alternative inhalation remediation standard; and

iii. Provide the following to the Department in addition to the applicable form found on the Department's website with the applicable remedial phase report:

(1) The resultant ARS and the modified input parameters used in the Department's calculator; and

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

(2) A description and basis of how the input parameters were selected, including all related laboratory results.

3. Fraction of Vegetative Cover (V):

i. Determine V on the site in accordance with the appropriate Department guidance;

ii. Use V in the Department's calculator located on the Department's website to calculate the ARS for soil for the inhalation exposure pathway; and

iii. Provide the following information to the Department in addition to the applicable form found on the Department's website with the applicable remedial phase report:

(1) The resultant ARS and the modified input parameters used in the Department's calculator;

(2) A description and basis of how the input parameters were selected, including all measurements and calculations; and

(3) A description of any institutional controls and engineering controls associated with the ARS.

APPENDIX 8

DEVELOPMENT OF ALTERNATIVE REMEDIATION STANDARDS FOR SOIL FOR THE MIGRATION TO GROUND WATER EXPOSURE PATHWAY

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

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Pursuant to N.J.A.C. 7:26D-8.3(a)1iii, an alternative remediation standard (ARS) for soil for the migration to ground water exposure pathway may be developed for a site or an area of concern in accordance with the procedures provided in this appendix.

I. Overview

(a) An ARS for soil for this exposure pathway may be developed at any time.

(b) An ARS may be developed based on the site-specific options described in III of this appendix and submitted to the Department with the appropriate form(s).

II. Required Approvals and Permits

(a) An ARS developed in accordance with III(a), III(b), and III(c) of this appendix must be approved by the Department prior to use at the specific site or area of concern.

(b) An ARS developed in accordance with III(d), III(e), III(f), and III(g) of this appendix does not require approval by the Department prior to use at the specific site or area of concern.

(c) With prior approval by the Department, an ARS may also be developed using scientific methods other than those described in III(a) though (g) below including relevant guidance from the USEPA, other states, and other relevant, applicable, and appropriate methods and practices that ensure the protection of public health and safety and of the environment.

(d) With the exception noted in III(c) of this appendix, an ARS developed pursuant to this appendix does not require the use of an institutional control, engineering control, and a remedial action permit, pursuant to N.J.A.C. 7:26C-7.

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III. Options and Procedures

(a) Determination of a site-specific Dilution-Attenuation Factor (DAF) as follows:

1. Measure the length of the area of concern parallel to the ground water flow, the aquifer hydraulic conductivity, the aquifer gradient and, if necessary, aquifer thickness in accordance with the appropriate Department guidance.

2. Input the appropriate values into the Department's calculators (DAF calculator or Soil-Water Partition Equation calculator) located on the Department's website.

3. Provide the following to the Department in addition to the applicable form found on the Department's website:

i. The resultant ARS and the modified input parameters used in the Department's DAF calculator or the Department's Soil-Water Partition Equation calculator; and

ii. Documentation of the determination and basis of the site-specific parameters used to determine the DAF including all related tables, figures, and laboratory results.

(b) Seasonal Soil Compartment Model (SESOIL) modeling as follows:

1. Delineate contamination and determine the depth to ground water in accordance with the appropriate Department guidance.

2. If desired, determine soil texture in accordance with the appropriate Department guidance.

3. If desired, determine soil organic carbon content according to III(d) of this appendix.

4. Input the appropriate parameters into the SESOIL model in accordance with the appropriate Department guidance.

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

5. Provide the following to the Department in addition to the applicable form found on the Department's website:

i. For each ARS determined using the SESOIL model, a SESOIL model table showing the measured contaminant concentrations as a function of depth and the modeled SESOIL concentrations, results from the most current version of the SEVIEW model software of the SESOIL CLIMATE report, the SESOIL HYDROLOGIC CYCLE report, the SESOIL PROFILE AND LOAD REPORT, and the SESOIL POLLUTANT CYCLE report. The project file (*.prj file) from the SEVIEW project shall also be submitted; and

ii. A description and basis of how the SESOIL input parameters were determined, including all related tables, figures, and laboratory results.

6. An alternative software package equivalent to SEVIEW that has been authorized by the Department may be used as a substitute for SEVIEW in application of III(b) of this appendix.

(c) Seasonal Soil Compartment Model/Analytical Transient 1-,2-,3-Dimensional (SESOIL/AT123D) modeling as follows:

1. The SESOIL/AT123D model shall only be used when:

i. The contaminated ground water plume has been delineated in accordance with the Technical Requirements for Site Remediation, N.J.A.C. 7:26E and appropriate Department guidance;

ii. A Classification Exception Area (CEA) exists for contaminated ground water on the site; and

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iii. An impermeable cap does not and will not exist above the vadose zone contamination. Any permeable cap used shall allow unrestricted ground water recharge.

2. Delineate the vadose zone contamination and determine the depth to ground water in accordance with the appropriate Department guidance.

3. Determine the soil organic carbon for both the vadose zone and the aquifer according to III(d) of this appendix.

4. Determine the soil texture for the vadose zone in accordance with the appropriate Department guidance.

5. If desired, determine the aquifer texture in accordance with the appropriate Department guidance.

6. Input the appropriate parameters into the SESOIL/AT123D model in accordance with the appropriate Department guidance.

7. Provide the following to the Department, in addition to the applicable form found on the Department's website:

i. For each ARS determined using the combined SESOIL/AT123D model, a SESOIL model table showing the measured vadose zone contaminant concentrations as a function of depth and the modeled SESOIL concentrations, a map of the delineated ground water plume (with concentration isopleths) showing AT123D ground water sources and the concentrations and dimensions used in the model for each source, the SEVIEW project map, results from the most current version of the SEVIEW model software of the SESOIL CLIMATE report, the SESOIL

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HYDROLOGIC CYCLE report, the SESOIL PROFILE AND LOAD REPORT, the SESOIL POLLUTANT CYCLE report, an AT123D Point of Compliance Report at the downgradient edge of the Area of Concern at the centerline of the plume at the surface of the water table, and an AT123D Point of Compliance Report at the maximum extent of the plume at the centerline of the plume at the surface of the water table. For each AT123D Point of Compliance Report, the numerical concentration of the contaminant at the last time step (end of the CEA time period) shall be shown in an EXCEL window pasted on to the report. The project file (*.prj file) from the SEVIEW project shall also be submitted; and

ii. A description and basis of how the SESOIL/AT123D input parameters were determined, including all related tables, figures, and laboratory results.

8. Except for the existing CEA and the remedial action permit, the Department shall not require the use of any additional institutional control, engineering control, or a remedial action permit, pursuant to N.J.A.C. 7:26C-7 for an ARS based on site-specific SESOIL/AT123D modeling.

9. An alternative software package equivalent to SEVIEW that has been authorized by the Department may be used as a substitute for SEVIEW in application of III(c) of this appendix.

(d) A site-specific soil organic carbon content (foc) in the Soil Water Partition Equation, found at N.J.A.C. 7:2DC Appendix 4 as follows:

1. Collect and analyze samples for determining foc in accordance with the appropriate Department guidance.

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2. Input the appropriate foc value(s) in the Department's foc calculator located on the Department's website to determine the site-specific foc value.

3. Input the site-specific foc value into the Soil-Water Partition Equation calculator located on the Department's website in order to determine the alternative remediation standard.

4. Provide the following to the Department in addition to the applicable form found on the Department's website with the applicable remedial phase report:

i. The resultant ARS and the modified input parameters used in the Department's foc and soil-water partition calculators; and

ii. A description and basis of how the soil organic carbon content was selected, including all related tables, figures, and laboratory results.

(e) The Synthetic Precipitation Leaching Procedure (SPLP) ARS options contained in technical guidance issued by the Department, except when combining with a site-specific DAF as provided in III(a) of this appendix. The procedure shall be as follows:

1. Collect samples and implement the SPLP procedure in accordance with the appropriate Department guidance.

2. Input the appropriate values into the Department's SPLP calculator located on the Department's website.

3. Provide the following to the Department in addition to the applicable form found on the Department's website with the applicable remedial phase report:

i. The resultant ARS and the modified input parameters used in the Department's SPLP calculator; and

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ii. A description and basis of how the samples were selected, including all related laboratory results.

(f) Site-specific data for immobile contaminants only when:

1. The contaminant exhibits a very low mobility in soil as defined by a high soil organic carbon-water partition coefficient (Koc) or a high soil-water partition coefficient (Kd), factors that increase a contaminant's mobility are not present, and a clean zone of two feet or greater exists between the contamination and the water table, as described in appropriate Department guidance.

2. The procedure shall be as follows:

i. Collect and analyze soil samples in accordance with the appropriate Department guidance; and

ii. Provide a description and basis of how the samples were used to demonstrate compliance with the migration to ground water exposure pathway, including all related tables, figures, and laboratory results, to the Department, in addition to the applicable form found on the Department's website with the applicable remedial phase report.

3. If compliance with the migration to ground water exposure pathway is determined by the site-specific conditions in III(f)1 of this appendix only, then the numeric standards in this chapter shall not apply, but the pathway will be deemed to have been satisfactorily addressed on a narrative basis.

(g) Site-specific data for metals, semi-volatile contaminants, and volatile contaminants only when:

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1. The highest concentrations of remaining contamination are located at the water table and no ground water impact above the ground water remediation standard is observed as demonstrated by ground water sampling, as described in appropriate Department guidance.

2. The procedure shall be as follows:

i. Collect and analyze soil and ground water samples in accordance with the appropriate Department guidance; and

ii. Provide a description and basis of how the samples were used to demonstrate compliance with the migration to ground water exposure pathway, including all related tables, figures, and laboratory results, to the Department in addition to the applicable form from the Department's website with the applicable remedial phase report.

3. If compliance with the migration to ground water exposure pathway is determined by the site-specific conditions in III(g) of this appendix only, then the numeric standards in this chapter shall not apply, but the pathway will be deemed to have been satisfactorily addressed on a narrative basis.

APPENDIX 9

DEVELOPMENT OF ALTERNATIVE REMEDIATION STANDARDS FOR INDOOR AIR FOR THE VAPOR INTRUSION EXPOSURE PATHWAY

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Pursuant to N.J.A.C. 7:26D-8.3(a)2, an alternative remediation standard (ARS) for indoor air for the vapor intrusion exposure pathway may be developed for a site or an area of concern in accordance with the procedures provided in this appendix.

I. Overview

(a) An ARS for this exposure pathway may be developed at any time.

(b) The ARS options listed in III of this appendix are applicable to carcinogenic and noncarcinogenic health end-points.

(c) The ARS options outlined in III of this appendix may be utilized for nonresidential buildings, but they are not applicable to residential buildings.

(d) An ARS may be developed based on modification of site-specific exposure parameters listed in III of this appendix.

II. Required Approvals and Permits

(a) An ARS developed in accordance with this appendix must be approved by the Department prior to use at the specific site or area of concern.

(b) The Department shall require the use of an institutional control, engineering control (as needed), and a remedial action permit, pursuant to N.J.A.C. 7:26C-7 for an ARS developed pursuant to this appendix to ensure that the continued use of the ARS remains valid.

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III. Options and Procedures

(a) An ARS developed pursuant to this appendix is limited to site-specific modification of the following exposure parameters:

1. An alternative exposure frequency (EF) parameter representative of site-specific use that is incorporated in the applicable indoor air Equation 1 and 2 at N.J.A.C. 7:26D Appendix 5; or

2. An alternative exposure time (ET) parameter representative of site-specific use that is incorporated in the applicable indoor air Equation 1 and 2 at N.J.A.C. 7:26D Appendix 5.

(b) Examples where or when site-specific modification of exposure parameters may be acceptable include, but are not limited to:

1. A small generating station;

2. An isolated storage facility;

3. A restricted access area of a nonresidential building, such as a basement; or

4. Workday hours differing from eight hours.

(c) In developing an ARS pursuant to this appendix, the following supporting information, in addition to the applicable form found on the Department’s website, shall be submitted to the Department:

1. The resultant ARS and the modified input parameters used in the Department’s ARS calculator;

2. Support documentation justifying:

i. The basis for the site-specific parameters used to determine the ARS;

ii. The adequacy of proposed monitoring; and

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iii. The adequacy of the institutional and engineering controls;

3. An overview of the history and contamination at the site or area of concern pertinent to the vapor intrusion exposure pathway including:

i. A description of any vapor intrusion investigation related to the ARS;

ii. The extent of soil and ground water contamination at the site affecting the vapor intrusion exposure pathway;

iii. A description of the subject building(s) and a scaled map of the site and surrounding area, identifying the subject building(s) and associated analytical results, including soil gas;

iv. Identification of the uses in the subject building(s) and the locations where receptors are present within the building(s);

v. A summary table presenting the analytical results, in accordance with N.J.A.C. 7:26E-1.6(b)6; and

4. Additional information used to develop the ARS.

APPENDIX 10

CHEMICAL AND PHYSICAL PROPERTIES OF CONTAMINANTS

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Contaminant	CAS No.	Water Solubility (mg/L)	Henry's Law Constant (atm-m^3/mol, 25°C)	Henry's Law Constant (dimensionless, 25°C)	Air Diffusivity (cm^2/sec)	Water Diffusivity (cm^2/sec)	Soil Organic Carbon-Water Partition Coefficient, K_{oc} (L/kg)	Soil-Water Partition Coefficient, K_d (L/kg)
Acenaphthene	83-32-9	3.9	1.84E-04	7.5224E-03	5.0614E-02	8.3300E-06	5027	NA
Acetone (2-Propanone)	67-64-1	1000000	3.50E-05	1.4309E-03	1.0592E-01	1.1471E-05	2.364	NA
Acetophenone	98-86-2	6130	1.04E-05	4.2518E-04	6.5222E-02	8.7228E-06	51.85	NA
Aldrin	309-00-2	0.017	4.40E-05	1.7989E-03	2.2812E-02	5.8402E-06	82020	NA
Aluminum (total)	7429-90-5	NA	NA	NA	NA	NA	NA	1500
Anthracene	120-12-7	0.0434	5.56E-05	2.2731E-03	3.8973E-02	7.8522E-06	16360	NA
Antimony (total)	7440-36-0	NA	NA	NA	NA	NA	NA	45
Arsenic (total)	7440-38-2	NA	NA	NA	NA	NA	NA	26[1]
Atrazine	1912-24-9	34.7	2.36E-09	9.6484E-08	2.6466E-02	6.8378E-06	224.5	NA
Barium (total)	7440-39-3	NA	NA	NA	NA	NA	NA	17[1]
Benzaldehyde	100-52-7	6950	2.67E-05	1.0916E-03	7.4393E-02	9.4627E-06	11.09	NA
Benzene	71-43-2	1790	5.55E-03	2.2690E-01	8.9534E-02	1.0263E-05	145.8	NA
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	0.0094	1.20E-05	4.9059E-04	2.6144E-02	6.7495E-06	176900	NA
Benzo(a)pyrene	50-32-8	0.00162	4.57E-07	1.8683E-05	4.7583E-02	5.5597E-06	587400	NA
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	0.0015	6.57E-07	2.6860E-05	4.7583E-02	5.5597E-06	599400	NA
Benzo(k)fluoranthene	207-08-9	0.0008	5.84E-07	2.3875E-05	4.7583E-02	5.5597E-06	587400	NA
Beryllium	7440-41-7	NA	NA	NA	NA	NA	NA	35[1]
1,1'-Biphenyl	92-52-4	7.48	3.08E-04	1.2592E-02	4.7059E-02	7.5618E-06	5129	NA
Bis(2-chloroethoxy)methane	111-91-1	7800	3.85E-06	1.5740E-04	6.1186E-02	7.1492E-06	14.38	NA
Bis(2-chloroethyl)ether	111-44-4	17200	1.70E-05	6.9501E-04	5.6719E-02	8.7070E-06	32.21	NA
Bis(2-ethylhexyl)phthalate	117-81-7	0.27	2.70E-07	1.1038E-05	1.7340E-02	4.1807E-06	119600	NA
Bromodichloromethane (Dichlorobromomethane)	75-27-4	3032	2.12E-03	8.6672E-02	5.6263E-02	1.0731E-05	31.82	NA
Bromoform	75-25-2	3100	5.35E-04	2.1872E-02	3.5732E-02	1.0356E-05	31.82	NA
Bromomethane (Methyl bromide)	74-83-9	15200	7.34E-03	3.0008E-01	1.0050E-01	1.3468E-05	13.22	NA
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	223000	5.69E-05	2.3262E-03	9.1446E-02	1.0193E-05	4.51	NA
Butylbenzyl phthalate	85-68-7	2.69	1.26E-06	5.1513E-05	2.0832E-02	5.1733E-06	7155	NA
Cadmium	7440-43-9	NA	NA	NA	NA	NA	NA	23[1]
Caprolactam	105-60-2	772000	2.53E-08	1.0343E-06	6.9242E-02	8.9994E-06	24.5	NA
Carbon disulfide	75-15-0	2160	1.44E-02	5.8872E-01	1.0644E-01	1.2977E-05	21.73	NA
Carbon tetrachloride	56-23-5	793	2.76E-02	1.1284E+00	5.7143E-02	9.7849E-06	43.89	NA
Chlordane (alpha and gamma forms summed)	57-74-9	0.056[2]	4.86E-05[2]	1.9869E-03[2]	1.7900E-02[3]	4.3700E-06[3]	67540[5]	NA
4-Chloroaniline	106-47-8	3900	1.16E-06	4.7424E-05	7.0385E-02	1.0253E-05	112.7	NA
Chlorobenzene	108-90-7	498	3.11E-03	1.2715E-01	7.2130E-02	9.4765E-06	233.9	NA
Chloroethane	75-00-3	6710	1.11E-02	4.5380E-01	1.0376E-01	1.1619E-05	21.73	NA

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(Ethyl chloride)								
Chloroform	67-66-3	7950	3.67E-03	1.5004E-01	7.6920E-02	1.0891E-05	31.82	NA
Chloromethane (Methyl chloride)	74-87-3	5320	8.82E-03	3.6059E-01	1.2396E-01	1.3648E-05	13.22	NA
2-Chloronaphthalene	91-58-7	11.7	3.20E-04	1.3082E-02	4.4691E-02	7.7301E-06	2478	NA
2-Chlorophenol (o-Chlorophenol)	95-57-8	11300	1.12E-05	4.57890E-04	6.6118E-02	9.4784E-06	398[1]	NA
Chrysene	218-01-9	0.002	5.23E-06	2.1382E-04	2.6114E-02	6.7495E-06	180500	NA
Cobalt (total)	7440-48-4	NA	NA	NA	NA	NA	NA	45
Copper (total)	7440-50-8	NA	NA	NA	NA	NA	NA	35
Cyanide	57-12-5	NA	NA	NA	NA	NA	NA	9.9
Cyclohexane	110-82-7	55	1.50E-01	6.1325E+00	7.9973E-02	9.1077E-06	145.8	NA
4,4'-DDD (p,p'-TDE)	72-54-8	0.09	6.60E-06	2.6983E-04	4.0608E-02	4.7447E-06	117500	NA
4,4'-DDE (p,p'-DDX)	72-55-9	0.04	4.16E-05	1.7007E-03	2.3000E-02	5.8592E-06	117500	NA
4,4'-DDT	50-29-3	0.0055	8.32E-06	3.4015E-04	3.7933E-02	4.4322E-06	168600	NA
Dibenz(a,h)anthracene	53-70-3	0.00249	1.41E-07	5.7645E-06	4.4567E-02	5.2073E-06	1912000	NA
Dibromochloromethane (Chlorodibromomethane)	124-48-1	2700	7.83E-04	3.2011E-02	3.6636E-02	1.0561E-05	31.82	NA
1,2-Dibromo-3-chloropropane	96-12-8	1230	1.47E-04	6.0098E-03	3.2135E-02	8.9048E-06	115.8	NA
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	3910	6.50E-04	2.6574E-02	4.3035E-02	1.0439E-05	39.6	NA
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	156	1.92E-03	7.8496E-02	5.6170E-02	8.9213E-06	382.9	NA
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	125[2]	2.63E-03[2]	1.0751E-01[2]	6.9200E-02[4]	7.8600E-06[4]	375.3[5]	NA
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	81.3	2.41E-03	9.8528E-02	5.5043E-02	8.6797E-06	375.3	NA
3,3'-Dichlorobenzidine	91-94-1	3.1	2.84E-11	1.1611E-09	4.7482E-02	5.5478E-06	3190	NA
Dichlorodifluoromethane (Freon 12)	75-71-8	280	3.43E-01	1.4023E+01	7.6029E-02	1.0839E-05	43.89	NA
1,1-Dichloroethane	75-34-3	5040	5.62E-03	2.2976E-01	8.3645E-02	1.0621E-05	31.82	NA
1,2-Dichloroethane	107-06-2	8600	1.18E-03	4.8242E-02	8.5722E-02	1.0995E-05	39.6	NA
1,1-Dichloroethene (1,1-Dichloroethylene)	75-35-4	2420	2.61E-02	1.0670E+00	8.6311E-02	1.0956E-05	31.82	NA
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	156-59-2	6410	4.08E-03	1.6680E-01	8.8406E-02	1.1335E-05	39.6	NA
1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	156-60-5	4520	9.38E-03	3.8348E-01	8.7609E-02	1.1191E-05	39.6	NA
2,4-Dichlorophenol	120-83-2	5500	4.29E-06	1.7538E-04	4.8577E-02	8.6786E-06	159[1]	NA
1,2-Dichloropropane	78-87-5	2800	2.82E-03	1.1529E-01	7.3340E-02	9.7252E-06	60.7	NA
1,3-Dichloropropene (total)	542-75-6	2800	3.55E-03	1.4513E-01	7.6272E-02	1.0123E-05	72.17	NA
Dieldrin	60-57-1	0.195	1.00E-05	4.0883E-04	2.3286E-02	6.0062E-06	20090	NA
Diethylphthalate	84-66-2	1080	6.10E-07	2.4939E-05	2.6074E-02	6.7227E-06	104.9	NA
2,4-Dimethylphenol	105-67-9	7870	9.51E-07	3.8879E-05	6.2245E-02	8.3140E-06	491.8	NA
Di-n-butyl phthalate	84-74-2	11.2	1.81E-06	7.3998E-05	2.1436E-02	5.3255E-06	1157	NA
2,4-Dinitrophenol	51-28-5	2790	8.60E-08	3.5159E-06	4.06670E-02	9.0756E-06	0.0178[1]	NA
2,4-Dinitrotoluene/2,6-Dinitrotoluene (mixture)	25321-14-6	270	3.97E-07	1.6230E-05	5.9131E-02	6.9090E-06	587.4	NA
Di-n-octyl phthalate	117-84-0	0.022	2.57E-06	1.0506E-04	3.5559E-02	4.1548E-06	140800.00	NA

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1,4-Dioxane	123-91-1	1000000	4.80E-06	1.9624E-04	8.7374E-02	1.0541E-05	2.633	NA
Endosulfan I and Endosulfan II (alpha and beta) (summed)	115-29-7	0.325	6.50E-05	2.6574E-03	2.2484E-02	5.7628E-06	6761	NA
Endrin	72-20-8	0.25	6.36E-06	2.600E-04	3.6158E-02	4.2248E-06	20090	NA
Ethylbenzene	100-41-4	169	7.88E-03	3.2216E-01	6.8465E-02	8.4558E-06	446.1	NA
Extractable Petroleum Hydrocarbons (Category 1)	various	NA	NA	NA	NA	NA	NA	NA
Extractable Petroleum Hydrocarbons (Category 2)	various	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	206-44-0	0.26	8.86E-06	3.6222E-04	2.7596E-02	7.1827E-06	55450	NA
Fluorene	86-73-7	1.69	9.62E-05	3.9329E-03	4.3974E-02	7.8890E-06	9160	NA
alpha-HCH (alpha-BHC)	319-84-6	2	6.70E-06	2.7392E-04	4.3284E-02	5.0574E-06	2807	NA
beta-HCH (beta-BHC)	319-85-7	0.24	4.40E-06	1.7988E-05	2.7667E-02	7.3955E-06	2807	NA
Heptachlor	76-44-8	0.18	2.94E-04	1.2020E-02	2.2344E-02	5.6959E-06	41260	NA
Heptachlor epoxide	1024-57-3	0.2	2.10E-05	8.5854E-04	2.4001E-02	6.2475E-06	10110	NA
Hexachlorobenzene	118-74-1	0.0062	1.70E-03	6.9501E-02	2.8974E-02	7.8497E-06	6195	NA
Hexachloro-1,3-butadiene	87-68-3	3.2	1.03E-02	4.2110E-01	2.6744E-02	7.0264E-06	845.2	NA
Hexachlorocyclopentadiene	77-47-4	1.8	2.70E-02	1.1038E+00	2.7238E-02	7.2170E-06	1404	NA
Hexachloroethane	67-72-1	50	3.89E-03	1.5904E-01	3.2094E-02	8.8904E-06	196.8	NA
n-Hexane	110-54-3	9.5	1.80E+00	7.3590E+01	7.3108E-02	8.1658E-06	131.5	NA
2-Hexanone	591-78-6	17200	9.32E-05	3.8103E-03	7.0356E-02	8.4404E-06	14.98	NA
Indeno(1,2,3-cd)pyrene	193-39-5	0.00019	3.48E-07	1.4227E-05	4.4784E-02	5.2327E-06	1951000	NA
Isophorone	78-59-1	12000	6.64E-06	2.7146E-04	5.2505E-02	7.5296E-06	65.15	NA
Isopropylbenzene	98-82-8	61.3	1.15E-02	4.7016E-01	6.0304E-02	7.8566E-06	697.8	NA
Lead (total)	7439-92-1	NA	NA	NA	NA	NA	NA	900
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	7.3	5.14E-06	2.1014E-04	4.3284E-02	5.0574E-06	2807	NA
Manganese (total)	7439-96-5	NA	NA	NA	NA	NA	NA	65
Mercury (total)	7439-97-6	NA	NA	NA	NA	NA	NA	0.20[1]
Methoxychlor	72-43-5	0.1	2.03E-07	8.2993E-06	2.2085E-02	5.5926E-06	26890	NA
Methyl acetate	79-20-9	243000	1.15E-04	4.7016E-03	9.5776E-02	1.1008E-05	3.064	NA
Methylene chloride (Dichloromethane)	75-09-2	13000	3.25E-03	1.3287E-01	9.9936E-02	1.2512E-05	21.73	NA
2-Methylnaphthalene	91-57-6	24.6	5.18E-04	2.1177E-02	5.2432E-02	7.7811E-06	2478	NA
4-Methyl-2-pentanone (MIBK)	108-10-1	19000	1.38E-04	5.6419E-03	6.9780E-02	8.3477E-06	12.6	NA
2-Methylphenol (o-cresol)	95-48-7	25900	1.20E-06	4.9060E-05	7.2835E-02	9.3168E-06	306.5	NA
4-Methylphenol (p-cresol)	106-44-5	21500	1.00E-06	4.0883E-05	7.2394E-02	9.2397E-06	300.4	NA
Methyl tert-butyl ether (MTBE)	1634-04-4	51000	5.87E-04	2.3998E-02	7.5267E-02	8.5904E-06	11.56	NA
Naphthalene	91-20-3	31	4.40E-04	1.7988E-02	6.0499E-02	8.3770E-06	1544	NA
Nickel (total)	7440-02-0	NA	NA	NA	NA	NA	NA	24[1]
4-Nitroaniline	100-01-6	728	1.26E-09	5.153E-08	6.3660E-02	9.7545E-06	109.1	NA
Nitrobenzene	98-95-3	2090	2.40E-05	9.8119E-04	6.8054E-02	9.4494E-06	226.4	NA
N-Nitrosodi-n-propylamine	621-64-7	13000	5.38E-06	2.1995E-04	5.6440E-02	7.7580E-06	275.4	NA

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N-Nitrosodiphenylamine	86-30-6	35	1.21E-06	4.9648E-05	5.5886E-02	6.5299E-06	2632	NA
2,2'-oxybis (1-chloropropane)	108-60-1	1700	7.42E-05	3.0335E-03	3.9889E-02	7.3606E-06	82.92	NA
Pentachlorophenol	87-86-5	14	2.45E-08	1.0016E-06	2.9520E-02	8.0121E-06	5100[1]	NA
Phenol	108-95-2	82800	3.33E-07	1.3614E-05	8.3398E-02	1.0254E-05	187.2	NA
Polychlorinated biphenyls (PCBs)	1336-36-3	0.7	4.15E-04	1.6966E-02	2.4340E-02	6.2671E-06	78100	NA
Pyrene	129-00-0	0.135	1.19E-05	4.8651E-04	2.7787E-02	7.2479E-06	54340	NA
Selenium (total)	7782-49-2	NA	NA	NA	NA	NA	NA	14[1]
Silver (total)	7440-22-4	NA	NA	NA	NA	NA	NA	0.26[1]
Styrene	100-42-5	310	2.75E-03	1.1243E-01	7.1114E-02	8.7838E-06	446.1	NA
Tertiary butyl alcohol (TBA)	75-65-0	1000000[2]	9.05E-06[2]	3.6996E-04[2]	9.8500E-02[3]	1.1400E-05[3]	2.111[5]	NA
1,2,4,5-Tetrachlorobenzene	95-94-3	0.595	1.00E-03	4.0883E-02	3.1896E-02	8.7531E-06	2220	NA
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	0.0002	5.00E-05	2.0442E-03	4.7028E-02	6.7568E-06	249100	NA
1,1,2,2-Tetrachloroethane	79-34-5	2830	3.67E-04	1.5004E-02	4.8921E-02	9.2902E-06	94.94	NA
Tetrachloroethene (PCE) (Tetrachloroethylene)	127-18-4	206	1.77E-02	7.2363E-01	5.0466E-02	9.4551E-06	94.94	NA
2,3,4,6-Tetrachlorophenol	58-90-2	23	8.84E-06	3.6140E-04	5.0338E-02	5.8816E-06	3140[1]	NA
Toluene	108-88-3	526	6.64E-03	2.7146E-01	7.7804E-02	9.2043E-06	233.9	NA
Toxaphene	8001-35-2	0.55	6.00E-06	2.4530E-04	3.2439E-02	3.7902E-06	77200	NA
1,2,4-Trichlorobenzene	120-82-1	49	1.42E-03	5.8054E-02	3.9599E-02	8.4033E-06	1356	NA
1,1,1-Trichloroethane	71-55-6	1290	1.72E-02	7.0319E-01	6.4817E-02	9.5990E-06	43.89	NA
1,1,2-Trichloroethane	79-00-5	4590	8.24E-04	3.3688E-02	6.6890E-02	1.0026E-05	60.7	NA
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	1280	9.85E-03	4.0270E-01	6.8662E-02	1.0221E-05	60.7	NA
Trichlorofluoromethane (Freon 11)	75-69-4	1100	9.70E-02	3.9657E+00	6.5356E-02	1.0048E-05	43.89	NA
2,4,5-Trichlorophenol	95-95-4	1200	1.62E-06	6.6230E-05	3.1394E-02	8.0893E-06	2340[1]	NA
2,4,6-Trichlorophenol	88-06-2	800	2.60E-06	1.0630E-04	3.1395E-02	8.0896E-06	999[1]	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	170	5.26E-01	2.1504E+01	3.7566E-02	8.5920E-06	196.8	NA
1,2,4-Trimethylbenzene	95-63-6	57	6.16E-03	2.5184E-01	6.0675E-02	7.9208E-06	614.3	NA
Vanadium (total)	7440-62-2	NA	NA	NA	NA	NA	NA	1000
Vinyl chloride	75-01-4	8800	2.78E-02	1.1365E+00	1.0712E-01	1.2004E-05	21.73	NA
Xylenes (total)	1330-20-7	106	6.63E-03	2.7105E-01	6.8515E-02	8.4640E-06	382.9	NA
Zinc (total)	7440-66-6	NA	NA	NA	NA	NA	NA	23[1]

NA = Not applicable

All values from USEPA Regional Screening Level Tables (http://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables, referenced May 2018), unless otherwise indicated. This

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website only posts the USEPA's most recent tables. Past tables may be obtained by contacting the USEPA.

