West Virginia
Purchasing Division
2019 Washington Street, East
Charleston, WV 25305
Telephone: 304-558-2306
General Fax: 304-558-6026
Bid Fax: 304-558-3970

The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at *wvOASIS.gov*. As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at *WVPurchasing.gov* with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.

Solicitation Response(SR) | Dept: 0313 | ID: ESR09082500000001718 | Ver.: 1 | Function: New | Phase: Final | Modified by batch , 09/10/2025

Header 3

List View

General Information | Contact | Default Values | Discount | Document Information | Clarification Request

Procurement Folder: 1736767
Procurement Type: Central Purchase Order
Vendor ID: 000000173443
Legal Name: POTESTA & ASSOCIATES INC
Alias/DBA:
Total Bid: $0.00
Response Date: 09/08/2025
Response Time: 15:20
Responded By User ID: KJTINGLER
First Name: Kristi
Last Name: Tingler
Email: kjtinger@potesta.com
Phone: 3045531269

SO Doc Code: CEOI
SO Dept: 0313
SO Doc ID: DEP2600000002
Published Date: 8/19/25
Close Date: 9/10/25
Close Time: 13:30
Status: Closed
Solicitation Description: OER- EOI SEMS Evaluations
Total of Header Attachments: 3
Total of All Attachments: 3

	Department of Administration **Purchasing Division** **2019 Washington Street East** **Post Office Box 50130** **Charleston, WV 25305-0130**	**State of West Virginia** **Solicitation Response**

Proc Folder:	1736767
Solicitation Description:	OER- EOI SEMS Evaluations
Proc Type:	Central Purchase Order

Solicitation Closes	Solicitation Response	Version
2025-09-10 13:30	SR 0313 ESR09082500000001718	1

VENDOR
000000173443 POTESTA & ASSOCIATES INC

Solicitation Number: CEOI 0313 DEP2600000002

Total Bid: 0 **Response Date:** 2025-09-08 **Response Time:** 15:20:33

Comments:

FOR INFORMATION CONTACT THE BUYER
Joseph (Josh) E Hager III
(304) 558-2306
joseph.e.hageriii@wv.gov

Vendor
Signature X **FEIN#** **DATE**

All offers subject to all terms and conditions contained in this solicitation

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	EOI - Professional engineering services				0.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments:

Extended Description:

EOI- Professional engineering services

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
CONSULTANT QUALIFICATION QUESTIONNAIRE

PROJECT NAME	DATE (DAY, MONTH, YEAR)	FEIN
SEMS Evaluations	03, September, 2025	31-1509066

1. FIRM NAME	2. HOME OFFICE BUSINESS ADDRESS	3. FORMER FIRM NAME (IF APPLICABLE)
Potesta & Associates, Inc.	7012 MacCorkle Avenue, SE Charleston, WV 25304	N/A

4. HOME OFFICE TELEPHONE	5. ESTABLISHED (YEAR)	6. TYPE OF OWNERSHIP	6a. WV REGISTERED DBE (DISADVANTAGED BUSINESS ENTERPRISE)
304-342-1400	1997	☐ INDIVIDUAL ☒ CORPORATION ☐ PARTNERSHIP ☐ JOINT-VENTURE	☐ YES ☒ NO

7. PRIMARY OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. (name particular type) PERSONNEL IN EACH OFFICE

7012 MacCokle Avenue, SE, Charleston, WV 25304
304-342-1400
Ronald R. Potesta, CEO
91

8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM	8a. NAME, TITLE, & TELEPHONE NUMBER – OTHER PRINCIPALS
Ronald R. Potesta, CEO Dana L. Burns, PE, PS, President Peter S. Potesta, Vice President	N/A

9. KEY PERSONNEL (Check mark key personnel below that you have on staff and will work on project)

☒ ADMINISTRATION	☐ GEOLOGIST	☒ QA/QC OFFICER
☐ CHEMIST	☐ HYDRO-GEOLOGIST	☒ TECHNICIAN
☒ ENVIRONMENTALIST	☐ LABORER	☒ CADD OPERATOR
☐ FIELD OPERATIONS MANAGER	☒ PROJECT MANAGER	☒ OTHER: Surveyor

10. If submittal is by joint-venture, list participating firms & outline specific areas of responsibility (including administrative, technical & financial) for each firm. Each participating firm must complete a "Consultant Qualification Questionnaire".

N/A

10a. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE? ☐ YES ☐ NO N/A

11. OUTSIDE KEY CONSULTANTS/ SUB-CONSULTANTS ANTICIPATED TO BE USED. Attach “Consultant Qualification Questionnaire” for each.

NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE?
		☐ YES ☐ NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE?
		☐ YES ☐ NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE?
		☐ YES ☐ NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE?
		☐ YES ☐ NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE?
		☐ YES ☐ NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE?
		☐ YES ☐ NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE?
		☐ YES ☐ NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE?
		☐ YES ☐ NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE?
		☐ YES ☐ NO

12a. Identify each individual supporting this project and their assigned tasks.

Ronald R. Potesta, Principal-in-Charge - Manage the technical team, support staff, and resources to complete the projects on time and budget.

David J. Corsaro, LRS, Project Manager - Serve as the primary point of contact, overseeing project planning, coordination, and execution the project.

Karri B. Wills, Senior Scientist - Perform site investigation tasks and development of technical documentation.

Andrew A. Kirsch, LRS, Senior Scientist - Perform site investigation tasks and development of technical documentation.

12b. Are the individuals supporting this project experienced in performing environmental site assessments according to USEPA Guidance for Performing Preliminary Assessments under CERCLA, Site Inspection (SI) Guidance Manual, Risk Assessment Guidelines for Superfund (RAGS), Hazard Ranking System (HRS) Guidance Manual, and using Dynamic Field Activities for On-Site Decision Making?

☒ **YES** Identify the project(s) and describe work performed that relates directly to the question:

POTESTA has successfully completed a wide range of site assessments, including RCRA Corrective Action projects, VRRA and Brownfield projects, and Leaking Underground Storage Tank investigations. We have been involved in several aspects of the CERCLA site remediation process.

POTESTA was retained by the WVDEP OER to perform ESAs for the Anmoore Zinc site in Harrison County and the Moundsville Zinc site in Marshall County. The environmental consulting activities were under the USEPA CERCLA HRS Program and the WVDEP-OER CERCLA program.

POTESTA completed:

(1) Sampling and Analysis Plans for the sites
(2) Site Assessments
(3) Final Reports

☐ **NO**

12c. Are the individuals supporting this project experienced in USEPA *Guidance for Quality Assurance Project Plans* (EPA QA/G-5) and the WVDEP *Quality Assurance Program Plan for the WVDEP OER CERCLA (Superfund) Program*?

☒ **YES** Identify the project(s) and describe the work performed that relates directly to the question:

POTESTA has prepared QAPPs for a wide range of site assessments. We have also completed and implemented QAPPs for VRRA and RCRA Corrective Action projects, confirming adherence to regulatory standards and project quality requirements.

POTESTA was retained by Heritage Holdings, LLC to perform VRP activities on four separate parcels in Wellsburg, WV. As the Licensed Remediation Specialist, POTESTA completed the following tasks:

(1) Reviewed available environmental assessment information
(2) Site visits
(3) Development and submittal of a VRP application - including QAPP
(4) Development of draft VRP initial public notice and VRP agreement
(5) Initiation of compilation and reduction of existing site assessment data and development of assessment and remediation plans.

☐ **NO**

12d. Are the individuals supporting this project experienced with the USEPA Contract Laboratory Program under the guidelines of Sample Submission Procedures for the *Laboratory and Technical Services Branch (LTSB/ASQA, August 2019), the EPA Region 3 Analytical Request Form 2.1 or current (and instructions), and the most recent Statement of Work (SOW SFAM01.1 or current)?*

☒ **YES** Identify the project(s) and describe work performed that relates directly to the question:

POTESTA has worked with WVDEP-contracted Contract Laboratory Program (CLP)-laboratories on projects through the WVDEP. POTESTA developed and implemented a site assessment plan and QAPP that required CLP-type laboratory protocols and a laboratory meeting CLP requirements.

POTESTA was retained by Solutia, Inc., former Flexsys Chemical Manufacturing Facility, to develop and implement corrective measures on a 118-acre property in Nitro, West Virginia along the east bank of the Kanawha River. Areas of the project were impacted by manufacturing, waste disposal, and wastewater treatment. POTESTA submitted soil, groundwater, and surface water samples to a CLP laboratory contracted by the WVDEP. Additionally, we worked with the laboratory in the development of analyte lists, detection limits, and electronic data deliverable packages.

☐ **NO**

12e. Are the individuals supporting this project experienced with the WVDEP OER SOPs?

☒ **YES** Identify the project(s) and describe work performed that relates directly to the question:

POTESTA has extensive experience working in accordance with WVDEP OER SOPs. Our team is well-versed in applying these protocols to site investigations, sampling, data management, and reporting, confirming consistency, accuracy, and compliance with state requirements.

POTESTA was retained by Region IV Planning & Development Council to identify, inventory, evaluate, and prioritize properties as part of a Community-Wide Brownfields Assessment Grant within the counties of Fayette, Greenbrier, Nicholas, Pocahontas, and Webster.

POTESTA prepared a Site Inventory and Ranking Report of 63 properties including:

(1) Site Inventory
(2) Site Ranking Results
(3) Site Ranking Methodology
(4) Maps
(5) Individual Site Ranking Forms
(6) Site Photographs

Site Assessment, Sampling and Reporting, Site Mapping, Field Surveys, Phase I ESA, Limited Phase II ESA, UST Closures, and Waste Soil Characterization

POTESTA is now performing Phase I and Phase II ESAs, asbestos inspection, sampling, and additional assessments and tasks for 14 selected sites.

☐ **NO**

12f. Are the individuals supporting this project experienced with the Scribe software?

☐ **YES** Identify the project(s) and describe work performed that relates directly to the question:

☒ **NO**

12g. Have field personnel completed an OSHA 40-hour HAZWOPER course and mandatory 8-hour refresher training (as applicable)? The training must cover the requirements in 29 CFR 1910.120 including, but not limited to: personal protective equipment (PPE), toxicological effects of various chemicals, hazard communication, handling of unknown tanks and drums, confined-space entry procedures, etc.?