[1] Kd or Koc value listed for pH 5.3 in Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites, United States Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, DC, December 2002 (http://www.epa.gov/superfund/superfund-soil-screening-guidance)

[2] Experimental values from the USEPA's Estimation Program Interface Suite, V 4.11 (https://www.epa.gov/tsca-screening-tools/epi-suitetm-estimation-program-interface)

[3] Calculated using the USEPA's WATER9 calculator, V 3.0. (https://www3.epa.gov/ttn/chief/software/water/index.html)

[4] From the USEPA's WATER9 calculator, V 3.0 database (https://www3.epa.gov/ttn/chief/software/water/index.html)

[5] Molecular Connectivity Index values from USEPA's Estimation Program Interface Suite, V 4.11 (https://www.epa.gov/tsca-screening-tools/epi-suitetm-estimation-program-interface)

APPENDIX 11

TOXICITY FACTORS USED IN THE DEVELOPMENT OF THE REMEDIATION STANDARDS

Table 1 – Soil Ingestion-Dermal Toxicity Factors

Contaminant	CAS No.	Soil Ingestion-dermal Recommendation	Soil Ingestion-dermal Toxicity Factor(s)
Acenaphthene	83-32-9	IRIS RfD with a dermal absorption fraction (ABS)	IRIS RfD (1994) 0.06 mg/kg-day ABS 0.13

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Acetone	67-64-1	IRIS RfD	IRIS RfD (2003) 0.9 mg/kg-day
Acetophenone	98-86-2	IRIS RfD	IRIS RfD (1989) 0.1 mg/kg-day
Aldrin	309-00-2	IRIS Slope Factor (SF) IRIS RfD	IRIS SF (1993) 17 (mg/kg-day)-1 IRIS RfD (1988) 0.00003 mg/kg-day
Aluminum	7429-90-5	PPRTV RfD	PPRTV RfD (2006) 1.0 mg/kg-day
Anthracene	120-12-7	IRIS RfD with a dermal absorption fraction (ABS)	IRIS RfD (1993) 0.3 mg/kg-day ABS 0.13
Antimony	7440-36-0	IRIS RfD with a gastrointestinal absorption fraction (GIABS)	IRIS RfD (1991) 0.0004 mg/kg-day GIABS 0.15
Arsenic	7440-38-2	IRIS Slope Factor (SF) with a dermal absorption fraction (ABS) IRIS RfD with a dermal absorption fraction (ABS)	IRIS SF (1998) 1.5 (mg/kg-day)-1 IRIS RfD (1993) 0.0003 mg/kg-day ABS 0.03
Atrazine	1912-24-9	IRIS RfD with a dermal absorption fraction (ABS) and a Group C carcinogen factor	IRIS RfD (1993) 0.035 mg/kg-day ABS 0.1 Group C carcinogen factor 10
Barium	7440-39-3	IRIS RfD with a gastrointestinal absorption fraction (GIABS)	IRIS RfD (2005) 0.2 mg/kg-day GIABS 0.07
Benzaldehyde	100-52-7	PPRTV Slope Factor (SF) IRIS RfD	PPRTV SF (2015) 4E-03 (mg/kg-day)-1 IRIS RfD (1988) 0.1 mg/kg-day
Benzene	71-43-2	NJDWQI Slope Factor (SF) IRIS RfD[1]	NJDWQI SF (1994) 0.23 (mg/kg-day)-1 IRIS RfD (2003) 0.004 mg/kg-day
Benzo(a)anthracene	56-55-3	IRIS Slope Factor (SF)(benzo(a)pyrene - adjusted for benzo(a)pyrene) with a dermal absorption fraction (ABS)	IRIS SF (2017) 1.0E-01(mg/kg-day)-1 (adjusted for benzo(a)anthracene) ABS 0.13

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Benzo(a)pyrene	50-32-8	IRIS Slope Factor (SF) with a dermal absorption fraction (ABS) IRIS RfD with a dermal absorption fraction (ABS)	IRIS SF (2017) 1.0E+00 (mg/kg-day)-1 IRIS RfD (2017) 3.0E-04 mg/kg-day ABS 0.13
Benzo(b)fluoranthene	205-99-2	IRIS Slope Factor (SF)(benzo(a)pyrene - adjusted for benzo(b)fluoranthene) with a dermal absorption fraction (ABS)	IRIS SF (2017) 1.0E-01 (mg/kg-day)-1 (adjusted for benzo(b)fluoranthene) ABS 0.13
Benzo(k)fluoranthene	207-08-9	IRIS Slope Factor (SF)(benzo(a)pyrene - adjusted for benzo(k)fluoranthene) with a dermal absorption fraction (ABS)	IRIS SF (2017) 1.0E-02(mg/kg-day)-1 (adjusted for benzo(k)fluoranthene) ABS 0.13
Beryllium	7440-41-7	IRIS RfD with a gastrointestinal absorption fraction (GIABS)	IRIS RfD (1998) 0.002 mg/kg-day GIABS 0.007
1,1'-Biphenyl	92-52-4	IRIS Slope Factor (SF) IRIS RfD	IRIS SF (2013) 0.008 (mg/kg-day)-1 IRIS RfD (2013) 0.5 mg/kg-day
Bis(2-chloroethoxy) methane	111-91-1	PPRTV RfD with a dermal absorption fraction (ABS)	PPRTV RfD (2006) 0.003 mg/kg-day ABS 0.1
Bis(2-chloroethyl) ether	111-44-4	IRIS Slope Factor (SF)	IRIS SF (1994) 1.1 (mg/kg-day)-1
Bis(2-ethylhexyl) phthalate	117-81-7	IRIS Slope Factor (SF) with a dermal absorption fraction (ABS) IRIS RfD with a dermal absorption fraction (ABS)	IRIS SF (1993) 0.014 (mg/kg-day)-1 IRIS RfD (2013) 0.02 mg/kg-day ABS 0.1
Bromodichloromethane	75-27-4	IRIS Slope Factor (SF) IRIS RfD	IRIS SF (1993) 0.062 (mg/kg-day)-1 IRIS RfD (1991) 0.02 mg/kg-day
Bromoform	75-25-2	IRIS Slope Factor (SF) IRIS RfD	IRIS SF (1991) 0.0079 (mg/kg-day)-1 IRIS RfD (1991) 0.02 mg/kg-day
Bromomethane	74-83-9	IRIS RfD	IRIS RfD (1991) 0.0014 mg/kg-day

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2-Butanone	78-93-3	IRIS RfD[2]	IRIS RfD (2003) 0.6 mg/kg-day
Butylbenzylphthalate	85-68-7	PPRTV Slope Factor (SF) with a dermal absorption fraction (ABS) IRIS RfD with a dermal absorption fraction (ABS) and a Group C carcinogen factor	PPRTV SF (2002) 0.0019 (mg/kg-day)-1 IRIS RfD (2013) 0.2 mg/kg-day ABS 0.1 Group C carcinogen factor 10
Cadmium	7440-43-9	IRIS RfD with a dermal absorption fraction (ABS) and gastrointestinal absorption fraction (GIABS)	IRIS RfD (1994) 0.001 mg/kg-day ABS 0.001 GIABS 0.025
Caprolactam	105-60-2	IRIS RfD with a dermal absorption fraction (ABS)	IRIS RfD (1988) 0.5 mg/kg-day ABS 0.1
Carbon disulfide	75-15-0	No ingestion-based toxicity factors are available	None
Carbon tetrachloride	56-23-5	NJDWQI Slope Factor (SF) IRIS RfD	NJDWQI SF (1994) 0.091 (mg/kg-day)-1 IRIS RfD (2011) 0.004 mg/kg-day
Chlordane (alpha plus gamma mixture)	57-74-9	NJDWQI Slope Factor (SF) with a dermal absorption fraction (ABS) IRIS RfD with a dermal absorption fraction (ABS)	NJDWQI SF (2001) 2.3 (mg/kg-day)-1 IRIS RfD (1998) 0.0005 mg/kg-day ABS 0.04
4-Chloroaniline	106-47-8	PPRTV Slope Factor (SF) with a dermal absorption fraction (ABS) IRIS RfD with a dermal absorption fraction (ABS)	PPRTV SF (2008) 0.2 (mg/kg-day)-1 IRIS RfD (1995) 0.004 mg/kg-day ABS 0.1
Chlorobenzene	108-90-7	NJDWQI RfD	NJDWQI RfD (1994) 0.0065 mg/kg-day
Chloroethane	75-00-3	No ingestion-based toxicity factors are available	None
Chloroform	67-66-3	IRIS RfD[3]	IRIS RfD (2001) 0.01 mg/kg-day
Chloromethane	74-87-3	No ingestion-based toxicity factors are available	None
2-Chloronaphthalene	91-58-7	IRIS RfD with a dermal absorption fraction (ABS)	IRIS RfD (1990) 0.08 mg/kg-day ABS 0.13
2-Chlorophenol	95-57-8	IRIS RfD	IRIS RfD (1993) 0.005 mg/kg-day
Chrysene	218-01-9	IRIS Slope Factor (SF) (benzo(a)pyrene – adjusted for chrysene) with a dermal absorption fraction (ABS)	IRIS SF (2017) 1.0E-03 (mg/kg-day)-1 (adjusted for chrysene) ABS 0.13

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Cobalt	7440-48-4	PPRTV RfD	PPRTV RfD (2008) 0.0003 mg/kg-day
Copper	7440-50-8	HEAST RfD	HEAST RfD (1997) 0.04 mg/kg-day
Cyanide	57-12-5	IRIS RfD	IRIS RfD (2010) 0.0006 mg/kg-day
Cyclohexane	110-82-7	No ingestion-based toxicity factors are available	None
4,4'-DDD	72-54-8	IRIS Slope Factor (SF) with a dermal absorption fraction (ABS)	IRIS SF (1988) 0.24 (mg/kg-day)-1 ABS 0.1
4,4'-DDE	72-55-9	IRIS SF	IRIS SF (1988) 0.34 (mg/kg-day)-1
4,4'-DDT	50-29-3	IRIS Slope Factor (SF) with a dermal absorption fraction (ABS) IRIS RfD with a dermal absorption fraction (ABS)	IRIS SF (1991) 0.34 (mg/kg-day)-1 IRIS RfD (1996) 0.0005 mg/kg-day ABS 0.03
Dibenz(a,h)anthracene	53-70-3	IRIS Slope Factor (SF) (benzo(a)pyrene – adjusted for dibenz(a,h)anthracene) with a dermal absorption fraction (ABS)	IRIS SF (2017) 1.0E+00 (mg/kg-day)-1 (adjusted for dibenz(a,h)anthracene) ABS 0.13
Dibromochloromethane	124-48-1	IRIS Slope Factor (SF) IRIS RfD and a Group C carcinogen factor	IRIS SF (1992) 0.084 (mg/kg-day)-1 IRIS RfD (1991) 0.02 mg/kg-day Group C carcinogen factor 10
1,2-Dibromo-3-chloropropane	96-12-8	PPRTV Slope Factor (SF) PPRTV RfD	PPRTV SF (2006) 0.8 (mg/kg-day)-1 PPRTV RfD (2006) 0.0002 mg/kg-day
1,2-Dibromoethane	106-93-4	IRIS Slope Factor (SF) IRIS RfD	IRIS SF (2004) 2.0 (mg/kg-day)-1 IRIS RfD (2004) 0.009 mg/kg-day
1,2-Dichlorobenzene	95-50-1	NJDWQI RfD	NJDWQI RfD (1994) 0.086 mg/kg-day
1,3-Dichlorobenzene	541-73-1	NJDWQI RfD	NJDWQI RfD (1994) 0.086 mg/kg-day
1,4-Dichlorobenzene	106-46-7	NJDWQI RfD with a Group C carcinogen factor[4]	NJDWQI RfD (1994) 0.01 mg/kg-day (RfD includes Group C Carcinogen factor adjustment of 10)
3,3'-Dichlorobenzidine	91-94-1	IRIS Slope Factor (SF) with a dermal absorption fraction (ABS)	IRIS SF (1993) 0.45 (mg/kg-day)-1 ABS 0.1
Dichlorodifluoromethane	75-71-8	IRIS RfD	IRIS RfD (1995) 0.2 mg/kg-day

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1,1-Dichloroethane	75-34-3	CalEPA Slope Factor (SF) PPRTV RfD[5]	CalEPA SF (1992) 0.0057 (mg/kg-day)-1 PPRTV RfD (2006) 0.2 mg/kg-day
1,2-Dichloroethane	107-06-2	NJDWQI Slope Factor (SF)[6]	NJDWQI SF (1994) 0.12 (mg/kg-day)-1
1,1-Dichloroethene	75-35-4	NJDWQI RfD with a Group C carcinogen factor	NJDWQI RfD (1994) 0.00014 mg/kg-day (RfD includes Group C Carcinogen factor adjustment of 10)
cis-1,2-Dichloroethene	156-59-2	NJDWQI RfD	NJDWQI RfD (1994) 0.01 mg/kg-day
trans-1,2-Dichloroethene	156-60-5	NJDWQI RfD	NJDWQI RfD (1994) 0.017 mg/kg-day
2,4-Dichlorophenol	120-83-2	IRIS RfD with a dermal absorption fraction (ABS)	IRIS RfD (1988) 0.003 mg/kg-day ABS 0.1
1,2-Dichloropropane	78-87-5	PPRTV Slope Factor (SF) PPRTV RfD	PPRTV SF (2016) 0.037 (mg/kg-day)-1 PPRTV RfD (2016) 0.04 mg/kg-day
1,3-Dichloropropene (cis and trans)	542-75-6	IRIS Slope Factor (SF) IRIS RfD	IRIS SF (2000) 0.1 (mg/kg-day)-1 IRIS RfD (2000) 0.03 mg/kg-day
Dieldrin	60-57-1	IRIS Slope Factor (SF) with a dermal absorption fraction (ABS) IRIS RfD with a dermal absorption fraction (ABS)	IRIS SF (1993) 16 (mg/kg-day)-1 IRIS RfD (1990) 0.00005 mg/kg-day ABS 0.1
Diethylphthalate	84-66-2	IRIS RfD with a dermal absorption fraction (ABS)	IRIS RfD (1993) 0.8 mg/kg-day ABS 0.1
2,4-Dimethylphenol	105-67-9	IRIS RfD with a dermal absorption fraction (ABS)	IRIS RfD (1990) 0.02 mg/kg-day ABS 0.1
Di-n-butylphthalate	84-74-2	IRIS RfD with a dermal absorption fraction (ABS)	IRIS RfD (1990) 0.1 mg/kg-day ABS 0.1
2,4-Dinitrophenol	51-28-5	IRIS RfD with a dermal absorption fraction (ABS)	IRIS RfD (1991) 0.002 mg/kg-day ABS 0.1
2,4-Dinitrotoluene /2,6-Dinitrotoluene (mixture)	25321-14-6	IRIS Slope Factor (SF) with a dermal absorption fraction (ABS)	IRIS SF (1990) 0.68 (mg/kg-day)-1 ABS 0.1
Di-n-octylphthalate	117-84-0	PPRTV RfD with a dermal absorption fraction (ABS)	PPRTV RfD (2012) 0.01 mg/kg-day ABS 0.1
1,4-Dioxane	123-91-1	IRIS Slope Factor (SF) IRIS RfD	IRIS SF (2013) 0.1 (mg/kg-day)-1

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			IRIS RfD (2010) 0.03 mg/kg-day
Endosulfan I and Endosulfan II (alpha and beta)	115-29-7	IRIS RfD	IRIS RfD (1994) 0.006 mg/kg-day
Endrin	72-20-8	IRIS RfD with a dermal absorption fraction (ABS)	IRIS RfD (1991) 0.0003 mg/kg-day ABS 0.1
Ethylbenzene	100-41-4	IRIS RfD[7]	IRIS RfD (1991) 0.1 mg/kg-day
Extractable Petroleum Hydrocarbons (EPH) (Category 1)	various	N.J.A.C. 7:26D – Appendix 2, Equation 5	See Table 1a – EPH Toxicity (below)
Extractable Petroleum Hydrocarbons (EPH) (Category 2)	various	N.J.A.C. 7:26D – Appendix 2, Equation 5	See Table 1a – EPH Toxicity (below)
Fluoranthene	206-44-0	IRIS RfD with a dermal absorption fraction (ABS)	IRIS RfD (1993) 0.04 mg/kg-day ABS 0.13
Fluorene	86-73-7	IRIS RfD with a dermal absorption fraction (ABS)	IRIS RfD (1990) 0.04 mg/kg-day ABS 0.13
alpha-HCH (alpha-BHC)	319-84-6	IRIS Slope Factor (SF) with a dermal absorption fraction (ABS) ATSDR RfD with a dermal absorption fraction (ABS)	IRIS SF (1993) 6.3 (mg/kg-day)-1 ATSDR RfD (2013) 0.008 mg/kg-day ABS 0.1
beta-HCH (beta-BHC)	319-85-7	IRIS Slope Factor (SF) with a dermal absorption fraction (ABS) and Group C carcinogen factor	IRIS SF (1993) 1.8 (mg/kg-day)-1 ABS 0.1 Group C carcinogen factor 10
Heptachlor	76-44-8	IRIS Slope Factor (SF) IRIS RfD	IRIS SF (1993) 4.5 (mg/kg-day)-1 IRIS RfD (1991) 0.0005 mg/kg-day
Heptachlor epoxide	1024-57-3	IRIS Slope Factor (SF) IRIS RfD	IRIS SF (1993) 9.1 (mg/kg-day)-1 IRIS RfD (1991) 0.000013 mg/kg-day
Hexachlorobenzene	118-74-1	IRIS Slope Factor (SF) IRIS RfD	IRIS SF (1996) 1.6 (mg/kg-day)-1 IRIS RfD (1991) 0.0008 mg/kg-day
Hexachloro-1,3-butadiene	87-68-3	IRIS Slope Factor (SF) PPRTV RfD and a Group C carcinogen factor	IRIS SF (1991) 0.078 (mg/kg-day)-1 PPRTV RfD (2007) 0.001 mg/kg-day Group C carcinogen factor 10
Hexachlorocyclopentadiene	77-47-4	IRIS RfD	IRIS RfD (2001) 0.006 mg/kg-day

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Hexachloroethane	67-72-1	IRIS Slope Factor (SF) IRIS RfD	IRIS SF (2011) 0.04 (mg/kg-day)-1 IRIS RfD (2003) 0.0007 mg/kg-day
n-Hexane	110-54-3	No ingestion-based toxicity factors are available[17]	None
2-Hexanone	591-78-6	IRIS RfD	IRIS RfD (2009) 0.005 mg/kg-day
Indeno(1,2,3-cd) pyrene	193-39-5	IRIS Slope Factor (SF) (benzo(a)pyrene – adjusted for indeno(1,2,3-cd)pyrene) with a dermal absorption fraction (ABS).	IRIS SF (2017) 1.0E-01(mg/kg-day)-1 (adjusted for indeno(1,2,3-cd)pyrene) ABS 0.13
Isophorone	78-59-1	IRIS Slope Factor (SF) with a dermal absorption fraction (ABS) IRIS RfD with a dermal absorption fraction (ABS) and a Group C carcinogen factor	IRIS SF (1992) 0.00095 (mg/kg-day)-1 IRIS RfD (2003) 0.2 mg/kg-day ABS 0.1 Group C carcinogen factor 10
Isopropylbenzene	98-82-8	IRIS RfD	IRIS RfD (1997) 0.1 mg/kg-day
Lead	7439-92-1	USEPA IEUBK model for children USEPA ALM for adults	IEUBK (1994) Children ALM (1996) Adults
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	CalEPA Slope Factor (SF) with a dermal absorption fraction (ABS) IRIS RfD with a dermal absorption fraction (ABS)	CalEPA SF (1992) 1.1 (mg/kg-day)-1 IRIS RfD (1988) 0.0003 mg/kg-day ABS 0.04
Manganese	7439-96-5	EPA RSL RfD	EPA RSL RfD (2018) 0.024 mg/kg-day
Mercury	7439-97-6	IRIS RfD with a gastrointestinal absorption fraction (GIABS)	IRIS RfD (1995) 0.0003 mg/kg-day GIABS 0.07
Methoxychlor	72-43-5	IRIS RfD with a dermal absorption fraction (ABS)	IRIS RfD (1991) 0.005 mg/kg-day ABS 0.1
Methyl acetate	79-20-9	HEAST RfD	HEAST RfD (1997) 1.0 mg/kg-day
Methylene chloride	75-09-2	NJDWQI Slope Factor (SF) IRIS RfD	NJDWQI SF (1994) 0.014 (mg/kg-day)-1 IRIS RfD (2011) 0.006 mg/kg-day
2-Methylnaphthalene	91-57-6	IRIS RfD with a dermal absorption fraction (ABS)	IRIS RfD (2003) 0.004 mg/kg-day ABS 0.13
4-Methyl-2-pentanone	108-10-1	No ingestion-based toxicity factors are available	None

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2-Methylphenol	95-48-7	IRIS RfD with a dermal absorption fraction (ABS) and a Group C carcinogen factor	IRIS RfD (2008) 0.05 mg/kg-day ABS 0.1 Group C carcinogen factor 10
4-Methylphenol	106-44-5	ATSDR RfD with a dermal absorption fraction (ABS) and a Group C carcinogen factor	ATSDR RfD (2013) 0.1 mg/kg-day ABS 0.1 Group C carcinogen factor 10
Methyl tert-butyl ether (MTBE)	1634-04-4	NJDWQI RfD with a Group C carcinogen factor[8]	NJDWQI RfD (1994) 0.01 mg/kg-day (RfD includes Group C Carcinogen factor adjustment of 10)
Naphthalene	91-20-3	NJDWQI RfD with a dermal absorption fraction (ABS) and a Group C carcinogen factor	NJDWQI RfD (1994) 0.041 mg/kg-day ABS 0.13 (RfD includes Group C Carcinogen factor adjustment of 10)
Nickel	7440-02-0	IRIS RfD with a gastrointestinal absorption fraction (GIABS)	IRIS RfD (1996) 0.02 mg/kg-day GIABS 0.04
4-Nitroaniline	100-01-6	IRIS Slope Factor (SF) with a dermal absorption fraction (ABS) PPRTV RfD with a dermal absorption fraction (ABS)	IRIS SF (2009) 0.02 (mg/kg-day)-1 PPRTV RfD (2009) 0.004 mg/kg-day ABS 0.1
Nitrobenzene	98-95-3	IRIS RfD	IRIS RfD (2009) 0.002 mg/kg-day
N-Nitroso-di-n-propylamine	621-64-7	IRIS Slope Factor (SF) with a dermal absorption fraction (ABS)	IRIS SF (1993) 7.0 (mg/kg-day)-1 ABS 0.1
N-Nitrosodiphenylamine	86-30-6	IRIS Slope Factor (SF) with a dermal absorption fraction (ABS)	IRIS SF (1993) 0.0049 (mg/kg-day)-1 ABS 0.1
2,2'-Oxybis(1-choloropropane)	108-60-1	IRIS RfD	IRIS RfD (1991) 0.04 mg/kg-day
Pentachlorophenol	87-86-5	IRIS Slope Factor (SF) with a dermal absorption fraction (ABS) IRIS RfD with a dermal absorption fraction (ABS)	IRIS SF (2010) 0.4 (mg/kg-day)-1 IRIS RfD (2010) 0.005 mg/kg-day ABS 0.25
Phenol	108-95-2	IRIS RfD with a dermal absorption fraction (ABS)	IRIS RfD (2002) 0.3 mg/kg-day ABS 0.1
Polychlorinated biphenyls (PCBs)	1336-36-3	NJDWQI Slope Factor (SF) with a dermal absorption fraction (ABS)	NJDWQI SF (1994) 2 (mg/kg-day)-1 ABS 0.14
Pyrene	129-00-0	IRIS RfD with a dermal absorption fraction (ABS)	IRIS RfD (1993) 0.03 mg/kg-day ABS 0.13

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Selenium	7782-49-2	IRIS RfD	IRIS RfD (1991) 0.005 mg/kg-day
Silver	7440-22-4	IRIS RfD with a gastrointestinal absorption fraction (GIABS)	IRIS RfD (1996) 0.005 mg/kg-day GIABS 0.04
Styrene	100-42-5	IRIS RfD	IRIS RfD (1990) 0.2 mg/kg-day
Tertiary butyl alcohol (TBA)	75-65-0	NJDEP RfD with a Group C carcinogen factor	NJDEP RfD (1997) 0.018 mg/kg-day (RfD includes Group C Carcinogen factor adjustment of 10)
1,2,4,5-Tetrachlorobenzene	95-94-3	IRIS RfD	IRIS RfD (1991) 0.0003 mg/kg-day
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	IRIS RfD with a dermal absorption fraction (ABS)	IRIS RfD (2012) 7E-10 mg/kg-day ABS 0.03
1,1,2,2-Tetrachloroethane	79-34-5	IRIS Slope Factor (SF) IRIS RfD[9]	IRIS SF (2010) 0.2 (mg/kg-day)-1 IRIS RfD (2010) 0.02 mg/kg-day
Tetrachloroethene (PCE)	127-18-4	IRIS Slope Factor (SF) IRIS RfD[10]	IRIS SF (2012) 0.0021 (mg/kg-day)-1 IRIS RfD (2012) 0.006 mg/kg-day
2,3,4,6-Tetrachlorophenol	58-90-2	IRIS RfD with a dermal absorption fraction (ABS)	IRIS RfD (1992) 0.03 mg/kg-day ABS 0.1
Toluene	108-88-3	IRIS RfD	IRIS RfD (2005) 0.08 mg/kg-day
Toxaphene	8001-35-2	IRIS Slope Factor (SF) with a dermal absorption fraction (ABS)	IRIS SF (1991) 1.1 (mg/kg-day)-1 ABS 0.1
1,2,4-Trichlorobenzene	120-82-1	IRIS RfD[11]	IRIS RfD (1996) 0.01 mg/kg-day
1,1,1-Trichloroethane	71-55-6	IRIS RfD[12]	IRIS RfD (2007) 2 mg/kg-day
1,1,2-Trichloroethane	79-00-5	IRIS Slope Factor (SF) IRIS RfD with a Group C carcinogen factor[13]	IRIS SF (1994) 0.057 (mg/kg-day)-1 IRIS RfD (1994) 0.004 mg/kg-day Group C carcinogen factor 10
Trichloroethene (TCE)	79-01-6	IRIS Slope Factor (SF)[14] IRIS RfD	IRIS SF (2011) 0.046 (mg/kg-day)-1 IRIS RfD (2011) 0.0005 mg/kg-day
Trichlorofluoromethane	75-69-4	IRIS RfD	IRIS RfD (1992) 0.3 mg/kg-day

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2,4,5-Trichlorophenol	95-95-4	IRIS RfD with a dermal absorption fraction (ABS)	IRIS RfD (1988) 0.1 mg/kg-day ABS 0.1
2,4,6-Trichlorophenol	88-06-2	IRIS Slope Factor (SF) with a dermal absorption fraction (ABS) PPRTV RfD with a dermal absorption fraction (ABS)	IRIS SF (1994) 0.011 (mg/kg-day)-1 PPRTV RfD (2007) 0.001 mg/kg-day ABS 0.1
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	No ingestion-based toxicity factors are available[15]	None
1,2,4-Trimethylbenzene	95-63-6	IRIS RfD	IRIS RfD (2016) 0.01 mg/kg-day
Vanadium	7440-62-2	EPA RSL RfD with a gastrointestinal absorption fraction (GIABS)	EPA RSL RfD (2018) 0.005 mg/kg-day GIABS 0.026
Vinyl Chloride	75-01-4	IRIS Slope Factor (SF) IRIS RfD[16]	IRIS SF (2000) 0.72 (mg/kg-day)-1 IRIS RfD (2000) 0.003 mg/kg-day
Xylenes	1330-20-7	NJDWQI RfD	NJDWQI RfD (1994) 0.15 mg/kg-day
Zinc	7440-66-6	IRIS RfD	IRIS RfD (2005) 0.3 mg/kg-day

Table 1a – EPH Toxicity

Applies to both:

EPH - Category 1 (Number 2 Heating Oil/Diesel Fuel)

EPH - Category 2 (Heavier petroleum products)

Note: EPH excludes lighter petroleum products including gasoline and mineral spirits

Effective Carbon Range Aliphatics	Surrogate	Toxicity Factor	Toxicity Factor Reference Source
9 - 12	PHC Mixture	RfD 0.10 mg/kg-day ABS 0.1	Canada 2000 and MADEP 2003
12 - 16	PHC Mixture	RfD 0.10 mg/kg-day ABS 0.1	Canada 2000 and MADEP 2003
16 - 21	White Mineral Oil	RfD 2.0 mg/kg-day ABS 0.1	TPHCWG 1997 and MADEP 2003

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21 - 40	White Mineral Oil	RfD 2.0 mg/kg-day ABS 0.1	TPHCWG 1997 and MADEP 2003
Effective Carbon Range Aromatics	Surrogate	Toxicity Factor	Toxicity Factor Reference Source
10 - 12	Naphthalene	RfD 0.041 mg/kg-day ABS 0.13	NJDWQI (1994)
12 - 16	Acenaphthene	RfD 0.06 mg/kg-day ABS 0.13	IRIS (1994)
16 - 21	Fluorene	RfD 0.04 mg/kg-day ABS 0.13	IRIS (1990)
21 - 36	Fluoranthene	RfD 0.04 mg/kg-day ABS 0.13	IRIS (1993)

[1] Both the NJDWQI slope factor and IRIS RfD for benzene are based on a route to route conversion of an inhalation study, which was determined to be acceptable by the USEPA as substantiated by additional evaluation including physiologically-based pharmacokinetic modeling.

[2] Although a NJDWQI RfD for 2-butanone exists, it is based on an inhalation route-to-route conversion. The Department's Site Remediation and Waste Management Program policy does not allow, except where warranted, for the development of soil remediation standards based on route to route conversion of toxicity factors. This policy conforms with the USEPA policy concerning route to route conversion of toxicity factors.

[3] Although a CalEPA slope factor for chloroform exists, the USEPA believes there is a threshold effect for cancer. As such, an RfD based soil remediation standard is protective of both cancer and non-cancer health endpoints.

[4] Although a CalEPA Slope Factor for 1,4-dichlorobenzene exists, there are questions about the study used to develop the slope factor. As such, the Department has decided not to develop an ingestion-dermal soil remediation standard for 1,4-dichlorobenzene using this slope factor.

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[5] Although a NJDWQI RfD for 1,1-dichloroethane exists, it is based on an inhalation route to route conversion. The Department's Site Remediation and Waste Management Program policy does not allow, except where warranted, for the development of soil remediation standards based on route-to-route conversion of toxicity factors. This policy conforms with the USEPA policy concerning route to route conversion of toxicity factors.

[6] Although a PPRTV RfD for 1,2-dichloroethane exists, it is listed as an appendix value. PPRTV appendix values are based on a study(s) that has flaws as determined by the USEPA. It is the Department's Site Remediation and Waste Management Program policy not to use PPRTV appendix values to develop soil remediation standards.

[7] Although a CalEPA slope factor for ethylbenzene exists, it is based on an inhalation route-to-route conversion. The Department's Site Remediation and Waste Management Program policy does not allow, except where warranted, for the development of soil remediation standards based on route-to-route conversion of toxicity factors. This policy conforms with the USEPA policy concerning route-to-route conversion of toxicity factors.

[8] Although a CalEPA slope factor for methyl tert-butyl ether exists, there are questions about the study used to develop the slope factor. As such, the Department has decided not to develop an ingestion-dermal soil remediation standard for methyl tert-butyl ether using this slope factor.

[9] Although an NJDWQI RfD for 1,1,2,2-tetrachloroethane exists, the Department has decided to use an IRIS RfD to develop a non-cancer-based ingestion-dermal soil remediation standard as the IRIS RfD is based on a newer toxicology assessment.

[10] Although an NJDWQI slope factor for tetrachloroethene exists, the Department has decided that the existing IRIS Slope Factor is a scientifically better toxicity value to develop a cancer-

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

based ingestion-dermal soil remediation standard. The IRIS slope factor uses the newest PBPK models (extrapolating from an inhalation unit risk factor to an oral slope factor). An ingestion-dermal soil remediation standard for tetrachloroethene can also be developed using an IRIS RfD. The RfD uses the newest PBPK models (extrapolating from an inhalation RfC to oral RfD).

[11] Although an NJDWQI RfD for 1,2,4-trichlorobenzene exists, it is based on an inhalation route-to-route conversion. The Department's Site Remediation and Waste Management Program policy does not allow, except where warranted, for the development of soil remediation standards based on route-to-route conversion of toxicity factors. This policy conforms with the USEPA policy concerning route-to-route conversion of toxicity factors. In addition, a USEPA PPRTV slope factor for 1,2,4-trichlorobenzene is available, however the Slope Factor is based on a controversial mouse liver tumor study that many researchers have dismissed. The Department has decided not to develop an ingestion-dermal soil remediation standard based on the PPRTV slope factor.

[12] Although an NJDWQI RfD for 1,1,1-trichloroethane exists, it is based on an inhalation route-to-route conversion. The Department's Site Remediation and Waste Management Program policy does not allow, except where warranted, for the development of soil remediation standards based on route-to-route conversion of toxicity factors. This policy conforms with USEPA policy concerning route-to-route conversion of toxicity factors.

[13] Although an NJDWQI slope factor for 1,1,2-trichloroethane exists, the Department determined that the IRIS slope factor is a scientifically better toxicity value to develop a cancer-based ingestion-dermal soil remediation standard.

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[14] Although an NJDWQI slope factor for trichloroethene exists, the Department determined that the IRIS slope factor is a scientifically better toxicity value to develop a cancer-based ingestion-dermal soil remediation standard. The IRIS slope factor uses the newest PBPK models (extrapolating from an inhalation unit risk factor to an oral slope factor).

[15] Although an IRIS RfD for 1,1,2-Trichloro-1,2,2-trifluoroethane exists, it is based on an inhalation route-to-route conversion. The Department's Site Remediation and Waste Management Program policy does not allow, except where warranted, for the development of soil remediation standards based on route-to-route conversion of toxicity factors. This policy conforms with USEPA policy concerning route-to-route conversion of toxicity factors.

[16] Although an NJDWQI slope factor exists for vinyl chloride, the Department determined that the IRIS slope factor is a scientifically better toxicity value to develop a cancer-based ingestion – dermal soil remediation standard.

[17] Although a NJDWQI RfD (1994) for n-hexane exists, it is based on an inhalation route to route conversion. The Department's Site Remediation and Waste Management Program policy does not allow, except where warranted, for the development of soil remediation standards based on route to route conversion of toxicity factors. This policy conforms with USEPA policy concerning route to route conversion of toxicity factors.

Table 2 – Soil Inhalation Toxicity Factors

Contaminant	CAS No.	Soil Inhalation Recommendation	Soil Inhalation Toxicity Factor(s)

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

Acenaphthene	83-32-9	No inhalation-based toxicity factors are available[18]	None
Acetone	67-64-1	No inhalation-based toxicity factors are available[1]	None
Acetophenone	98-86-2	No inhalation-based toxicity factors are available[2]	None
Aldrin	309-00-2	No inhalation-based toxicity factors are available[17]	None
Aluminum	7429-90-5	PPRTV RfC	PPRTV RfC (2006) 5E-03 mg/m3
Anthracene	120-12-7	No inhalation-based toxicity factors are available[18]	None
Antimony	7440-36-0	No inhalation-based toxicity factors are available[19]	None
Arsenic	7440-38-2	IRIS IUR	IRIS IUR (1998) 4.3E-03 (ug/m3)-1
Atrazine	1912-24-9	No inhalation-based toxicity factors are available	None
Barium	7440-39-3	HEAST RfC	HEAST RfC (1997) 5E-04 mg/m3
Benzaldehyde	100-52-7	No inhalation-based toxicity factors are available	None
Benzene	71-43-2	IRIS IUR IRIS RfC	IRIS IUR (2000) 7.8E-06 (ug/m3)-1 IRIS RfC (2003) 3E-02 mg/m3
Benzo(a)anthracene	56-55-3	IRIS IUR (benzo(a)pyrene) adjusted for benzo(a)anthracene	IRIS IUR (2017) 6.0E-05 (ug/m3)-1 (adjusted for benzo(a)anthracene)
Benzo(a)pyrene	50-32-8	IRIS IUR IRIS RfC	IRIS IUR (2017) 6.0E-04 (ug/m3)-1 IRIS RfC (2017) 2.0E-06 mg/m3
Benzo(b)fluoranthene	205-99-2	IRIS IUR (benzo(a)pyrene) adjusted for benzo(b)fluoranthene	IRIS IUR (2017) 6.0E-05 (ug/m3)-1 (adjusted for benzo(b)fluoranthene)
Benzo(k)fluoranthene	207-08-9	IRIS IUR (benzo(a)pyrene) adjusted for benzo(k) fluoranthene	IRIS IUR (2017) 6.0E-06 (ug/m3)-1 (adjusted for benzo(k) fluoranthene)
Beryllium	7440-41-7	IRIS IUR IRIS RfC	IRIS IUR (1998) 2.4E-03 (ug/m3)-1 IRIS RfC (1998) 2E-05 mg/m3
1,1'-Biphenyl	92-52-4	No inhalation-based toxicity factors are available	None
Bis(2-chloroethoxy) methane	111-91-1	No inhalation-based toxicity factors are available	None

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Bis(2-chloroethyl) ether	111-44-4	No inhalation-based toxicity factors are available[17]	None
Bis(2-ethylhexyl) phthalate	117-81-7	No inhalation-based toxicity factors are available[17]	None
Bromodichloromethane	75-27-4	No inhalation-based toxicity factors are available[17]	None
Bromoform	75-25-2	No inhalation-based toxicity factors are available[17]	None
Bromomethane	74-83-9	IRIS RfC	IRIS RfC (1992) 5E-03 mg/m3
2-Butanone	78-93-3	IRIS RfC[3]	IRIS RfC (2003) 5E+00 mg/m3
Butylbenzylphthalate	85-68-7	No inhalation-based toxicity factors are available	None
Cadmium	7440-43-9	IRIS IUR ATSDR RfC	IRIS IUR (1992) 1.8E-03 (ug/m3)-1 ATSDR RfC (2013) 1E-05 mg/m3
Caprolactam	105-60-2	CalEPA RfC	CalEPA RfC (2013) 2.2E-03 mg/m3
Carbon disulfide	75-15-0	IRIS RfC	IRIS RfC (1995) 7E-01 mg/m3
Carbon tetrachloride	56-23-5	IRIS IUR IRIS RfC	IRIS IUR (2010) 6E-06 (ug/m3)-1 IRIS RfC (2010) 1E-01 mg/m3
Chlordane (alpha plus gamma mixture)	57-74-9	IRIS RfC	IRIS RfC (1998) 7E-04 mg/m3
4-Chloroaniline	106-47-8	No inhalation-based toxicity factors are available	None
Chlorobenzene	108-90-7	PPRTV RfC	PPRTV RfC (2006) 5E-02 mg/m3
Chloroethane	75-00-3	IRIS RfC	IRIS RfC (1991) 1E+01 mg/m3
Chloroform	67-66-3	ATSDR RfC No other inhalation-based toxicity factors are available[17]	ATSDR RfC (2013) 9.8E-02 mg/m3
Chloromethane	74-87-3	IRIS RfC[4]	IRIS RfC (2001) 9E-02 mg/m3
2-Chloronaphthalene	91-58-7	No inhalation-based toxicity factors are available	None
2-Chlorophenol	95-57-8	No inhalation-based toxicity factors are available[17]	None
Chrysene	218-01-9	IRIS IUR (benzo(a)pyrene) adjusted for chrysene	IRIS IUR (2017) 6.0E-07 (ug/m3)-1 (adjusted for chrysene)
Cobalt	7440-48-4	PPRTV IUR PPRTV RfC	PPRTV IUR (2008) 9E-03(ug/m3)-1 PPRTV RfC (2008) 6E-06 mg/m3

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Copper	7440-50-8	No inhalation-based toxicity factors are available[5]	None
Cyanide	57-12-5	IRIS RfC	IRIS RfC (2010) 8E-04 mg/m3
Cyclohexane	110-82-7	IRIS RfC	IRIS RfC (2003) 6E+00 mg/m3
4,4'-DDD	72-54-8	No inhalation-based toxicity factors are available[17]	None
4,4'-DDE	72-55-9	No inhalation-based toxicity factors are available[17]	None
4,4'-DDT	50-29-3	No inhalation-based toxicity factors are available[17]	None
Dibenz(a,h)anthracene	53-70-3	IRIS IUR (benzo(a)pyrene) adjusted for dibenzo(a,h) anthracene	IRIS IUR (2017) 6.0E-04(ug/m3)-1 (adjusted for dibenzo(a,h) anthracene)
Dibromochloromethane	124-48-1	No inhalation-based toxicity factors are available[17]	None
1,2-Dibromo-3-chloropropane	96-12-8	PPRTV IUR IRIS RfC	PPRTV IUR (2006) 6E-03 (ug/m3)-1 IRIS RfC (1991) 2E-04 mg/m3
1,2-Dibromoethane	106-93-4	IRIS IUR IRIS RfC	IRIS IUR (2004) 6E-04 (ug/m3)-1 IRIS RfC (2004) 9E-03 mg/m3
1,2-Dichlorobenzene	95-50-1	HEAST RfC	HEAST RfC (1997) 2E-01 mg/m3
1,3-Dichlorobenzene	541-73-1	No inhalation-based toxicity factors are available	None
1,4-Dichlorobenzene	106-46-7	IRIS RfC No other inhalation-based toxicity factors are available[17]	IRIS RfC (1994) 8E-01 mg/m3
3,3'-Dichlorobenzidine	91-94-1	No inhalation-based toxicity factors are available	None
Dichlorodifluoromethane	75-71-8	No inhalation-based toxicity factors are available[6]	None
1,1-Dichloroethane	75-34-3	No inhalation-based toxicity factors are available[7]	None
1,2-Dichloroethane	107-06-2	PPRTV RfC No other inhalation-based toxicity factors are available[17]	PPRTV RfC (2010) 7E-03 mg/m3
1,1-Dichloroethene	75-35-4	A soil inhalation remediation standard can be developed using an IRIS RfC with a Group C carcinogen factor	IRIS RfC (2002/2005) 2E-01 mg/m3 RfC Group C carcinogen factor 10
cis-1,2-Dichloroethene	156-59-2	No inhalation-based toxicity factors are available	None
trans-1,2-Dichloroethene	156-60-5	No inhalation-based toxicity factors are available[8]	None

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

2,4-Dichlorophenol	120-83-2	No inhalation-based toxicity factors are available[17]	None
1,2-Dichloropropane	78-87-5	PPRTV IUR IRIS RfC	PPRTV IUR (2016) 3.7E-06 (ug/m3)-1 IRIS RfC (1991) 4E-03 mg/m3
1,3-Dichloropropene (cis and trans)	542-75-6	IRIS IUR IRIS RfC	IRIS IUR (2000) 4E-06 (ug/m3)-1 IRIS RfC (2000) 2E-02 mg/m3
Dieldrin	60-57-1	No inhalation-based toxicity factors are available	None
Diethylphthalate	84-66-2	No inhalation-based toxicity factors are available[17]	None
2,4-Dimethylphenol	105-67-9	No inhalation-based toxicity factors are available[17]	None
Di-n-butylphthalate	84-74-2	No inhalation-based toxicity factors are available[17]	None
2,4-Dinitrophenol	51-28-5	No inhalation-based toxicity factors are available[17]	None
2,4-Dinitrotoluene /2,6-Dinitrotoluene (mixture)	25321-14-6	No inhalation-based toxicity factors are available[17]	None
Di-n-octylphthalate	117-84-0	No inhalation-based toxicity factors are available[9]	None
1,4-Dioxane	123-91-1	IRIS IUR IRIS RfC	IRIS IUR (2013) 5.0E-06 (ug/m3)-1 IRIS RfC (2013) 3E-02 mg/m3
Endosulfan I and Endosulfan II (alpha and beta)	115-29-7	No inhalation-based toxicity factors are available[17]	None
Endrin	72-20-8	No inhalation-based toxicity factors are available[17]	None
Ethylbenzene	100-41-4	CalEPA IUR IRIS RfC	CalEPA IUR (2007) 2.5E-06 (ug/m3)-1 IRIS RfC (1991) 1E+00 mg/m3
Extractable Petroleum Hydrocarbons (EPH) (Category 1)	various	No inhalation-based toxicity factors are available	None
Extractable Petroleum Hydrocarbons (EPH) (category 2)	various	No inhalation-based toxicity factors are available	None
Fluoranthene	206-44-0	No inhalation-based toxicity factors are available[18]	None
Fluorene	86-73-7	No inhalation-based toxicity factors are available[18]	None
alpha-HCH (alpha-BHC)	319-84-6	No inhalation-based toxicity factors are available[17]	None
beta-HCH (beta-BHC)	319-85-7	No inhalation-based toxicity factors are available[17]	None

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

Heptachlor	76-44-8	No inhalation-based toxicity factors are available[17]	None
Heptachlor epoxide	1024-57-3	No inhalation-based toxicity factors are available[17]	None
Hexachlorobenzene	118-74-1	No inhalation-based toxicity factors are available[17]	None
Hexachloro-1,3-butadiene	87-68-3	No inhalation-based toxicity factors are available[17]	None
Hexachlorocyclopentadiene	77-47-4	IRIS RfC	IRIS RfC (2001) 2E-04 mg/m3
Hexachloroethane	67-72-1	IRIS RfC	IRIS RfC (2011) 3E-02 mg/m3
n-Hexane	110-54-3	IRIS RfC	IRIS RfC (2005) 7E-01 mg/m3
2-Hexanone	591-78-6	IRIS RfC	IRIS RfC (2009) 3E-02 mg/m3
Indeno(1,2,3,-cd) pyrene	193-39-5	IRIS IUR (benzo(a)pyrene) adjusted for indeno(1,2,3,-cd) pyrene.	IRIS IUR (2017) 6.0E-05 (ug/m3)-1 (adjusted for indeno(1,2,3,-cd) pyrene)
Isophorone	78-59-1	CalEPA RfC	CalEPA RfC (2001) 2E-00 mg/m3
Isopropylbenzene	98-82-8	IRIS RfC	IRIS RfC (1997) 4E-01 mg/m3
Lead	7439-92-1	No inhalation-based toxicity factors are available[17]	None
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	No inhalation-based toxicity factors are available[17]	None
Manganese	7439-96-5	IRIS RfC	IRIS RfC (1993) 5E-05 mg/m3
Mercury	7439-97-6	IRIS RfC	IRIS RfC (1995) 3E-04 mg/m3
Methoxychlor	72-43-5	No inhalation-based toxicity factors are available[17]	None
Methyl acetate	79-20-9	No inhalation-based toxicity factors are available	None
Methylene chloride	75-09-2	IRIS IUR IRIS RfC	IRIS IUR (2011) 1E-08 (ug/m3)-1 IRIS RfC (2011) 6E-01 mg/m3
2-Methylnaphthalene	91-57-6	No inhalation-based toxicity factors are available[18]	None
4-Methyl-2-pentanone	108-10-1	IRIS RfC	IRIS RfC (2003) 3E+00 mg/m3
2-Methylphenol	95-48-7	No inhalation-based toxicity factors are available[17]	None
4-Methylphenol	106-44-5	No inhalation-based toxicity factors are available[17]	None
Methyl tert-butyl ether (MTBE)	1634-04-4	CalEPA IUR IRIS RfC with a Group C carcinogen factor	CalEPA IUR (1999)

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			2.6E-07 (ug/m3)-1 IRIS RfC (1993) 3E+00 mg/m3 Group C carcinogen factor 10
Naphthalene	91-20-3	CalEPA IUR IRIS RfC with a Group C carcinogen factor	CalEPA IUR (2011) 3.4E-05 (ug/m3)-1 IRIS RfC (1998) 3E-03 mg/m3 Group C carcinogen factor 10
Nickel	7440-02-0	IRIS IUR CalEPA RfC	IRIS IUR (1987/2006) 2.4E-04 (ug/m3)-1 CalEPA RfC (2012) 1.4E-05 mg/m3
4-Nitroaniline	100-01-6	PPRTV RfC	PPRTV RfC (2009) 6E-03 mg/m3
Nitrobenzene	98-95-3	IRIS IUR IRIS RfC.	IRIS IUR (2009) 4E-05 (ug/m3)-1 IRIS RfC (2009) 9E-03 mg/m3
N-Nitroso-di-n- propylamine	621-64-7	No inhalation-based toxicity factors are available[17]	None
N-Nitrosodiphenylamine	86-30-6	No inhalation-based toxicity factors are available[17]	None
2,2'-Oxybis(1-choloropropane)	108-60-1	No inhalation-based toxicity factors are available	None
Pentachlorophenol	87-86-5	No inhalation-based toxicity factors are available[17]	None
Phenol	108-95-2	CalEPA RfC	CalEPA RfC (2000) 2E-01 mg/m3
Polychlorinated biphenyls (PCBs)	1336-36-3	No inhalation-based toxicity factors are available[17]	None
Pyrene	129-00-0	No inhalation-based toxicity factors are available[18]	None
Selenium	7782-49-2	No inhalation-based toxicity factors are available	None
Silver	7440-22-4	No inhalation-based toxicity factors are available[17]	None
Styrene	100-42-5	IRIS RfC[10]	IRIS RfC (1992) 1E+00 mg/m3
Tertiary butyl alcohol (TBA)	75-65-0	No inhalation-based toxicity factors are available[17]	None
1,2,4,5-Tetrachlorobenzene	95-94-3	No inhalation-based toxicity factors are available	None
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	No inhalation-based toxicity factors are available	None
1,1,2,2-Tetrachloroethane	79-34-5	No inhalation-based toxicity factors are available[17]	None
Tetrachloroethene (PCE)	127-18-4	IRIS IUR IRIS RfC	IRIS IUR (2012) 2.6E-07 (ug/m3)-1

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

			IRIS RfC (2012) 4E-02 mg/m3
2,3,4,6-Tetrachlorophenol	58-90-2	No inhalation-based toxicity factors are available	None
Toluene	108-88-3	IRIS RfC	IRIS RfC (2005) 5E+00 mg/m3
Toxaphene	8001-35-2	No inhalation-based toxicity factors are available[17]	None
1,2,4-Trichlorobenzene	120-82-1	PPRTV RfC	PPRTV RfC (2009) 2E-03 mg/m3
1,1,1-Trichloroethane	71-55-6	IRIS RfC[11]	IRIS RfC (2007) 5E+00 mg/m3
1,1,2-Trichloroethane	79-00-5	No inhalation-based toxicity factors are available[12]	None
Trichloroethene (TCE)	79-01-6	IRIS IUR IRIS RfC[13]	IRIS IUR (2011) 4.1E-06 (ug/m3)-1 IRIS RfC (2011) 2E-03 mg/m3
Trichlorofluoromethane	75-69-4	No inhalation-based toxicity factors are available[14]	None
2,4,5-Trichlorophenol	95-95-4	No inhalation-based toxicity factors are available[17]	None
2,4,6-Trichlorophenol	88-06-2	No inhalation-based toxicity factors are available[17]	None
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	PPRTV RfC	PPRTV RfC (2016) 5E+00 mg/m3
1,2,4-Trimethylbenzene	95-63-6	IRIS RfC	IRIS RfC (2016) 6E-02 mg/m3
Vanadium	7440-62-2	ATSDR RfC	ATSDR RfC (2012) 1E-04 mg/m3
Vinyl Chloride	75-01-4	IRIS IUR IRIS RfC[15]	IRIS IUR (2000) 4.4E-06 (ug/m3)-1 IRIS RfC (2000) 1E-01 mg/m3
Xylenes	1330-20-7	IRIS RfC	IRIS RfC (2003) 1.E-01 mg/m3
Zinc	7440-66-6	No inhalation-based toxicity factors are available[16]	None

[1] An ATSDR RfC exists for acetone using the results of the Stewart 1975 study. The USEPA IRIS notes that this study should only be used in the development of a short-term exposure RfC and not a long-term (chronic) exposure RfC.

[2] A HEAST RfC exists for acetophenone, but a subsequent PPRTV review (2010) questions the use of the HEAST RfC.

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[3] A NJDWQI RfC exists for 2-butanone, but the IRIS RfC has been determined by the Department to be more appropriate. The existing NJDWQI RfC is based on a route-to-route conversion of a NJDWQI RfD. The Department's Site Remediation and Waste Management Program policy does not allow, except where warranted, for the development of soil remediation standards based on route-to-route conversion of toxicity factors. This policy conforms with USEPA policy concerning route-to-route conversion of toxicity factors.

[4] A HEAST IUR exists for chloromethane, but a subsequent PPRTV review (2012) states that the use of the HEAST IUR is "Inadequate for an assessment of carcinogenic potential."

[5] A CalEPA RfC that once existed for copper has been retracted by CalEPA.

[6] A HEAST RfC and a PPRTV RfC exist for dichlorodifluoromethane. Both RfCs are derived using the same study (Prendergast 1967). The PPRTV is listed as an appendix value. The PPRTV RfC is listed as an appendix value because the Prendergast study was determined by the USEPA to have flaws. It is the Department's Site Remediation and Waste Management Program policy not to use PPRTV appendix values to develop soil remediation standards. As the HEAST RfC developed using the Prendergast study, the Department decided not to use this RfC in the development of a soil remediation standard.

[7] A HEAST RfC exists for 1,1-dichloroethane, but a subsequent PPRTV review (2006) indicated that data were inadequate to derive a chronic exposure RfC for 1,1-dichloroethane. A CalEPA IUR also exists for 1,1-dichloroethane but is based on a route-to-route conversion of an oral study. The Department's Site Remediation and Waste Management Program policy does not allow, except where warranted, for the development of soil remediation standards based on route-to-route conversion of toxicity factors.

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

[8] A PPRTV RfC exists for trans-1,2-dichloroethene but a subsequent IRIS assessment (2010) stated “the available inhalation data from the Freund study are insufficient to support reference value derivation and RfC."

[9] A 1985 USEPA IUR that once existed for di-n-octylphthalate has been retracted by the USEPA.

[10] A HEAST 1991 IUR exists for styrene but USEPA NCEA does not recommend its use.

[11] Although an NJDWQI RfC exists for 1,1,1-trichloroethane, the Department determined that the IRIS RfC is a scientifically better toxicity value to develop a non-cancer-based soil inhalation remediation standard.

[12] Although a PPRTV RfC for 1,1,2-trichloroethane exists, it is listed as an Appendix value. The PPRTV Appendix value is based on a study that was determined by USEPA to have flaws. It is the Department’s Site Remediation and Waste Management Program policy not to use PPRTV Appendix values to develop soil remediation standards. An IRIS IUR also exists for 1,1,2-trichloroethane but is based on a route-to-route conversion of an oral study. The Department’s Site Remediation and Waste Management Program policy does not allow, except where warranted, for the development of soil remediation standards based on route-to-route conversion of toxicity factors.

[13] The IRIS RfC for trichloroethene is based on a route-to-route conversion of an ingestion study, which was determined to be acceptable by the USEPA as substantiated by additional evaluation including physiologically-based pharmacokinetic modeling.

[14] A HEAST RfC exists for trichlorofluoromethane, but a subsequent PPRTV review (2009) indicated that data used to derive the RfC were inadequate.

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[15] The IRIS RfC for vinyl chloride is based on a route-to-route conversion of an ingestion study, which was determined to be acceptable by the USEPA as substantiated by additional evaluation including physiologically-based pharmacokinetic modeling.

[16] A CalEPA RfC that once existed for zinc has been retracted by CalEPA.

[17] There is an inhalation toxicity factor available for this contaminant, but it is based on a route-to-route conversion of an oral study. The Department's Site Remediation and Waste Management Program policy does not allow, except where warranted with physiologically-based pharmacokinetic modeling, for the development of soil remediation standards based on route-to-route conversion of toxicity factors.

[18] The 2008 inhalation toxicity factor was based on an equivalency factor from Nisbet and LaGoy (1992). Nisbet and LaGoy did not conduct any original research and relied on studies using dermal application and subcutaneous injection, with one study using intrapulmonary administration (not inhalation). This Nisbet and LaGoy study develops TEFs for PAHs compared to B[a]P. The Department did not use this study because it was not derived from an inhalation study.

[19] The former IRIS RfC was withdrawn.

Table 3 – Indoor Air Toxicity Factors

Contaminant	CAS No.	VI Recommendation	VI Toxicity Factor(s)
Acenaphthene	83-32-9	Not applicable	Not applicable
Acetone	67-64-1	No inhalation-based toxicity factors are available[1]	None

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

Acetophenone	98-86-2	Not applicable	Not applicable
Aldrin	309-00-2	Not applicable	Not applicable
Aluminum	7429-90-5	Not applicable	Not applicable
Anthracene	120-12-7	Not applicable	Not applicable
Antimony	7440-36-0	Not applicable	Not applicable
Arsenic	7440-38-2	Not applicable	Not applicable
Atrazine	1912-24-9	Not applicable	Not applicable
Barium	7440-39-3	Not applicable	Not applicable
Benzaldehyde	100-52-7	Not applicable	Not applicable
Benzene	71-43-2	IRIS IUR IRIS RfC	IRIS IUR (2000) 7.8E-06 (ug/m3)-1 IRIS RfC (2003) 3E-02 mg/m3
Benzo(a)anthracene	56-55-3	Not applicable	Not applicable
Benzo(a)pyrene	50-32-8	Not applicable	Not applicable
Benzo(b)fluoranthene	205-99-2	Not applicable	Not applicable
Benzo(k)fluoranthene	207-08-9	Not applicable	Not applicable

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

Beryllium	7440-41-7	Not applicable	Not applicable
1,1'-Biphenyl	92-52-4	Not applicable	Not applicable
Bis(2-chloroethoxy) methane	111-91-1	Not applicable	Not applicable
Bis(2-chloroethyl) ether	111-44-4	Not applicable	Not applicable
Bis(2-ethylhexyl) phthalate	117-81-7	Not applicable	Not applicable
Bromodichloromethane	75-27-4	No inhalation-based toxicity factors are available[13]	None
Bromoform	75-25-2	No inhalation-based toxicity factors are available[13]	None
Bromomethane	74-83-9	IRIS RfC	IRIS RfC (1992) 5E-03 mg/m3
2-Butanone	78-93-3	VI standard can be developed using IRIS RfC[2]	IRIS RfC (2003) 5E+00 mg/m3
Butylbenzylphthalate	85-68-7	Not applicable	Not applicable
Cadmium	7440-43-9	Not applicable	Not applicable
Caprolactam	105-60-2	Not applicable	Not applicable
Carbon disulfide	75-15-0	IRIS RfC	IRIS RfC (1995) 7E-01 mg/m3
Carbon tetrachloride	56-23-5	IRIS IUR IRIS RfC	IRIS IUR (2010) 6E-06 (ug/m3)-1 IRIS RfC (2010) 1E-01 mg/m3

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

Chlordane (alpha plus gamma mixture)	57-74-9	Not applicable	Not applicable
4-Chloroaniline	106-47-8	Not applicable	Not applicable
Chlorobenzene	108-90-7	PPRTV RfC	PPRTV RfC (2006) 5E-02 mg/m3
Chloroethane	75-00-3	IRIS RfC	IRIS RfC (1991) 1E+01 mg/m3
Chloroform	67-66-3	ATSDR RfC No other inhalation-based toxicity factors are available[13]	ATSDR RfC (2013) 9.8E-02 mg/m3
Chloromethane	74-87-3	IRIS RfC[3]	IRIS RfC (2001) 9E-02 mg/m3
2-Chloronaphthalene	91-58-7	Not applicable	Not applicable
2-Chlorophenol	95-57-8	Not applicable	Not applicable
Chrysene	218-01-9	Not applicable	Not applicable
Cobalt	7440-48-4	Not applicable	Not applicable
Copper	7440-50-8	Not applicable	Not applicable
Cyanide	57-12-5	Not applicable	Not applicable
Cyclohexane	110-82-7	IRIS RfC	IRIS RfC (2003) 6E+00 mg/m3
4,4'-DDD	72-54-8	Not applicable	Not applicable
4,4'-DDE	72-55-9	Not applicable	Not applicable
4,4'-DDT	50-29-3	Not applicable	Not applicable

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

Dibenz(a,h)anthracene	53-70-3	Not applicable	Not applicable
Dibromochloromethane	124-48-1	No inhalation-based toxicity factors are available[13]	None
1,2-Dibromo-3-chloropropane	96-12-8	Not applicable	Not applicable
1,2-Dibromoethane	106-93-4	IRIS IUR IRIS RfC	IRIS IUR (2004) 6E-04 (ug/m3)-1 IRIS RfC (2004) 9E-03 mg/m3
1,2-Dichlorobenzene	95-50-1	HEAST RfC	HEAST RfC (1997) 2E-01 mg/m3
1,3-Dichlorobenzene	541-73-1	No inhalation-based toxicity factors are available	None
1,4-Dichlorobenzene	106-46-7	IRIS RfC No other inhalation-based toxicity factors are available[13]	IRIS RfC (1996) 8E-01 mg/m3
3,3'-Dichlorobenzidine	91-94-1	Not applicable	Not applicable
Dichlorodifluoromethane	75-71-8	No inhalation-based toxicity factors are available[4]	None
1,1-Dichloroethane	75-34-3	No inhalation-based toxicity factors are available[5]	None
1,2-Dichloroethane	107-06-2	PPRTV RfC No other inhalation-based toxicity factors are available[13]	PPRTV RfC (2010) 7E-03 mg/m3

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

1,1-Dichloroethene	75-35-4	IRIS RfC with a Group C carcinogen factor	IRIS RfC (2002/2005) 2E-01 mg/m3 Group C carcinogen factor 10
cis-1,2-Dichloroethene	156-59-2	No inhalation-based toxicity factors are available	None
trans-1,2-Dichloroethene	156-60-5	No inhalation-based toxicity factors are available[6]	None
2,4-Dichlorophenol	120-83-2	Not applicable	Not applicable
1,2-Dichloropropane	78-87-5	PPRTV IUR IRIS RfC	PPRTV IUR (2016) 3.7E-06 (ug/m3)-1 IRIS RfC (1991) 4E-03 mg/m3
1,3-Dichloropropene (cis and trans)	5422-75-6	IRIS IUR IRIS RfC	IRIS IUR (2000) 4E-06 (ug/m3)-1 IRIS RfC (2000) 2E-02 mg/m3
Dieldrin	60-57-1	Not applicable	Not applicable
Diethylphthalate	84-66-2	Not applicable	Not applicable
2,4-Dimethylphenol	105-67-9	Not applicable	Not applicable
Di-n-butylphthalate	84-74-2	Not applicable	Not applicable
2,4-Dinitrophenol	51-28-5	Not applicable	Not applicable
2,4-Dinitrotoluene /2,6-Dinitrotoluene (mixture)	25321-14-6	Not applicable	Not applicable
Di-n-octyl phthalate	117-84-0	Not applicable	Not applicable

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

1,4-Dioxane	123-91-1	IRIS IUR IRIS RfC	IRIS IUR (2013) 5.0E-06 (ug/m3)-1 IRIS RfC (2013) 3E-02 mg/m3
Endosulfan I and Endosulfan II (alpha and beta)	115-29-7	Not applicable	Not applicable
Endrin	72-20-8	Not applicable	Not applicable
Ethylbenzene	100-41-4	CalEPA IUR IRIS RfC	CalEPA IUR (2007) 2.5E-06 (ug/m3)-1 IRIS RfC (1991) 1E+00 mg/m3
Extractable Petroleum Hydrocarbons (EPH) (Category 1)	various	Not applicable	Not applicable
Extractable Petroleum Hydrocarbons (EPH) (Category 2)	various	Not applicable	Not applicable
Fluoranthene	206-44-0	Not applicable	Not applicable
Fluorene	86-73-7	Not applicable	Not applicable
alpha-HCH (alpha-BHC)	319-84-6	Not applicable	Not applicable
beta-HCH (beta-BHC)	319-85-7	Not applicable	Not applicable
Heptachlor	76-44-8	Not applicable	Not applicable
Heptachlor epoxide	1024-57-3	Not applicable	Not applicable
Hexachlorobenzene	118-74-1	Not applicable	Not applicable

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

Hexachloro-1,3-butadiene	87-68-3		None
Hexachlorocyclopentadiene	77-47-4	Not applicable	Not applicable
Hexachloroethane	67-72-1	Not applicable	Not applicable
n-Hexane	110-54-3	IRIS RfC	IRIS RfC (2005) 7E-01 mg/m3
2-Hexanone	591-78-6	Not applicable	Not applicable
Indeno(1,2,3,-cd) pyrene	193-39-5	Not applicable	Not applicable
Isophorone	78-59-1	Not applicable	Not applicable
Isopropylbenzene	98-82-8	Not applicable	Not applicable
Lead	7439-92-1	Not applicable	Not applicable
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	Not applicable	Not applicable
Manganese	7439-96-5	Not applicable	Not applicable
Mercury	7439-97-6	IRIS RfC	IRIS RfC (1995) 3E-04 mg/m3
Methoxychlor	72-43-5	Not applicable	Not applicable
Methyl acetate	79-20-9	No inhalation-based toxicity factors are available	None

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

Methylene chloride	75-09-2	IRIS IUR IRIS RfC	IRIS IUR (2011) 1E-08 (ug/m3)-1 IRIS RfC (2011) 6E-01 mg/m3
2-Methylnaphthalene	91-57-6	Not applicable	Not applicable
4-Methyl-2-pentanone	108-10-1	IRIS RfC	IRIS RfC (2003) 3E+00 mg/m3
2-Methylphenol	95-48-7	Not applicable	Not applicable
4-Methylphenol	106-44-5	Not applicable	Not applicable
Methyl tert-butyl ether (MTBE)	1634-04-4	CalEPA IUR IRIS RfC	CalEPA IUR (1999) 2.6E-07 (ug/m3)-1 IRIS RfC (1993) 3E+00 mg/m3
Naphthalene	91-20-3	CalEPA IUR IRIS RfC with a Group C carcinogen factor	CalEPA IUR (2004) 3.4E-05 (ug/m3)-1 IRIS RfC (1998) 3E-03 mg/m3 Group C carcinogen
Nickel	7440-02-0	Not applicable	Not applicable
4-Nitroaniline	100-01-6	Not applicable	Not applicable
Nitrobenzene	98-95-3	Not applicable	Not applicable
N-Nitroso-di-n propylamine	621-64-7	Not applicable	Not applicable
N-Nitrosodiphenylamine	86-30-6	Not applicable	Not applicable

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

2,2'-Oxybis(1-choloropropane)	108-60-1	Not applicable	Not applicable
Pentachlorophenol	87-86-5	Not applicable	Not applicable
Phenol	108-95-2	Not applicable	Not applicable
Polychlorinated biphenyls (PCBs)	1336-36-3	Not applicable	Not applicable
Pyrene	129-00-0	Not applicable	Not applicable
Selenium	7782-49-2	Not applicable	Not applicable
Silver	7440-22-4	Not applicable	Not applicable
Styrene	100-42-5	VI standard can be developed using IRIS RfC[7]	IRIS RfC (1993) 1E+00 mg/m3
Tertiary butyl alcohol (TBA)	75-65-0	No inhalation-based toxicity factors are available[13]	None
1,2,4,5-Tetrachlorobenzene	95-94-3	Not applicable	Not applicable
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	Not applicable	Not applicable
1,1,2,2-Tetrachloroethane	79-34-5	No inhalation-based toxicity factors are available[13]	None
Tetrachloroethene (PCE)	127-18-4	IRIS IUR IRIS RfC	IRIS IUR (2012) 2.6E-07 (ug/m3)-1 IRIS RfC (2012) 4E-02 mg/m3
2,3,4,6-Tetrachlorophenol	58-90-2	Not applicable	Not applicable

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Toluene	108-88-3	IRIS RfC	IRIS RfC (2005) 5E+00 mg/m3
Toxaphene	8001-35-2	Not applicable	Not applicable
1,2,4-Trichlorobenzene	120-82-1	PPRTV RfC	PPRTV RfC (2009) 2E-03 mg/m3
1,1,1-Trichloroethane	71-55-6	IRIS RfC[8]	IRIS RfC (2007) 5E+00 mg/m3
1,1,2-Trichloroethane	79-00-5	No inhalation-based toxicity factors are available[9]	None
Trichloroethene (TCE)	79-01-6	IRIS IUR IRIS RfC[10]	IRIS IUR (2011) 4.1E-06 (ug/m3)-1 IRIS RfC (2011) 2E-03 mg/m3
Trichlorofluoromethane	75-69-4	No inhalation-based toxicity factors are available[11]	None
2,4,5-Trichlorophenol	95-95-4	Not applicable	Not applicable
2,4,6-Trichlorophenol	88-06-2	Not applicable	Not applicable
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	PPRTV RfC	PPRTV RfC (2016) 5E+00 mg/m3
1,2,4-Trimethylbenzene	95-63-6	IRIS RfC	IRIS RfC (2016) 6E-02 mg/m3
Vanadium	7440-62-2	Not applicable	Not applicable
Vinyl Chloride	75-01-4	IRIS IUR. IRIS RfC[12]	IRIS IUR (2000) 4.4E-06 (ug/m3)-1 IRIS RfC (2000) 1E-01 mg/m3

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Xylenes	1330-20-7	IRIS RfC	IRIS RfC (2003) 1.E-01 mg/m3
Zinc	7440-66-6	Not applicable	Not applicable

[1] An ATSDR RfC exists for acetone using the results of the Stewart 1975 study. The USEPA IRIS notes that this study should only be used in the development of a short-term exposure RfC and not a long-term (chronic) exposure RfC.

[2] A NJDWQI RfC exists for 2-butanone, but the IRIS RfC has been determined by the Department to be more appropriate. The existing NJDWQI RfC is based on a route-to-route conversion of a NJDWQI RfD. The Department's Site Remediation and Waste Management Program policy does not allow, except where warranted, for the development of indoor air remediation standards based on route-to-route conversion of toxicity factors. This policy conforms with the USEPA policy concerning route-to-route conversion of toxicity factors.

[3] A HEAST IUR exists for chloromethane, but a subsequent PPRTV review (2012) states that the use of the HEAST IUR is "Inadequate for an assessment of carcinogenic potential."