☒ **YES** Describe the training and list the name of the individual(s) certified who will be supporting this project:

Jonathon O'Brien
Justin Collins
David Corsaro
Rylee Armstrong
Karri Wills

WVDOH
Groundwater Monitoring -
Mountaineer Mart
Fairmont, WV

(part of Statewide
Assessment & Remediation
Contract)

☐ **NO**

12h. Are the individuals supporting this project experienced with the technical writing skills needed to meet the requirements of this project?

☒ **YES** Attach an example of the writing (preferably a Sampling and Analysis Plan or equivalent; all reports will be kept confidential) :

See Attachment A

☐ **NO**

13a. PERSONAL HISTORY STATEMENT OF KEY PERSONNEL (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, MI): Potesta, Ronald R., CEO

Years & Type of Experience: 42 years - Environmental Management

Brief Explanation of Responsibilities

Directs and manages the day-to-day operations of three offices and serves as Principal-in-Charge and technical advisor for various types of environmental remediation and compliance projects.

EDUCATION (Degree, Year, Specialization)

M.S. Mineral Economics, Econometrics, and Microeconomics, West Virginia University
B.S. Business Administration, West Virginia University

MEMBERSHIP IN PROFESSIONAL ORGANIZATION(S) & REGISTRATION STATUS (Type, Year, State)

Commissioner - Ohio River Valley Water Sanitation Commission
Board Member - The West Virginia Nature Conservancy
Board Member - West Virginia Land & Mineral Owners

PROFESSIONAL LICENSE(S) (Type, State, Expiration Date)

13b. PERSONAL HISTORY STATEMENT OF KEY PERSONNEL (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, MI): Corsaro, David J., LRS, Manager of Characterization and Remediation

Years & Type of Experience: 25 years - Environmental Site Assessments & Remediation

Brief Explanation of Responsibilities

Manages a diverse range of projects, including hazardous waste, RCRA, ESA, remediation, environmental emergency response, UST removal/closure, and groundwater initiatives. Experienced with West Virginia VRP and LUST programs, as well as RCRA,and CERCLA/USEPA Brownfields projects.

EDUCATION (Degree, Year, Specialization)

M.S. Environmental Science, Marshall University, 2008
B.S. Safety Technology, Marshall University, 1999

MEMBERSHIP IN PROFESSIONAL ORGANIZATION(S) & REGISTRATION STATUS (Type, Year, State)

PROFESSIONAL LICENSE(S) (Type, State, Expiration Date)

Licensed Remediation Specialist - WV / 2026
Certified Monitoring Well Driller - WV / 2026

13c. PERSONAL HISTORY STATEMENT OF KEY PERSONNEL (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, MI): Kirsch, Andrew A., LRS, Senior Scientist

Years & Type of Experience: 19 years - Environmental Site Assessments, Remediation, & Asbestos Inspections

Brief Explanation of Responsibilities

Experienced in performing and documenting environmental site assessments, biological assessments, and remediation of various types of properties. Skilled in environmental emergency response, hazardous waste management, and asbestos inspections, including preparation of detailed reports.

EDUCATION (Degree, Year, Specialization)

M.S. Environmental Sciences, Marshall University, 2003
B.S. Horticulture, West Virginia University, 1997

MEMBERSHIP IN PROFESSIONAL ORGANIZATION(S) & REGISTRATION STATUS (Type, Year, State)

PROFESSIONAL LICENSE(S) (Type, State, Expiration Date)

Certified Asbestos Inspector - WV / 2026
Licensed Remediation Specialist - WV / 2027

13d. PERSONAL HISTORY STATEMENT OF KEY PERSONNEL (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, MI): Wills, Karri B., Senior Scientist

Years & Type of Experience: 22 years - Environmental Assessment & Permitting / Stream, Wetland, & Habitat Restoration & Assessment

Brief Explanation of Responsibilities

Experienced in the preparation of Phase I/II ESAs, NEPA documentation, environmental permits, and mitigation plans. Designed stream restoration, bank stabilization, wetland enhancement, and habitat improvements. Utilization of Rapid Bioassessment Protocols for benthic/fish surveys and rosgen-based methods for geomorphic and habitat assessment tools for streams.

EDUCATION (Degree, Year, Specialization)

B.S. Biology, West Virginia University Institute of Technology, 2003

MEMBERSHIP IN PROFESSIONAL ORGANIZATION(S) & REGISTRATION STATUS (Type, Year, State)

PROFESSIONAL LICENSE(S) (Type, State, Expiration Date)

13e. PERSONAL HISTORY STATEMENT OF KEY PERSONNEL (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, MI):	
Years & Type of Experience:	

Brief Explanation of Responsibilities

EDUCATION (Degree, Year, Specialization)

MEMBERSHIP IN PROFESSIONAL ORGANIZATION(S) & REGISTRATION STATUS (Type, Year, State)

PROFESSIONAL LICENSE(S) (Type, State, Expiration Date)

13f. PERSONAL HISTORY STATEMENT OF KEY PERSONNEL (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, MI):	
Years & Type of Experience:	

Brief Explanation of Responsibilities

EDUCATION (Degree, Year, Specialization)

MEMBERSHIP IN PROFESSIONAL ORGANIZATION(S) & REGISTRATION STATUS (Type, Year, State)

PROFESSIONAL LICENSE(S) (Type, State, Expiration Date)

14. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED CONULTANT ON:			
PROJECT NAME, TYPE AND LOCATION	NAME/TELEPHONE COMPANY CONTACT	NATURE OF YOUR FIRM'S RESPONSIBILITY	PERCENT COMPLETE
McJunkin Red Man Corp VRP Charleston, WV	Emily Shields (832) 308-2896	VRP Application, VRP Agreement, Site Assessment, Remedial Work Plan, and Sampling	ongoing
BASF Corporation 31st Street Landfill Huntington, WV	Loretta Kwong (973) 561-9531	Groundwater Monitoring and Reporting, Stormwater Sampling and Reporting, Site Maintenance, and NPDES Permit Evaluations (Required)	ongoing - long term post closure care project
Remington Development Corporation VRP - former Casci Building Charleston, WV	Randall MacFarlane (403) 255-7003	Pre-VRP Activities, VRP Application,VRP Agreement, and Site Assessment	70%
Heritage Holdings, LLC VRP and Redevelopment-Eagle Manufacturing Wellsburg, WV	Joe Eddy (304) 737-3171	VRP Activities, VRP Application, VRP Agreement, and Site Assessment	90%
Boone County Community Development Corporation USEPA Brownfield Cleanup Grant - Lyon Oil Property Boone County, WV	Kris Mitchell (304) 369-9127	VRP Application, VRP Agreement, and Site Assessment	60%

15. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED SUB-CONULTANT ON:			
PROJECT NAME, TYPE AND LOCATION	NAME/TELEPHONE COMPANY CONTACT	NATURE OF YOUR FIRM'S RESPONSIBILITY	PERCENT COMPLETE
DOW Groundwater Monitoring- Holz Impoundment South Charleston, WV	Jason Gore (304) 415-1656	Groundwater Monitoring Well Sampling	ongoing
RJ Recycling VRP - Nitro and Parkersburg Yards WV	Roland Fisher (304) 201-3993	VRP Application, VRP Agreement, Site Assessment, and Remedial Activities	80%
WVDOH Groundwater Monitoring - Mountaineer Mart Fairmont, WV (part of Statewide Assessment & Remediation Contract)	Amber Pennington (304) 414-4607	Quarterly Groundwater Monitoring	ongoing
Pocahontas County Solid Waste Authority Groundwater Monitoring - Pocahontas County Landfill Pocahontas County, WV	Edward Riley (304) 799-6262	Solid Waste NPDES Permitted Post-Closure Groundwater Monitoring and Statistical Evaluations	ongoing
Cytec Industries, Inc. Post-Closure Reporting- Willow Island Plant Willow Island, WV	Heather Lane (304) 551-6639	RCRA Post-Closure Groundwater Monitoring and Statistical Evaluations	ongoing

16. COMPLETED WORK WITHIN THE LAST 5 YEARS ON WHICH YOUR FIRM HAS BEEN A CONSULTANT TO:			
PROJECT NAME, TYPE AND LOCATION	NAME/TELEPHONE COMPANY CONTACT	NATURE OF YOUR FIRM'S RESPONSIBILITY	YEAR COMPLETED
Remington Development Corporation Phase I/II ESAs - former Casci property Charleston, WV	Randall MacFarlane (403) 255-7003	Phase I ESA and Report, Sampling and Analysis Plan, and Phase II ESA	2023
Region IV PDC Brownfields Grant Fayette, Greenbrier, Nicholas, Pocahontas, and Webster Counties, WV	John Tuggle (304) 872-4970	Site Inventory and Ranking Report, Phase I/II ESAs, and Asbestos Inspections	2025
Remington Development Corporation Phase I ESA St. Albans, WV	Randall MacFarlane (403) 255-7003	Phase I ESA Activities and Reporting	2025
Marshall University Phase I ESA - McGinnis/ ACF Property Huntington, WV	Travis Bailey (304) 696-3032	Surveying, Soil Sampling and Analysis, and Phase I ESA	2024
WVA Manufacturing, LLC WVDEP Consent Order Alloy, WV	Matt Greene (304) 779-3200	Site Sampling/Reporting and Site Investigation Plan	2023

17. COMPLETED WORK WITHIN THE LAST 5 YEARS ON WHICH YOUR FIRM HAS BEEN A SUB-CONSULTANT TO:			
PROJECT NAME, TYPE AND LOCATION	NAME/TELEPHONE COMPANY CONTACT	NATURE OF YOUR FIRM'S RESPONSIBILITY	YEAR COMPLETED
Randolph County Development Authority- Phase I ESA - Former Odd Fellows Property Elkins, WV	Robbie Morris (304) 637-0803	Phase I ESA and Report	2025
WVDOH Statewide Assessment and Remediation Contract Multiple Sites	Amber Pennington (304) 414-4607	Site Assessment, Sampling and Reporting, Site Mapping, Field Surveys, Phase I ESA, Limited Phase II ESA, UST Closures, and Waste Soil Characterization	2024
Monarch Holdings Phase I ESA - Parkway Road and Centre Way South Charleston, WV	Keith Smith (304) 400-7675	Phase I ESA and Reporting	2024
CAMC Real Estate Operations Phase I ESA Charleston, WV	Kari Friend (304) 690-2001	Phase I ESA and Reporting eNPDES Permitting Post-Closure Groundwater Monitoring and Statistical Evaluations	2023
Pilot Thomas Logistics Exit ESA- Former Mid-State Industrial Lubricants Company Property Summersville, WV	John Edwards (304) 619-5796	Exit ESA, Soil Sampling and Analysis, and Exit ESA Report	2024

18. Use this space to provide any additional information or description of resources supporting your firm's qualifications to perform work for the West Virginia Department of Environmental Protection.