[4] A HEAST RfC and a PPRTV RfC exist for dichlorodifluoromethane. Both RfCs are derived using the same study (Prendergast 1967). The PPRTV is listed as an appendix value. The PPRTV RfC is listed as an appendix value because the Prendergast study was determined by the USEPA to have flaws. It is the Department's Site Remediation and Waste Management Program policy not to use PPRTV appendix values to develop remediation standards. As the HEAST RfC was developed using the Prendergast study data, the Department decided not to use this RfC in the development of a remediation standard.

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[5] A HEAST RfC exists for 1,1-dichloroethane, but a subsequent PPRTV review (2006) indicated that data were inadequate to derive a chronic exposure RfC for 1,1-dichloroethane. A CalEPA IUR also exists for 1,1-dichloroethane but is based on a route-to-route conversion of an oral study. The Department's Site Remediation and Waste Management Program policy does not allow, except where warranted, for the development of indoor air remediation standards based on route-to-route conversion of toxicity factors.

[6] A PPRTV RfC exists for trans-1,2-dichloroethene but a subsequent IRIS assessment (2010) stated "the available inhalation data from the Freund study are insufficient to support reference value derivation and RfC."

[7] A HEAST 1991 IUR exists for styrene but the USEPA NCEA does not recommend its use.

[8] Although an NJDWQI RfC exists for 1,1,1-trichloroethane, the Department determined that the IRIS RfC is a scientifically better toxicity value to develop a non-cancer-based soil inhalation remediation standard.

[9] Although a PPRTV RfC for 1,1,2-trichloroethane exists, it is listed as an appendix value. The PPRTV appendix value is based on a study that was determined by the USEPA to have flaws. It is the Department's Site Remediation and Waste Management Program policy not to use PPRTV appendix values to develop remediation standards. An IRIS IUR also exists for 1,1,2-trichloroethane but is based on a route-to-route conversion of an oral study. The Department's Site Remediation and Waste Management Program policy does not allow, except where warranted, for the development of indoor air remediation standards based on route-to-route conversion of toxicity factors.

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[10] The IRIS RfC for trichloroethene is based on a route-to-route conversion of an ingestion study, which was determined to be acceptable by the USEPA as substantiated by additional evaluation including physiologically-based pharmacokinetic modeling.

[11] A HEAST RfC exists for trichlorofluoromethane, but a subsequent PPRTV review (2009) indicated that data used to derive the RfC were inadequate.

[12] The IRIS RfC for vinyl chloride is based on a route-to-route conversion of an ingestion study, which was determined to be acceptable by the USEPA as substantiated by additional evaluation including physiologically-based pharmacokinetic modeling.

[13] There is an inhalation toxicity factor available for this contaminant, but it is based on a route-to-route conversion of an oral study. The Department's Site Remediation and Waste Management Program policy does not allow, except where warranted with physiologically-based pharmacokinetic modeling, for the development of indoor air remediation standards based on route-to-route conversion of toxicity factors.

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APPENDIX 12

DERIVATION OF EQUATION EQUIVALENCY USED FOR THE DEVELOPMENT OF SOIL AND INDOOR AIR REMEDIATION STANDARDS

This appendix demonstrates the equivalency between the equations used by the Department in the development of the soil and indoor air remediation standards, and the equations used by the USEPA in the development of soil and indoor air risk-based screening levels. This appendix demonstrates the equivalency for the following Department soil and indoor air remediation standard equations:

- N.J.A.C. 7:26D Appendix 2, Equation 1, Residential Carcinogenic Ingestion-Dermal Human Health-based Criterion Equation;
- N.J.A.C. 7:26D Appendix 2, Equation 2, Residential Noncarcinogenic Ingestion-Dermal Human Health-based Criterion Equation;
- N.J.A.C. 7:26D Appendix 2, Equation 3, Nonresidential Carcinogenic Ingestion-Dermal Human Health-based Criterion Equation;
- N.J.A.C. 7:26D Appendix 2, Equation 4, Nonresidential Noncarcinogenic Ingestion-Dermal Human Health-based Criterion Equation;

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- N.J.A.C. 7:26D Appendix 3, Equation 1, Carcinogenic Inhalation Human Health-based Criterion Equation;
- N.J.A.C. 7:26D Appendix 3, Equation 2, Noncarcinogenic Inhalation Human Health-based Criterion Equation;
- N.J.A.C. 7:26D Appendix 5, Equation 1, Carcinogenic Indoor Air Human Health-based Criterion Equation; and
- N.J.A.C. 7:26D Appendix 5, Equation 2, Noncarcinogenic Indoor Air Human Health-based Criterion Equation.

N.J.A.C. 7:26D Appendix 2, Equation 1 – Residential Carcinogenic Ingestion-Dermal Human Health-Based Criterion Equation

The origin of the Department residential soil remediation standard for the ingestion-dermal exposure pathway for a carcinogen is based upon the USEPA, Regional Screening Levels, Equations (November 2018) (RSLE):

$$SL_{res\text{-}soil\text{-}ca\text{-}tot}\,(mg/kg) = \frac{1}{\frac{1}{SL_{res\text{-}soil\text{-}ca\text{-}ing}} + \frac{1}{SL_{res\text{-}soil\text{-}ca\text{-}der}} + \frac{1}{SL_{res\text{-}soil\text{-}ca\text{-}inh}}}$$

This is the equation used by the USEPA to develop soil contaminant screening levels where the human health risks from the ingestion exposure pathway, the dermal exposure pathway, and the inhalation exposure pathway are combined. However, the soil remediation standards the Department developed only combine the ingestion and dermal exposure pathways and address

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the inhalation exposure pathway separately. Consequently, the Department modified the USEPA equation listed above by deleting the inhalation related screening level term:

$$\frac{1}{SL_{res-soil-ca-inh}}$$

The resulting modified equation represents not the total of the ingestion, dermal, and inhalation exposure components, but just the ingestion and dermal aspects, which is designated:

$$SL_{res\text{-}soil\text{-}ca\text{-}ing\text{-}der} = \frac{1}{\left(\frac{1}{SL_{res-soil-ca-ing}}\right) + \left(\frac{1}{SL_{res-soil-ca-der}}\right)}$$

The RSLE states that:

$$SL_{res\text{-}soil\text{-}ca\text{-}ing}\left(mg/kg\right) = \frac{TR \times AT_{res}\left(\frac{365\ days}{year} \times LT\left(70\ years\right)\right)}{CSF_0\left(\frac{mg}{kg\text{-}day}\right)^{-1} \times RBA \times IFS_{res\text{-}adj}\left(\frac{36{,}750\ mg}{kg}\right) \times \left(\frac{10^{-6} kg}{mg}\right)}$$

and

$$SL_{res\text{-}soil\text{-}ca\text{-}der}\left(mg/kg\right) = \frac{TR \times AT_{res}\left(\frac{365\ days}{year} \times LT\left(70\ years\right)\right)}{\left(\frac{CSF_0\left(\frac{mg}{kg\text{-}day}\right)^{-1}}{GIABS}\right) \times DFS_{res\text{-}adj}\left(\frac{103{,}390\ mg}{kg}\right) \times ABS_d \times \left(\frac{10^{-6} kg}{mg}\right)}$$

The above two equations include the units for the listed input parameters. Deleting the units simplify the two equations to:

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$$SL_{res\text{-}soil\text{-}ca\text{-}ing} = \frac{TR \times AT_{res} \times LT}{CSF_o \times RBA \times IFS_{res-adj} \times \left(\frac{10^{-6}\ kg}{mg}\right)}$$

and

$$SL_{res\text{-}soil\text{-}ca\text{-}der} = \frac{TR \times AT_{res} \times LT}{\left(\frac{CSF_o}{GIABS}\right) \times DFS_{res-adj} \times ABS_d \times \left(\frac{10^{-6}\ kg}{mg}\right)}$$

Because $GIABS = \frac{CSF_o}{CSF_d}$ the second equation further simplifies to:

$$SL_{res-soil-ca-der} = \frac{TR \times AT_{res} \times LT}{CSF_d \times DFS_{res-adj} \times ABS_d \times \left(\frac{10^{-6}\ kg}{mg}\right)}$$

Starting with the Department-modified base USEPA equation, as described above:

$$SL_{res\text{-}soil\text{-}ca\text{-}ing\text{-}der} = \frac{1}{\left(\frac{1}{SL_{res-soil-ca-ing}}\right) + \left(\frac{1}{SL_{res-soil-ca-der}}\right)}$$

1. Insert the simplified equations for $SL_{res\text{-}soil\text{-}ca\text{-}ing}$ and $SL_{res\text{-}soil\text{-}ca\text{-}der}$ described above into the denominator of the $SL_{res\text{-}soil\text{-}ca\text{-}ing\text{-}derm}$ equation, which then becomes:

$$\frac{1}{\left[\left[\frac{1}{\left(\frac{TR \times AT_{res} \times LT}{CSF_o \times RBA \times IFS_{res-adj} \times \left(\frac{10^{-6}\ kg}{mg}\right)}\right)}\right] + \left[\frac{1}{\left(\frac{TR \times AT_{res} \times LT}{CSF_d \times DFS_{res-adj} \times ABS_d \times \left(\frac{10^{-6}\ kg}{mg}\right)}\right)}\right]\right]}$$

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2. Simplify the reciprocal (in the denominator of the equation immediately above) containing the equivalent expression of $SL_{res\text{-}soil\text{-}ca\text{-}ing}$ by multiplying it by the term:

$$\frac{CSF_o \text{ x } RBA \text{ x } IFS_{res-adj} \text{ x } \left(\frac{10^{-6} \text{ kg}}{\text{mg}}\right)}{CSF_o \text{ x } RBA \text{ x } IFS_{res-adj} \text{ x } \left(\frac{10^{-6} \text{ kg}}{\text{mg}}\right)}$$

This is the same as multiplying the reciprocal of the expression by 1.

3. Similarly, simplify the reciprocal containing the equivalent expression of $SL_{res\text{-}soil\text{-}ca\text{-}der}$ by multiplying it by the term:

$$\frac{CSF_d \text{ x } DFS_{res-adj} \text{ x } ABS_d \text{ x } \left(\frac{10^{-6} \text{ kg}}{\text{mg}}\right)}{CSF_d \text{ x } DFS_{res-adj} \text{ x } ABS_d \text{ x } \left(\frac{10^{-6} \text{ kg}}{\text{mg}}\right)}$$

Again, this is effectively multiplying by 1.

4. This results in the expression:

$$\frac{1}{\left(\frac{CSF_o \text{ x } RBA \text{ x } IFS_{res-adj} \text{ x } \left(\frac{10^{-6} \text{ kg}}{\text{mg}}\right)}{TR \text{ x } AT_{res} \text{ x } LT}\right) + \left(\frac{CSF_d \text{ x } DFS_{res-adj} \text{ x } ABS_d \text{ x } \left(\frac{10^{-6} \text{ kg}}{\text{mg}}\right)}{TR \text{ x } AT_{res} \text{ x } LT}\right)}$$

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

5. After separating the common term ($\frac{10^{-6}\ \text{kg}}{\text{mg}}$) from both expressions in the denominator, multiply both the numerator and the denominator of the entire equation by the expression:

$$\text{TR x AT}_{\text{res}} \text{ x LT}$$

Performing steps 1 through 5 above results in the following expression:

$SL_{\text{res-soil-ca-ing-derm}}$ =

$$\frac{\text{TR x AT}_{\text{res}} \text{ x LT}}{\left(\frac{10^{-6}\ \text{kg}}{\text{mg}}\right) \text{ x } \left[\left(\text{CSF}_{\text{o}} \text{ x RBA x IFS}_{\text{res-adj}}\right) + \left(\text{CSF}_{\text{d}} \text{ x DFS}_{\text{res-adj}} \text{ x ABS}_{\text{d}}\right)\right]}$$

This USEPA terminology (immediately above), which is for a residential land use scenario involving a carcinogenic contaminant, converts to the Department terminology as follows:

USEPA Term	Department Term	USEPA Definition
TR	*TR*	Target cancer risk
AT_{res}	*AT*	Averaging time
LT	*LT*	Lifetime
CSF_o	CSF_o	Oral cancer slope factor
RBA	None	Relative Bio-availability
$IFS_{res-adj}$	IFS_{adj}	Age-adjusted soil ingestion rate
CSF_d	CSF_D	Dermal cancer slope factor

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$DFS_{res\text{-}adj}$	DFS_{adj}	Age-adjusted soil dermal contact factor
ABS_d	ABS_d	Dermal absorption fraction
$\frac{10^{-6}\ \mathrm{kg}}{\mathrm{mg}}$	$\frac{10^{-6} kg}{mg}$	Unit conversion factor
GIABS	*GIABS*	Gastro-intestinal absorption fraction

Using the above terminology to translate this equation into Departmental nomenclature, the equation becomes:

$$ID_c = \frac{TR\ x\ AT\ x\ LT}{\left(\frac{10^{-6}\ kg}{mg}\right)\ x\ \left[\left(CSF_O\ x\ IFS_{adj}\right) + \left(CSF_D\ x\ DFS_{adj}\ x\ ABS_d\right)\right]}$$

Note that the USEPA term $SL_{res\text{-}soil\text{-}ca\text{-}ing\text{-}derm}$ is the equivalent of the Department term ID_c. In addition, there is no Department RBA parameter because the value is usually 1. Consequently, an RBA parameter does not appear in the translated equation. The equation presented immediately above is equivalent to the Department equation presented in N.J.A.C. 7:26D Appendix 2 as Equation 1 and verifies its equivalence with equations used by the USEPA.

N.J.A.C. 7:26D Appendix 2, Equation 1 is:

$$ID_c = \frac{TR * AT * LT}{(10^{-6} kg/mg) * [(CSF_O * IFS_{adj}) + (CSF_D * DFS_{adj} * ABS_d)]}$$

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N.J.A.C. 7:26D Appendix 2, Equation 2 – Residential Noncarcinogenic Ingestion-Dermal Human Health-Based Criteria Equation

The origin of the Department residential soil remediation standard for the ingestion-dermal exposure pathway for a noncarcinogen is based upon the USEPA, Regional Screening Levels, Equations (November 2018) (RSLE):

$$SL_{res\text{-}soil\text{-}nc\text{-}tot\text{-}c}\ (mg/kg) = \frac{1}{\frac{1}{SL_{res\text{-}soil\text{-}nc\text{-}ing\text{-}c}} + \frac{1}{SL_{res\text{-}soil\text{-}nc\text{-}der\text{-}c}} + \frac{1}{SL_{res\text{-}soil\text{-}nc\text{-}inh\text{-}c}}}$$

This is the equation used by the USEPA to develop soil contaminant screening levels where the human health risks from the ingestion exposure pathway, the dermal exposure pathway, and the inhalation exposure pathway are combined. However, the soil remediation standards the Department developed only combine the ingestion and dermal exposure pathways and address the inhalation exposure pathway separately. Consequently, the Department modified the USEPA equation listed above by deleting the inhalation related screening level term:

$$\frac{1}{SL_{res-soil-nc-inh-c}}$$

The resulting modified equation represents not the total of the ingestion, dermal, and inhalation exposure components, but just the ingestion and dermal aspects, which is designated:

$$SL_{res\text{-}soil\text{-}nc\text{-}ing\text{-}der\text{-}c} = \frac{1}{\left(\frac{1}{SL_{res-soil-nc-ing-c}}\right) + \left(\frac{1}{SL_{res-soil-nc-der-c}}\right)}$$

The Department calculation of the residential noncarcinogenic ingestion-dermal criterion is based on a child exposure scenario. As such, the RSLE states that:

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$$SL_{res\text{-}soil\text{-}nc\text{-}ing\text{-}c}\,(mg/kg) = \frac{THQ \times AT_{res\text{-}c}\left(\frac{365\ days}{year}\right) \times ED_{res\text{-}c}\,(6\ years)\times BW_{res\text{-}c}\,(15\ kg)}{EF_{res\text{-}c}\left(\frac{350\ days}{year}\right) \times ED_{res\text{-}c}\,(6\ years) \times \frac{RBA}{RfD_0\left(\frac{mg}{kg\text{-}day}\right)} \times IRS_{res\text{-}c}\left(\frac{200\ mg}{day}\right) \times \frac{10^{-6}\,kg}{1\,mg}}$$

and

$$SL_{res\text{-}soil\text{-}nc\text{-}der\text{-}c}\,(mg/kg) = \frac{THQ \times AT_{res\text{-}c}\left(\frac{365\ days}{year}\right) \times ED_{res\text{-}c}\,(6\ years)\times BW_{res\text{-}c}\,(15\ kg)}{EF_{res\text{-}c}\left(\frac{350\ days}{year}\right) \times ED_{res\text{-}c}\,(6\ years) \times \frac{1}{\left(RfD_0\left(\frac{mg}{kg\text{-}day}\right) \times GIABS\right)} \times SA_{res\text{-}c}\left(\frac{2373\ cm^2}{day}\right) \times AF_{res\text{-}c}\left(\frac{0.2\ mg}{cm^2}\right) \times ABS_d \times \frac{10^{-6}\,kg}{1\,mg}}$$

The above two equations include the units for the listed input parameters. Deleting the units simplify the two equations to:

$$SL_{res\text{-}soil\text{-}nc\text{-}ing\text{-}c} = \frac{THQ\ x\ AT_{res-c}\ x\ ED_{res-c}\ x\ BW_{res-c}}{EF_{res-c}\ x\ ED_{res-c}\ x\ \left(\frac{RBA}{RDO_0}\right)\ x\ IRS\ x\ \left(\frac{10^{-6}\,kg}{mg}\right)}$$

and

$$SL_{res\text{-}soil\text{-}nc\text{-}der\text{-}c} = \frac{THQ\ x\ AT_{res-c}\ x\ ED_{res-c}\ x\ BW_{res-c}}{EF_{res-c}\ x\ ED_{res-c}\ x\ \left(\frac{1}{RfD_0\ x\ GIABS}\right)\ x\ SA_{res-c}\ x\ AF_{res-c}\ x\ ABS_d\ x\ \left(\frac{10^{-6}\,kg}{mg}\right)}$$

Because GIABS = $\frac{RfD_D}{RfD_o}$ the second equation further simplifies to:

$$SL_{res\text{-}soil\text{-}nc\text{-}der\text{-}c} = \frac{THQ\ x\ AT_{res-c}\ x\ ED_{res-c}\ x\ BW_{res-c}}{EF_{res-c}\ x\ ED_{res-c}\ x\ \left(\frac{1}{RfD_D}\right)\ x\ SA_{res-c}\ x\ AF_{res-c}\ x\ ABS_d\ x\ \left(\frac{10^{-6}\,kg}{mg}\right)}$$

Starting with the Department-modified base USEPA equation, as described above:

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$$SL_{res\text{-}soil\text{-}nc\text{-}ing\text{-}der\text{-}c} = \frac{1}{\left(\frac{1}{SL_{res-soil-nc-ing-c}}\right) + \left(\frac{1}{SL_{res-soil-nc-der-c}}\right)}$$

1. Insert the simplified equations for $SL_{res\text{-}soil\text{-}nc\text{-}ing\text{-}c}$ and $SL_{res\text{-}soil\text{-}nc\text{-}der\text{-}c}$ described above into the denominator of the $SL_{res\text{-}soil\text{-}nc\text{-}ing\text{-}der\text{-}c}$ equation, which then becomes:

$SL_{res\text{-}soil\text{-}nc\text{-}ing\text{-}der\text{-}c}$ =

$$\frac{1}{\left[\left[\frac{1}{\left(\frac{THQ \text{ x } AT_{res-c} \text{ x } ED_{res-c} \text{ x } BW_{res-c}}{EF_{res-c} \text{ x } ED_{res-c} \text{ x } \left(\frac{RBA}{RDO_0}\right) \text{ x } IRS \text{ x } \left(\frac{10^{-6}\,kg}{mg}\right)}\right)}\right] + \left[\frac{1}{\left(\frac{THQ \text{ x } AT_{res-c} \text{ x } ED_{res-c} \text{ x } BW_{res-c}}{EF_{res-c} \text{ x } ED_{res-c} \text{ x } \left(\frac{1}{RfD_D}\right) \text{ x } SA_{res-c} \text{ x } AF_{res-c} \text{ x } ABS_d \text{ x } \left(\frac{10^{-6}\,kg}{mg}\right)}\right)}\right]\right]}$$

2. Simplify the reciprocals in the denominator of the equation immediately above (similar to what was done in the derivation of N.J.A.C. 7:26D Appendix 2, Equation 1 above) using the respective terms:

$$\frac{EF_{res-c} \text{ x } ED_{res-c} \text{ x } \left(\frac{RBA}{RDO_0}\right) \text{ x } IRS \text{ x } \left(\frac{10^{-6}\,kg}{mg}\right)}{EF_{res-c} \text{ x } ED_{res-c} \text{ x } \left(\frac{RBA}{RDO_0}\right) \text{ x } IRS \text{ x } \left(\frac{10^{-6}\,kg}{mg}\right)}$$

and

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

$$\frac{\mathrm{EF_{res-c}\ x\ ED_{res-c}\ x\ \left(\frac{1}{RfD_D}\right)\ x\ SA_{res-c}\ x\ AF_{res-c}\ x\ ABS_d\ x\ \left(\frac{10^{-6}\ kg}{mg}\right)}}{\mathrm{EF_{res-c}\ x\ ED_{res-c}\ x\ \left(\frac{1}{RfD_D}\right)\ x\ SA_{res-c}\ x\ AF_{res-c}\ x\ ABS_d\ x\ \left(\frac{10^{-6}\ kg}{mg}\right)}}$$

Again, this is the same as multiplying each of the reciprocals in the equation denominator by 1.

3. This results in the following:

$SL_{res\text{-}soil\text{-}nc\text{-}ing\text{-}der\text{-}c}$ =

$$\frac{1}{\left(\frac{\mathrm{EF_{res-c}\ x\ ED_{res-c}\ x\ \left(\frac{RBA}{RfD_0}\right)\ x\ IRS\ x\ \left(\frac{10^{-6}\ kg}{mg}\right)}}{\mathrm{THQ\ x\ AT_{res-c}\ x\ ED_{res-c}\ x\ BW_{res-c}}}\right) + \left(\frac{\mathrm{EF_{res-c}\ x\ ED_{res-c}\ x\ \left(\frac{1}{RfD_D}\right)\ x\ SA_{res-c}\ x\ AF_{res-c}\ x\ ABS_d\ x\ \left(\frac{10^{-6}\ kg}{mg}\right)}}{\mathrm{THQ\ x\ AT_{res-c}\ x\ ED_{res-c}\ x\ BW_{res-c}}}\right)}$$

4. After separating out the common terms ($\frac{10^{-6}\ kg}{mg}$) and ($\mathrm{EF_{res-c}\ x\ ED_{res-c}}$) from both expressions in the denominator, multiply both the numerator and the denominator of the entire equation by the expression:

$$\mathrm{THQ\ x\ AT_{res-c}\ x\ ED_{res-c}\ x\ BW_{res-c}}$$

Performing steps 1 through 4 above results in the following expression:

$SL_{res\text{-}soil\text{-}nc\text{-}ing\text{-}der\text{-}c}$ =

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

$$\frac{\text{THQ x } AT_{res-c} \text{ x } ED_{res-c} \text{ x } BW_{res-c}}{\left[\left(\left(\frac{RBA}{RfD_0}\right) \text{ x IRS}\right) + \left(\left(\frac{1}{RfD_D}\right) \text{ x } SA_{res-c} \text{ x } AF_{res-c} \text{ x } ABS_d\right)\right] \text{ x } (EF_{res-c} \text{ x } ED_{res-c}) \text{ x } \left(\frac{10^{-6}\text{ kg}}{\text{mg}}\right)}$$

This USEPA terminology (immediately above), which is for a residential land use scenario involving a noncarcinogenic contaminant, converts to the Department terminology as follows:

USEPA Term	Department Term	USEPA Definition
THQ	*THQ*	Target hazard quotient
AT_{res-c}	*AT*	Averaging time
EF_{res-c}	*EF*	Exposure frequency – child
BW_{res-c}	*BW*	Body weight - child
ED_{res-c}	*ED*	Exposure duration - child
RBA	None	Relative Bio-availability
RfD_o	RfD_o	Oral reference dose
IRS	*IR*	Soil ingestion rate - child
RfD_D	RfD_D	Dermal reference dose
SA_{res-c}	*SA*	Skin surface area - child
AF_{res-c}	*AF*	Soil adherence factor - child
ABS_d	ABS_d	Dermal absorption fraction
$\frac{10^{-6}\text{ kg}}{\text{mg}}$	$\frac{10^{-6}\text{kg}}{\text{mg}}$	Unit conversion factor
GIABS	*GIABS*	Gastro-intestinal absorption fraction

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

Using the above terminology to translate this equation into Departmental nomenclature, the equation becomes:

$SL_{res\text{-}soil\text{-}nc\text{-}ing\text{-}der\text{-}c}$ =

$$\frac{THQ \ x \ AT \ x \ ED \ x \ BW}{(EF \ x \ ED) \ x \ \left(\frac{10^{-6} \ kg}{mg}\right) \ x \left[\left(\left(\frac{1}{RfD_0}\right) \ x \ IR\right) + \left(\frac{1}{RfD_D} \ x \ SA \ x \ AF \ x \ ABS_d\right)\right]}$$

Note that the USEPA term $SL_{res\text{-}soil\text{-}nc\text{-}ing\text{-}der\text{-}c}$ is the equivalent of the Department term ID_{nc}. In addition, there is no Department RBA parameter because the value is usually 1. Consequently, an RBA parameter does not appear in the translated equation. The equation presented immediately above is equivalent to the Department equation presented in N.J.A.C. 7:26D Appendix 2 as Equation 2 and verifies its equivalence with equations used by the USEPA.

N.J.A.C. 7:26d Appendix 2, Equation 2 is:

$$ID_{nc} = \frac{THQ * AT * ED * BW}{(EF * ED * 10^{-6} kg/mg) * [(\frac{1}{RfD_O} * IR) + (\frac{1}{RfD_D} * SA * AF * ABS_d)]}$$

N.J.A.C. 7:26D Appendix 2, Equation 3 – Nonresidential Carcinogenic Ingestion-Dermal Human Health-Based Criteria

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

The origin of the Department nonresidential soil remediation standard for the ingestion-dermal exposure pathway for a carcinogen is based upon the USEPA, Regional Screening Levels, Equations (November 2018) (RSLE):

$$SL_{ow\text{-}soil\text{-}ca\text{-}tot}\,(mg/kg) = \frac{1}{\frac{1}{SL_{ow\text{-}soil\text{-}ca\text{-}ing}} + \frac{1}{SL_{ow\text{-}soil\text{-}ca\text{-}der}} + \frac{1}{SL_{ow\text{-}soil\text{-}ca\text{-}inh}}}$$

This is the equation used by the USEPA to develop soil contaminant screening levels where the human health risks from the ingestion exposure pathway, the dermal exposure pathway, and the inhalation exposure pathway are combined. However, the soil remediation standards the Department developed only combine the ingestion and dermal exposure pathways and address the inhalation exposure pathway separately. Consequently, the Department modified the USEPA equation listed above by deleting the inhalation related screening level term:

$$\frac{1}{SL_{ow-soil-ca-inh}}$$

The resulting modified equation represents not the total of the ingestion, dermal, and inhalation exposure components, but just the ingestion and dermal aspects, which is designated:

$$SL_{ow\text{-}soil\text{-}ca\text{-}ing\text{-}der} = \frac{1}{\left(\frac{1}{SL_{ow-soil-ca-ing}}\right) + \left(\frac{1}{SL_{ow-soil-ca-der}}\right)}$$

The Department calculation of the nonresidential carcinogenic ingestion-dermal criterion is based on an adult outdoor worker exposure scenario.

As such, the RSLE states:

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

$$SL_{ow\text{-}soil\text{-}ca\text{-}ing}\left(mg/kg\right) = \frac{TR \times AT_{ow}\left(\frac{365\ days}{year} \times LT\left(70\ years\right)\right) \times BW_{ow}\left(80\ kg\right)}{EF_{ow}\left(225\ \frac{days}{year}\right) \times ED_{ow}\left(25\ years\right) \times CSF_{o}\left(\frac{mg}{kg\text{-}day}\right)^{-1} \times RBA \times IR_{ow}\left(100\ \frac{mg}{day}\right) \times \left(\frac{10^{-6}\ kg}{1\ mg}\right)}$$

and

$$SL_{ow\text{-}soil\text{-}ca\text{-}der}\left(mg/kg\right) = \frac{TR \times AT_{ow}\left(\frac{365\ days}{year} \times LT\left(70\ years\right)\right) \times BW_{ow}\left(80\ kg\right)}{EF_{ow}\left(225\ \frac{days}{year}\right) \times ED_{ow}\left(25\ years\right) \times \left(\frac{CSF_{o}\left(\frac{mg}{kg\text{-}day}\right)^{-1}}{GIABS}\right) \times SA_{ow}\left(\frac{3527\ cm^{2}}{day}\right) \times AF_{ow}\left(\frac{0.12\ mg}{cm^{2}}\right) \times ABS_{d} \times \left(\frac{10^{-6}\ kg}{1\ mg}\right)}$$

The above two equations include the units for the listed input parameters. Deleting the units simplify the two equations to:

$$SL_{ow\text{-}soil\text{-}ca\text{-}ing} = \frac{TR\ x\ AT_{ow}\ x\ LT\ x\ BW_{ow}}{EF_{ow}\ x\ ED_{ow}\ x\ CSF_{o}\ x\ RBA\ x\ IR_{ow}\ x\ \left(\frac{10^{-6}\ kg}{mg}\right)}$$

and

$$SL_{ow\text{-}soil\text{-}ca\text{-}der} = \frac{TR\ x\ AT_{ow}\ x\ LT\ x\ BW_{ow}}{EF_{ow}\ x\ ED_{ow}\ x\ \left(\frac{CSF_{o}}{GIABS}\right)\ x\ SA_{ow}\ x\ AF_{ow}\ x\ ABS_{d}\ x\ \left(\frac{10^{-6}\ kg}{mg}\right)}$$

Because GIABS = $\frac{CSF_{o}}{CSF_{D}}$ the second equation further simplifies to:

$$SL_{ow\text{-}soil\text{-}ca\text{-}der} = \frac{TR\ x\ AT_{ow}\ x\ LT\ x\ BW_{ow}}{EF_{ow}\ x\ ED_{ow}\ x\ \ CSF_{D}\ x\ SA_{ow}\ x\ AF_{ow}\ x\ ABS_{d}\ x\ \left(\frac{10^{-6}\ kg}{mg}\right)}$$

Starting with the Department-modified base USEPA equation, as described above:

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

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$$SL_{ow\text{-}soil\text{-}ca\text{-}ing\text{-}der} = \frac{1}{\left(\frac{1}{SL_{ow-soil-ca-ing}}\right) + \left(\frac{1}{SL_{ow-soil-ca-der}}\right)}$$

1. Insert the simplified equations for $SL_{ow\text{-}soil\text{-}ca\text{-}ing}$ and $SL_{ow\text{-}soil\text{-}ca\text{-}der}$ described above into the denominator of the $SL_{ow\text{-}soil\text{-}ca\text{-}ing\text{-}der}$ equation, which then becomes:

$$SL_{ow\text{-}soil\text{-}ca\text{-}ing\text{-}der} =$$

$$\frac{1}{\left[\frac{1}{\left(\frac{TR \text{ x } AT_{ow} \text{ x } LT \text{ x } BW_{ow}}{EF_{ow} \text{ x } ED_{ow} \text{ x } CSF_{o} \text{ x } RBA \text{ x } IR_{ow} \text{ x } \left(\frac{10^{-6}\text{ kg}}{\text{mg}}\right)}\right)}\right] + \left[\frac{1}{\left(\frac{TR \text{ x } AT_{ow} \text{ x } LT \text{ x } BW_{ow}}{EF_{ow} \text{ x } ED_{ow} \text{ x } CSF_{D} \text{ x } SA_{ow} \text{ x } AF_{ow} \text{ x } ABS_{d} \text{ x } \left(\frac{10^{-6}\text{ kg}}{\text{mg}}\right)}\right)}\right]}$$

2. Simplify the reciprocals in the equation denominator immediately above (similar to what was done in the derivation of N.J.A.C. 7:26D Appendix 2, Equation 1 above) using the respective terms:

$$\frac{EF_{ow} \text{ x } ED_{ow} \text{ x } CSF_{o} \text{ x } RBA \text{ x } IR_{ow} \text{ x } \left(\frac{10^{-6}\text{ kg}}{\text{mg}}\right)}{EF_{ow} \text{ x } ED_{ow} \text{ x } CSF_{o} \text{ x } RBA \text{ x } IR_{ow} \text{ x } \left(\frac{10^{-6}\text{ kg}}{\text{mg}}\right)}$$

and

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

$$\frac{EF_{ow} \text{ x } ED_{ow} \text{ x } CSF_D \text{ x } SA_{ow} \text{ x } AF_{ow} \text{ x } ABS_d \text{ x } \left(\frac{10^{-6}\text{ kg}}{\text{mg}}\right)}{EF_{ow} \text{ x } ED_{ow} \text{ x } CSF_D \text{ x } SA_{ow} \text{ x } AF_{ow} \text{ x } ABS_d \text{ x } \left(\frac{10^{-6}\text{ kg}}{\text{mg}}\right)}$$

Again, this is the same as multiplying the reciprocals in the equation denominator by 1.

3. This results in the following:

$SL_{ow\text{-}soil\text{-}ca\text{-}ing\text{-}der}$ =

$$\frac{1}{\left(\frac{EF_{ow} \text{ x } ED_{ow} \text{ x } CSF_o \text{ x } RBA \text{ x } IR_{ow} \text{ x } \left(\frac{10^{-6}\text{ kg}}{\text{mg}}\right)}{TR \text{ x } AT_{ow} \text{ x } LT \text{ x } BW_{ow}}\right) + \left(\frac{EF_{ow} \text{ x } ED_{ow} \text{ x } CSF_D \text{ x } SA_{ow} \text{ x } AF_{ow} \text{ x } ABS_d \text{ x } \left(\frac{10^{-6}\text{ kg}}{\text{mg}}\right)}{TR \text{ x } AT_{ow} \text{ x } LT \text{ x } BW_{ow}}\right)}$$

4. After separating out the common terms $(EF_{ow} \text{ x } ED_{ow})$ and $\left(\frac{10^{-6}\text{ kg}}{\text{mg}}\right)$ from both expressions in the denominator, multiply both the numerator and the denominator of the entire equation by the expression:

$$TR \text{ x } AT_{ow} \text{ x } LT \text{ x } BW_{ow}$$

Performing steps 1 through 4 above results in the following expression:

$SL_{ow\text{-}soil\text{-}ca\text{-}ing\text{-}der}$ =

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

$$\frac{\mathrm{TR\ x\ AT_{ow}\ x\ LT\ x\ BW_{ow}}}{(\mathrm{EF_{ow}\ x\ ED_{ow}})\ \mathrm{x}\left(\frac{10^{-6}\ \mathrm{kg}}{\mathrm{mg}}\right)\mathrm{x}\left((\mathrm{CSF_o\ x\ RBA\ x\ IR_{ow}})+(\mathrm{CSF_D\ x\ SA_{ow}\ x\ AF_{ow}\ x\ ABS_d})\right)}$$

This USEPA terminology (immediately above), which is for a nonresidential land use scenario involving a carcinogenic contaminant, converts to the Department terminology as follows:

USEPA Term	Department Term	USEPA Definition
TR	*TR*	Target cancer risk
AT_{ow}	*AT*	Averaging time - outdoor worker
LT	*LT*	Lifetime
CSF_o	CSF_o	Oral cancer slope factor
RBA	None	Relative Bio-availability
IR_{ow}	*IR*	Soil ingestion rate – outdoor worker
CSF_d	CSF_D	Dermal cancer slope factor
AF_{ow}	*AF*	Soil adherence factor – outdoor worker
ABS_d	ABS_d	Dermal absorption fraction
$\frac{10^{-6}\ \mathrm{kg}}{\mathrm{mg}}$	$\frac{10^{-6}kg}{mg}$	Unit conversion factor
GIABS	*GIABS*	Gastro-intestinal absorption fraction

Using the above terminology to translate this equation into Departmental nomenclature, the equation becomes:

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

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$$SL_{ow\text{-}soil\text{-}ca\text{-}ing\text{-}der} = \frac{TR\ x\ AT\ x\ LT\ x\ BW}{(EF\ x\ ED)\ x\ \left(\frac{10^{-6}\ kg}{mg}\right) x\ ((CSF_O\ x\ IR) + (\ CSF_D\ x\ SA\ x\ AF\ x\ ABS_d))}$$

Note that the USEPA term $SL_{ow\text{-}soil\text{-}ca\text{-}ing\text{-}der}$ is the equivalent of the Department term ID_c. In addition, there is no Department RBA parameter because the value is usually 1. Consequently, an RBA parameter does not appear in the translated equation. The equation presented immediately above is equivalent to the Department equation presented in N.J.A.C. 7:26D Appendix 2 as Equation 3 and verifies its equivalence with equations used by the USEPA.

N.J.A.C. 7:26D Appendix 2, Equation 3 is:

$$ID_c = \frac{TR * AT * LT * BW}{EF * ED * 10^{-5}\ kg/mg * [(CSF_O * IR) + (CSF_D * SA * AF * ABS_d)]}$$

N.J.A.C. 7:26D Appendix 2, Equation 4 – Nonresidential Noncarcinogenic Ingestion-Dermal Human Health-Based Criteria

The origin of the Department nonresidential soil remediation standard for the ingestion-dermal exposure pathway for a noncarcinogen is based upon the USEPA, Regional Screening Levels, Equations (November 2018) (RSLE):

$$SL_{ow\text{-}soil\text{-}nc\text{-}tot}\ (mg/kg) = \frac{1}{\frac{1}{SL_{ow\text{-}soil\text{-}nc\text{-}ing}} + \frac{1}{SL_{ow\text{-}soil\text{-}nc\text{-}der}} + \frac{1}{SL_{ow\text{-}soil\text{-}nc\text{-}inh}}}$$

This is the equation used by the USEPA to develop soil contaminant screening levels where the human health risks from the ingestion exposure pathway, the dermal exposure pathway, and

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

the inhalation exposure pathway are combined. However, the soil remediation standards the Department developed only combine the ingestion and dermal exposure pathways and address the inhalation exposure pathway separately. Consequently, the Department modified the USEPA equation listed above by deleting the inhalation related screening level term:

$$\frac{1}{SL_{ow-soil-nc-inh}}$$

The resulting modified equation represents not the total of the ingestion, dermal, and inhalation exposure components, but just the ingestion and dermal aspects, which is designated:

$$SL_{ow\text{-}soil\text{-}nc\text{-}ing\text{-}der} = \frac{1}{\left(\frac{1}{SL_{ow-soil-nc-ing}}\right) + \left(\frac{1}{SL_{ow-soil-nc-der}}\right)}$$

The Department calculation of the nonresidential noncarcinogenic ingestion-dermal criterion is based on an adult outdoor worker exposure scenario. As such, the RSLE states:

$$SL_{ow\text{-}soil\text{-}nc\text{-}ing}\,(mg/kg) = \frac{THQ \times AT_{ow\text{-}a}\left(\frac{365\ days}{year} \times ED_{ow}\,(25\ years)\right) \times BW_{ow}\,(80\ kg)}{EF_{ow}\left(225\ \frac{days}{year}\right) \times ED_{ow}\,(25\ years) \times \frac{RBA}{RfD_o\left(\frac{mg}{kg\text{-}day}\right)} \times IR_{ow}\left(100\ \frac{mg}{day}\right) \times \left(\frac{10^{-6}\ kg}{1\ mg}\right)}$$

and

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

$$SL_{ow\text{-}soil\text{-}nc\text{-}der}\left(mg/kg\right) = \frac{THQ \times AT_{ow\text{-}a}\left(\frac{365\ days}{year} \times ED_{ow}\left(25\ years\right)\right) \times BW_{ow}\left(80\ kg\right)}{EF_{ow}\left(225\ \frac{days}{year}\right) \times ED_{ow}\left(25\ years\right) \times \left(\frac{1}{RfD_o\left(\frac{mg}{kg\text{-}day}\right) \times GIABS}\right) \times SA_{ow}\left(\frac{3527\ cm^2}{day}\right) \times AF_{ow}\left(\frac{0.12\ mg}{cm^2}\right) \times ABS_d \times \left(\frac{10^{-6}\ kg}{1\ mg}\right)}$$

The above two equations include the units for the listed input parameters. Deleting the units simplify the two equations to:

$$SL_{ow\text{-}soil\text{-}nc\text{-}ing} = \frac{THQ\ x\ AT_{ow}\ x\ ED_{ow}\ x\ BW_{ow}}{EF_{ow}\ x\ ED_{ow}\ x\ \left(\frac{RBA}{RfD_o}\right)\ x\ IR_{ow}\ x\ \left(\frac{10^{-6}\ kg}{mg}\right)}$$

and

$$SL_{ow\text{-}soil\text{-}nc\text{-}der} = \frac{THQ\ x\ AT_{ow}\ x\ ED_{ow}\ x\ BW_{ow}}{EF_{ow}\ x\ ED_{ow}\ x\ \left(\frac{1}{RfD_o\ x\ GIABS}\right)\ x\ SA_{ow}\ x\ AF_{ow}\ x\ ABS_d\ x\ \left(\frac{10^{-6}\ kg}{mg}\right)}$$

Because GIABS = $\frac{RfD_D}{RfD_o}$ the second equation further simplifies to:

$$SL_{ow\text{-}soil\text{-}nc\text{-}der} = \frac{THQ\ x\ AT_{ow}\ x\ ED_{ow}\ x\ BW_{ow}}{EF_{ow}\ x\ ED_{ow}\ x\ \left(\frac{1}{RfD_D}\right)\ x\ SA_{ow}\ x\ AF_{ow}\ x\ ABS_d\ x\ \left(\frac{10^{-6}\ kg}{mg}\right)}$$

Starting with the Department-modified base USEPA equation, as described above:

1. Insert the simplified equations for $SL_{ow\text{-}soil\text{-}nc\text{-}ing}$ and $SL_{ow\text{-}soil\text{-}nc\text{-}der}$ described above into the denominator of the $SL_{ow\text{-}soil\text{-}nc\text{-}ing\text{-}der}$ equation which then becomes:

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

$SL_{low\text{-}soil\text{-}nc\text{-}ing\text{-}der}$ =

$$\frac{1}{\left[\left[\frac{1}{\left(\frac{THQ \times AT_{ow} \times ED_{ow} \times BW_{ow}}{EF_{ow} \times ED_{ow} \times \left(\frac{RBA}{RfD_o}\right) \times IR_{ow} \times \left(\frac{10^{-6}\,kg}{mg}\right)}\right)}\right] + \left[\frac{1}{\left(\frac{THQ \times AT_{ow} \times ED_{ow} \times BW_{ow}}{EF_{ow} \times ED_{ow} \times \left(\frac{1}{RfD_D}\right) \times SA_{ow} \times AF_{ow} \times ABS_d \times \left(\frac{10^{-6}\,kg}{mg}\right)}\right)}\right]\right]}$$

2. Simplify the reciprocals in the equation denominator immediately above (similar to what was done in the derivation of N.J.A.C. 7:26D Appendix 2, Equation 1 above) using the respective terms:

$$\frac{EF_{ow} \times ED_{ow} \times \left(\frac{RBA}{RfD_o}\right) \times IR_{ow} \times \left(\frac{10^{-6}\,kg}{mg}\right)}{EF_{ow} \times ED_{ow} \times \left(\frac{RBA}{RfD_o}\right) \times IR_{ow} \times \left(\frac{10^{-6}\,kg}{mg}\right)}$$

and

$$\frac{EF_{ow} \times ED_{ow} \times \left(\frac{1}{RfD_D}\right) \times SA_{ow} \times AF_{ow} \times ABS_d \times \left(\frac{10^{-6}\,kg}{mg}\right)}{EF_{ow} \times ED_{ow} \times \left(\frac{1}{RfD_D}\right) \times SA_{ow} \times AF_{ow} \times ABS_d \times \left(\frac{10^{-6}\,kg}{mg}\right)}$$

Again, this is the same as multiplying each of the reciprocals in the equation denominator by 1.

3. This results in the following:

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

$SL_{ow\text{-}soil\text{-}nc\text{-}ing\text{-}der}$ =

$$\frac{1}{\left(\frac{EF_{ow}\ x\ ED_{ow}\ x\ \left(\frac{RBA}{RfD_o}\right)\ x\ IR_{ow}\ x\ \left(\frac{10^{-6}\ kg}{mg}\right)}{THQ\ x\ AT_{ow}\ x\ ED_{ow}\ x\ BW_{ow}}\right) + \left(\frac{EF_{ow}\ x\ ED_{ow}\ x\ \left(\frac{1}{RfD_D}\right)\ x\ SA_{ow}\ x\ AF_{ow}\ x\ ABS_d\ x\ \left(\frac{10^{-6}\ kg}{mg}\right)}{THQ\ x\ AT_{ow}\ x\ ED_{ow}\ x\ BW_{ow}}\right)}$$

4. After separating out the common terms ($\frac{10^{-6}\ kg}{mg}$) and $(EF_{ow}\ x\ ED_{ow})$ from both expressions in the denominator, multiply both the numerator and the denominator of the entire equation by the term:

$$THQ\ x\ AT_{ow}\ x\ ED_{ow}\ x\ BW_{ow}$$

Performing steps 1 through 4 above results in the following expression:

SLow-soil-nc-ing-der =

$$\frac{THQ\ x\ AT_{ow}\ x\ ED_{ow}\ x\ BW_{ow}}{(EF_{ow}\ x\ ED_{ow})\ x\ \left(\frac{10^{-6}\ kg}{mg}\right)\left[\left(\left(\frac{RBA}{RfD_0}\right)\ x\ IR_{ow}\right) + \left(\left(\frac{1}{RfD_D}\right)\ x\ SA_{ow}\ x\ AF_{ow}\ x\ ABS_d\right)\right]}$$

This USEPA terminology (immediately above), which is for a nonresidential land use scenario involving a noncarcinogenic contaminant, converts to the Department terminology as follows:

USEPA Term	Department Term	USEPA Definition
THQ	*THQ*	Target hazard quotient

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

AT_{ow}	*T*	Averaging time – outdoor worker
EF_{ow}	*EF*	Exposure frequency – outdoor worker
BW_{ow}	BW	Body weight – outdoor worker
ED_{ow}	*ED*	Exposure duration – outdoor worker
RBA	None	Relative Bio-availability
RfD_o	RfD_o	Oral reference dose
IR_{ow}	*IR*	Soil ingestion rate – outdoor worker
RfD_D	RfD_D	Dermal reference dose
SA_{ow}	*SA*	Skin surface area – outdoor worker
AF_{ow}	*AF*	Soil adherence factor – outdoor worker
ABS_d	ABS_d	Dermal absorption fraction
$\frac{10^{-6}\ \mathrm{kg}}{\mathrm{mg}}$	$\frac{10^{-6} kg}{mg}$	Unit conversion factor
GIABS	*GIABS*	Gastro-intestinal absorption fraction

Using the above terminology to translate this equation into Departmental nomenclature, the equation becomes:

$$SL_{ow\text{-}soil\text{-}nc\text{-}ing\text{-}der} = \frac{THQ\ x\ AT\ x\ ED\ x\ BW}{(EF\ x\ ED)\ x\ \left(\frac{10^{-6}\ kg}{mg}\right) x\ \left(\left(\frac{1}{RfD_o}\ x\ IR\right) + \left(\frac{1}{RfD_D}\ x\ SA\ x\ AF\ x\ ABS_d\right)\right)}$$

Note that the USEPA term $SL_{ow\text{-}soil\text{-}nc\text{-}ing\text{-}der}$ is the equivalent if the Department term ID_{nc}. In addition, there is no Department RBA parameter because the value is usually 1. Consequently,

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

an RBA parameter does not appear in the translated equation. The equation presented immediately above is equivalent to the Department equation presented at N.J.A.C. 7:26D Appendix 2 as Equation 4 and verifies its equivalence with equations used by the USEPA.

N.J.A.C. 7:26D Appendix 2, Equation 4 is:

$$ID_{nc} = \frac{THQ * AT * ED * BW}{(EF * ED * 10^{-6}\,kg/mg) * [(\frac{1}{RfD_O} * IR) + (\frac{1}{RfD_D} * SA * AF * ABS_d)]}$$

N.J.A.C. 7:26D Appendix 3, Equation 1 – Carcinogenic Inhalation Human Health-Based Criteria

The Department addresses both residential and nonresidential land uses in calculating the carcinogenic-based inhalation exposure pathway soil criteria by applying the appropriate exposure assumptions. The equivalency demonstration made here uses the residential land use scenario equation and terminology as the specific example. The same equivalency logic also applies to the nonresidential land use scenario.

The origin of the Department residential soil remediation standard for the inhalation exposure pathway for a carcinogen is based upon the USEPA, Regional Screening Levels, Equations (November 2018) (RSLE):

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

$$SL_{res\text{-}soil\text{-}ca\text{-}tot}\,(mg/kg) = \frac{1}{\frac{1}{SL_{res\text{-}soil\text{-}ca\text{-}ing}} + \frac{1}{SL_{res\text{-}soil\text{-}ca\text{-}der}} + \frac{1}{SL_{res\text{-}soil\text{-}ca\text{-}inh}}}$$

This is the equation used by the USEPA to develop soil contaminant screening levels where the human health risks from the ingestion exposure pathway, the dermal exposure pathway, and the inhalation exposure pathway are combined. However, the soil remediation standards the Department developed only combine the ingestion and dermal exposure pathways and address the inhalation exposure pathway separately. Consequently, the Department modified the USEPA equation listed above by isolating the inhalation related screening level term:

$$\frac{1}{SL_{res-soil-ca-inh-a}}$$

The resulting modified equation represents not the total of the ingestion, dermal, and inhalation exposure components, but just the inhalation aspect, which is designated:

$$SL_{res\text{-}soil\text{-}nc\text{-}inh\text{-}a} = \frac{1}{\left(\frac{1}{SL_{res-soil-nc-inh-a}}\right)} = SL_{res\text{-}soil\text{-}nc\text{-}inh\text{-}a}$$

The RSLE states that:

$$SL_{res\text{-}soil\text{-}ca\text{-}inh}\,(mg/kg) = \frac{TR \times AT_{res}\left(\frac{365\ days}{year} \times LT\,(70\ years)\right)}{IUR\left(\frac{\mu g}{m^3}\right)^{-1} \times \left(\frac{1000\ \mu g}{mg}\right) \times EF_{res}\left(\frac{350\ days}{year}\right) \times \left(\frac{1}{VF_{ulim}\left(\frac{m^3}{kg}\right)} + \frac{1}{PEF\left(\frac{m^3}{kg}\right)}\right) \times ED_{res}\,(26\ years) \times ET_{res}\left(\frac{24\ hours}{day}\right) \times \left(\frac{1\ day}{24\ hours}\right)}$$

The above equation includes the units for the listed input parameters. Deleting the units simplifies the equation to:

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

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$$SL_{res\text{-}soil\text{-}ca\text{-}inh} = \frac{TR \times AT_{res} \times LT}{IUR \times \left(\frac{1000\ ug}{mg}\right) \times EF_{res} \times \left[\frac{1}{VF_{ulim}} + \frac{1}{PEF}\right] \times ED_{res} \times ET_{res} \times \left(\frac{1\ day}{24\ hours}\right)}$$

This USEPA terminology, which is for a residential land use scenario involving a carcinogenic contaminant, converts to the Department terminology as follows:

USEPA Term	Department Term	USEPA Definition
TR	*TR*	Target cancer risk
AT_{res}	*AT*	Averaging time - residential
LT	*LT*	Lifetime
IUR	*IUR*	Inhalation unit risk factor
EF_{res}	*EF*	Exposure frequency - residential
VF_{ulim}	*VF*	Soil-to-air volatilization factor
PEF	*PEF*	Particulate emission factor
EDres	*ED*	Exposure duration - residential
ETres	*ET*	Exposure time - residential
$\frac{1000\ ug}{mg}$	$\frac{1000\ ug}{mg}$	Unit conversion factor
$\frac{1\ day}{24\ hours}$	$\frac{1\ day}{24\ hours}$	Unit conversion factor

Using the above terminology to translate this equation into Departmental nomenclature, the equation becomes:

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

$$SL_{res\text{-}soil\text{-}ca\text{-}inh} = \frac{TR \ x \ AT \ x \ LT}{IUR \ x \ \left(\frac{1000 \ ug}{mg}\right) \ x \ EF \ x \ \left[\frac{1}{VF} + \frac{1}{PEF}\right] \ x \ ED \ x \ ET \ x \ \left(\frac{1 \ day}{24 \ hours}\right)}$$

As the USEPA term $SL_{res\text{-}soil\text{-}ca\text{-}inh}$ is the equivalent of the Department term Inh_c, the equation presented above is equivalent to the Department equation presented at N.J.A.C. 7:26D Appendix 3 as Equation 1 and verifies its equivalence with equations used by the USEPA.

N.J.A.C. 7:26D Appendix 3, Equation 1 is:

$$Inh_c = \frac{TR * AT * LT}{IUR * 1000 \ {}^{\mu g}/_{mg} * EF * \left(\frac{1}{VF} + \frac{1}{PEF}\right) * ED * ET * \frac{1day}{24hours}}$$

N.J.A.C. 7:26D Appendix 3, Equation 2 – Noncarcinogenic Inhalation Human Health-Based Criteria

The Department addresses both residential and nonresidential land uses in calculating the noncarcinogenic-based inhalation exposure pathway soil criteria by applying the appropriate exposure assumptions. The equivalency demonstration made here uses the residential land use scenario equation and terminology as the specific example. The same equivalency logic also applies to the nonresidential land use scenario.

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

The origin of the Department residential soil remediation standard for the inhalation exposure pathway for a noncarcinogen is based upon the USEPA, Regional Screening Levels, Equations (November 2018) (RSLE):

$$SL_{res\text{-}soil\text{-}nc\text{-}tot\text{-}a}\left(mg/kg\right) = \frac{1}{\frac{1}{SL_{res\text{-}soil\text{-}nc\text{-}ing\text{-}a}} + \frac{1}{SL_{res\text{-}soil\text{-}nc\text{-}der\text{-}a}} + \frac{1}{SL_{res\text{-}soil\text{-}nc\text{-}inh\text{-}a}}}$$

This is the equation used by the USEPA to develop soil contaminant screening levels where the human health risks from the ingestion exposure pathway, the dermal exposure pathway, and the inhalation exposure pathway are combined. However, the soil remediation standards the Department developed only combine the ingestion and dermal exposure pathways and address the inhalation exposure pathway separately. Consequently, the Department modified the USEPA equation listed above by isolating the inhalation related screening level term:

$$\frac{1}{SL_{res-soil-nc-inh-a}}$$

The resulting modified equation represents not the total of the ingestion, dermal, and inhalation exposure components, but just the inhalation aspect, which is designated:

$$SL_{res\text{-}soil\text{-}nc\text{-}inh\text{-}a} = \frac{1}{\left(\frac{1}{SL_{res-soil-nc-inh-a}}\right)} = SL_{res\text{-}soil\text{-}nc\text{-}inh\text{-}a}$$

The RSLE states that:

$$SL_{res\text{-}soil\text{-}nc\text{-}inh\text{-}a}\left(mg/kg\right) = \frac{THQ \times AT_{res\text{-}a}\left(\frac{365\ days}{year} \times ED_{res}\left(26\ years\right)\right)}{EF_{res\text{-}a}\left(\frac{350\ days}{year}\right) \times ED_{res}\left(26\ years\right) \times ET_{res\text{-}a}\left(\frac{24\ hours}{day}\right) \times \left(\frac{1\ day}{24\ hours}\right) \times \frac{1}{RfC\left(\frac{mg}{m^3}\right)} \times \left(\frac{1}{VF_{ulim}\left(\frac{m^3}{kg}\right)} + \frac{1}{PEF\left(\frac{m^3}{kg}\right)}\right)}$$

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

The above equation includes the units for the listed input parameters. Deleting the units simplifies the equation to:

$$SL_{res\text{-}soil\text{-}nc\text{-}inh\text{-}a} = \frac{THQ \text{ x } AT_{res-a} \text{ x } ED_{res}}{EF_{res-a} \text{ x } ED_{res} \text{ x } ET_{res-a} \text{ x } \frac{1 \text{ day}}{24 \text{ hours}} \text{ x } \frac{1}{RfC} \text{ x } \left(\frac{1}{VF_{ulim}} + \frac{1}{PEF}\right)}$$

This USEPA terminology, which is for a residential land use scenario involving a noncarcinogenic contaminant, converts to the Department terminology as follows:

USEPA Term	Department Term	USEPA Definition
THQ	*THQ*	Target hazard quotient
$AT_{res\text{-}a}$	*AT*	Averaging time – residential adult
$EF_{res\text{-}a}$	*EF*	Exposure frequency – residential adult
$ED_{res\text{-}a}$	*ED*	Exposure duration – residential adult
$ET_{res\text{-}a}$	*ET*	Exposure time - residential adult
RfC	*RfC*	Reference concentration
VF_{ulim}	*VF*	Soil-to-air volatilization factor
PEF	*PEF*	Particulate emission factor
$\frac{1 \text{ day}}{24 \text{ hours}}$	$\frac{1\ day}{24\ hours}$	Unit conversion factor

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

Using the above terminology to translate this equation into Departmental nomenclature, the equation becomes:

$$SL_{res\text{-}soil\text{-}nc\text{-}inh\text{-}a} = \frac{THQ \ x \ AT \ x \ ED}{EF \ x \ ED \ x \ ET \ x \ \frac{1\,day}{24\,hours} \ x \ \frac{1}{RfC} \ x \left(\frac{1}{VF} + \frac{1}{PEF}\right)}$$

As the USEPA term $SL_{res\text{-}soil\text{-}nc\text{-}inh}$ is the equivalent of the Department term Inh_{nc}, the equation presented above is equivalent to the Department equation presented in N.J.A.C. 7:26D Appendix 3 as Equation 2 and verifies its equivalence with equations used by the USEPA.

N.J.A.C. 7:26D Appendix 3, Equation 2 is:

$$Inh_{nc} = \frac{THQ * AT * ED}{EF * ED * ET * \frac{1day}{24hours} * \frac{1}{RfC} * \left(\frac{1}{VF} + \frac{1}{PEF}\right)}$$

N.J.A.C. 7:26D Appendix 5, Equation 1 – Carcinogenic Indoor Air Human Health-Based Criteria

The Department addresses both residential and nonresidential land uses in calculating the carcinogenic indoor air human health-based criteria by applying the appropriate exposure assumptions. The equivalency demonstration made here uses the residential land use scenario

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

equation and terminology as the specific example. The same equivalency logic also applies to the nonresidential land use scenario.

The origin of the Department residential indoor air remediation standard for the vapor intrusion exposure pathway for a carcinogen is based upon the USEPA, Regional Screening Levels, Equations (November 2018) (RSLE):

$$SL_{res\text{-}air\text{-}ca}\left(\mu g/m^3\right) = \frac{TR \times AT_{res}\left(\frac{365\ days}{year} \times LT\left(70\ years\right)\right)}{EF_{res}\left(\frac{350\ days}{year}\right) \times ED_{res}\left(26\ years\right) \times ET_{res}\left(\frac{24\ hours}{day}\right) \times \left(\frac{1\ day}{24\ hours}\right) \times IUR\left(\frac{\mu g}{m^3}\right)^{-1}}$$

The above equation includes the units for the listed input parameters. Deleting the units simplifies the equation to:

$$SL_{res\text{-}air\text{-}ca} = \frac{TR\ x\ AT_{res}\ x\ LT}{EF_{res}\ x\ ED_{res}\ x\ ET_{res}\ x\ \left(\frac{1\ day}{24\ hours}\right)\ x\ IUR}$$

This USEPA terminology, which is for a residential land use scenario involving a carcinogenic contaminant, converts to the Department terminology as follows:

USEPA Term	Department Term	USEPA Definition
TR	*TR*	Target cancer risk
AT_{res}	*AT*	Averaging time - residential
LT	*LT*	Lifetime

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

IUR	*IUR*	Inhalation unit risk factor
EF_{res}	*EF*	Exposure frequency - residential
EDres	*ED*	Exposure duration - residential
ETres	*ET*	Exposure time - residential
$\frac{1\ \text{day}}{24\ \text{hours}}$	$\frac{1\ day}{24\ hours}$	Unit conversion factor

Using the above terminology to translate this equation into Departmental nomenclature, the equation becomes:

$$SL_{res\text{-}air\text{-}ca} = \frac{TR\ x\ AT\ x\ LT}{EF\ x\ ED\ x\ ET\ x\ \left(\frac{1\ day}{24\ hours}\right)\ x\ IUR}$$

As the USEPA term $SL_{res\text{-}air\text{-}ca}$ is the equivalent of the Department term IA_c , the equation presented above is equivalent to the Department equation presented at N.J.A.C. 7:26D Appendix 5 as Equation 1 and verifies its equivalence with equations used by the USEPA.

N.J.A.C. 7:26D Appendix 5, Equation 1 is:

$$IA_c = \frac{TR * AT * LT}{EF * ED * ET * \frac{1}{24}\frac{day}{hours} * IUR}$$

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

N.J.A.C. 7:26D Appendix 5, Equation 2 – Noncarcinogenic Indoor Air Human Health-Based Criteria

The Department addresses both residential and nonresidential land uses in calculating the noncarcinogenic indoor air human health-based criteria by applying the appropriate exposure assumptions. The equivalency demonstration made here uses the residential land use scenario equation and terminology as the specific example. The same equivalency logic also applies to the nonresidential land use scenario.

The origin of the Department residential indoor air remediation standard for the vapor intrusion exposure pathway for a noncarcinogen is based upon the USEPA, Regional Screening Levels, Equations (November 2018) (RSLE):

$$SL_{res\text{-}air\text{-}nc}\left(\mu g/m^3\right) = \frac{THQ \times AT_{res\text{-}a}\left(\frac{365\ days}{year} \times ED_{res}\left(26\ years\right)\right) \times \left(\frac{1000\ \mu g}{mg}\right)}{EF_{res}\left(\frac{350\ days}{year}\right) \times ED_{res}\left(26\ years\right) \times ET_{res}\left(\frac{24\ hours}{day}\right) \times \left(\frac{1\ day}{24\ hours}\right) \times \frac{1}{RfC\left(\frac{mg}{m^3}\right)}}$$

The above equation includes the units for the listed input parameters. Deleting these units simplifies the equation to:

$$SL_{res\text{-}air\text{-}nc} = \frac{THQ\ x\ AT_{res-a}\ x\ ED_{res}\ x\ \left(\frac{1000\ ug}{mg}\right)}{EF_{res}\ x\ ED_{res}\ x\ ET_{res}\ x\ \left(\frac{1\ day}{24\ hours}\right)\ x\ \left(\frac{1}{RfC}\right)}$$

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

This USEPA terminology, which is for a residential land use scenario involving a noncarcinogenic contaminant, converts to the Department terminology as follows:

USEPA Term	Department Term	USEPA Definition
THQ	*THQ*	Target hazard quotient
$AT_{res\text{-}a}$	*AT*	Averaging time – residential adult
EF_{res}	*EF*	Exposure frequency – residential adult
ED_{res}	*ED*	Exposure duration – residential adult
ET_{res}	*ET*	Exposure time - residential adult
RfC	*RfC*	Reference concentration
$\frac{1000\ \text{ug}}{\text{mg}}$	$\frac{1000\ ug}{mg}$	Unit conversion factor
$\frac{1\ \text{day}}{24\ \text{hours}}$	$\frac{1\ day}{24\ hours}$	Unit conversion factor

Using the above terminology to translate this equation into Departmental nomenclature, the equation becomes:

$$SL_{\text{res-air-nc}} = \frac{THQ\ x\ AT\ x\ ED\ x\ \left(\frac{1000\ ug}{mg}\right)}{EF\ x\ ED\ x\ ET\ x\ \left(\frac{1\ day}{24\ hours}\right)\ x\ \left(\frac{1}{RfC}\right)}$$

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

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As the USEPA term $SL_{res\text{-}air\text{-}nc}$ is the equivalent of the Department term IA_{nc}, the equation presented above is equivalent to the equation presented at N.J.A.C. 7:26D Appendix 5 as Equation 2 and verifies its equivalence with equations used by the USEPA.

N.J.A.C. 7:26D Appendix 5, Equation 2 is:

$$IA_{nc} = \frac{THQ * AT * ED * \frac{1000\,\mu g}{mg}}{EF * ED * ET * \frac{1}{24}\frac{day}{hours} * \frac{1}{RfC}}$$

References

USEPA (2018) Regional Screening Levels (RSLs) – Equations (November 2018)

https://www.epa.gov/risk/regional-screening-levels-rsls-equations

NJ Residential is the lower Soil Remediation Standard (SRS) between the Ingestion-Dermal and Inhalation Exposure Pathway values.

PA Clean is the lower of the Generic Soil to Groundwater and the Direct Contact Residential Values shown in Table 3 and Table 4.

PA Regulated is the lower of the Generic Soil to Groundwater and Direct Contact Non-Residential Values shown in Table 3 and Table 4.

TABLE 3 - MEDIUM-SPECIFIC CONCENTRATIONS (MSCs) FOR ORGANIC REGULATED SUBSTANCES IN SOIL
A. Direct Contact Numeric Values

REGULATED SUBSTANCE	CASRN	Residential		Non-Residential			
				Surface Soil		Subsurface Soil	
		0-15 feet		0-2 feet		2-15 feet	
ACENAPHTHENE	83-32-9	13000	G	190000	C	190000	C
ACENAPHTHYLENE	208-96-8	13000	G	190000	C	190000	C
ACEPHATE	30560-19-1	260	G	3800	G	190000	C
ACETALDEHYDE	75-07-0	170	N	710	N	820	N
ACETONE	67-64-1	10000	C	10000	C	10000	C
ACETONITRILE	75-05-8	1100	N	4700	N	5500	N
ACETOPHENONE	98-86-2	10000	C	10000	C	10000	C
ACETYLAMINOFLUORENE, 2- (2AAF)	53-96-3	4.9	G	24	G	190000	C
ACROLEIN	107-02-8	0.38	N	1.6	N	1.8	N
ACRYLAMIDE	79-06-1	1.7	N	22	N	25	N
ACRYLIC ACID	79-10-7	19	N	79	N	91	N
ACRYLONITRILE	107-13-1	6.5	N	33	N	37	N
ALACHLOR	15972-60-8	330	G	1600	G	190000	C
ALDICARB	116-06-3	220	G	3200	G	190000	C
ALDICARB SULFONE	1646-88-4	220	G	3200	G	190000	C
ALDICARB SULFOXIDE	1646-87-3	220	G	3200	G	190000	C
ALDRIN	309-00-2	1.1	G	5.4	G	190000	C
ALLYL ALCOHOL	107-18-6	1.9	N	7.9	N	9.1	N
AMETRYN	834-12-8	2000	G	29000	G	190000	C
AMINOBIPHENYL, 4-	92-67-1	0.89	G	4.3	G	190000	C
AMITROLE	61-82-5	20	G	97	G	190000	C
AMMONIA	7664-41-7	9600	N	10000	C	10000	C
AMMONIUM SULFAMATE	7773-06-0	44000	G	190000	C	190000	C
ANILINE	62-53-3	19	N	79	N	90	N
ANTHRACENE	120-12-7	66000	G	190000	C	190000	C
ATRAZINE	1912-24-9	81	G	400	G	190000	C
AZINPHOS-METHYL (GUTHION)	86-50-0	330	G	4800	G	190000	C
BAYGON (PROPOXUR)	114-26-1	880	G	13000	G	190000	C
BENOMYL	17804-35-2	7800	G	38000	G	190000	C
BENTAZON	25057-89-0	6600	G	96000	G	190000	C
BENZENE	71-43-2	57	N	280	N	330	N
BENZIDINE	92-87-5	0.018	G	0.4	G	190000	C
BENZO[A]ANTHRACENE	56-55-3	6.1	G	130	G	190000	C
BENZO[A]PYRENE	50-32-8	4.2	G	91	G	190000	C
BENZO[B]FLUORANTHENE	205-99-2	3.5	G	76	G	190000	C
BENZO[GHI]PERYLENE	191-24-2	13000	G	190000	C	190000	C
BENZO[K]FLUORANTHENE	207-08-9	3.5	G	76	G	190000	C
BENZOIC ACID	65-85-0	190000	C	190000	C	190000	C
BENZOTRICHLORIDE	98-07-7	1.4	G	7	G	10000	C
BENZYL ALCOHOL	100-51-6	10000	C	10000	C	10000	C
BENZYL CHLORIDE	100-44-7	9	N	45	N	52	N
BETA PROPIOLACTONE	57-57-8	0.11	N	0.55	N	0.63	N
BHC, ALPHA	319-84-6	3	G	14	G	190000	C
BHC, BETA-	319-85-7	10	G	51	G	190000	C
BHC, GAMMA (LINDANE)	58-89-9	17	G	83	G	190000	C
BIPHENYL, 1,1-	92-52-4	8.2	N	34	N	40	N
BIS(2-CHLOROETHOXY)METHANE	111-91-1	660	G	9600	G	10000	C
BIS(2-CHLOROETHYL)ETHER	111-44-4	1.3	N	6.7	N	7.6	N
BIS(2-CHLORO-ISOPROPYL)ETHER	108-60-1	44	N	220	N	250	N
BIS(CHLOROMETHYL)ETHER	542-88-1	0.0071	N	0.036	N	0.041	N
BIS[2-ETHYLHEXYL] PHTHALATE	117-81-7	1300	G	6500	G	10000	C
BISPHENOL A	80-05-7	11000	G	160000	G	190000	C
BROMACIL	314-40-9	22000	G	190000	C	190000	C
BROMOBENZENE	108-86-1	1100	N	4700	N	5400	N
BROMOCHLOROMETHANE	74-97-5	760	N	3200	N	3600	N
BROMODICHLOROMETHANE	75-27-4	12	N	60	N	69	N
BROMOMETHANE	74-83-9	95	N	400	N	460	N
BROMOXYNIL	1689-84-5	180	G	880	G	190000	C
BROMOXYNIL OCTANOATE	1689-99-2	180	G	880	G	190000	C
BUTADIENE, 1,3-	106-99-0	15	N	74	N	85	N
BUTYL ALCOHOL, N-	71-36-3	10000	C	10000	C	10000	C
BUTYLATE	2008-41-5	10000	C	10000	C	10000	C
BUTYLBENZENE, N-	104-51-8	10000	C	10000	C	10000	C

PA Clean is the lower of the Generic Soil to Groundwater and the Direct Contact Residential Values shown in Table 3 and Table 4.