POTESTA has assisted the state, local communities, and other stakeholders in understanding the risks associated with contaminated or potentially contaminated properties while guiding them in assessing, safely remediating, and sustainably redeveloping these sites. We have extnsive experience providing professional and technical services for environmental assessment and other Brownfield-related activities in West Virginia, including:

- Phase I ESAs
- Phase II ESAs
- Asbestos Lead, and Mold Inspections
- EPA Quality Assurance Project Plans
- Sampling and Analysis Plans
- Health and Safety Plans
- Analysis of Brownfield Cleanup Alternatives
- Contaminants Abatement/Management Plans
- Site Redevelopment Plans

POTESTA has completed a wide range of assessments for various types of sites, including mixed commercial sites, undeveloped properties, manufacturing and industrial facilities, rail/transportation facilities, industrial scrap recycling operations, and large land tracts. This work has involved developing and managing site inventories with prioritized systems based on intended site uses, conducting significant community outreach and involvement, and creating and implementing effective cleanup strategies that ensure regulatory compliance and mitigate environmental risks.

19. The foregoing is a statement of facts. Should any information in this questionnaire be falsified or determined falsified at a later date, the West Virginia Department of Environmental Protection reserves the right to void any agreement or contract entered into between the undersigned and their respective firm and the WVDEP.

Signature: RRPotesta

Title: CEO

Printed Name: Ronald R. Potesta

Date: 09/04/2025

ATTACHMENT A

POTESTA

SITE ASSESSMENT WORK PLAN
Revision 1

Remington Development Project
200 Kanawha Boulevard, East
Charleston, West Virginia
VRP #24015

VRRP Applicant:

Remington Charleston Corporation

Suite 300, 200 Quarry Park Boulevard S.E.
Calgary, Alberta T2C 5E3

Prepared By:

Licensed Remediation Specialist
Mr. David J. Corsaro (LRS # 192)

Potesta & Associates, Inc.

7012 MacCorkle Avenue, SE
Charleston, West Virginia 25304
Phone: (304) 342-1400 Fax: (304) 343-9031
E-mail: potesta@potesta.com

Project No. 0101-24-0007-103

July 2024

POTESTA

TABLE OF CONTENTS

APPENDICES

ACRONYMS

ADW	Assessment Derived Waste
ASTM	American Society for Testing Materials
bgs	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CASCI	Charleston Area Services Company, Inc.
COC	Contaminant of Concern
COPC	Contaminant of Potential Concern
CSM	Conceptual Site Model
CSR	Code of State Rules
DQI	Data Quality Indicators
DQO	Data Quality Objectives
FID	Flame Ionization Detector
GIS	Geographic Information System
GPS	Global Positioning System
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operation and Emergency Response
HSO	Health and Safety Officer
LRS	Licensed Remediation Specialist
mL	Milliliters
MS	Matrix Spike
MSD	Matrix Spike Duplicate
OER	Office of Environmental Remediation
OSHA	Occupational Safety and Health Administration
PAH	Polynuclear Aromatic Hydrocarbon
PARCCS	Precision, Accuracy, Representativeness, Completeness, Comparability, Sensitivity
PID	Photo Ionization Detector
POTESTA	Potesta & Associates, Inc.
PPE	Personal Protective Equipment
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
QAO	Quality Assurance Officer
QAPrP	Quality Assurance Program Plan
RBC	Risk-Based Concentration
RCRA	Resource Conservation and Recovery Act
Remington	Remington Charleston Corporation
RSL	Regional Screening Level
SAWP	Site Assessment Work Plan
SMP	Soil Management Plan
SOP	Standard Operating Procedure
TCLP	Toxic Characteristic Leaching Procedure
TMP	Temporary Monitoring Point

TPH	Total Petroleum Hydrocarbons
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VISL	Vapor Intrusion Screening Level
VOC	Volatile Organic Compound
VRP	Voluntary Remediation Program
VRRR	Voluntary Remediation and Redevelopment Rule
WVDEP	West Virginia Department of Environmental Protection
WVDNR	West Virginia Division of Natural Resources

SITE ASSESSMENT WORK PLAN

Remington Development Project
200 Kanawha Boulevard East
Charleston, West Virginia
VRP #24015

1.0 EXECUTIVE SUMMARY

This Site Assessment Work Plan (SAWP) has been prepared for the additional assessment of the Former Charleston Area Services Company, Inc. (CASCI) property located at 200 Kanawha Boulevard East, Charleston, Kanawha County, West Virginia (site). The site is currently unoccupied with a 4-story structure in the process of being razed. The site consists of one tax parcel totaling approximately 3.48 acres of land. The property was obtained from Enterprise Properties, Inc. by Remington Charleston Corporation (Remington) on April 28, 2024.

This document presents a plan to sample and analyze site media to supplement and update the *Soil and Groundwater Sampling Report, Remington Development Charleston WV Properties, 200 Kanawha Boulevard, East, Charleston, Kanawha County, West Virginia*, by Potesta & Associates, Inc. (POTESTA) dated September 26, 2023, in anticipation of preparing a remedial action plan for the site.

The SAWP will incorporate the guidelines set forth in the *Soil Management and Health and Safety Plan for Environmental Contaminants in Soil, Remington Development Project, 200 Kanawha Boulevard, East, Charleston, West Virginia VRP #24015* by POTESTA dated June 2024. The soil management/health and safety plan (SMP/HASP) discusses the surface soil sampling that has been conducted and compares the results to the West Virginia Residential and Industrial Risk Based Concentrations (RBCs) as well performing calculations using the United States Environmental Protection Agency ProUCL. Results of this surface soil sampling are presented in Table I of the SMP/HASP. A copy of the SMP/HASP is presented in **Appendix B**.

Field activities associated with the SAWP include sampling the soil within the footprint of the existing site's structure and groundwater sampling of select existing monitoring wells and newly installed monitoring wells which will be located along the perimeter of the site. Please note that several existing monitoring wells are located within the footprint of the planned office building. The sampling of the existing monitoring wells will be based on field conditions access to the monitoring wells.

This site assessment will be conducted in accordance with the guidelines set forth in the West Virginia Voluntary Remediation Program (VRP). Please note that due to the timing in which construction is scheduled to commence onsite, site assessment activities may be initiated prior to approval of the SAWP. It should also be noted that a significant amount of assessment has been completed, in accordance with the VRP, prior to the site entering into the agreement.

POTESTA will use the data generated through the implementation of the SAWP to prepare a site assessment report. The report will include a discussion of field methods, field observations, and analytical testing results. The report will also include a screening of the analytical data to current risk-based standards that will be used to establish what remedial actions are needed to meet future use standards for the site.

2.0 INTRODUCTION

This SAWP has been prepared to describe procedures to perform additional assessment of the Former CASCI Building property located at 200 Kanawha Boulevard East, Charleston, Kanawha County, West Virginia. The property is being assessed and remediated through the West Virginia VRP. Following completion of the assessment activities outlined in this SAWP, POTESTA plans to issue a Site Assessment Report that will include the newly generated data and the information from the previous assessments.

The proposed site assessment activities are designed build upon the site assessment activities conducted in the above referenced reports by generating data from the soil and groundwater to establish the following:

- Impact to soil or groundwater within the footprint of the site's structure. There is a limited window of opportunity to collect samples from this area. The samples will need to be collected after the building has been razed and the building basement is accessible, and
- Further define the groundwater quality and flow direction at the site.

2.1 Purpose

This document presents a plan to sample and analyze site media to supplement existing site assessment information in anticipation of preparing a remedial action plan for the subject site. The SAWP describes the methodology, proposed sample locations, and target analytes for the material to be sampled.

The SAWP will be performed at the site in accordance with applicable regulations and standard industry practices. Field activities will be carried out by POTESTA personnel and assisted as needed by qualified contractors. Laboratory analysis of sampled media will be provided by a West Virginia-certified laboratory.

The SAWP also describes health and safety procedures, quality assurance/quality control procedures, and decontamination procedures for the project.

2.2 Voluntary Remediation and Redevelopment Program

The VRP was established in the Voluntary Remediation and Redevelopment Act for the purpose of encouraging the voluntary cleanup of contaminated sites and redevelopment of abandoned and under-utilized properties. Many properties in West Virginia are not being productively used because of contamination or the perception of contamination. Because many of these properties are located in areas with existing industrial infrastructure, redevelopment of these sites can be less costly to society than developing pristine sites.

VRP projects require the services of a Licensed Remediation Specialist (LRS) to oversee the performance of the environmental site assessment, risk assessment and development of a remediation work plan in accordance with the Voluntary Remediation and Redevelopment Rule (VRRR).

3.0 PROJECT MANAGEMENT

This section discusses the personnel involved with this SAWP and their contact information. The site is owned by Remington, who has engaged POTESTA to manage this VRP project. The LRS for the project is David J. Corsaro, LRS #192, a Senior Scientist with POTESTA.

3.1 Contact Information

The following individuals and organizations are participating in this remediation project.

Remington Charleston Corporation (Property Owner)

Contact: Cody Clayton
200 Quarry Park Boulevard, S.E.
Calgary, Alberta, Canada T2C 5E3
Telephone: (403) 255-7003
Email: CClayton@Remingtoncorp.com

**West Virginia Department of Environmental Protection –
Office of Environmental Remediation (OER)**

Contact: Kevin Richardson
WVDEP-OER
1159 Nick Rahall Greenway
Fayetteville, West Virginia 25840
Telephone: (304) 926-0440
Email: Kevin.Richardson@wv.gov

Potesta & Associates, Inc.

Contact: David J. Corsaro
Senior Scientist
Licensed Remediation Specialist No. 192
7012 MacCorkle Avenue, S.E.
Charleston, West Virginia 25304
Telephone: (304) 342-1400
Email: djcorsaro@potesta.com

Laboratory

Contact: To be determined

A West Virginia-certified laboratory will be retained to perform analyses on samples collected per this SAWP.

Contractor

Contact: To be determined

LRS expects on-site contracted services to be limited to direct-push sampling and assessment derived waste transportation and disposal. Qualified contractors will be retained for these services.

3.2 POTESTA Project Personnel

David J. Corsaro, LRS #192, will serve as the LRS and POTESTA Project Manager. He will be POTESTA's primary point of contact with the WVDEP-OER Project Manager and United States Environmental Protection Agency (USEPA) Brownfields Coordinator.

Christina Parsons, MS, will be the Quality Assurance Officer (QAO) responsible for the production and implementation of the Quality Assurance Project Plan (QAPP).

Andrew Kirsch will be the Health and Safety Officer (HSO) for the project. Review of the Health and Safety Plan (HASP) is the responsibility of the Health and Safety Officer.

The Field Operations Team to implement the field sampling portion of the SAWP will be headed by a POTESTA employee based on availablity.

3.3 Special Training/Qualifications

This SAWP has been prepared by a West Virginia Licensed Remediation Specialist as required by the VRP.

In addition, the LRS, POTESTA's HSO, and a minimum of one member of the Field Operations Team hold the following training/certification:

- Occupational Safety and Health Administration 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) certification and 8-hour HAZWOPER refresher certification

Groundwater monitoring wells will be installed by a West Virginia-Certified Well Driller (47 Code of State Rules [CSR] 59).

3.4 Voluntary Remediation Program Documents

The following project documents have been submitted to the WVDEP for the VRP to date.

- *West Virginia Voluntary Remediation Program Application*, Potesta & Associates, Inc., March 1, 2024.
    - *Revised Phase I Environmental Assessment Report, Remington Development Charleston, West Virginia Properties 200 Kanawha Boulevard, East, Charleston, Kanawha County, West Virginia*, Potesta & Associates, Inc., June 7, 2023. (incorporated into VRP Application by reference per WVDEP)
    - *Soil and Groundwater Sampling Report, Remington Development Charleston WV Properties, 200 Kanawha Boulevard, East, Charleston, Kanawha County, West Virginia*, Potesta and Associates, Inc., September 26, 2023. (Incorporated into VRP Application by reference per WVDEP)

4.0 SITE DESCRIPTION

The following sections provide a brief review of the physical conditions and historical uses of the site and adjacent areas.

4.1 Site Location

The former CASCI property is located at 200 Kanawha Boulevard, Charleston, Kanawha County, West Virginia. The general location of the facility is presented as **Figure 1** (Figures are presented in **Appendix A**), which was reproduced from the United States Geological Survey (USGS) 7.5-minute topographical quadrangle map of Charleston East Corp, West Virginia. The approximate site coordinates are as follows:

38.352791° North Latitude
-81.641230° West Longitude

4.2 Property Owner and Property Records

The subject site consisted of five tax parcels that were deeded into one tax parcel, following the sale to Remington Charleston Corporation, totaling approximately 3.48 acres of land. The property was obtained from Enterprise Properties, Inc. by the Remington Charleston Corporation on April 28, 2024, as recorded in Book 3197, Page 653 at the Kanawha County Courthouse in Charleston, West Virginia.

4.3 Current Use of the Subject Site

The site is currently unoccupied with a 4-story structure in the process of being razed. The site consists of one tax parcel totaling approximately 3.48 acres of land. The property was obtained from Enterprise Properties, Inc. by Remington Charleston Corporation on April 28, 2024.

A recent aerial photograph of the site with proposed approximate sample locations is presented as **Figure 2**.

4.4 Historical Site Information

Historically, the site has been occupied by a mixture of residences and commercial entities. During the late 1800s, a residence known as the Farley House was located in the western portion of the subject property. Additionally, two grocery stores and several other structures were located in the western and southern portion of the subject site. A stream was present in the northern portion of the site. By 1902, the subject site was primarily occupied by residential dwellings with a grocery store located on the far western portion of the site. In 1907 mapping, the stream previously identified on the northern portion of the subject site is no longer depicted. A structure occupied by Bell Phone Company was identified in this area. Apartments occupied the structure formally known as the former Farley House with a bottling warehouse located in the eastern portion of the subject site. A dry-cleaning service occupied the northern portion of the subject property in 1912. Four buried tanks were associated with this facility. A junkyard and paint shop were in the central portion of the subject site in 1933. A filling station replaced the dry-cleaner maintaining the four tanks in the northern portion of the site. The current structure was constructed in 1949 and was occupied by Sear Roebuck. During this time period, an auto wrecking yard and machine shop were located southwest of the department store. The filling station with four associated tanks remained in the northern portion of the subject site. Used auto sales and a mattress manufacture occupied the eastern portion of the site. A mixture of residential and commercial structures occupied the subject site. In the early 1990s, the subject site was occupied by Blue Cross Blue Shield and CASCI. They remained tenants through 2020.

4.5 Adjoining Property Uses

In the late 1800s through the early 1940s, the properties to the west and north of the subject site were occupied by milling companies. By the 1950s, auto sales and repair entities replaced the milling companies. The adjacent property to the south has been residences, laundry services, auto sales, and a car wash. East of the subject site has been occupied by a sign painting facility and the Charleston Municipal Auditorium.

Currently the surrounding properties consist of a mixture of commercial entities located to the west, north, and east of the site. To the south of the site is Kanawha Boulevard and the Kanawha River just beyond.

4.6 Drinking Water Sources

The site has public water which provided by West Virginia American Water Company. The water supplied to Charleston is drawn from the Elk River in Kanawha County, West Virginia, which is outside the range of influence from activities at the site.

Sanitary services for Charleston are provided by the Charleston Sanitary Board.

The Kanawha County Health Department was contacted about drinking water wells in the area. None were identified.

A copy of a West Virginia Department of Health and Human Resources map illustrating potential Source Water Protection Areas is presented as **Figure 3**. No such areas are identified within 5 miles of the subject site.

4.7 Geologic Setting

4.7.1 Soil

The soil at the site is classified as Quaternary Alluvium. The material consists of alluvium from the Kanawha River. Grain size varies from clay to gravel. Information on the site soil is presented in **Appendix C**.

4.7.2 Bedrock

The site is located in the unglaciated portion of the Appalachian Plateau physiographic province. The topography is characterized by deeply dissected, relatively flat-lying rock strata. Bedrock at the site is part of the Pennsylvanian age sedimentary deposits of the Conemaugh Formation consisting of sandstone with some shale, siltstone, and coal that generally dips east (West Virginia Geologic and Economic Survey, Geologic Map of West Virginia, update 1986).

4.8 Hydrogeologic Setting

The site is situated along the north bank of the Kanawha River. The depth to groundwater at the site varies between 9 and 26 feet below ground surface (bgs).

4.9 Flood Plain

A review of the West Virginia Flood Tool map for the site, obtained from https://www.MapWV.gov/flood illustrates portions of the site classified as being in the 500-year floodplain and floodway Zone AE, defined as "Areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods."

A copy of the West Virginia Flood Tool map is presented as **Figure 4**.

5.0 PREVIOUS ENVIRONMENTAL ASSESSMENT

Previous assessments have been performed. Those assessments include:

- *Environmental Site Assessment, Blue Cross/Blue Shield Building, Charleston, West Virginia by Triad Engineering Inc. dated December 1991*
- *Revised Phase I Environmental Site Assessment, Remington Development, Charleston, West Virginia Properties, 200 Kanawha Boulevard, East, Charleston, Kanawha County, West Virginia by Potesta & Associates, Inc. dated June 7, 2023*
- *Soil and Groundwater Sampling Report, Remington Development Charleston WV Properties, 200 Kanawha Boulevard, East, Charleston, Kanawha County, West Virginia,* by Potesta & Associates, Inc. (POTESTA) dated September 26, 2023

Copies of the tables from the Soil and Groundwater Sampling Report are presented in **Appendix D**. The information from those reports will be included with the newly generated information to develop a Site Assessment Report. Site assessment information developed previous to the above referenced site assessments was used as appropriate to develop those assessment plans.

6.0 PRELIMINARY CONCEPTUAL SITE MODEL

The Preliminary Conceptual Site Model (CSM) was prepared based on historical data, previous studies, site assessment laboratory analytical results, and groundwater measurements. The CSM describes potential contaminant sources, potential release mechanisms, potential contaminant migration routes and potential exposure pathways for the site. The CSM is considered preliminary until completion of the site assessment activities.

6.1 Contaminants of Concern

The LRS designated the following as the contaminants of concern (COCs) in the soil at the site: naphthalene, eight PAHs, arsenic, and lead for current excavation workers. Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and arsenic were identified as COCs in the surface soil impacting visitors/trespassers and excavation workers. Benzene, naphthalene, seven PAHs, arsenic, and lead were designated as COCs in the groundwater. It should be noted that benzene and naphthalene concentrations which exceeded the applicable standards were identified in areas that will be addressed with presumptive remedies which are in the proposed construction plans (i.e., vapor barrier, groundwater use restrictions, and residential occupation restrictions).

6.2 Identification of Contaminant Sources and Migration Pathways

The contaminants of potential concern (COPCs) detected at the site were released from equipment and activities are no longer at or being conducted at the property.

6.2.1 Primary Sources

The residual concentrations of organic compounds and metals in the site soil and groundwater are the primary sources for those COPCs. The materials and processes that had previously resulted in the release of organic compounds and metals are no longer at or being conducted at the site.

6.2.2 Release Mechanism

The release mechanisms for residual COPCs are through leaching or infiltration from surface and subsurface soils to groundwater and storm water run-off that may potentially transport COPCs off site.

Volatiles in soil and groundwater may vaporize and be released to the atmosphere above the site.

6.2.3 Potential Contaminant Migration

A potential contaminant migration pathway would be the migration of COPCs in the subsurface soil to groundwater and off-site migration to the adjacent sites.

6.3 Potential Human Receptors

Currently, the subject site is unoccupied. Potential human receptors evaluated for the site consist of residents, indoor and outdoor site workers, occasional construction (soil intrusive) workers, visitors, and trespassers. Off-site receptors would include inhalation of dust from the surface soil at the site.

6.4 Exposure Pathways

The potential pathways of chemical release and transport, as well as the human and ecological activity patterns, were used to evaluate potential exposures at the site. An exposure pathway consists of:

- Source of contaminant
- Mechanism of contaminant release to the environment
- Transport or exposure medium containing the contaminant

- Exposure point where receptors can contact the exposure medium
- Exposure route (i.e., inhalation, absorption, or ingestion)
- Receptor

Exposure can only occur if these six elements are present.

Potential routes of exposure at the site included:

- Ingestion of soil, dust, or groundwater
- Dermal contact with soil, dust, or groundwater
- Inhalation of vapors and/or particulate-bound chemicals
- Off-site exposure routes include off-site dermal contact with or ingestion of surface soil or groundwater.