PA Regulated is the lower of the Generic Soil to Groundwater and Direct Contact Non-Residential Values shown in Table 3 and Table 4.

REGULATED SUBSTANCE	CASRN	Residential	Non-Residential	
			Surface Soil	Subsurface Soil
		0-15 feet	0-2 feet	2-15 feet
BUTYLBENZENE, SEC-	135-98-8	10000 C	10000 C	10000 C
BUTYLBENZENE, TERT-	98-06-6	10000 C	10000 C	10000 C
BUTYLBENZYL PHTHALATE	85-68-7	9800 G	10000 C	10000 C
CAPTAN	133-06-2	8100 G	40000 G	190000 C
CARBARYL	63-25-2	22000 G	190000 C	190000 C
CARBAZOLE	86-74-8	930 G	4600 G	190000 C
CARBOFURAN	1563-66-2	1100 G	16000 G	190000 C
CARBON DISULFIDE	75-15-0	10000 C	10000 C	10000 C
CARBON TETRACHLORIDE	56-23-5	75 N	370 N	430 N
CARBOXIN	5234-68-4	22000 G	190000 C	190000 C
CHLORAMBEN	133-90-4	3300 G	48000 G	190000 C
CHLORDANE	57-74-9	53 G	260 G	190000 C
CHLORO-1,1-DIFLUOROETHANE, 1-	75-68-3	10000 C	10000 C	10000 C
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107-05-1	19 N	80 N	92 N
CHLOROACETALDEHYDE	107-20-0	69 G	340 G	10000 C
CHLOROANILINE, P-	106-47-8	93 G	460 G	190000 C
CHLOROBENZENE	108-90-7	950 N	3900 N	4500 N
CHLOROBENZILATE	510-15-6	170 G	830 G	190000 C
CHLOROBUTANE, 1-	109-69-3	8800 G	10000 C	10000 C
CHLORODIBROMOMETHANE	124-48-1	220 G	1100 G	10000 C
CHLORODIFLUOROMETHANE	75-45-6	10000 C	10000 C	10000 C
CHLOROETHANE	75-00-3	10000 C	10000 C	10000 C
CHLOROFORM	67-66-3	19 N	96 N	110 N
CHLORONAPHTHALENE, 2-	91-58-7	18000 G	190000 C	190000 C
CHLORONITROBENZENE, P-	100-00-5	39 N	160 N	180 N
CHLOROPHENOL, 2-	95-57-8	1100 G	10000 C	10000 C
CHLOROPRENE	126-99-8	1.5 N	7.4 N	8.5 N
CHLOROPROPANE, 2-	75-29-6	1900 N	7900 N	9100 N
CHLOROTHALONIL	1897-45-6	1100 G	5400 G	190000 C
CHLOROTOLUENE, O-	95-49-8	4400 G	10000 C	10000 C
CHLOROTOLUENE, P-	106-43-4	4400 G	10000 C	10000 C
CHLORPYRIFOS	2921-88-2	220 G	3200 G	190000 C
CHLORSULFURON	64902-72-3	4400 G	64000 G	190000 C
CHLORTHAL-DIMETHYL (DACTHAL) (DCPA)	1861-32-1	2200 G	32000 G	190000 C
CHRYSENE	218-01-9	35 G	760 G	190000 C
CRESOL(S)	1319-77-3	10000 C	10000 C	10000 C
CRESOL, 4,6-DINITRO-O-	534-52-1	18 G	260 G	190000 C
CRESOL, O- (2-METHYLPHENOL)	95-48-7	11000 G	160000 G	190000 C
CRESOL, M- (3-METHYLPHENOL)	108-39-4	10000 C	10000 C	10000 C
CRESOL, P- (4-METHYLPHENOL)	106-44-5	1100 G	16000 G	190000 C
CRESOL, P-CHLORO-M-	59-50-7	22000 G	190000 C	190000 C
CROTONALDEHYDE	4170-30-3	9.8 G	48 G	10000 C
CROTONALDEHYDE, TRANS-	123-73-9	9.8 G	48 G	10000 C
CUMENE (ISOPROPYL BENZENE)	98-82-8	7600 N	10000 C	10000 C
CYANAZINE	21725-46-2	22 G	110 G	190000 C
CYCLOHEXANE	110-82-7	10000 C	10000 C	10000 C
CYCLOHEXANONE	108-94-1	10000 C	10000 C	10000 C
CYFLUTHRIN	68359-37-5	5500 G	80000 G	190000 C
CYROMAZINE	66215-27-8	110000 G	190000 C	190000 C
DDD, 4,4'-	72-54-8	78 G	380 G	190000 C
DDE, 4,4'-	72-55-9	55 G	270 G	190000 C
DDT, 4,4'-	50-29-3	55 G	270 G	190000 C
DI(2-ETHYLHEXYL)ADIPATE	103-23-1	10000 C	10000 C	10000 C
DIALLATE	2303-16-4	300 G	1500 G	10000 C
DIAMINOTOLUENE, 2,4-	95-80-7	4.7 G	23 G	190000 C
DIAZINON	333-41-5	150 G	2200 G	10000 C
DIBENZO[A,H]ANTHRACENE	53-70-3	1 G	22 G	190000 C
DIBENZOFURAN	132-64-9	220 G	3200 G	190000 C
DIBROMO-3-CHLOROPROPANE, 1,2-	96-12-8	0.029 N	0.37 N	0.42 N
DIBROMOBENZENE, 1,4-	106-37-6	2200 G	32000 G	190000 C
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106-93-4	0.74 N	3.7 N	4.2 N
DIBROMOMETHANE	74-95-3	76 N	310 N	360 N
DIBUTYL PHTHALATE, N-	84-74-2	10000 C	10000 C	10000 C
DICAMBA	1918-00-9	6600 G	96000 G	190000 C
DICHLOROACETIC ACID	79-43-6	370 G	1800 G	10000 C
DICHLORO-2-BUTENE, 1,4-	764-41-0	0.11 N	0.52 N	0.6 N

PA Clean is the lower of the Generic Soil to Groundwater and the Direct Contact Residential Values shown in Table 3 and Table 4.

PA Regulated is the lower of the Generic Soil to Groundwater and Direct Contact Non-Residential Values shown in Table 3 and Table 4.

REGULATED SUBSTANCE	CASRN	Residential	Non-Residential	
			Surface Soil	Subsurface Soil
		0-15 feet	0-2 feet	2-15 feet
DICHLORO-2-BUTENE, TRANS-1,4-	110-57-6	0.11 N	0.52 N	0.6 N
DICHLOROBENZENE, 1,2-	95-50-1	3800 N	10000 C	10000 C
DICHLOROBENZENE, 1,3-	541-73-1	10000 C	10000 C	10000 C
DICHLOROBENZENE, P-	106-46-7	40 N	200 N	230 N
DICHLOROBENZIDINE, 3,3'-	91-94-1	41 G	200 G	190000 C
DICHLORODIFLUOROMETHANE (FREON 12)	75-71-8	1900 N	8000 N	9100 N
DICHLOROETHANE, 1,1-	75-34-3	280 N	1400 N	1600 N
DICHLOROETHANE, 1,2-	107-06-2	17 N	85 N	98 N
DICHLOROETHYLENE, 1,1-	75-35-4	3800 N	10000 C	10000 C
DICHLOROETHYLENE, CIS-1,2-	156-59-2	440 G	6400 G	10000 C
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	4400 G	10000 C	10000 C
DICHLOROMETHANE (METHYLENE CHLORIDE)	75-09-2	1300 G	10000 C	10000 C
DICHLOROPHENOL, 2,4-	120-83-2	660 G	9600 G	190000 C
DICHLOROPHENOXYACETIC ACID, 2,4- (2,4-D)	94-75-7	2200 G	32000 G	190000 C
DICHLOROPROPANE, 1,2-	78-87-5	0.12 N	0.6 N	0.69 N
DICHLOROPROPENE, 1,3-	542-75-6	110 N	550 N	640 N
DICHLOROPROPIONIC ACID, 2,2- (DALAPON)	75-99-0	6600 G	10000 C	10000 C
DICHLORVOS	62-73-7	64 G	310 G	10000 C
DICYCLOPENTADIENE	77-73-6	5.7 N	24 N	27 N
DIELDRIN	60-57-1	1.2 G	5.7 G	190000 C
DIETHANOLAMINE	111-42-2	440 G	6400 G	10000 C
DIETHYL PHTHALATE	84-66-2	10000 C	10000 C	10000 C
DIFLUBENZURON	35367-38-5	4400 G	64000 G	190000 C
DIISOPROPYL METHYLPHOSPHONATE	1445-75-6	10000 C	10000 C	10000 C
DIMETHOATE	60-51-5	480 G	7000 G	190000 C
DIMETHOXYBENZIDINE, 3,3-	119-90-4	12 G	57 G	190000 C
DIMETHRIN	70-38-2	66000 G	190000 C	190000 C
DIMETHYLAMINOAZOBENZENE, P-	60-11-7	4 G	20 G	190000 C
DIMETHYLANILINE, N,N-	121-69-7	440 G	3400 G	10000 C
DIMETHYLBENZIDINE, 3,3-	119-93-7	1.7 G	8.3 G	190000 C
DIMETHYL METHYLPHOSPHONATE	756-79-6	10000 C	10000 C	10000 C
DIMETHYLPHENOL, 2,4-	105-67-9	4400 G	10000 C	10000 C
DINITROBENZENE, 1,3-	99-65-0	22 G	320 G	190000 C
DINITROPHENOL, 2,4-	51-28-5	440 G	6400 G	190000 C
DINITROTOLUENE, 2,4-	121-14-2	60 G	290 G	190000 C
DINITROTOLUENE, 2,6- (2,6-DNT)	606-20-2	12 G	61 G	190000 C
DINOSEB	88-85-7	220 G	3200 G	190000 C
DIOXANE, 1,4-	123-91-1	89 N	440 N	510 N
DIPHENAMID	957-51-7	6600 G	96000 G	190000 C
DIPHENYLAMINE	122-39-4	22000 G	190000 C	190000 C
DIPHENYLHYDRAZINE, 1,2-	122-66-7	2.1 N	10 N	12 N
DIQUAT	85-00-7	480 G	7000 G	190000 C
DISULFOTON	298-04-4	8.8 G	130 G	10000 C
DITHIANE, 1,4-	505-29-3	2200 G	32000 G	190000 C
DIURON	330-54-1	440 G	6400 G	190000 C
ENDOSULFAN	115-29-7	1300 G	19000 G	190000 C
ENDOSULFAN I (ALPHA)	959-98-8	1300 G	19000 G	190000 C
ENDOSULFAN II (BETA)	33213-65-9	1300 G	19000 G	190000 C
ENDOSULFAN SULFATE	1031-07-8	1300 G	19000 G	190000 C
ENDOTHALL	145-73-3	4400 G	64000 G	190000 C
ENDRIN	72-20-8	66 G	960 G	190000 C
EPICHLOROHYDRIN	106-89-8	19 N	79 N	91 N
ETHEPHON	16672-87-0	1100 G	16000 G	190000 C
ETHION	563-12-2	110 G	1600 G	10000 C
ETHOXYETHANOL, 2- (EGEE)	110-80-5	3800 N	10000 C	10000 C
ETHYL ACETATE	141-78-6	1300 N	5500 N	6300 N
ETHYL ACRYLATE	140-88-5	150 N	630 N	720 N
ETHYL BENZENE	100-41-4	180 N	880 N	1000 N
ETHYL DIPROPYLTHIOCARBAMATE, S- (EPTC)	759-94-4	10000 C	10000 C	10000 C
ETHYL ETHER	60-29-7	10000 C	10000 C	10000 C
ETHYL METHACRYLATE	97-63-2	5700 N	10000 C	10000 C
ETHYLENE CHLORHYDRIN	107-07-3	4400 G	10000 C	10000 C
ETHYLENE GLYCOL	107-21-1	7600 N	10000 C	10000 C
ETHYLENE THIOUREA (ETU)	96-45-7	18 G	260 G	190000 C
ETHYLP-NITROPHENYL PHENYLPHOSPHOROTHIOATE	2104-64-5	2.2 G	32 G	190000 C
FENAMIPHOS	22224-92-6	55 G	800 G	190000 C

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PA Regulated is the lower of the Generic Soil to Groundwater and Direct Contact Non-Residential Values shown in Table 3 and Table 4.

REGULATED SUBSTANCE	CASRN	Residential	Non-Residential	
			Surface Soil	Subsurface Soil
		0-15 feet	0-2 feet	2-15 feet
FENVALERATE (PYDRIN)	51630-58-1	5500 G	10000 C	10000 C
FLUOMETURON	2164-17-2	2900 G	42000 G	190000 C
FLUORANTHENE	206-44-0	8800 G	130000 G	190000 C
FLUORENE	86-73-7	8800 G	130000 G	190000 C
FLUOROTRICHLOROMETHANE (FREON 11)	75-69-4	10000 C	10000 C	10000 C
FONOFOS	944-22-9	440 G	6400 G	10000 C
FORMALDEHYDE	50-00-0	34 N	170 N	200 N
FORMIC ACID	64-18-6	5.7 N	24 N	27 N
FOSETYL-AL	39148-24-8	190000 C	190000 C	190000 C
FURAN	110-00-9	220 G	3200 G	10000 C
FURFURAL	98-01-1	530 G	2600 G	4500 N
GLYPHOSATE	1071-83-6	22000 G	190000 C	190000 C
HEPTACHLOR	76-44-8	4.1 G	20 G	190000 C
HEPTACHLOR EPOXIDE	1024-57-3	2 G	10 G	190000 C
HEXACHLOROBENZENE	118-74-1	12 G	57 G	190000 C
HEXACHLOROBUTADIENE	87-68-3	220 G	1200 G	10000 C
HEXACHLOROCYCLOPENTADIENE	77-47-4	1300 G	10000 C	10000 C
HEXACHLOROETHANE	67-72-1	46 N	230 N	270 N
HEXANE	110-54-3	10000 C	10000 C	10000 C
HEXAZINONE	51235-04-2	7300 G	110000 G	190000 C
HEXYTHIAZOX (SAVEY)	78587-05-0	5500 G	80000 G	190000 C
HMX	2691-41-0	11000 G	160000 G	190000 C
HYDRAZINE/HYDRAZINE SULFATE	302-01-2	0.091 N	0.45 N	0.52 N
HYDROQUINONE	123-31-9	310 G	1500 G	190000 C
INDENO[1,2,3-CD]PYRENE	193-39-5	3.5 G	76 G	190000 C
IPRODIONE	36734-19-7	420 G	2100 G	190000 C
ISOBUTYL ALCOHOL	78-83-1	10000 C	10000 C	10000 C
ISOPHORONE	78-59-1	10000 C	10000 C	10000 C
ISOPROPYL METHYLPHOSPHONATE	1832-54-8	10000 C	10000 C	10000 C
KEPONE	143-50-0	1.9 G	9.1 G	190000 C
MALATHION	121-75-5	4400 G	10000 C	10000 C
MALEIC HYDRAZIDE	123-33-1	110000 G	190000 C	190000 C
MANEB	12427-38-2	310 G	1500 G	190000 C
MERPHOS OXIDE	78-48-8	220 G	3200 G	10000 C
METHACRYLONITRILE	126-98-7	22 G	320 G	2700 N
METHAMIDOPHOS	10265-92-6	11 G	160 G	190000 C
METHANOL	67-56-1	10000 C	10000 C	10000 C
METHOMYL	16752-77-5	5500 G	80000 G	190000 C
METHOXYCHLOR	72-43-5	1100 G	16000 G	190000 C
METHOXYETHANOL, 2-	109-86-4	380 N	1600 N	1800 N
METHYL ACETATE	79-20-9	10000 C	10000 C	10000 C
METHYL ACRYLATE	96-33-3	380 N	1600 N	1800 N
METHYL CHLORIDE	74-87-3	250 N	1200 N	1400 N
METHYL ETHYL KETONE	78-93-3	10000 C	10000 C	10000 C
METHYL HYDRAZINE	60-34-4	0.38 N	1.6 N	1.8 N
METHYL ISOBUTYL KETONE	108-10-1	10000 C	10000 C	10000 C
METHYL ISOCYANATE	624-83-9	19 N	79 N	91 N
METHYL N-BUTYL KETONE (2-HEXANONE)	591-78-6	570 N	2400 N	2700 N
METHYL METHACRYLATE	80-62-6	10000 C	10000 C	10000 C
METHYL METHANESULFONATE	66-27-3	190 G	920 G	10000 C
METHYL PARATHION	298-00-0	55 G	800 G	190000 C
METHYL STYRENE (MIXED ISOMERS)	25013-15-4	760 N	3100 N	3600 N
METHYL TERT-BUTYL ETHER (MTBE)	1634-04-4	1700 N	8500 N	9800 N
METHYLCHLOROPHENOXYACETIC ACD (MCPA)	94-74-6	110 G	1600 C	190000 C
METHYLENE BIS(2-CHLOROANILINE), 4,4'-	101-14-4	42 G	910 G	190000 C
METHYLNAPHTHALENE, 2-	91-57-6	57 N	240 N	270 N
METHYLSTYRENE, ALPHA	98-83-9	10000 C	10000 C	10000 C
METOLACHLOR	51218-45-2	10000 C	10000 C	10000 C
METRIBUZIN	21087-64-9	5500 G	80000 G	190000 C
MEVINPHOS	7786-34-7	5.5 G	80 G	190000 C
MONOCHLOROACETIC ACID	79-11-8	440 G	6400 G	190000 C
NAPHTHALENE	91-20-3	13 N	66 N	77 N
NAPHTHYLAMINE, 1-	134-32-7	10 G	51 G	190000 C
NAPHTHYLAMINE, 2-	91-59-8	10 G	51 G	190000 C
NAPROPAMIDE	15299-99-7	26000 G	190000 C	190000 C
NITROANILINE, O-	88-74-4	0.95 N	3.9 N	4.5 N

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PA Regulated is the lower of the Generic Soil to Groundwater and Direct Contact Non-Residential Values shown in Table 3 and Table 4.

REGULATED SUBSTANCE	CASRN	Residential		Non-Residential			
				Surface Soil		Subsurface Soil	
		0-15 feet		0-2 feet		2-15 feet	
NITROANILINE, P-	100-01-6	880	G	4600	G	190000	C
NITROBENZENE	98-95-3	11	N	55	N	63	N
NITROGUANIDINE	556-88-7	22000	G	190000	C	190000	C
NITROPHENOL, 2-	88-75-5	1800	G	26000	G	190000	C
NITROPHENOL, 4-	100-02-7	1800	G	26000	G	190000	C
NITROPROPANE, 2-	79-46-9	0.16	N	0.82	N	0.94	N
NITROSODIETHYLAMINE, N-	55-18-5	0.0041	N	0.051	N	0.059	N
NITROSODIMETHYLAMINE, N-	62-75-9	0.012	N	0.16	N	0.18	N
NITROSO-DI-N-BUTYLAMINE, N-	924-16-3	0.28	N	1.4	N	1.6	N
NITROSODI-N-PROPYLAMINE, N-	621-64-7	0.22	N	1.1	N	1.3	N
NITROSODIPHENYLAMINE, N-	86-30-6	170	N	860	N	990	N
NITROSO-N-ETHYLUREA, N-	759-73-9	0.16	G	3.4	G	190000	C
OCTYL PHTHALATE, DI-N-	117-84-0	2200	G	10000	C	10000	C
OXAMYL (VYDATE)	23135-22-0	5500	G	80000	G	190000	C
PARAQUAT	1910-42-5	990	G	14000	G	190000	C
PARATHION	56-38-2	6.6	G	96	G	10000	C
POLYCHLORINATED BIPHENYLS (PCBS) (AROCHLORS)	1336-36-3	9.3	G	46	G	190000	C
PCB-1016 (AROCLOR)	12674-11-2	15	G	220	G	10000	C
PCB-1221 (AROCLOR)	11104-28-2	4.7	N	23	N	27	N
PCB-1232 (AROCLOR)	11141-16-5	9.3	G	46	G	10000	C
PCB-1242 (AROCLOR)	53469-21-9	9.3	G	46	G	10000	C
PCB-1248 (AROCLOR)	12672-29-6	9.3	G	46	G	10000	C
PCB-1254 (AROCLOR)	11097-69-1	4.4	G	64	G	10000	C
PCB-1260 (AROCLOR)	11096-82-5	9.3	G	46	G	190000	C
PEBULATE	1114-71-2	10000	C	10000	C	10000	C
PENTACHLOROBENZENE	608-93-5	180	G	2600	G	190000	C
PENTACHLOROETHANE	76-01-7	210	G	1000	G	10000	C
PENTACHLORONITROBENZENE	82-68-8	72	G	350	G	190000	C
PENTACHLOROPHENOL	87-86-5	47	G	230	G	190000	C
PERFLUOROBUTANE SULFONATE (PFBS)	375-73-5	4400	G	10000	C	10000	C
PERFLUOROOCTANE SULFONATE (PFOS)	1763-23-1	4.4	G	64	G	190000	C
PERFLUOROOCTANOIC ACID (PFOA)	335-67-1	4.4	G	64	G	190000	C
PHENACETIN	62-44-2	8500	G	41000	G	190000	C
PHENANTHRENE	85-01-8	66000	G	190000	C	190000	C
PHENOL	108-95-2	3800	N	16000	N	18000	N
PHENYL MERCAPTAN	108-98-5	220	G	3200	G	10000	C
PHENYLENEDIAMINE, M-	108-45-2	1300	G	19000	G	190000	C
PHENYLPHENOL, 2-	90-43-7	9600	G	47000	G	190000	C
PHORATE	298-02-2	44	G	640	G	10000	C
PHTHALIC ANHYDRIDE	85-44-9	380	N	1600	N	1800	N
PICLORAM	1918-02-1	15000	G	190000	C	190000	C
PROMETON	1610-18-0	3300	G	48000	G	190000	C
PRONAMIDE	23950-58-5	17000	G	190000	C	190000	C
PROPACHLOR	1918-16-7	2900	G	42000	G	190000	C
PROPANIL	709-98-8	1100	G	16000	G	190000	C
PROPANOL, 2- (ISOPROPYL ALCOHOL)	67-63-0	3800	N	10000	C	10000	C
PROPAZINE	139-40-2	4400	G	10000	C	10000	C
PROPHAM	122-42-9	4400	G	64000	G	190000	C
PROPYLBENZENE, N-	103-65-1	10000	C	10000	C	10000	C
PROPYLENE OXIDE	75-56-9	78	G	380	G	690	N
PYRENE	129-00-0	6600	G	96000	G	190000	C
PYRETHRUM	8003-34-7	220	G	3200	G	10000	C
PYRIDINE	110-86-1	220	G	3200	G	10000	C
QUINOLINE	91-22-5	6.2	G	30	G	10000	C
QUIZALOFOP (ASSURE)	76578-14-8	2000	G	29000	G	190000	C
RDX	121-82-4	230	G	1100	G	190000	C
RESORCINOL	108-46-3	190000	C	190000	C	190000	C
RONNEL	299-84-3	11000	G	160000	G	190000	C
SIMAZINE	122-34-9	160	G	760	G	190000	C
STRYCHNINE	57-24-9	66	G	960	G	190000	C
STYRENE	100-42-5	10000	C	10000	C	10000	C
TEBUTHIURON	34014-18-1	15000	G	190000	C	190000	C
TERBACIL	5902-51-2	2900	G	42000	G	190000	C
TERBUFOS	13071-79-9	5.5	G	80	G	10000	C
TETRACHLOROBENZENE, 1,2,4,5-	95-94-3	66	G	960	G	190000	C
TETRACHLORODIBENZO-P-DIOXIN, 2,3,7,8- (TCDD)	1746-01-6	0.00014	G	0.0007	G	190000	C

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PA Regulated is the lower of the Generic Soil to Groundwater and Direct Contact Non-Residential Values shown in Table 3 and Table 4.

REGULATED SUBSTANCE	CASRN	Residential	Non-Residential	
			Surface Soil	Subsurface Soil
		0-15 feet	0-2 feet	2-15 feet
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	60 N	300 N	340 N
TETRACHLOROETHANE, 1,1,2,2-	79-34-5	7.6 N	38 N	44 N
TETRACHLOROETHYLENE (PCE)	127-18-4	760 N	3200 N	3600 N
TETRACHLOROPHENOL, 2,3,4,6-	58-90-2	6600 G	96000 G	190000 C
TETRAETHYL LEAD	78-00-2	0.022 G	0.32 G	10000 C
TETRAETHYLDITHIOPYROPHOSPHATE	3689-24-5	110 G	1600 G	10000 C
TETRAHYDROFURAN	109-99-9	230 N	1100 N	1300 N
THIOFANOX	39196-18-4	66 G	960 G	190000 C
THIRAM	137-26-8	3300 G	48000 G	190000 C
TOLUENE	108-88-3	10000 C	10000 C	10000 C
TOLUIDINE, M-	108-44-1	1200 G	5700 G	10000 C
TOLUIDINE, O-	95-53-4	1200 G	5700 G	10000 C
TOLUIDINE, P-	106-49-0	620 G	3000 G	190000 C
TOXAPHENE	8001-35-2	17 G	83 G	190000 C
TRIALLATE	2303-17-5	26 G	130 G	10000 C
TRIBROMOMETHANE (BROMOFORM)	75-25-2	400 N	2000 N	2300 N
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-	76-13-1	10000 C	10000 C	10000 C
TRICHLOROACETIC ACID	76-03-9	270 G	1300 G	190000 C
TRICHLOROBENZENE, 1,2,4-	120-82-1	39 N	160 N	190 N
TRICHLOROBENZENE, 1,3,5-	108-70-3	46 N	190 N	230 N
TRICHLOROETHANE, 1,1,1-	71-55-6	10000 C	10000 C	10000 C
TRICHLOROETHANE, 1,1,2-	79-00-5	3.8 N	16 N	18 N
TRICHLOROETHYLENE (TCE)	79-01-6	38 N	160 N	180 N
TRICHLOROPHENOL, 2,4,5-	95-95-4	22000 G	190000 C	190000 C
TRICHLOROPHENOL, 2,4,6-	88-06-2	220 G	3200 G	190000 C
TRICHLOROPHENOXYACETIC ACID, 2,4,5- (2,4,5-T)	93-76-5	2200 G	32000 G	190000 C
TRICHLOROPHENOXYPROPIONIC ACID, 2,4,5- (2,4,5-TP)(SILVEX)	93-72-1	1800 G	26000 G	190000 C
TRICHLOROPROPANE, 1,1,2-	598-77-6	1100 G	10000 C	10000 C
TRICHLOROPROPANE, 1,2,3-	96-18-4	0.14 G	3 G	27 N
TRICHLOROPROPENE, 1,2,3-	96-19-5	5.7 N	24 N	27 N
TRIETHYLAMINE	121-44-8	130 N	550 N	630 N
TRIETHYLENE GLYCOL	112-27-6	10000 C	10000 C	10000 C
TRIFLURALIN	1582-09-8	1700 G	12000 G	190000 C
TRIMETHYLBENZENE, 1,3,4- (TRIMETHYLBENZENE, 1,2,4-)	95-63-6	1100 N	4700 N	5400 N
TRIMETHYLBENZENE, 1,3,5-	108-67-8	1100 N	4700 N	5400 N
TRINITROGLYCEROL (NITROGLYCERIN)	55-63-0	22 G	320 G	10000 C
TRINITROTOLUENE, 2,4,6-	118-96-7	110 G	1600 G	190000 C
VINYL ACETATE	108-05-4	3800 N	10000 C	10000 C
VINYL BROMIDE (BROMOETHENE)	593-60-2	14 N	70 N	80 N
VINYL CHLORIDE	75-01-4	0.93 G	61 G	290 N
WARFARIN	81-81-2	66 G	960 G	190000 C
XYLENES (TOTAL)	1330-20-7	1900 N	7900 N	9100 N
ZINEB	12122-67-7	11000 G	160000 G	190000 C

All concentrations in mg/kg
G - Ingestion
N - Inhalation
C - Cap

PA Clean is the lower of the Generic Soil to Groundwater and the Direct Contact Residential Values shown in Table 3 and Table 4.

PA Regulated is the lower of the Generic Soil to Groundwater and Direct Contact Non-Residential Values shown in Table 3 and Table 4.