The potential exposure pathways for the site have been evaluated in the following manner:

- Incomplete pathway – Either no receptor or no COC exceeding *de minimis* screening criteria is (or expected to be) present
- Complete pathway, risk low - Receptor is/can be exposed to a specific medium, but COC has not and is not expected to be present exceeding applicable screening criteria.
- Complete pathway - Receptor is/can be exposed to a specific medium and COC has been identified or is expected to be present exceeding applicable screening criteria.

The evaluation of potential exposure pathways, based on available information, is presented on the Preliminary CSM diagram included as **Appendix E**.

6.4 De Minimis Ecological Screening Risk Assessment

The purpose of the ecological evaluation was to establish if detected concentrations of COPCs pose an unacceptable risk to potential valued ecological receptors.

An evaluation of ecological conditions was completed using the *Checklist to Determine Applicable Remediation Standards Part 1. Ecological Standards* for the VRP. The results of the evaluation were submitted as part of the West Virginia Voluntary Remediation Program Application dated March 1, 2024, which concluded no further ecological evaluation is required for the site.

Note: Groundwater flow is to the north; therefore, the river is not a receptor.

6.4.1 Terrestrial Habitat

The site is unoccupied with most of the site paved or occupied by the onsite structure. A small portion of the site is vegetated with ornamental landscape plants.

6.4.2 Wetland Habitat

POTESTA observed no potential wetlands on or adjacent to the site.

6.4.3 Riparian Habitat

POTESTA observed no riparian habitat on or adjacent to the site.

6.4.4 Aquatic Habitat

POTESTA observed no aquatic habitat on or adjacent to the site.

6.5 Preliminary Conceptual Site Model for Residual Risk – Diagram

A CSM diagram provides a graphic interpretation of the potential contaminant sources, release mechanisms, contaminant migration routes, and exposure pathways for a site. A copy of the Preliminary CSM diagram is presented in **Appendix E**.

7.0 PRE-SAMPLING PROCEDURES

The following sections describe the pre-sampling procedures for the proposed site assessment. The sampling locations proposed in this SAWP are illustrated on **Figure 2** in **Appendix A**.

7.1 Preliminary Activities

POTESTA will complete the following activities prior to collecting samples:

- Establish approximate sampling locations using geographic information systems (GIS) mapping coupled with programmed, hand-held global positioning system (GPS) units.
- Notify a laboratory of the upcoming sampling event so it can prepare appropriate types and numbers of sample containers and assist with the scheduling to meet the required holding times. The anticipated number of sampling sites, the list of parameters to be analyzed for the site, the replicate requirements, and the number of extra bottles needed for quality control testing will be communicated to the laboratory manager.
- Prepare field forms, field log books, sample seals, and chain-of-custody forms to enable proper documentation of the sampling event.
- Perform a preliminary assessment and calibration of field equipment so that accurate measurements of field parameters are obtained.

POTESTA will perform the following steps to collect samples correctly and safely:

- Review sampling protocols.
- Review health and safety protocols.
- Inspect, pre-clean, and decontaminate equipment used during the sampling event.
- Program and calibrate field meters prior to use.
- Assemble the forms used in the field (e.g., field logbook, chain-of-custody sheets).

7.2 Coordination with Property Owner, Contractor, and WVDEP

On-site activities will be coordinated with representatives of Remington, the sampling contractor, and the WVDEP-OER prior to commencement of assessment activities.

7.3 Utility Clearance

Prior to the commencement of drilling/sampling activities, utilities in the immediate area of the site will be located by notifying WV 811/Miss Utility, the local water/sewer provider, and Remington at least two business days before commencement of work.

7.4 Field Equipment

The equipment and supplies will be properly cleaned, calibrated, and tested as necessary and in accordance with relevant manufacturer's operating instructions to meet the needs of the sampling events. Maintenance and calibration activities will be documented in the appropriate forms.

7.5 Documentation

Field records will document activities such as soil boring, monitoring well installation, and sample container shipment.

7.5.1 Field logs

Field records will be maintained throughout the project detailing site activities and observations so that an accurate and factual account of field procedures may be reconstructed. Field records will document items such as the following:

- Site name and project number
- Name and address
- Names of personnel on-site
- Dates and times of entry
- Descriptions of relevant site activities, including site entry and exit times
- Noteworthy events and discussions
- Weather conditions
- Site observations
- Identification and description of samples and locations
- Subcontractor information and names of on-site personnel

- Dates and times of sample collections and chain-of-custody information
- Site sketches
- Relevant and appropriate information delineated in field data sheets and sample labels

7.5.2 Soil Boring Logs

Soil boring logs will be completed in the field describing the material collected by the direct-push drilling rig. A copy of POTESTA's field boring log form is presented in **Appendix F.**

7.5.3 Monitoring Well Construction, Development, and Sampling Logs

Prior to sampling, the monitoring wells will be gauged to establish depth to groundwater and volume of water in well and will be purged using low-flow sampling techniques until measurements of pH, conductivity, temperature, dissolved oxygen, turbidity, oxidation-reduction potential (ORP) and water level drawdown stabilize.

Copies of POTESTA monitoring well development and sampling log forms are presented in **Appendix F**.

7.5.4 Sample Chain-of-Custody

A chain-of-custody form will be submitted with each container sent to the laboratory. A copy of POTESTA's chain-of-custody is included in **Appendix F**.

8.0 SAMPLE LOCATIONS AND COLLECTION PROCEDURES

Soil and groundwater samples will be collected from locations designed to provide data useable in preparing a full site assessment report and a remedial action plan for property.

8.1 Monitoring Well Installation

This SAWP plans for the installation of up to 16 newly installed monitoring wells. The monitoring wells will be installed by a Certified Monitoring Well Driller in accordance with *Monitoring Well Regulations* West Virginia Code of State Rules Title 47, Series 59 (47 CSR 59), and *Monitoring Well Design Standards* 47 CSR 60. Direct-push drilling techniques will be used to install the monitoring wells.

The monitoring wells will be constructed with 10 feet of 0.010-inch slotted PVC screen set at the bottom of the boring, a sand filter pack (#4 or #5) to 2 feet above the screen, a 2-foot bentonite seal, and grouted with a cement-bentonite grout to the surface. The wells will be fitted with flush-mount well cover and locking, watertight well caps.

Following installation, the relative top of casing elevations will be established by conventional level surveying techniques and by referencing the elevations to a benchmark.

Following installation, the monitoring wells will be developed by evacuating groundwater and suspended solids. Development activities will continue until the evacuated water sufficiently clarifies. Waste derived from the monitoring well development will be containerized and properly disposed.

8.2 Groundwater Sampling

Groundwater samples will be collected from up to 4 existing and up to 16 newly installed monitoring wells. The approximate location of the existing monitoring wells and planned area of newly installed monitoring wells is illustrated on **Figure 2**.

Please note that the availability of existing monitoring wells and location of newly installed monitoring wells may be impacted by site activities. The newly installed wells will be located based on field conditions with the following general guidelines:

- Two to three each along the south, east, and west boundaries,
- Three to four along the north boundary, and
- Up to four of the wells will be vertically nested pairs.

POTESTA believes that given the existing site assessment information and the number of planned newly installed monitoring wells, the exact locations of the groundwater samples described in this plan are not critical to the effectiveness of the site assessment.

The samples will be collected using recognized environmental sampling techniques, including those presented in WVDEP standard operating procedure:

- Groundwater Well Sampling Procedures – SOP (Standard Operating Procedures) OER-0110

8.2.1 Groundwater Target Analytes and Laboratory Methods

Groundwater from the existing monitoring wells will be analyzed for the following target analytes using the most current version of the indicated USEPA Method used by the selected West Virginia-certified laboratory:

- VOCs USEPA Method 8260
- SVOCs USEPA Method 8270 (selected samples)
- PAH by SIM Analysis USEPA Method 8270
- Resource Conservation and Recovery Act (RCRA) Metals (Dissolved) USEPA Method 6020

Groundwater samples to be analyzed for dissolved metals will be field filtered (0.45-micron filter) before shipment to the laboratory.

Groundwater samples will be shipped to a West Virginia-certified laboratory in a cooler at approximately 4°C, with proper chain-of-custody documentation.

POTESTA will request the lab to achieve detection limits needed to meet West Virginia Risk-Based Concentrations (RBCs) established in the VRP when performing analyses of soil and water samples. Per WVDEP requirements, Stage 4 Data Reporting Packages will be provided for a minimum of 10 percent of the samples submitted for analyses.

8.2.2 Groundwater QA/QC Samples

This SAWP proposes up to 20 groundwater samples will be collected from the four existing monitoring wells and 16 newly installed monitoring wells. One duplicate sample for every 20 samples or one per day (whichever is more frequent) will be collected for quality assurance/quality control (QA/QC) purposes.

One matrix spike (MS) and matrix spike duplicate (MSD) sample, for every 20 samples or one per day (whichever is more frequent), will be collected to assess the precision and bias of a laboratory method for a specific sample matrix.

To evaluate whether the integrity of samples is maintained during transport from the site to the laboratory, a trip blank will be included with the sample shuttle. The trip blank will be prepared by the laboratory prior to shipment of sampling supplies to POTESTA and will be stored in the sample shuttle with the samples during collection, transportation, and delivery to the laboratory.

One rinse blank sample for every 20 samples or one per day (whichever is more frequent) will be collected to evaluate multi-use equipment in the groundwater sample collection chain.

8.3 Soil Sampling

Soil samples will be collected for laboratory analyses using recognized environmental sampling techniques, including those presented in WVDEP standard operating procedures:

- Photo Ionization Detector (PID) / Flame Ionization Detector FID Field Screening (SOP OER-101)
- Soil Sampling – SOP OER-0120
- Soil Sampling Using Direct-Push Drilling – SOP OER-0121
- Soil Sampling Method 5035 – SOP OER-0122

8.3.1 Sampling Locations

This SAWP proposes collecting soil samples from below the foundation of the existing structure. Currently the structure is in the process of being razed. The demolition contractor will provide access to advance direct push borings in the foundation of the structure prior to completion of the demolition. A total of three soil borings are proposed in the footprint of the building foundation. POTESTA reviewed documents which identified a print shop in the northeast portion of the site's structure. Additionally, POTESTA conducted a site walkthrough prior to demolition and did not observe evidence of the location of sewer lines or other underground utilities which are located below the building foundation.

Due likelihood for potential limited access due to demolition debris, the soil borings will be field located in an attempt to provide even spacing, and sample soil from the area of the print shop. The proposed soil sampling area is illustrated in **Figure 2**.

8.3.2 Sampling Methodology

A direct-push rig will be used to advance soil borings and collect samples as indicated on **Table 1** in **Appendix G**. Soil borings will be advanced to 15 feet below the existing structure basement floor grade, or refusal, or groundwater, whichever occurs first.

Prior to sampling, recovery from the soil borings will be field screened following the procedures outlined in the WVDEP SOP OER-121 Section 7.1.f.ii. A total of 3 soil samples will be collected from the first interval and up to 3 subsurface soil samples (based on the discretion of the field crew's field observations or measurements) will be collected within the footprint of the site's existing structure.

8.3.3 Soil Target Analytes and Laboratory Methods

The samples collected in the first interval below the basement floor grade, and subsurface samples will be analyzed for the following target analytes using the most current version of the indicated USEPA Method used by the selected West Virginia-certified laboratory:

- VOCs USEPA Method 8260
- SVOCs USEPA Method 8270 (selected samples)
- PAH by SIM Analysis USEPA Method 8270
- RCRA Metals USEPA Method 6020
- Naphthalene USEPA Method 8260 (methanol-preserved vials) and 8270-SIM Analysis

POTESTA will request the lab to achieve detection limits needed to meet West Virginia RBCs established in the VRP when performing analyses of soil and water samples. Per WVDEP requirements, Stage 4 Data Reporting Packages will be provided for a minimum of 10 percent of the samples submitted for analysis.

8.3.4 Soil QA/QC Samples

One replicate soil sample will be analyzed for each 20 samples submitted. For this assessment, one replicate soil sample is anticipated.

To evaluate whether the integrity of samples is maintained during transport from the site to the laboratory, a trip blank will be included with sample shuttles. The trip blank will be prepared by the laboratory prior to shipment of sampling supplies to POTESTA and will be stored in the sample shuttle with the samples during collection, transportation, and delivery to the laboratory. The trip blanks will be submitted for analyses for VOCs.

One rinse blank will be submitted to evaluate decontamination procedures of reusable soil sampling equipment.

Extra soil will be collected with one soil sample for MS/MSD analyses.

For samples requiring temperature control, POTESTA will include a temperature blank in each cooler that is shipped to an analytical laboratory.

8.4 Soil Gas Sample Locations

No soil gas samples are proposed for this assessment.

8.5 Surface Water Sample Locations

No surface water samples are proposed for this assessment.

8.6 Sediment Sample Locations

No sediment samples are proposed for this assessment.

8.7 Sample Custody

Groundwater and soil samples will be shipped to a West Virginia-certified laboratory in a cooler at approximately 4°C, with proper chain-of-custody documentation. The chain-of-custody form and laboratory check-in documentation are important components used to assess the quality of data in environmental assessments. A copy of POTESTA's chain-of-custody form is presented in **Appendix F**.

8.8 Equipment Decontamination

POTESTA will use single-use disposable equipment when possible. Disposable equipment will not be decontaminated but will be disposed of immediately after use. Reusable sampling equipment will be decontaminated between locations using the following procedure:

- Wash with a non-phosphate biodegradable detergent and water solution,
- Rinse with potable water,
- Rinse with laboratory-grade nitric acid,
- Final rinse with distilled water, and
- Air dry.

Multi-use sampling tools will be decontaminated in a temporary decontamination pad consisting of a plastic tub, water sprayer, brushes, and bucket. POTESTA will manage the water produced during decontamination processes as described in the assessment derived waste section of this SAWP.

The purge and decontamination water will be containerized and disposed based on the analytical results of the groundwater samples collected.

8.9 Disposition of Assessment Derived Waste

Assessment-derived waste (ADW) such as trash, used PPE, and decontamination fluids will be properly managed during the site assessment.

The work area will be kept free of excess trash, rags, used PPE, etc. during the field activities. Proper containerization of these items will be required throughout the workday.

9.0 APPLICABLE REGULATIONS

This site assessment will be conducted in accordance with the guidelines set forth in the West Virginia VRP. Please note that due to the timing in which construction is scheduled to commence, site assessment activities may be initiated prior to approval of the SAWP. It should also be noted that a significant amount of assessment has been completed, in accordance with the VRP, prior to the site entering into the agreement.

10.0 QUALITY ASSURANCE PROJECT PLAN

The LRS accepts and plans to follow the *Quality Assurance Program Plan for the West Virginia Department of Environmental Protection Division of Land Restoration Office of Environmental Remediation*, dated March 2022, pertaining to procedures not otherwise specifically addressed in this SAWP.

10.1 Data Quality Objectives (DQO)

The data generated from this site assessment will be used to evaluate the risks to human and ecological receptors, and design remedial actions to mitigate risks to those receptors, following guidance established in the VRP.

POTESTA will compare laboratory analytical results to the following West Virginia screening levels.

- *West Virginia Voluntary Remediation and Redevelopment Rule Risk-Based Concentrations for Residential and Industrial Soil and Groundwater published in 60 Code of State Rules 3, Table 60-9.*

POTESTA will also compare laboratory analytical results to the following USEPA Regional Screening Levels as applicable:

- *USEPA Residential Vapor Intrusion Screening Levels (VISL)*
- *USEPA Commercial VISL*

10.2 Data Quality Indicators (DQI)

The uncertainty for sample parameter results may arise from a combination of factors, including sampling procedures, sample matrix characteristics, non-homogeneity of samples, and the inherent accuracy and precision limitations of analytical methods. DQIs are quantitatively and qualitatively described in terms of data quality characteristics, which include precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS).

Elements of the PARCCS are evaluated for laboratory measures and field measures. The following will be used to evaluate the field activities associated with this project. The goals for this project for each of these elements are those specified in Section 3.2.8.2 of the WVDEP Quality Assurance Program Plan (QAPrP).

Precision – Field precision will be evaluated using industry recognized sampling procedures and collecting material for replicate sample and matrix spike/matrix spike duplicate analyses.

Accuracy – Measures to promote accuracy include industry recognized sampling procedures, laboratory prepared containers with appropriate preservatives, and collecting material for replicate sample and matrix spike/matrix spike duplicate sample analyses.

Representativeness – The LRS will incorporate the findings from previous site assessment activities into the design of the SAWP. The number and location of the proposed samples to be collected and submitted for laboratory analysis are sufficient to meet the DQOs for the project. Field screening techniques will be used to evaluate whether additional samples should be collected to adequately assess the site.

Comparability – Sampling locations and target analytes for this SAWP are based on the findings from previous site assessment activities. Data generated by this SAWP will be compared to those data.

Completeness – The activities associated with this SAWP are designed to supplement data generated by previous site assessment activities and complete the assessment of soil and groundwater at the site.

Sensitivity – Sample volumes will be collected to fill laboratory prepared containers in order to supply sufficient material for analyses. The laboratory has been provided with a copy of *West Virginia Voluntary Remediation and Redevelopment Rule Risk-Based Concentrations for Residential and Industrial Soil and Groundwater published in 60 Code of State Rules 3, Table 60-9*, which present the screening level values that sample analyses are expected to meet. A copy of the data quality objectives (DQO) from a West Virginia-certified laboratory is provided in **Appendix H**. The DQO lists the minimum detection limit (MDL) for each analyte. These MDLs were compared to their respective *De Minimis Standards*. Based on the comparison of the two sets of concentrations, the laboratory MDLs were below the *De Minimis Standards*.

Problems identified can result in reported results being flagged for a variety of reasons ranging from being slightly misreported to unacceptable. Problems identified with the field measures may be noted and accepted by the LRS or designated as unacceptable and resampled.

10.3 Data Validation

As required by the VRP, a minimum of 10 percent of the laboratory data, by medium, used to establish the human health and ecological risks at the site will be produced at a Stage 4 level.

For this assessment, Stage 4 validation will be requested for a minimum of one soil sample and one groundwater sample.

11.0 SOIL MANAGEMENT / HEALTH AND SAFETY PLAN

POTESTA prepared a site-specific SMP/HASP that will be maintained throughout the project. On-site POTESTA personnel and POTESTA subcontractor personnel (on-site workers) will be required to adhere to the requirements of the SMP/HASP throughout the project. The SMP/HASP details the safety requirements for persons that are involved with activities in direct contact with soil. Additionally, the SMP/HASP addresses health and safety issues as required by the Occupational Safety and Health Administration (OSHA) related to the contaminants identified and expected at the site. Remington and POTESTA subcontractors are responsible for the health and safety of their employees.

A copy of the SMP/HASP is presented in **Appendix B**.

12.0 REPORT PREPARATION

Due to the timing of the planned construction, site assessment activities may be initiated prior to approval of the SAWP by the WVDEP. Please note that a significant amount of site assessment has been completed prior to the site entering the VRP. That assessment was completed in accordance with the guidelines of the VRP.

POTESTA will use the data generated through the implementation of the SAWP to prepare a site assessment report. The report will include a discussion of field methods, field observations, and analytical testing results. The report will also include a screening of the analytical data that will be used to establish what remedial actions are needed to meet industrial use standards for the site.

13.0 CLOSING

This report was prepared to assist Remington Charleston Corporation in evaluating and planning with respect to the site. Potesta & Associates, Inc. and Remington mutually devised the scope of this study that is limited to the specific project, location and time period described herein. The scope of services and report represents POTESTA's understanding of site conditions as discernible from information provided by others and obtained by POTESTA using the methods specified. This SAWP is also designed to meet the requirements for an environmental site assessment under the WVDEP Voluntary Remediation and Redevelopment Act. POTESTA assumes no responsibility for information provided or developed by others, except that it applied its professional judgment and expertise in evaluating such information, or for documenting conditions detectable with methods or techniques not specified in the scope of services. In addition, no activity, including sampling, assessment or evaluation of material or substances, may be assumed to be included in this study unless specifically considered in the scope of services and this report. Sketches and maps in this report are included only to aid the reader and should not be considered surveys or engineering studies. If additional data concerning this site become available, POTESTA should be informed so that we may examine the information and, if necessary, modify this report accordingly.

Respectfully Submitted,

POTESTA & ASSOCIATES, INC.