TABLE 3 - MEDIUM-SPECIFIC CONCENTRATIONS (MSCs) FOR ORGANIC REGULATED SUBSTANCES IN SOIL
B. Soil to Groundwater Numeric Values[1]

REGULATED SUBSTANCE	CASRN	Used Aquifers								Nonuse Aquifers				Soil Buffer Distance (feet)
		TDS ≤ 2500				TDS > 2500								
		Residential		Nonresidential		Residential		Nonresidential		Residential		Nonresidential		
		100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	
ACENAPHTHENE	83-32-9	210	2600 E	380	4700 E	380	4700 E	380	4700 E	380	4700 E	380	4700 E	15
ACENAPHTHYLENE	208-96-8	210	2400 E	580	6600 E	1600	18000 E	1600	18000 E	1600	18000 E	1600	18000 E	15
ACEPHATE	30560-19-1	4.2	0.5 E	12	1.4 E	420	50 E	1200	140 E	4.2	0.5 E	12	1.4 E	NA
ACETALDEHYDE	75-07-0	1.9	0.23 E	7.9	0.96 E	190	23 E	790	96 E	1.9	0.23 E	7.9	0.96 E	NA
ACETONE	67-64-1	3100	350 E	8800	980 E	10000	10000 C	10000	10000 C	10000	3500 E	10000	9800 E	NA
ACETONITRILE	75-05-8	13	1.5 E	53	6 E	1300	150 E	5300	600 E	130	15 E	530	60 E	NA
ACETOPHENONE	98-86-2	350	190 E	970	520 E	10000	10000 C	10000	10000 C	350	190 E	970	520 E	NA
ACETYLAMINOFLUORENE, 2- (2AAF)	53-96-3	0.017	0.07 E	0.072	0.3 E	1.7	7 E	7.2	30 E	17	70 E	72	300 E	20
ACROLEIN	107-02-8	0.0042	0.00047 E	0.018	0.002 E	0.42	0.047 E	1.8	0.2 E	0.042	0.0047 E	0.18	0.02 E	NA
ACRYLAMIDE	79-06-1	0.019	0.0033 E	0.25	0.043 E	1.9	0.33 E	25	4.3 E	0.019	0.0033 E	0.25	0.043 E	NA
ACRYLIC ACID	79-10-7	0.21	0.039 E	0.88	0.16 E	21	3.9 E	88	16 E	21	3.9 E	88	16 E	NA
ACRYLONITRILE	107-13-1	0.072	0.01 E	0.37	0.051 E	7.2	1 E	37	5.1 E	7.2	1 E	37	5.1 E	NA
ALACHLOR	15972-60-8	0.2	0.077 E	0.2	0.077 E	20	7.7 E	20	7.7 E	0.2	0.077 E	0.2	0.077 E	NA
ALDICARB	116-06-3	0.3	0.05 E	0.3	0.05 E	30	5 E	30	5 E	300	50 E	300	50 E	NA
ALDICARB SULFONE	1646-88-4	0.2	0.027 E	0.2	0.027 E	20	2.7 E	20	2.7 E	0.2	0.027 E	0.2	0.027 E	NA
ALDICARB SULFOXIDE	1646-87-3	0.4	0.045 E	0.4	0.045 E	40	4.5 E	40	4.5 E	0.4	0.045 E	0.4	0.045 E	NA
ALDRIN	309-00-2	0.0038	0.46 E	0.016	1.9 E	0.38	46 E	1.6	190 E	2	240 E	2	240 E	10
ALLYL ALCOHOL	107-18-6	0.021	0.0025 E	0.088	0.01 E	2.1	0.25 E	8.8	1 E	2.1	0.25 E	8.8	1 E	NA
AMETRYN	834-12-8	6	6.5 E	6	6.5 E	600	650 E	600	650 E	6	6.5 E	6	6.5 E	NA
AMINOBIPHENYL, 4-	92-67-1	0.0031	0.0012 E	0.013	0.005 E	0.31	0.12 E	1.3	0.5 E	3.1	1.2 E	13	5 E	NA
AMITROLE	61-82-5	0.069	0.028 E	0.29	0.12 E	6.9	2.8 E	29	12 E	69	28 E	290	120 E	NA
AMMONIA	7664-41-7	3000	360 E	3000	360 E	10000	10000 C	10000	10000 C	3000	360 E	3000	360 E	NA
AMMONIUM SULFAMATE	7773-06-0	200	24 E	200	24 E	20000	2400 E	20000	2400 E	200	24 E	200	24 E	NA
ANILINE	62-53-3	0.21	0.12 E	0.88	0.52 E	21	12 E	88	52 E	0.21	0.12 E	0.88	0.52 E	NA
ANTHRACENE	120-12-7	6.6	350 E	6.6	350 E	6.6	350 E	6.6	350 E	6.6	350 E	6.6	350 E	10
ATRAZINE	1912-24-9	0.3	0.13 E	0.3	0.13 E	30	13 E	30	13 E	0.3	0.13 E	0.3	0.13 E	NA
AZINPHOS-METHYL (GUTHION)	86-50-0	5.2	5.9 E	15	17 E	520	590 E	1500	1700 E	5.2	5.9 E	15	17 E	NA
BAYGON (PROPOXUR)	114-26-1	0.3	0.057 E	0.3	0.057 E	30	5.7 E	30	5.7 E	300	57 E	300	57 E	NA
BENOMYL	17804-35-2	27	130 E	110	530 E	200	970 E	200	970 E	27	130 E	110	530 E	20
BENTAZON	25057-89-0	20	2.9 E	20	2.9 E	2000	290 E	2000	290 E	20	2.9 E	20	2.9 E	NA
BENZENE	71-43-2	0.5	0.13 E	0.5	0.13 E	50	13 E	50	13 E	50	13 E	50	13 E	NA
BENZIDINE	92-87-5	0.000092	0.12 E	0.0012	1.6 E	0.0092	12 E	0.12	160 E	0.092	120 E	1.2	1600 E	5
BENZO[A]ANTHRACENE	56-55-3	0.03	26 E	0.39	340 E	1.1	960 E	1.1	960 E	1.1	960 E	1.1	960 E	5
BENZO[A]PYRENE	50-32-8	0.02	46 E	0.02	46 E	0.38	860 E	0.38	860 E	0.38	860 E	0.38	860 E	5
BENZO[B]FLUORANTHENE	205-99-2	0.018	25 E	0.12	170 E	0.12	170 E	0.12	170 E	0.12	170 E	0.12	170 E	5
BENZO[GHI]PERYLENE	191-24-2	0.026	180 E	0.026	180 E	0.026	180 E	0.026	180 E	0.026	180 E	0.026	180 E	5
BENZO[K]FLUORANTHENE	207-08-9	0.018	200 E	0.055	610 E	0.055	610 E	0.055	610 E	0.055	610 E	0.055	610 E	5
BENZOIC ACID	65-85-0	14000	2700 E	39000	7500 E	190000	52000 E	190000	52000 E	14000	2700 E	39000	7500 E	NA
BENZOTRICHLORIDE	98-07-7	0.005	0.012 E	0.021	0.051 E	0.5	1.2 E	2.1	5.1 E	0.5	1.2 E	2.1	5.1 E	30
BENZYL ALCOHOL	100-51-6	350	130 E	970	350 E	10000	10000 C	10000	10000 C	350	130 E	970	350 E	NA
BENZYL CHLORIDE	100-44-7	0.1	0.059 E	0.51	0.3 E	10	5.9 E	51	30 E	10	5.9 E	51	30 E	NA
BETA PROPIOLACTONE	57-57-8	0.0012	0.00015 E	0.0063	0.00076 E	0.12	0.015 E	0.63	0.076 E	0.012	0.0015 E	0.063	0.0076 E	NA
BHC, ALPHA	319-84-6	0.01	0.046 E	0.043	0.2 E	1	4.6 E	4.3	20 E	10	46 E	43	200 E	20
BHC, BETA-	319-85-7	0.036	0.21 E	0.15	0.88 E	3.6	21 E	10	59 E	10	59 E	10	59 E	15

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PA Regulated is the lower of the Generic Soil to Groundwater and Direct Contact Non-Residential Values shown in Table 3 and Table 4.

REGULATED SUBSTANCE	CASRN	Used Aquifers								Nonuse Aquifers				Soil Buffer Distance (feet)
		TDS ≤ 2500				TDS > 2500								
		Residential		Nonresidential		Residential		Nonresidential		Residential		Nonresidential		
		100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	
BHC, GAMMA (LINDANE)	58-89-9	0.02	0.072 E	0.02	0.072 E	2	7.2 E	2	7.2 E	20	72 E	20	72 E	20
BIPHENYL, 1,1-	92-52-4	0.084	0.37 E	0.35	1.5 E	8.4	37 E	35	150 E	8.4	37 E	35	150 E	20
BIS(2-CHLOROETHOXY)METHANE	111-91-1	10	2.6 E	29	7.6 E	1000	260 E	2900	760 E	10	2.6 E	29	7.6 E	NA
BIS(2-CHLOROETHYL)ETHER	111-44-4	0.015	0.0045 E	0.076	0.023 E	1.5	0.45 E	7.6	2.3 E	1.5	0.45 E	7.6	2.3 E	NA
BIS(2-CHLORO-ISOPROPYL)ETHER	108-60-1	30	8 E	30	8 E	3000	800 E	3000	800 E	3000	800 E	3000	800 E	NA
BIS(CHLOROMETHYL)ETHER	542-88-1	0.000079	0.000012 E	0.0004	0.00006 E	0.0079	0.0012 E	0.04	0.006 E	0.0079	0.001 E	0.04	0.006 E	NA
BIS[2-ETHYLHEXYL] PHTHALATE	117-81-7	0.6	130 E	0.6	130 E	29	6300 E	29	6300 E	29	6300 E	29	6300 E	10
BISPHENOL A	80-05-7	170	660 E	490	1900 E	12000	46000 E	12000	46000 E	12000	46000 E	12000	46000 E	20
BROMACIL	314-40-9	7	1.8 E	7	1.8 E	700	180 E	700	180 E	7	1.8 E	7	1.8 E	NA
BROMOBENZENE	108-86-1	0.006	0.0047 E	0.006	0.0047 E	0.6	0.47 E	0.6	0.47 E	0.006	0.0047 E	0.006	0.0047 E	NA
BROMOCHLOROMETHANE	74-97-5	9	1.6 E	9	1.6 E	900	160 E	900	160 E	9	1.6 E	9	1.6 E	NA
BROMODICHLOROMETHANE	75-27-4	8	2.7 E	8	2.7 E	800	270 E	800	270 E	8	2.7 E	8	2.7 E	NA
BROMOMETHANE	74-83-9	1	0.54 E	1	0.54 E	100	54 E	100	54 E	100	54 E	100	54 E	NA
BROMOXYNIL	1689-84-5	0.63	0.54 E	2.6	2.2 E	63	54 E	260	220 E	0.63	0.54 E	2.6	2.2 E	NA
BROMOXYNIL OCTANOATE	1689-99-2	0.63	28 E	2.6	120 E	8	360 E	8	360 E	8	360 E	8	360 E	15
BUTADIENE, 1,3-	106-99-0	0.11	0.045 E	0.45	0.19 E	11	4.5 E	45	19 E	11	4.5 E	45	19 E	NA
BUTYL ALCOHOL, N-	71-36-3	350	42 E	970	120 E	10000	4200 E	10000	10000 C	3500	420 E	9700	1200 E	NA
BUTYLATE	2008-41-5	40	58 E	40	58 E	4000	5800 E	4000	5800 E	40	58 E	40	58 E	30
BUTYLBENZENE, N-	104-51-8	170	1100 E	490	3100 E	1500	9500 E	1500	9500 E	170	1100 E	490	3100 E	15
BUTYLBENZENE, SEC-	135-98-8	350	820 E	970	2300 E	1700	4000 E	1700	4000 E	350	820 E	970	2300 E	30
BUTYLBENZENE, TERT-	98-06-6	350	630 E	970	1800 E	3000	5400 E	3000	5400 E	350	630 E	970	1800 E	30
BUTYLBENZYL PHTHALATE	85-68-7	34	2900 E	140	10000 C	270	10000 C	270	10000 C	270	10000 C	270	10000 C	10
CAPTAN	133-06-2	28	17 E	50	31 E	50	31 E	50	31 E	50	31 E	50	31 E	NA
CARBARYL	63-25-2	350	210 E	970	570 E	12000	7000 E	12000	7000 E	12000	7000 E	12000	7000 E	NA
CARBAZOLE	86-74-8	3.3	21 E	14	89 E	120	760 E	120	760 E	3.3	21 E	14	89 E	15
CARBOFURAN	1563-66-2	4	0.87 E	4	0.87 E	400	87 E	400	87 E	4	0.87 E	4	0.87 E	NA
CARBON DISULFIDE	75-15-0	150	130 E	620	530 E	10000	10000 C	10000	10000 C	150	130 E	620	530 E	NA
CARBON TETRACHLORIDE	56-23-5	0.5	0.26 E	0.5	0.26 E	50	26 E	50	26 E	5	2.6 E	5	2.6 E	NA
CARBOXIN	5234-68-4	70	53 E	70	53 E	7000	5300 E	7000	5300 E	70	53 E	70	53 E	NA
CHLORAMBEN	133-90-4	10	1.6 E	10	1.6 E	1000	160 E	1000	160 E	10	1.6 E	10	1.6 E	NA
CHLORDANE	57-74-9	0.2	49 E	0.2	49 E	5.6	1400 E	5.6	1400 E	5.6	1400 E	5.6	1400 E	10
CHLORO-1,1-DIFLUOROETHANE, 1-	75-68-3	10000	1800 E	10000	7300 E	10000	10000 C	10000	10000 C	10000	1800 E	10000	7300 E	NA
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107-05-1	0.21	0.049 E	0.88	0.2 E	21	4.9 E	88	20 E	21	4.9 E	88	20 E	NA
CHLOROACETALDEHYDE	107-20-0	0.24	0.029 E	1	0.12 E	24	2.9 E	100	12 E	0.24	0.029 E	1	0.12 E	NA
CHLOROANILINE, P-	106-47-8	0.33	0.42 E	1.4	1.8 E	33	42 E	140	180 E	0.33	0.42 E	1.4	1.8 E	NA
CHLOROBENZENE	108-90-7	10	6.1 E	10	6.1 E	1000	610 E	1000	610 E	1000	610 E	1000	610 E	NA
CHLOROBENZILATE	510-15-6	0.59	3.9 E	2.5	17 E	59	390 E	250	1700 E	590	3900 E	1300	8600 E	15
CHLOROBUTANE, 1-	109-69-3	140	220 E	390	610 E	10000	10000 C	10000	10000 C	140	220 E	390	610 E	30
CHLORODIBROMOMETHANE	124-48-1	8	2.5 E	8	2.5 E	800	250 E	800	250 E	800	250 E	800	250 E	NA
CHLORODIFLUOROMETHANE	75-45-6	10000	2800 E	10000	10000 C	10000	10000 C	10000	10000 C	10000	2800 E	10000	10000 C	NA
CHLOROETHANE	75-00-3	2100	450 E	8800	1900 E	10000	10000 C	10000	10000 C	10000	10000 C	10000	10000 C	NA
CHLOROFORM	67-66-3	8	2 E	8	2 E	800	200 E	800	200 E	80	20 E	80	20 E	NA
CHLORONAPHTHALENE, 2-	91-58-7	280	6000 E	780	17000 E	1200	26000 E	1200	26000 E	280	6000 E	780	17000 E	15
CHLORONITROBENZENE, P-	100-00-5	0.42	0.55 E	1.8	2.4 E	42	55 E	180	240 E	0.42	0.55 E	1.8	2.4 E	NA
CHLOROPHENOL, 2-	95-57-8	4	4.4 E	4	4.4 E	400	440 E	400	440 E	4	4.4 E	4	4.4 E	NA
CHLOROPRENE	126-99-8	0.016	0.0038 E	0.083	0.02 E	1.6	0.38 E	8.3	2 E	1.6	0.38 E	8.3	2 E	NA
CHLOROPROPANE, 2-	75-29-6	21	16 E	88	67 E	2100	1600 E	8800	6700 E	21	16 E	88	67 E	NA

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PA Regulated is the lower of the Generic Soil to Groundwater and Direct Contact Non-Residential Values shown in Table 3 and Table 4.

REGULATED SUBSTANCE	CASRN	Used Aquifers								Nonuse Aquifers				Soil Buffer Distance (feet)
		TDS ≤ 2500				TDS > 2500								
		Residential		Nonresidential		Residential		Nonresidential		Residential		Nonresidential		
		100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	
CHLOROTHALONIL	1897-45-6	3.8	9.7 E	16	41 E	60	150 E	60	150 E	3.8	9.7 E	16	41 E	30
CHLOROTOLUENE, O-	95-49-8	10	20 E	10	20 E	1000	2000 E	1000	2000 E	10	20 E	10	20 E	30
CHLOROTOLUENE, P-	106-43-4	10	10 E	10	10 E	1000	1000 E	1000	1000 E	10	10 E	10	10 E	NA
CHLORPYRIFOS	2921-88-2	0.2	2.3 E	0.2	2.3 E	20	230 E	20	230 E	0.2	2.3 E	0.2	2.3 E	15
CHLORSULFURON	64902-72-3	69	9.6 E	190	26 E	6900	960 E	19000	2600 E	69	9.6 E	190	26 E	NA
CHLORTHAL-DIMETHYL (DACTHAL) (DCPA)	1861-32-1	7	110 E	7	110 E	50	820 E	50	820 E	50	820 E	50	820 E	15
CHRYSENE	218-01-9	0.18	220 E	0.19	230 E	0.19	230 E	0.19	230 E	0.19	230 E	0.19	230 E	5
CRESOL(S)	1319-77-3	130	23 E	530	92 E	10000	2300 E	10000	9200 E	10000	2300 E	10000	9200 E	NA
CRESOL, 4,6-DINITRO-O-	534-52-1	0.28	0.21 E	0.78	0.59 E	28	21 E	78	59 E	28	21 E	78	59 E	NA
CRESOL, O- (2-METHYLPHENOL)	95-48-7	170	28 E	490	81 E	17000	2800 E	49000	8100 E	17000	2800 E	49000	8100 E	NA
CRESOL, M- (3-METHYLPHENOL)	108-39-4	170	34 E	490	97 E	10000	3400 E	10000	9700 E	10000	10000 C	10000	10000 C	NA
CRESOL, P- (4-METHYLPHENOL)	106-44-5	17	4 E	49	11 E	1700	400 E	4900	1100 E	17000	4000 E	49000	11000 E	NA
CRESOL, P-CHLORO-M-	59-50-7	350	720 E	970	2000 E	35000	72000 E	97000	190000 C	350	720 E	970	2000 E	30
CROTONALDEHYDE	4170-30-3	0.034	0.0043 E	0.14	0.018 E	3.4	0.43 E	14	1.8 E	3.4	0.43 E	14	1.8 E	NA
CROTONALDEHYDE, TRANS-	123-73-9	0.034	0.0043 E	0.14	0.018 E	3.4	0.43 E	14	1.8 E	3.4	0.43 E	14	1.8 E	NA
CUMENE (ISOPROPYL BENZENE)	98-82-8	84	600 E	350	2500 E	5000	10000 C	5000	10000 C	5000	10000 C	5000	10000 C	15
CYANAZINE	21725-46-2	0.1	0.061 E	0.1	0.061 E	10	6.1 E	10	6.1 E	0.1	0.061 E	0.1	0.061 E	NA
CYCLOHEXANE	110-82-7	1300	1700 E	5300	6900 E	5500	7200 E	5500	7200 E	1300	1700 E	5300	6900 E	NA
CYCLOHEXANONE	108-94-1	150	41 E	620	170 E	10000	4100 E	10000	10000 C	150	41 E	620	170 E	NA
CYFLUTHRIN	68359-37-5	0.1	33 E	0.1	33 E	0.1	33 E	0.1	33 E	0.1	33 E	0.1	33 E	10
CYROMAZINE	66215-27-8	1700	5300 E	4900	15000 E	170000	190000 C	190000	190000 C	1700	5300 E	4900	15000 E	20
DDD, 4,4'-	72-54-8	0.27	30 E	1.1	120 E	16	1800 E	16	1800 E	16	1800 E	16	1800 E	10
DDE, 4,4'-	72-55-9	0.19	41 E	0.8	170 E	4	870 E	4	870 E	4	870 E	4	870 E	10
DDT, 4,4'-	50-29-3	0.19	110 E	0.55	330 E	0.55	330 E	0.55	330 E	0.55	330 E	0.55	330 E	5
DI(2-ETHYLHEXYL)ADIPATE	103-23-1	40	10000 C	40	10000 C	4000	10000 C	4000	10000 C	10000	10000 C	10000	10000 C	5
DIALLATE	2303-16-4	1.1	0.64 E	4.5	2.6 E	110	64 E	450	260 E	1100	640 E	4000	2300 E	NA
DIAMINOTOLUENE, 2,4-	95-80-7	0.016	0.0032 E	0.068	0.014 E	1.6	0.32 E	6.8	1.4 E	16	3.2 E	68	14 E	NA
DIAZINON	333-41-5	0.1	0.14 E	0.1	0.14 E	10	14 E	10	14 E	0.1	0.14 E	0.1	0.14 E	30
DIBENZO[A,H]ANTHRACENE	53-70-3	0.0052	23 E	0.06	270 E	0.06	270 E	0.06	270 E	0.06	270 E	0.06	270 E	5
DIBENZOFURAN	132-64-9	3.5	90 E	9.7	250 E	350	9000 E	450	12000 E	350	9000 E	450	12000 E	15
DIBROMO-3-CHLOROPROPANE, 1,2-	96-12-8	0.02	0.0092 E	0.02	0.0092 E	2	0.92 E	2	0.92 E	2	0.92 E	2	0.92 E	NA
DIBROMOBENZENE, 1,4-	106-37-6	35	140 E	97	400 E	2000	8200 E	2000	8200 E	35	140 E	97	400 E	20
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106-93-4	0.005	0.0012 E	0.005	0.0012 E	0.5	0.12 E	0.5	0.12 E	0.5	0.12 E	0.5	0.12 E	NA
DIBROMOMETHANE	74-95-3	0.84	0.32 E	3.5	1.4 E	84	32 E	350	140 E	84	32 E	350	140 E	NA
DIBUTYL PHTHALATE, N-	84-74-2	350	1400 E	970	4000 E	10000	10000 C	10000	10000 C	10000	10000 C	10000	10000 C	20
DICAMBA	1918-00-9	400	45 E	400	45 E	40000	4500 E	40000	4500 E	400	45 E	400	45 E	NA
DICHLOROACETIC ACID	79-43-6	6	0.79 E	6	0.79 E	600	79 E	600	79 E	6	0.79 E	6	0.79 E	NA
DICHLORO-2-BUTENE, 1,4-	764-41-0	0.0012	0.00067 E	0.006	0.0034 E	0.12	0.07 E	0.6	0.34 E	0.0012	0.0007 E	0.006	0.0034 E	NA
DICHLORO-2-BUTENE, TRANS-1,4-	110-57-6	0.0012	0.00078 E	0.006	0.0039 E	0.12	0.078 E	0.6	0.39 E	0.0012	0.00078 E	0.006	0.0039 E	NA
DICHLOROBENZENE, 1,2-	95-50-1	60	59 E	60	59 E	6000	5900 E	6000	5900 E	6000	5900 E	6000	5900 E	NA
DICHLOROBENZENE, 1,3-	541-73-1	60	61 E	60	61 E	6000	6100 E	6000	6100 E	6000	6100 E	6000	6100 E	NA
DICHLOROBENZENE, P-	106-46-7	7.5	10 E	7.5	10 E	750	1000 E	750	1000 E	750	1000 E	750	1000 E	30
DICHLOROBENZIDINE, 3,3'-	91-94-1	0.14	7.7 E	0.6	33 E	14	770 E	60	3300 E	140	7700 E	310	17000 E	10
DICHLORODIFLUOROMETHANE (FREON 12)	75-71-8	100	100 E	100	100 E	10000	10000 C	10000	10000 C	10000	10000 C	10000	10000 C	NA
DICHLOROETHANE, 1,1-	75-34-3	3.1	0.75 E	16	3.9 E	310	75 E	1600	390 E	31	7.5 E	160	39 E	NA
DICHLOROETHANE, 1,2-	107-06-2	0.5	0.1 E	0.5	0.1 E	50	10 E	50	10 E	5	1 E	5	1 E	NA
DICHLOROETHYLENE, 1,1-	75-35-4	0.7	0.19 E	0.7	0.19 E	70	19 E	70	19 E	7	1.9 E	7	1.9 E	NA

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PA Regulated is the lower of the Generic Soil to Groundwater and Direct Contact Non-Residential Values shown in Table 3 and Table 4.

REGULATED SUBSTANCE	CASRN	Used Aquifers								Nonuse Aquifers				Soil Buffer Distance (feet)
		TDS ≤ 2500				TDS > 2500								
		Residential		Nonresidential		Residential		Nonresidential		Residential		Nonresidential		
		100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	
DICHLOROETHYLENE, CIS-1,2-	156-59-2	7	1.6 E	7	1.6 E	700	160 E	700	160 E	70	16 E	70	16 E	NA
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	10	2.3 E	10	2.3 E	1000	230 E	1000	230 E	100	23 E	100	23 E	NA
DICHLOROMETHANE (METHYLENE CHLORIDE)	75-09-2	0.5	0.076 E	0.5	0.076 E	50	7.6 E	50	7.6 E	50	7.6 E	50	7.6 E	NA
DICHLOROPHENOL, 2,4-	120-83-2	2	1 E	2	1 E	200	100 E	200	100 E	2000	1000 E	2000	1000 E	NA
DICHLOROPHENOXYACETIC ACID, 2,4- (2,4-D)	94-75-7	7	1.8 E	7	1.8 E	700	180 E	700	180 E	7000	1800 E	7000	1800 E	NA
DICHLOROPROPANE, 1,2-	78-87-5	0.5	0.11 E	0.5	0.11 E	50	11 E	50	11 E	5	1.1 E	5	1.1 E	NA
DICHLOROPROPENE, 1,3-	542-75-6	0.65	0.12 E	2.7	0.48 E	65	12 E	270	48 E	65	12 E	270	48 E	NA
DICHLOROPROPIONIC ACID, 2,2- (DALAPON)	75-99-0	20	5.3 E	20	5.3 E	2000	530 E	2000	530 E	2000	530 E	2000	530 E	NA
DICHLORVOS	62-73-7	0.22	0.052 E	0.94	0.22 E	22	5.2 E	94	22 E	0.22	0.052 E	0.94	0.22 E	NA
DICYCLOPENTADIENE	77-73-6	0.063	0.13 E	0.26	0.56 E	6.3	13 E	26	56 E	0.063	0.13 E	0.26	0.56 E	30
DIELDRIN	60-57-1	0.0041	0.11 E	0.017	0.47 E	0.41	11 E	1.7	47 E	4.1	110 E	17	470 E	15
DIETHYL PHTHALATE	84-66-2	2800	880 E	7800	2400 E	10000	10000 C	10000	10000 C	10000	10000 C	10000	10000 C	NA
DIFLUBENZURON	35367-38-5	20	52 E	20	52 E	20	52 E	20	52 E	20	52 E	20	52 E	20
DIISOPROPYL METHYLPHOSPHONATE	1445-75-6	60	8.2 E	60	8.2 E	6000	820 E	6000	820 E	60	8.2 E	60	8.2 E	NA
DIMETHOATE	60-51-5	7.6	2.9 E	21	8.1 E	760	290 E	2100	810 E	7600	2900 E	21000	8100 E	NA
DIMETHOXYBENZIDINE, 3,3-	119-90-4	0.041	0.14 E	0.17	0.57 E	4.1	14 E	17	57 E	41	140 E	170	570 E	20
DIMETHRIN	70-38-2	3.6	240 E	3.6	240 E	3.6	240 E	3.6	240 E	3.6	240 E	3.6	240 E	10
DIMETHYLAMINOAZOBENZENE, P-	60-11-7	0.014	0.037 E	0.059	0.15 E	1.4	3.7 E	5.9	15 E	14	37 E	59	150 E	20
DIMETHYLANILINE, N,N-	121-69-7	2.4	1.3 E	10	5.6 E	240	130 E	1000	560 E	240	130 E	1000	560 E	NA
DIMETHYLBENZIDINE, 3,3-	119-93-7	0.0059	0.33 E	0.025	1.4 E	0.59	33 E	2.5	140 E	5.9	330 E	25	1400 E	10
DIMETHYL METHYLPHOSPHONATE	756-79-6	10	1.2 E	10	1.2 E	1000	120 E	1000	120 E	10	1.2 E	10	1.2 E	NA
DIMETHYLPHENOL, 2,4-	105-67-9	69	30 E	190	83 E	6900	3000 E	10000	8300 E	10000	10000 C	10000	10000 C	NA
DINITROBENZENE, 1,3-	99-65-0	0.1	0.049 E	0.1	0.049 E	10	4.9 E	10	4.9 E	100	49 E	100	49 E	NA
DINITROPHENOL, 2,4-	51-28-5	6.9	0.78 E	19	2.1 E	690	78 E	1900	210 E	6900	780 E	19000	2100 E	NA
DINITROTOLUENE, 2,4-	121-14-2	0.21	0.05 E	0.88	0.21 E	21	5 E	88	21 E	210	50 E	880	210 E	NA
DINITROTOLUENE, 2,6- (2,6-DNT)	606-20-2	0.043	0.013 E	0.18	0.053 E	4.3	1.3 E	18	5.3 E	43	13 E	180	53 E	NA
DINOSEB	88-85-7	0.7	0.29 E	0.7	0.29 E	70	29 E	70	29 E	700	290 E	700	290 E	NA
DIOXANE, 1,4-	123-91-1	0.65	0.085 E	2.7	0.35 E	65	8.5 E	270	35 E	6.5	0.85 E	27	3.5 E	NA
DIPHENAMID	957-51-7	20	12 E	20	12 E	2000	1200 E	2000	1200 E	20	12 E	20	12 E	NA
DIPHENYLAMINE	122-39-4	350	210 E	970	570 E	30000	18000 E	30000	18000 E	30000	18000 E	30000	18000 E	NA
DIPHENYLHYDRAZINE, 1,2-	122-66-7	0.022	0.039 E	0.11	0.19 E	2.2	3.9 E	11	19 E	2.2	3.9 E	11	19 E	30
DIQUAT	85-00-7	2	0.24 E	2	0.24 E	200	24 E	200	24 E	2	0.24 E	2	0.24 E	NA
DISULFOTON	298-04-4	0.07	0.18 E	0.07	0.18 E	7	18 E	7	18 E	70	180 E	70	180 E	20
DITHIANE, 1,4-	505-29-3	8	1.3 E	8	1.3 E	800	130 E	800	130 E	8	1.3 E	8	1.3 E	NA
DIURON	330-54-1	6.9	5.9 E	19	16 E	690	590 E	1900	1600 E	6.9	5.9 E	19	16 E	NA
ENDOSULFAN	115-29-7	21	110 E	48	250 E	48	250 E	48	250 E	48	250 E	48	250 E	15
ENDOSULFAN I (ALPHA)	959-98-8	21	110 E	50	260 E	50	260 E	50	260 E	21	110 E	50	260 E	15
ENDOSULFAN II (BETA)	33213-65-9	21	120 E	45	260 E	45	260 E	45	260 E	21	120 E	45	260 E	15
ENDOSULFAN SULFATE	1031-07-8	12	70 E	12	70 E	12	70 E	12	70 E	12	70 E	12	70 E	15
ENDOTHALL	145-73-3	10	4.1 E	10	4.1 E	1000	410 E	1000	410 E	10	4.1 E	10	4.1 E	NA
ENDRIN	72-20-8	0.2	5.5 E	0.2	5.5 E	20	550 E	20	550 E	0.2	5.5 E	0.2	5.5 E	15
EPICHLOROHYDRIN	106-89-8	0.21	0.042 E	0.88	0.17 E	21	4.2 E	88	17 E	21	4.2 E	88	17 E	NA
ETHEPHON	16672-87-0	17	2 E	49	5.7 E	1700	200 E	4900	570 E	17	2 E	49	5.7 E	NA
ETHION	563-12-2	1.7	37 E	4.9	110 E	85	1900 E	85	1900 E	1.7	37 E	4.9	110 E	15
ETHOXYETHANOL, 2- (EGEE)	110-80-5	42	5.9 E	180	25 E	4200	590 E	10000	2500 E	4200	590 E	10000	2500 E	NA
ETHYL ACETATE	141-78-6	15	3.9 E	62	16 E	1500	390 E	6200	1600 E	1500	390 E	6200	1600 E	NA
ETHYL ACRYLATE	140-88-5	1.4	0.54 E	5.7	2.2 E	140	54 E	570	220 E	140	54 E	570	220 E	NA

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REGULATED SUBSTANCE	CASRN	Used Aquifers								Nonuse Aquifers				Soil Buffer Distance (feet)
		TDS ≤ 2500				TDS > 2500								
		Residential		Nonresidential		Residential		Nonresidential		Residential		Nonresidential		
		100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	
ETHYL BENZENE	100-41-4	70	46 E	70	46 E	7000	4600 E	7000	4600 E	7000	4600 E	7000	4600 E	NA
ETHYL DIPROPYLTHIOCARBAMATE, S- (EPTC)	759-94-4	170	120 E	490	350 E	10000	10000 C	10000	10000 C	170	120 E	490	350 E	NA
ETHYL ETHER	60-29-7	690	190 E	1900	530 E	10000	10000 C	10000	10000 C	690	190 E	1900	530 E	NA
ETHYL METHACRYLATE	97-63-2	63	10 E	260	43 E	6300	1000 E	10000	4300 E	63	10 E	260	43 E	NA
ETHYLENE CHLORHYDRIN	107-07-3	69	7.9 E	190	22 E	6900	790 E	10000	2200 E	69	7.9 E	190	22 E	NA
ETHYLENE GLYCOL	107-21-1	1400	170 E	1400	170 E	10000	10000 C	10000	10000 C	10000	10000 C	10000	10000 C	NA
ETHYLENE THIOUREA (ETU)	96-45-7	0.28	0.031 E	0.78	0.087 E	28	3.1 E	78	8.7 E	280	31 E	780	87 E	NA
ETHYLP-NITROPHENYL PHENYLPHOSPHOROTHIOATE	2104-64-5	0.035	0.11 E	0.097	0.3 E	3.5	11 E	9.7	30 E	0.035	0.11 E	0.097	0.3 E	20
FENAMIPHOS	22224-92-6	0.07	0.06 E	0.07	0.06 E	7	6 E	7	6 E	0.07	0.06 E	0.07	0.06 E	NA
FENVALERATE (PYDRIN)	51630-58-1	8.5	94 E	8.5	94 E	8.5	94 E	8.5	94 E	8.5	94 E	8.5	94 E	15
FLUOMETURON	2164-17-2	9	2.5 E	9	2.5 E	900	250 E	900	250 E	9	2.5 E	9	2.5 E	NA
FLUORANTHENE	206-44-0	26	3200 E	26	3200 E	26	3200 E	26	3200 E	26	3200 E	26	3200 E	10
FLUORENE	86-73-7	140	2800 E	190	3800 E	190	3800 E	190	3800 E	190	3800 E	190	3800 E	15
FLUOROTRICHLOROMETHANE (FREON 11)	75-69-4	200	87 E	200	87 E	10000	8700 E	10000	8700 E	10000	8700 E	10000	8700 E	NA
FONOFOS	944-22-9	1	2.9 E	1	2.9 E	100	290 E	100	290 E	1	2.9 E	1	2.9 E	20
FORMALDEHYDE	50-00-0	100	12 E	100	12 E	10000	1200 E	10000	1200 E	10000	1200 E	10000	1200 E	NA
FORMIC ACID	64-18-6	0.063	0.0071 E	0.26	0.029 E	6.3	0.71 E	26	2.9 E	0.63	0.071 E	2.6	0.29 E	NA
FOSETYL-AL	39148-24-8	8700	7700 E	24000	21000 E	190000	190000 C	190000	190000 C	8700	7700 E	24000	21000 E	NA
FURAN	110-00-9	3.5	1.5 E	9.7	4.2 E	350	150 E	970	420 E	350	150 E	970	420 E	NA
FURFURAL	98-01-1	1.9	0.24 E	7.8	0.99 E	190	24 E	780	99 E	1.9	0.24 E	7.8	0.99 E	NA
GLYPHOSATE	1071-83-6	70	620 E	70	620 E	7000	62000 E	7000	62000 E	70	620 E	70	620 E	15
HEPTACHLOR	76-44-8	0.04	0.68 E	0.04	0.68 E	4	68 E	4	68 E	18	310 E	18	310 E	15
HEPTACHLOR EPOXIDE	1024-57-3	0.02	1.1 E	0.02	1.1 E	2	110 E	2	110 E	20	1100 E	20	1100 E	10
HEXACHLOROBENZENE	118-74-1	0.1	0.96 E	0.1	0.96 E	0.6	5.8 E	0.6	5.8 E	0.6	5.8 E	0.6	5.8 E	15
HEXACHLOROBUTADIENE	87-68-3	0.84	10 E	3.5	42 E	84	1000 E	290	3400 E	290	3400 E	290	3400 E	15
HEXACHLOROCYCLOPENTADIENE	77-47-4	5	91 E	5	91 E	180	3300 E	180	3300 E	180	3300 E	180	3300 E	15
HEXACHLOROETHANE	67-72-1	0.1	0.56 E	0.1	0.56 E	10	56 E	10	56 E	10	56 E	10	56 E	15
HEXANE	110-54-3	150	1400 E	580	5300 E	950	8700 E	950	8700 E	150	1400 E	580	5300 E	15
HEXAZINONE	51235-04-2	40	8.5 E	40	8.5 E	4000	850 E	4000	850 E	40	8.5 E	40	8.5 E	NA
HEXYTHIAZOX (SAVEY)	78587-05-0	50	820 E	50	820 E	50	820 E	50	820 E	50	820 E	50	820 E	15
HMX	2691-41-0	40	4.8 E	40	4.8 E	500	60 E	500	60 E	40	4.8 E	40	4.8 E	NA
HYDRAZINE/HYDRAZINE SULFATE	302-01-2	0.001	0.00011 E	0.0051	0.00057 E	0.1	0.011 E	0.51	0.057 E	0.01	0.0011 E	0.051	0.0057 E	NA
HYDROQUINONE	123-31-9	1.1	0.15 E	4.5	0.61 E	110	15 E	450	61 E	1100	150 E	4500	610 E	NA
INDENO[1,2,3-CD]PYRENE	193-39-5	0.018	1400 E	0.23	18000 E	1.8	140000 E	6.2	190000 C	6.2	190000 C	6.2	190000 C	5
IPRODIONE	36734-19-7	1.5	4.3 E	6.2	18 E	150	430 E	620	1800 E	1.5	4.3 E	6.2	18 E	20
ISOBUTYL ALCOHOL	78-83-1	1000	260 E	2900	760 E	10000	10000 C	10000	10000 C	10000	10000 C	10000	10000 C	NA
ISOPHORONE	78-59-1	10	1.9 E	10	1.9 E	1000	190 E	1000	190 E	10000	1900 E	10000	1900 E	NA
ISOPROPYL METHYLPHOSPHONATE	1832-54-8	70	8.1 E	70	8.1 E	7000	810 E	7000	810 E	70	8.1 E	70	8.1 E	NA
KEPONE	143-50-0	0.0065	0.89 E	0.027	3.7 E	0.65	89 E	2.7	370 E	6.5	890 E	27	3700 E	10
MALATHION	121-75-5	50	170 E	50	170 E	5000	10000 C	5000	10000 C	10000	10000 C	10000	10000 C	20
MALEIC HYDRAZIDE	123-33-1	400	47 E	400	47 E	40000	4700 E	40000	4700 E	400	47 E	400	47 E	NA
MANEB	12427-38-2	1.1	0.12 E	4.5	0.51 E	110	12 E	450	51 E	1.1	0.12 E	4.5	0.51 E	NA
MERPHOS OXIDE	78-48-8	3.5	460 E	9.7	1300 E	230	10000 C	230	10000 C	3.5	460 E	9.7	1300 E	10
METHACRYLONITRILE	126-98-7	0.35	0.057 E	0.97	0.16 E	35	5.7 E	97	16 E	0.35	0.057 E	0.97	0.16 E	NA
METHAMIDOPHOS	10265-92-6	0.17	0.021 E	0.49	0.061 E	17	2.1 E	49	6.1 E	0.17	0.021 E	0.49	0.061 E	NA
METHANOL	67-56-1	4200	500 E	10000	2100 E	10000	10000 C	10000	10000 C	10000	10000 C	10000	10000 C	NA
METHOMYL	16752-77-5	20	3.2 E	20	3.2 E	2000	320 E	2000	320 E	20	3.2 E	20	3.2 E	NA

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REGULATED SUBSTANCE	CASRN	Used Aquifers								Nonuse Aquifers				Soil Buffer Distance (feet)
		TDS ≤ 2500				TDS > 2500								
		Residential		Nonresidential		Residential		Nonresidential		Residential		Nonresidential		
		100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	
METHOXYCHLOR	72-43-5	4	630 E	4	630 E	4.5	710 E	4.5	710 E	4.5	710 E	4.5	710 E	10
METHOXYETHANOL, 2-	109-86-4	4.2	0.48 E	18	2 E	420	48 E	1800	200 E	42	4.8 E	180	20 E	NA
METHYL ACETATE	79-20-9	3500	650 E	9700	1800 E	10000	10000 C	10000	10000 C	3500	650 E	9700	1800 E	NA
METHYL ACRYLATE	96-33-3	4.2	1 E	18	4.5 E	420	100 E	1800	450 E	420	100 E	1800	450 E	NA
METHYL CHLORIDE	74-87-3	3	0.38 E	3	0.38 E	300	38 E	300	38 E	300	38 E	300	38 E	NA
METHYL ETHYL KETONE	78-93-3	400	76 E	400	76 E	10000	7600 E	10000	7600 E	10000	7600 E	10000	7600 E	NA
METHYL HYDRAZINE	60-34-4	0.0042	0.00048 E	0.018	0.002 E	0.42	0.048 E	1.8	0.2 E	0.042	0.0048 E	0.18	0.02 E	NA
METHYL ISOBUTYL KETONE	108-10-1	280	43 E	780	120 E	10000	4300 E	10000	10000 C	10000	4300 E	10000	10000 C	NA
METHYL ISOCYANATE	624-83-9	0.21	0.029 E	0.88	0.12 E	21	2.9 E	88	12 E	0.21	0.029 E	0.88	0.12 E	NA
METHYL N-BUTYL KETONE (2-HEXANONE)	591-78-6	6.3	1.6 E	26	6.4 E	630	160 E	2600	640 E	6.3	1.6 E	26	6.4 E	NA
METHYL METHACRYLATE	80-62-6	150	20 E	620	84 E	10000	2000 E	10000	8400 E	10000	2000 E	10000	8400 E	NA
METHYL METHANESULFONATE	66-27-3	0.66	0.082 E	2.7	0.34 E	66	8.2 E	270	34 E	0.66	0.082 E	2.7	0.34 E	NA
METHYL PARATHION	298-00-0	0.1	0.21 E	0.1	0.21 E	10	21 E	10	21 E	100	210 E	100	210 E	30
METHYL STYRENE (MIXED ISOMERS)	25013-15-4	8.4	47 E	35	200 E	840	4700 E	3500	10000 C	8.4	47 E	35	200 E	15
METHYL TERT-BUTYL ETHER (MTBE)	1634-04-4	19	2.7 E	96	14 E	1900	270 E	9600	1400 E	190	27 E	960	140 E	NA
METHYLCHLOROPHENOXYACETIC ACID (MCPA)	94-74-6	3	1.2 E	3	1.2 E	300	120 E	300	120 E	3000	1200 E	3000	1200 E	NA
METHYLENE BIS(2-CHLOROANILINE), 4,4'-	101-14-4	0.21	1.6 E	2.7	21 E	21	160 E	270	2100 E	0.21	1.6 E	2.7	21 E	15
METHYLNAPHTHALENE, 2-	91-57-6	0.63	25 E	2.6	100 E	63	2500 E	260	10000 E	0.63	25 E	2.6	100 E	15
METHYLSTYRENE, ALPHA	98-83-9	240	420 E	680	1200 E	10000	10000 C	10000	10000 C	240	420 E	680	1200 E	30
METOLACHLOR	51218-45-2	70	40 E	70	40 E	7000	4000 E	7000	4000 E	70	40 E	70	40 E	NA
METRIBUZIN	21087-64-9	7	2.4 E	7	2.4 E	700	240 E	700	240 E	7	2.4 E	7	2.4 E	NA
MEVINPHOS	7786-34-7	0.087	0.019 E	0.24	0.053 E	8.7	1.9 E	24	5.3 E	0.087	0.019 E	0.24	0.053 E	NA
MONOCHLOROACETIC ACID	79-11-8	6	0.67 E	6	0.67 E	600	67 E	600	67 E	6	0.67 E	6	0.67 E	NA
NAPHTHALENE	91-20-3	10	25 E	10	25 E	1000	2500 E	1000	2500 E	1000	2500 E	1000	2500 E	30
NAPHTHYLAMINE, 1-	134-32-7	0.036	0.29 E	0.15	1.2 E	3.6	29 E	15	120 E	3.6	29 E	15	120 E	15
NAPHTHYLAMINE, 2-	91-59-8	0.036	0.012 E	0.15	0.049 E	3.6	1.2 E	15	4.9 E	36	12 E	150	49 E	NA
NAPROPAMIDE	15299-99-7	420	970 E	1200	2800 E	7000	16000 E	7000	16000 E	420	970 E	1200	2800 E	30
NITROANILINE, O-	88-74-4	0.011	0.002 E	0.044	0.0079 E	1.1	0.2 E	4.4	0.79 E	0.011	0.002 E	0.044	0.0079 E	NA
NITROANILINE, P-	100-01-6	3.3	0.49 E	14	2.1 E	330	49 E	1400	210 E	3.3	0.49 E	14	2.1 E	NA
NITROBENZENE	98-95-3	0.12	0.052 E	0.63	0.27 E	12	5.2 E	63	27 E	12	5.2 E	63	27 E	NA
NITROGUANIDINE	556-88-7	70	7.8 E	70	7.8 E	7000	780 E	7000	780 E	70	7.8 E	70	7.8 E	NA
NITROPHENOL, 2-	88-75-5	28	5.7 E	78	16 E	2800	570 E	7800	1600 E	2800	570 E	7800	1600 E	NA
NITROPHENOL, 4-	100-02-7	6	4.1 E	6	4.1 E	600	410 E	600	410 E	600	410 E	600	410 E	NA
NITROPROPANE, 2-	79-46-9	0.0018	0.00029 E	0.0093	0.0015 E	0.18	0.029 E	0.93	0.15 E	0.018	0.0029 E	0.093	0.015 E	NA
NITROSODIETHYLAMINE, N-	55-18-5	0.000045	0.0000079 E	0.00058	0.0001 E	0.0045	0.00079 E	0.058	0.01 E	0.00045	0.000079 E	0.0058	0.001 E	NA
NITROSODIMETHYLAMINE, N-	62-75-9	0.00014	0.000019 E	0.0018	0.00024 E	0.014	0.0019 E	0.18	0.024 E	0.0014	0.00019 E	0.018	0.0024 E	NA
NITROSO-DI-N-BUTYLAMINE, N-	924-16-3	0.0031	0.0038 E	0.016	0.02 E	0.31	0.38 E	1.6	2 E	0.31	0.38 E	1.6	2 E	NA
NITROSODI-N-PROPYLAMINE, N-	621-64-7	0.0025	0.00035 E	0.013	0.0018 E	0.25	0.035 E	1.3	0.18 E	0.025	0.0035 E	0.13	0.018 E	NA
NITROSODIPHENYLAMINE, N-	86-30-6	1.9	3 E	9.6	15 E	190	300 E	960	1500 E	190	300 E	960	1500 E	30
NITROSO-N-ETHYLUREA, N-	759-73-9	0.00079	0.000091 E	0.01	0.0012 E	0.079	0.0091 E	1	0.12 E	0.79	0.091 E	10	1.2 E	NA
OCTYL PHTHALATE, DI-N-	117-84-0	35	10000 C	97	10000 C	300	10000 C	300	10000 C	300	10000 C	300	10000 C	5
OXAMYL (VYDATE)	23135-22-0	20	2.6 E	20	2.6 E	2000	260 E	2000	260 E	20	2.6 E	20	2.6 E	NA
PARAQUAT	1910-42-5	3	120 E	3	120 E	300	12000 E	300	12000 E	3	120 E	3	120 E	15
PARATHION	56-38-2	0.1	0.59 E	0.29	1.7 E	10	59 E	29	170 E	0.1	0.59 E	0.29	1.7 E	15
POLYCHLORINATED BIPHENYLS (PCBS) (AROCHLORS)	1336-36-3	0.05	9.8 E	0.05	9.8 E	5	980 E	5	980 E	0.05	9.8 E	0.05	9.8 E	10
PCB-1016 (AROCLOR)	12674-11-2	0.24	66 E	0.68	190 E	24	6600 E	25	6900 E	0.24	66 E	0.68	190 E	10
PCB-1221 (AROCLOR)	11104-28-2	0.033	0.16 E	0.14	0.68 E	3.3	16 E	14	68 E	0.033	0.16 E	0.14	0.68 E	20

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PA Regulated is the lower of the Generic Soil to Groundwater and Direct Contact Non-Residential Values shown in Table 3 and Table 4.

REGULATED SUBSTANCE	CASRN	Used Aquifers								Nonuse Aquifers				Soil Buffer Distance (feet)
		TDS ≤ 2500				TDS > 2500								
		Residential		Nonresidential		Residential		Nonresidential		Residential		Nonresidential		
		100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	
PCB-1232 (AROCLOR)	11141-16-5	0.033	0.13 E	0.14	0.54 E	3.3	13 E	14	54 E	0.033	0.13 E	0.14	0.54 E	20
PCB-1242 (AROCLOR)	53469-21-9	0.033	4 E	0.14	17 E	3.3	400 E	10	1200 E	0.033	4 E	0.14	17 E	10
PCB-1248 (AROCLOR)	12672-29-6	0.033	16 E	0.14	67 E	3.3	1600 E	5.4	2600 E	0.033	16 E	0.14	67 E	10
PCB-1254 (AROCLOR)	11097-69-1	0.069	140 E	0.19	380 E	5.7	10000 C	5.7	10000 C	0.069	140 E	0.19	380 E	5
PCB-1260 (AROCLOR)	11096-82-5	0.033	150 E	0.14	630 E	3.3	15000 E	8	36000 E	0.033	150 E	0.14	630 E	5
PEBULATE	1114-71-2	170	290 E	490	830 E	9200	10000 C	9200	10000 C	170	290 E	490	830 E	30
PENTACHLOROBENZENE	608-93-5	2.8	220 E	7.8	620 E	74	5900 E	74	5900 E	74	5900 E	74	5900 E	10
PENTACHLOROETHANE	76-01-7	0.72	3.5 E	3	15 E	72	350 E	300	1500 E	0.72	3.5 E	3	15 E	20
PENTACHLORONITROBENZENE	82-68-8	0.25	5 E	1	20 E	25	500 E	44	870 E	44	870 E	44	870 E	15
PENTACHLOROPHENOL	87-86-5	0.1	5 E	0.1	5 E	10	500 E	10	500 E	100	5000 E	100	5000 E	10
PERFLUOROBUTANE SULFONATE (PFBS)	375-73-5	69	NA E	190	NA E	6900	NA E	10000	NA E	69	NA E	190	NA E	NA
PERFLUOROOCTANE SULFONATE (PFOS)	1763-23-1	0.007	NA E	0.007	NA E	0.7	NA E	0.7	NA E	0.007	NA E	0.007	NA E	NA
PERFLUOROOCTANOIC ACID (PFOA)	335-67-1	0.007	NA E	0.007	NA E	0.7	NA E	0.7	NA E	0.007	NA E	0.007	NA E	NA
PHENACETIN	62-44-2	30	12 E	120	46 E	3000	1200 E	12000	4600 E	30000	12000 E	76000	29000 E	NA
PHENANTHRENE	85-01-8	110	10000 E	110	10000 E	110	10000 E	110	10000 E	110	10000 E	110	10000 E	10
PHENOL	108-95-2	200	33 E	200	33 E	20000	3300 E	20000	3300 E	20000	3300 E	20000	3300 E	NA
PHENYL MERCAPTAN	108-98-5	3.5	5.3 E	9.7	15 E	350	530 E	970	1500 E	3.5	5.3 E	9.7	15 E	30
PHENYLENEDIAMINE, M-	108-45-2	21	3 E	58	8.2 E	2100	300 E	5800	820 E	21000	3000 E	58000	8200 E	NA
PHENYLPHENOL, 2-	90-43-7	34	490 E	140	2000 E	3400	49000 E	14000	190000 C	34000	190000 C	70000	190000 C	15
PHORATE	298-02-2	0.69	1.5 E	1.9	4.1 E	69	150 E	190	410 E	0.69	1.5 E	1.9	4.1 E	30
PHTHALIC ANHYDRIDE	85-44-9	4.2	1.3 E	18	5.6 E	420	130 E	1800	560 E	420	130 E	1800	560 E	NA
PICLORAM	1918-02-1	50	7.4 E	50	7.4 E	5000	740 E	5000	740 E	50	7.4 E	50	7.4 E	NA
PROMETON	1610-18-0	40	39 E	40	39 E	4000	3900 E	4000	3900 E	40	39 E	40	39 E	NA
PRONAMIDE	23950-58-5	260	160 E	730	450 E	1500	920 E	1500	920 E	260	160 E	730	450 E	NA
PROPACHLOR	1918-16-7	0.01	0.0046 E	0.01	0.0046 E	1	0.46 E	1	0.46 E	1	0.46 E	1	0.46 E	NA
PROPANIL	709-98-8	17	8.7 E	49	25 E	1700	870 E	4900	2500 E	17	8.7 E	49	25 E	NA
PROPANOL, 2- (ISOPROPYL ALCOHOL)	67-63-0	42	7.3 E	180	31 E	4200	730 E	10000	3100 E	42	7.3 E	180	31 E	NA
PROPAZINE	139-40-2	1	0.5 E	1	0.5 E	100	50 E	100	50 E	1	0.5 E	1	0.5 E	NA
PROPHAM	122-42-9	10	2.4 E	10	2.4 E	1000	240 E	1000	240 E	10	2.4 E	10	2.4 E	NA
PROPYLBENZENE, N-	103-65-1	210	400 E	880	1700 E	5200	9900 E	5200	9900 E	210	400 E	880	1700 E	30
PROPYLENE OXIDE	75-56-9	0.27	0.047 E	1.1	0.19 E	27	4.7 E	110	19 E	0.27	0.047 E	1.1	0.19 E	NA
PYRENE	129-00-0	13	2200 E	13	2200 E	13	2200 E	13	2200 E	13	2200 E	13	2200 E	10
PYRETHRUM	8003-34-7	35	4.4 E	35	4.4 E	35	4.4 E	35	4.4 E	35	4.4 E	35	4.4 E	NA
PYRIDINE	110-86-1	3.5	0.39 E	9.7	1.1 E	350	39 E	970	110 E	35	3.9 E	97	11 E	NA
QUINOLINE	91-22-5	0.022	0.074 E	0.091	0.31 E	2.2	7.4 E	9.1	31 E	22	74 E	91	310 E	20
QUIZALOFOP (ASSURE)	76578-14-8	30	47 E	30	47 E	30	47 E	30	47 E	30	47 E	30	47 E	30
RDX	121-82-4	0.2	0.057 E	0.2	0.057 E	20	5.7 E	20	5.7 E	0.2	0.057 E	0.2	0.057 E	NA
RESORCINOL	108-46-3	6900	800 E	19000	2200 E	190000	80000 E	190000	190000 C	6900	800 E	19000	2200 E	NA
RONNEL	299-84-3	170	270 E	490	760 E	4000	6200 E	4000	6200 E	170	270 E	490	760 E	30
SIMAZINE	122-34-9	0.4	0.15 E	0.4	0.15 E	40	15 E	40	15 E	0.4	0.15 E	0.4	0.15 E	NA
STRYCHNINE	57-24-9	1	0.81 E	2.9	2.4 E	100	81 E	290	240 E	1000	810 E	2900	2400 E	NA
STYRENE	100-42-5	10	24 E	10	24 E	1000	2400 E	1000	2400 E	1000	2400 E	1000	2400 E	30
TEBUTHIURON	34014-18-1	50	83 E	50	83 E	5000	8300 E	5000	8300 E	50	83 E	50	83 E	30
TERBACIL	5902-51-2	9	2.2 E	9	2.2 E	900	220 E	900	220 E	9	2.2 E	9	2.2 E	NA
TERBUFOS	13071-79-9	0.04	0.055 E	0.04	0.055 E	4	5.5 E	4	5.5 E	0.04	0.055 E	0.04	0.055 E	30
TETRACHLOROBENZENE, 1,2,4,5-	95-94-3	1	4.6 E	2.9	13 E	58	270 E	58	270 E	58	270 E	58	270 E	20
TETRACHLORODIBENZO-P-DIOXIN, 2,3,7,8- (TCDD)	1746-01-6	0.000003	0.032 E	0.000003	0.032 E	0.0003	3.2 E	0.0003	3.2 E	0.0019	20 E	0.0019	20 E	5

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PA Regulated is the lower of the Generic Soil to Groundwater and Direct Contact Non-Residential Values shown in Table 3 and Table 4.

REGULATED SUBSTANCE	CASRN	Used Aquifers								Nonuse Aquifers				Soil Buffer Distance (feet)
		TDS ≤ 2500				TDS > 2500								
		Residential		Nonresidential		Residential		Nonresidential		Residential		Nonresidential		
		100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	7	18 E	7	18 E	700	1800 E	700	1800 E	700	1800 E	700	1800 E	30
TETRACHLOROETHANE, 1,1,2,2-	79-34-5	0.084	0.026 E	0.43	0.13 E	8.4	2.6 E	43	13 E	8.4	2.6 E	43	13 E	NA
TETRACHLOROETHYLENE (PCE)	127-18-4	0.5	0.43 E	0.5	0.43 E	50	43 E	50	43 E	5	4.3 E	5	4.3 E	NA
TETRACHLOROPHENOL, 2,3,4,6-	58-90-2	100	1600 E	290	4500 E	10000	160000 E	18000	190000 C	18000	190000 C	18000	190000 C	15
TETRAETHYL LEAD	78-00-2	0.00035	0.0043 E	0.00097	0.012 E	0.035	0.43 E	0.097	1.2 E	0.35	4.3 E	0.97	12 E	15
TETRAETHYLDITHIOPYROPHOSPHATE	3689-24-5	1.7	2.5 E	4.9	7.3 E	170	250 E	490	730 E	1.7	2.5 E	4.9	7.3 E	30
TETRAHYDROFURAN	109-99-9	2.5	0.55 E	13	2.8 E	250	55 E	1300	280 E	2.5	0.55 E	13	2.8 E	NA
THIOFANOX	39196-18-4	1	0.11 E	2.9	0.32 E	100	11 E	290	32 E	1	0.11 E	2.9	0.32 E	NA
THIRAM	137-26-8	52	140 E	150	390 E	3000	7800 E	3000	7800 E	52	140 E	150	390 E	20
TOLUENE	108-88-3	100	44 E	100	44 E	10000	4400 E	10000	4400 E	10000	4400 E	10000	4400 E	NA
TOLUIDINE, M-	108-44-1	4.1	1.9 E	17	7.8 E	410	190 E	1700	780 E	4.1	1.9 E	17	7.8 E	NA
TOLUIDINE, O-	95-53-4	4.1	4.7 E	17	19 E	410	470 E	1700	1900 E	4100	4700 E	10000	10000 C	NA
TOLUIDINE, P-	106-49-0	2.2	2 E	9.1	8.3 E	220	200 E	910	830 E	2.2	2 E	9.1	8.3 E	NA
TOXAPHENE	8001-35-2	0.3	1.2 E	0.3	1.2 E	30	120 E	30	120 E	0.3	1.2 E	0.3	1.2 E	20
TRIALLATE	2303-17-5	0.091	0.47 E	0.38	1.9 E	9.1	47 E	38	190 E	0.091	0.47 E	0.38	1.9 E	15
TRIBROMOMETHANE (BROMOFORM)	75-25-2	8	3.5 E	8	3.5 E	800	350 E	800	350 E	800	350 E	800	350 E	NA
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-	76-13-1	1100	3400 E	4400	10000 C	10000	10000 C	10000	10000 C	10000	10000 C	10000	10000 C	20
TRICHLOROACETIC ACID	76-03-9	6	0.97 E	6	0.97 E	600	97 E	600	97 E	6	0.97 E	6	0.97 E	NA
TRICHLOROBENZENE, 1,2,4-	120-82-1	7	27 E	7	27 E	700	2700 E	700	2700 E	700	2700 E	700	2700 E	20
TRICHLOROBENZENE, 1,3,5-	108-70-3	4	31 E	4	31 E	400	3100 E	400	3100 E	4	31 E	4	31 E	15
TRICHLOROETHANE, 1,1,1-	71-55-6	20	7.2 E	20	7.2 E	2000	720 E	2000	720 E	200	72 E	200	72 E	NA
TRICHLOROETHANE, 1,1,2-	79-00-5	0.5	0.15 E	0.5	0.15 E	50	15 E	50	15 E	5	1.5 E	5	1.5 E	NA
TRICHLOROETHYLENE (TCE)	79-01-6	0.5	0.17 E	0.5	0.17 E	50	17 E	50	17 E	5	1.7 E	5	1.7 E	NA
TRICHLOROPHENOL, 2,4,5-	95-95-4	350	2100 E	970	5900 E	35000	190000 C	97000	190000 C	100000	190000 C	100000	190000 C	15
TRICHLOROPHENOL, 2,4,6-	88-06-2	3.5	10 E	9.7	28 E	350	1000 E	970	2800 E	3500	10000 E	9700	28000 E	20
TRICHLOROPHENOXYACETIC ACID, 2,4,5- (2,4,5-T)	93-76-5	7	1.5 E	7	1.5 E	700	150 E	700	150 E	7000	1500 E	7000	1500 E	NA
TRICHLOROPHENOXYPROPIONIC ACID, 2,4,5- (2,4,5-TP)(SILVEX)	93-72-1	5	22 E	5	22 E	500	2200 E	500	2200 E	5	22 E	5	22 E	20
TRICHLOROPROPANE, 1,1,2-	598-77-6	17	2.9 E	49	8.4 E	1700	290 E	4900	840 E	17	2.9 E	49	8.4 E	NA
TRICHLOROPROPANE, 1,2,3-	96-18-4	4	3.2 E	4	3.2 E	400	320 E	400	320 E	400	320 E	400	320 E	NA
TRICHLOROPROPENE, 1,2,3-	96-19-5	0.063	0.037 E	0.26	0.15 E	6.3	3.7 E	26	15 E	0.063	0.037 E	0.26	0.15 E	NA
TRIETHYLAMINE	121-44-8	1.5	0.36 E	6.2	1.5 E	150	36 E	620	150 E	1.5	0.36 E	6.2	1.5 E	NA
TRIETHYLENE GLYCOL	112-27-6	6900	870 E	10000	2400 E	10000	10000 C	10000	10000 C	6900	870 E	10000	2400 E	NA
TRIFLURALIN	1582-09-8	1	1.9 E	1	1.9 E	100	190 E	100	190 E	1	1.9 E	1	1.9 E	30
TRIMETHYLBENZENE, 1,3,4- (TRIMETHYLBENZENE, 1,2,4-)	95-63-6	13	73 E	53	300 E	1300	7300 E	5300	10000 C	1300	7300 E	5300	10000 C	15
TRIMETHYLBENZENE, 1,3,5-	108-67-8	13	23 E	53	93 E	1300	2300 E	4900	8600 E	13	23 E	53	93 E	30
TRINITROGLYCEROL (NITROGLYCERIN)	55-63-0	0.5	0.2 E	0.5	0.2 E	50	20 E	50	20 E	50	20 E	50	20 E	NA
TRINITROTOLUENE, 2,4,6-	118-96-7	0.2	0.023 E	0.2	0.023 E	20	2.3 E	20	2.3 E	0.2	0.023 E	0.2	0.023 E	NA
VINYL ACETATE	108-05-4	42	5 E	180	21 E	4200	500 E	10000	2100 E	42	5 E	180	21 E	NA
VINYL BROMIDE (BROMOETHENE)	593-60-2	0.15	0.073 E	0.78	0.38 E	15	7.3 E	78	38 E	1.5	0.73 E	7.8	3.8 E	NA
VINYL CHLORIDE	75-01-4	0.2	0.027 E	0.2	0.027 E	20	2.7 E	20	2.7 E	2	0.27 E	2	0.27 E	NA
WARFARIN	81-81-2	1	2.4 E	2.9	6.9 E	100	240 E	290	690 E	1000	2400 E	1700	4100 E	30
XYLENES (TOTAL)	1330-20-7	1000	990 E	1000	990 E	10000	10000 C	10000	10000 C	10000	10000 C	10000	10000 C	NA
ZINEB	12122-67-7	170	27 E	490	78 E	1000	160 E	1000	160 E	170	27 E	490	78 E	NA

1 For other options see Section 250.308

All concentrations in mg/kg

E - Number calculated by the soil to groundwater equation in Section 250.308

C - Cap

NA - The soil buffer distance option is not available for this substance

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PA Regulated is the lower of the Generic Soil to Groundwater and Direct Contact Non-Residential Values shown in Table 3 and Table 4.

Table 4 - Medium-Specific Concentrations (MSCs) for Inorganic Regulated Substances in Soil
A. Direct Contact Numeric Values

REGULATED SUBSTANCE	CASRN	Residential MSC 0-15 feet		Nonresidential MSCs			
				Surface Soil 0-2 feet		Subsurface Soil 2-15 feet	
ALUMINUM	7429-90-5	190000	C	190000	C	190000	C
ANTIMONY	7440-36-0	88	G	1300	G	190000	C
ARSENIC	7440-38-2	12	G	61	G	190000	C
BARIUM AND COMPOUNDS	7440-39-3	44000	G	190000	C	190000	C
BERYLLIUM	7440-41-7	440	G	6400	G	190000	C
BORON AND COMPOUNDS	7440-42-8	44000	G	190000	C	190000	C
CADMIUM	7440-43-9	110	G	1600	G	190000	C
CHROMIUM III	16065-83-1	190000	C	190000	C	190000	C
CHROMIUM VI	18540-29-9	37	G	180	G	140000	N
COBALT	7440-48-4	66	G	960	G	190000	N
COPPER	7440-50-8	7200	G	100000	G	190000	C
CYANIDE, FREE	57-12-5	130	G	1900	G	190000	C
FLUORIDE	16984-48-8	8800	G	130000	G	190000	C
IRON	7439-89-6	150000	G	190000	C	190000	C
LEAD	7439-92-1	500	U	1000	S	190000	C
LITHIUM	7439-93-2	440	G	6400	G	190000	C
MANGANESE	7439-96-5	31000	G	190000	C	190000	C
MERCURY	7439-97-6	35	G	510	G	190000	C
MOLYBDENUM	7439-98-7	1100	G	16000	G	190000	C
NICKEL	7440-02-0	4400	G	64000	G	190000	C
PERCHLORATE	7790-98-9	150	G	2200	G	190000	C
SELENIUM	7782-49-2	1100	G	16000	G	190000	C
SILVER	7440-22-4	1100	G	16000	G	190000	C
STRONTIUM	7440-24-6	130000	G	190000	C	190000	C
THALLIUM	7440-28-0	2	G	32	G	190000	C
TIN	7440-31-5	130000	G	190000	C	190000	C
VANADIUM	7440-62-2	15	G	220	G	190000	C
ZINC	7440-66-6	66000	G	190000	C	190000	C

All concentrations in mg/kg
G - Ingestion
N - Inhalation
C - Cap
U - UBK Model
S - SEGH Model

PA Clean is the lower of the Generic Soil to Groundwater and the Direct Contact Residential Values shown in Table 3 and Table 4.

PA Regulated is the lower of the Generic Soil to Groundwater and Direct Contact Non-Residential Values shown in Table 3 and Table 4.

Table 4 - Medium-Specific Concentrations (MSCs) for Inorganic Regulated Substances in Soil
B. Soil to Groundwater Numeric Values[1]

REGULATED SUBSTANCE	CASRN	Used Aquifers								Nonuse Aquifers				Soil Buffer Distance
		TDS < = 2500				TDS > 2500								
		R		NR		R		NR		R		NR		
		100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	(feet)
ANTIMONY	7440-36-0	0.6	27	0.6	27	60	2700	60	2700	600	27000	600	27000	15
ARSENIC	7440-38-2	1	29	1	29	100	2900	100	2900	1000	29000	1000	29000	15
BARIUM AND COMPOUNDS	7440-39-3	200	8200	200	8200	20000	190000	20000	190000	190000	190000	190000	190000	15
BERYLLIUM	7440-41-7	0.4	320	0.4	320	40	32000	40	32000	400	190000	400	190000	10
BORON AND COMPOUNDS	7440-42-8	600	1900	600	1900	60000	190000	60000	190000	190000	190000	190000	190000	30
CADMIUM	7440-43-9	0.5	38	0.5	38	50	3800	50	3800	500	38000	500	38000	15
CHROMIUM (III)	16065-83-1	10	190000	10	190000	1000	190000	1000	190000	10000	190000	10000	190000	5
CHROMIUM (VI)	18540-29-9	10	190	10	190	1000	19000	1000	19000	10000	190000	10000	190000	15
COBALT	7440-48-4	1	45	3	130	100	4500	290	13000	1000	45000	2900	130000	15
COPPER	7440-50-8	100	43000	100	43000	10000	190000	10000	190000	100000	190000	100000	190000	10
CYANIDE, FREE	57-12-5	20	200	20	200	2000	20000	2000	20000	20000	190000	20000	190000	20
FLUORIDE	16984-48-8	400	44	400	44	40000	4400	40000	4400	190000	44000	190000	44000	NA
LEAD	7439-92-1	0.5	450	0.5	450	50	45000	50	45000	500	190000	500	190000	10
LITHIUM	7439-93-2	7	2100	19	5700	690	190000	1900	190000	6900	190000	19000	190000	10
MANGANESE	7439-96-5	30	2000	30	2000	3000	190000	3000	190000	30000	190000	30000	190000	15
MERCURY	7439-97-6	0.2	10	0.2	10	20	1000	20	1000	200	10000	200	10000	15
MOLYBDENUM	7439-98-7	4	650	4	650	400	65000	400	65000	4000	190000	4000	190000	15
NICKEL	7440-02-0	10	650	10	650	1000	65000	1000	65000	10000	190000	10000	190000	15
PERCHLORATE	7790-98-9	1.5	0.17	1.5	0.17	150	17	150	17	1500	170	1500	170	NA
SELENIUM	7782-49-2	5	26	5	26	500	2600	500	2600	5000	26000	5000	26000	20
SILVER	7440-22-4	10	84	10	84	1000	8400	1000	8400	10000	84000	10000	84000	20
STRONTIUM	7440-24-6	400	44	400	44	40000	4400	40000	4400	190000	44000	190000	44000	NA
THALLIUM	7440-28-0	0.2	14	0.2	14	20	1400	20	1400	200	14000	200	14000	15
TIN	7440-31-5	2100	190000	5800	190000	190000	190000	190000	190000	190000	190000	190000	190000	10
VANADIUM	7440-62-2	0.24	240	0.68	680	24	24000	68	68000	240	190000	680	190000	5
ZINC	7440-66-6	200	12000	200	12000	20000	190000	20000	190000	190000	190000	190000	190000	15

[1] For other options see Section 250.308
All concentrations in mg/kg
R - Residential
NR - Non-Residential
NA - Not Applicable