David J. Corsaro
Senior Scientist, LRS #192

DJC:AK/mh

14.0 REFERENCES

Environmental Site Assessment, Blue Cross/BlueShield Building, Charleston, West Virginia, Triad Engineering, Inc., December 1991

Revised Phase I Environmental Site Assessment, Remington Development Charleston, West Virginia Properties, 200 Kanawha Boulevard, East, Charleston, Kanawha County, West Virgnia, POTESTA, June 7, 2023

Soil and Groundwater Sampling Report, Remington Development Charleston WV Properties, 200 Kanawha Boulevard, East, Charleston, Kanawha County, West Virginia, POTESTA, September 26, 2023

USEPA Regional Screening Levels: https://www.epa.gov/risk/regional-screening-levels-rsls

USEPA Vapor Intrusion Screening Level: https://www.epa.gov/vaporintrusion/vapor-intrusion-screening-level-calculator

United States Geological Survey. 7.5 Minute Quadrangles, Charleston West, Charleston East, Pocatalico, Big Chimney West Virginia

West Virginia Department of Environmental Protection (WVDEP). *West Virginia Voluntary Remediation and Redevelopment Act Guidance Manual*. 2023

- *Application to Participate in the Voluntary Remediation and Redevelopment Act Program*, Potesta & Associates, Inc., March 2024
  - *Checklist to Determine Applicable Remediation Standards Part 1. Ecological Standards for the VRP*

- *Voluntary Remediation Agreement for Investigation and Remediation Activities*, Potesta & Associates, Inc., March 2024

West Virginia Geologic and Economic Survey, Geologic Map of West Virginia, update 1986

APPENDIX A

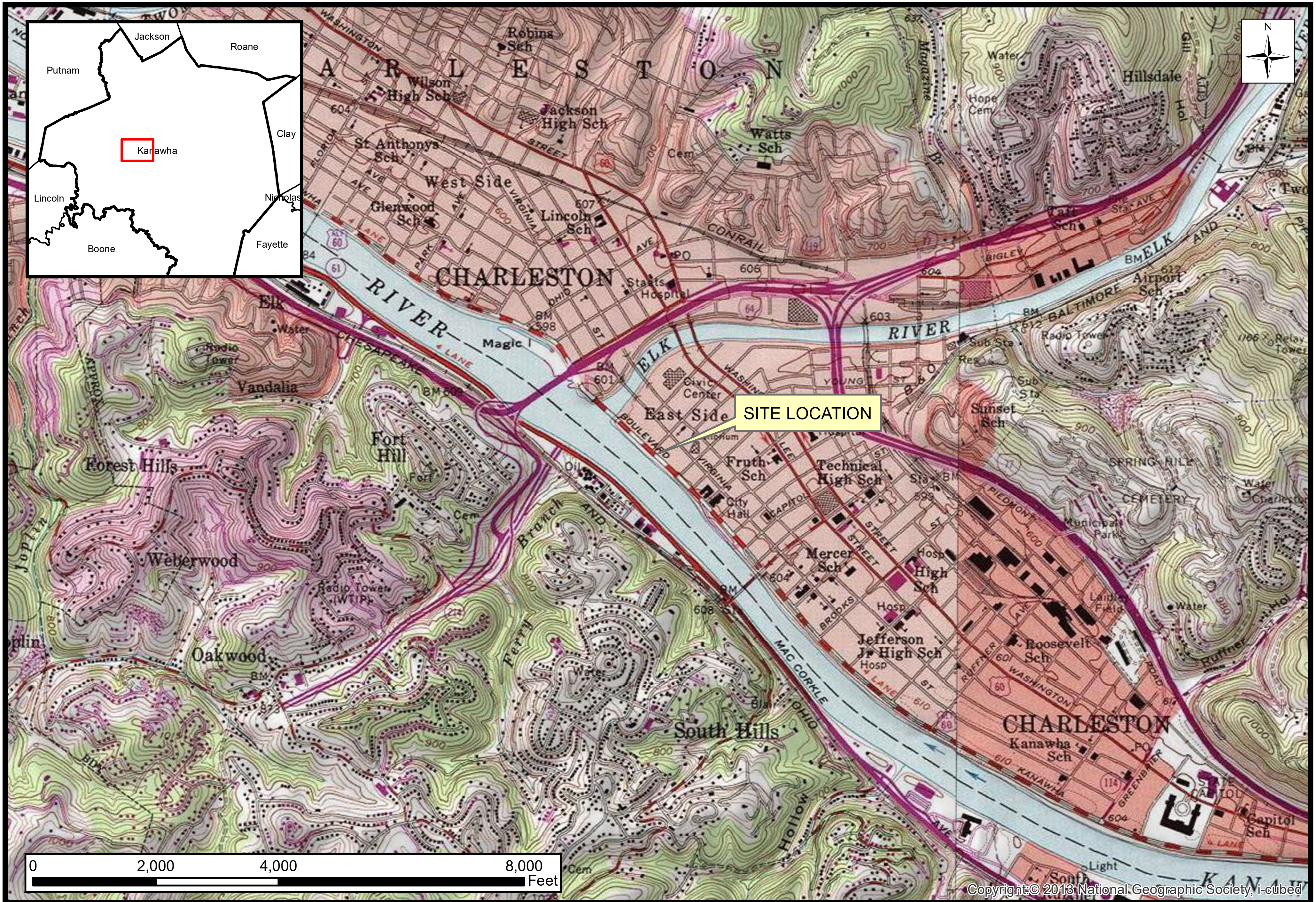

FIGURE 1

MAPPING FOR VISUAL REPRESENTATION ONLY

Site Location Map
200 Kanawha Boulevard East
Charleston West USGS Quadrangle
Charleston, Kanawha County, West Virginia

For Informational Purposes Only

REMINGTON DEVELOPMENT CORPORATION
200 Quarry Park Boulevard #300
Calgary, Alberta, Canada

POTESTA
ENGINEERS AND ENVIRONMENTAL CONSULTANTS

Potesta & Associates, Inc.
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7012 MacCorkle Avenue, S.E.
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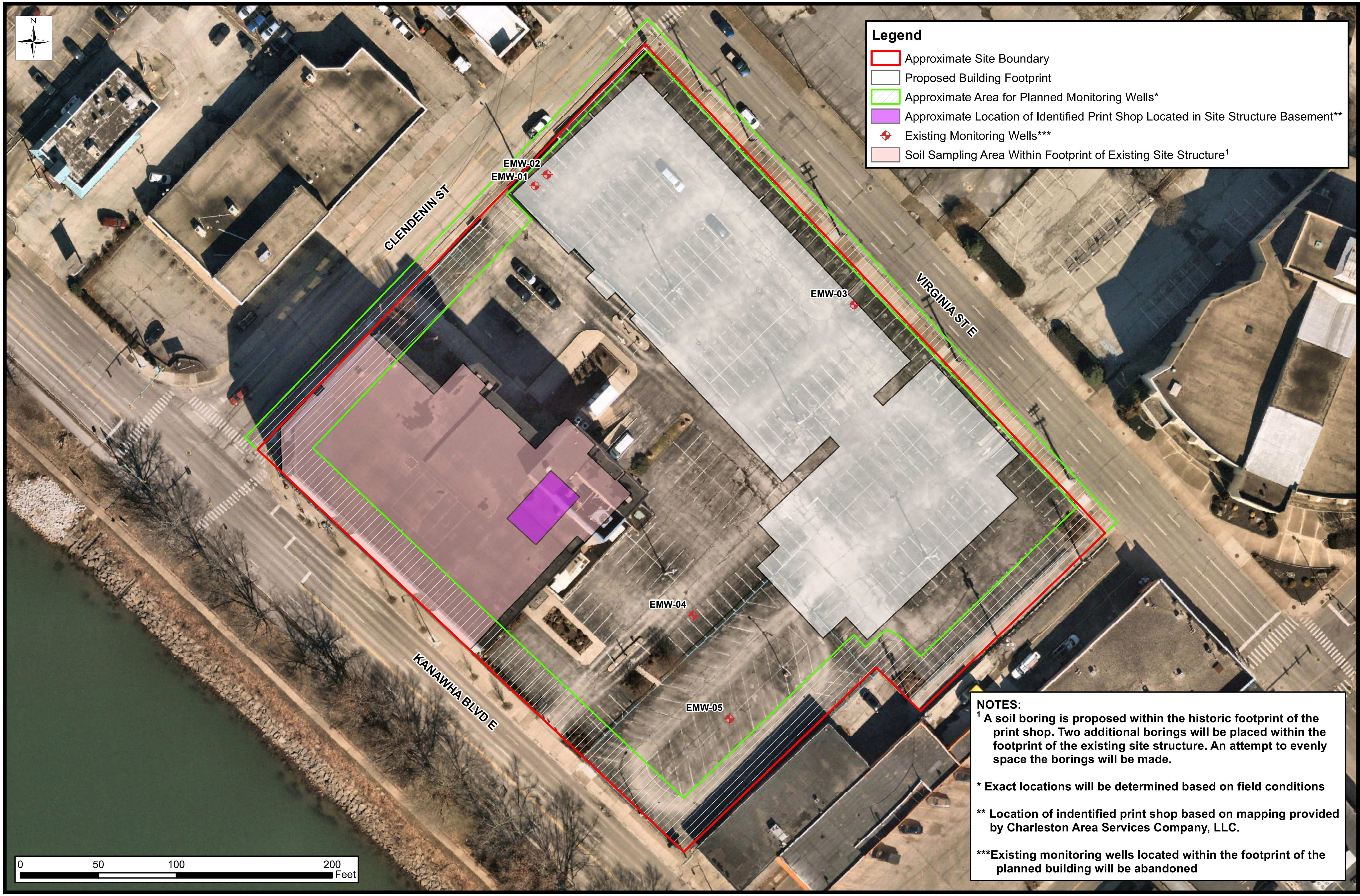
Office: (304) 342-1400 Fax: (304)-343-9031
E-mail: potesta@potesta.com

SCALE: 1" = 2,000'	DRAWN: CH
DATE: 08/10/2023	CHECKED:
PN: 23-0128.003	APPROVED:

I:\Projects\2023\23_0128_Remington Development\MapDocuments\08_07_2023\RemingtonDevelopment_SiteLocation_FIG_1.mxd



NOTES:

[1] A soil boring is proposed within the historic footprint of the print shop. Two additional borings will be placed within the footprint of the existing site structure. An attempt to evenly space the borings will be made.

* Exact locations will be determined based on field conditions

** Location of indentified print shop based on mapping provided by Charleston Area Services Company, LLC.

***Existing monitoring wells located within the footprint of the planned building will be abandoned

SCALE: 1" = 50'	DRAWN: CH
DATE: 06/19/2024	CHECKED:
PN: 24-0007.101	APPROVED:

I:\Projects\2024\24_0007_Remington Development\MapDocuments\06_17_2024\RemingtonDevelopment_SampleLocations_FIG_1.mxd

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POTESTA

REMINGTON DEVELOPMENT CORPORATION
200 Quarry Park Boulevard #300
Calgary, Alberta, Canada

MAPPING FOR VISUAL REPRESENTATION ONLY
Proposed Soil Borings Within Footprint of Site Structure
Remington Development Corporation VRP Site
200 Kanawha Boulevard East
Charleston, Kanawha County, West Virginia
For Informational Purposes Only

FIGURE 2

West Virginia SWAP Protection Areas

6/13/2024, 10:15:14 AM

State_WV

1:72,224

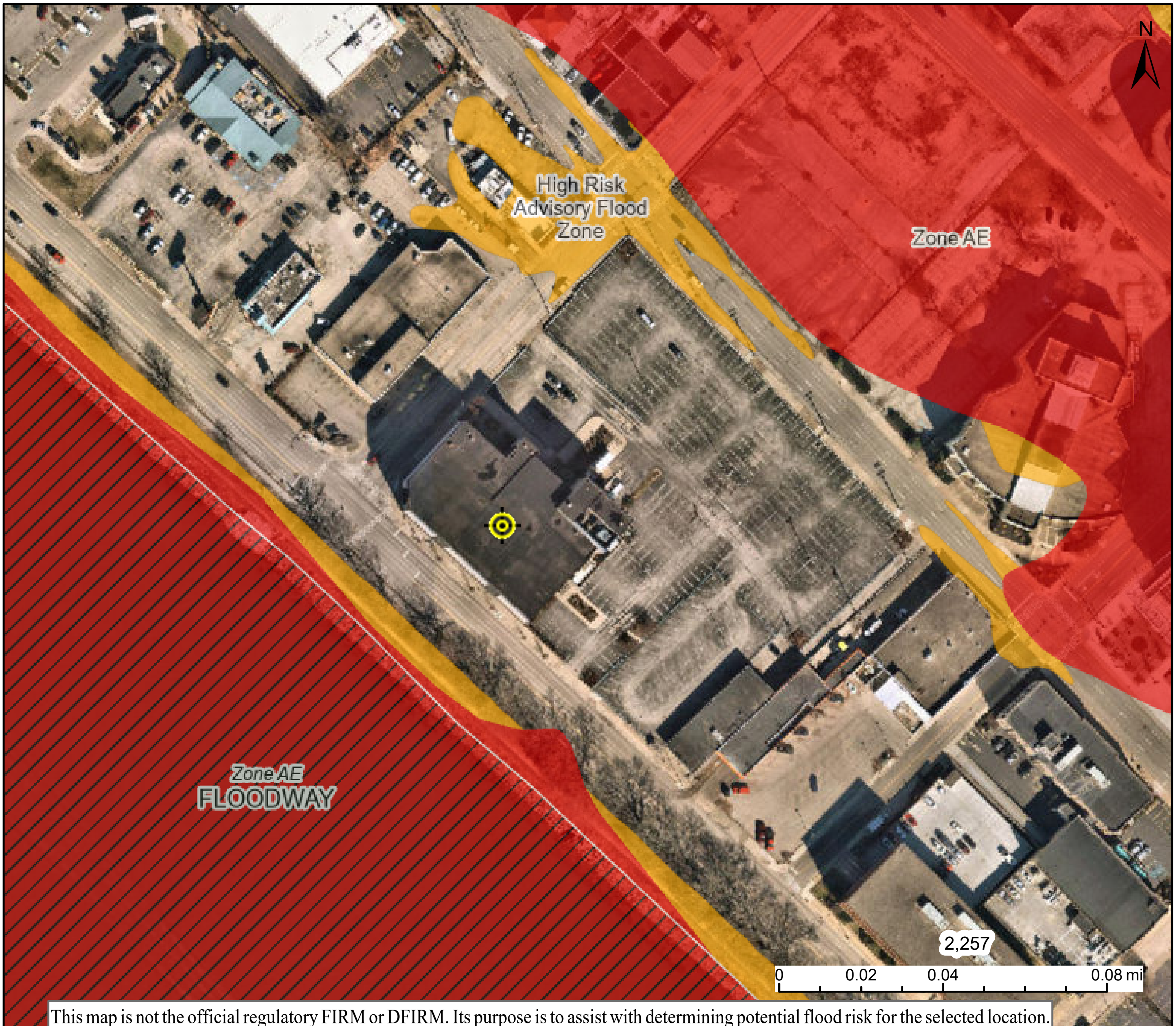
0 0.5 1 2 mi

0 1 2 4 km

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Source Water Assessment and Wellhead Protection Programs

Former CASCI Property



HIGH RISK

	Regulatory Floodway
Zone AE	1-Percent-Annual-Chance Flood Hazard Area **With Base Flood Elevation** (BFE)
Zone A	1-Percent-Annual-Chance Flood Hazard Area **Without BFE** (may have Advisory Flood Heights)
Advisory	1-Percent-Annual-Chance Future Conditions (High Risk Advisory Flood Zones)

Download the Full Legend for all flood tool symbols
https://www.mapwv.gov/flood/map/docs/wv_flood_tool_legend.pdf

Disclaimer:
The online map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. Refer to the official Flood Insurance Study (FIS) for detailed flood elevation data in flood profiles and data tables. WV Flood Tool (*https://www.MapWV.gov/flood*) is supported by FEMA, WV NFIP Office, and WV GIS Technical Center.

Flood Info Location — *Map created on 6/18/2024*

User Notes	
Flood Hazard Area	Location is **WITHIN** a moderate flood risk hazard such as a FEMA 500-year floodplain.
Flood Zone	Shaded X (500-YR Flood)
Stream	Kanawha River
Watershed (HUC8)	Lower Kanawha (5050008)
Flood Height	Flood Height 6a N/A
Water Depth	
Elevation	599.2 ft (Source: FEMA 2018-20) (NAVD88)
Community & ID	City of Charleston (ID: 540073)
FEMA Map & Date	54039C0407E; Effective Date: 2/6/2008
Location (lat, long)	(38.352726, -81.641759) (WGS84)
Parcel ID	20-11-0003-0022-0000
E-911 Address	200 KANAWHA BLVD E, Charleston, WV, 25301

APPENDIX B

SOIL MANAGEMENT AND HEALTH AND SAFETY PLAN FOR ENVIRONMENTAL CONTAMINANTS IN SOIL

Remington Development Project
200 Kanawha Boulevard, East
Charleston, West Virginia
VRP #24015

Prepared for:

Remington Charleston Corporation
Suite 300, 200 Quarry Park Boulevard S.E.
Calgary, Alberta T2C 5E3

Prepared by:

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Charleston, West Virginia 25304
Phone: (304) 342-1400   Fax: (304) 343-9031
E-mail: potesta@potesta.com

Project No. 0101-24-0007-103

June 2024

POTESTA

TABLE OF CONTENTS

<u>APPENDICES</u>

SOIL MANAGEMENT AND HEALTH AND SAFETY PLAN FOR ENVIRONMENTAL CONTAMINANTS IN SOIL

Remington Development Project
200 Kanawha Boulevard East
Charleston, West Virginia

QUICK GUIDE

APPLICABILITY

With the exception of **Section 4.2** (pertaining to movement of soil off-site), the requirements of this SMP/HASP are applicable during earthwork activities on-site until cover is in place in the Soil Management Area (SMA) shown on **Figure 1** in **Appendix A**, and during subsequent excavation or drilling in the SMA. Health and safety requirements apply to persons involved in activities in direct contact with soil, at the discretion of project management.

The restrictions in Section 4.2 remain in effect in perpetuity unless otherwise indicated.

SURFACE AND SUBSURFACE SOIL MANAGEMENT

On-Site Use:	Soil within the SMA must remain within the SMA. Soil outside the SMA can be moved/placed anywhere on site. Generally, once soil is placed in the SMA, it cannot be moved outside the SMA.
Off-Site	Soil can be disposed of off-site at a permitted facility (*e.g.*, landfill) with proper documentation (*e.g.*, manifests, weigh tickets, etc.) to be provided to Remington. No soil to be taken off site otherwise without specific prior approval from Remington.
Shipment:	Characterize soil as required for disposal; disposal documentation must be provided to Remington.

HEALTH AND SAFETY

Basis:	Exceedance of current Industrial screening level for lead in one sample location. Site-wide concentration of lead less than current Residential screening level. Other contaminants less than Industrial screening standards.
PPE:	Hand washing/hygiene and dedicated outer garments managed by contractor.

1.0 INTRODUCTION

Potesta & Associates, Inc. (POTESTA) developed this Soil Management and Health and Safety Plan (SMP/HASP) to address environmental contaminants in soil during planned earthwork activities at the above referenced site (site). Remington Charleston Corporation (Remington) has acquired the approximately 3.5-acre site and plans to develop it as a new office building for TC Energy Corporation.

Environmental assessment performed prior to Remington's purchase identified contaminants of potential concern (COPCs) that may pose a health risk to human receptors (e.g., construction workers, visitors, etc.) during earthwork activities. Following Remington's purchase of the site, additional assessment of surface and near surface soil was performed to further evaluate the soil expected to be encountered and handled during the earthwork activities. The contaminant concentrations identified in surface and near-surface soil were used as the basis for the exposure assessment and protocols presented in this document.

The site is currently enrolled in the West Virginia Voluntary Remediation Program (VRP) and is progressing through that program to ultimately receive a Certificate of Completion once remediated. It is expected that development will be conducted concurrently with the VRP activities. The exposure assessment and protocols presented in this document are consistent with those typically developed for VRP project sites.

The health and safety protocols herein are related to COPCs in soil at the site. This SMP/HASP is not designed, nor intended for use, as a HASP for industrial/construction activities. POTESTA expects that those who may be involved in industrial/construction activities at the site to possess and adhere to HASPs that incorporate those activities as appropriate.

The requirements of this SMP/HASP are applicable prior to the planned placement of cover in the Soil Management Area (SMA) shown on **Figure 1** in **Appendix A**, or during excavation, drilling, or other intrusive activity in the SMA subsequent to placement of cover. Additionally, the restrictions in **Section 4.2** remain in effect in perpetuity unless otherwise indicated.

2.0 ORGANIZATION AND RESPONSIBILITIES

This SMP/HASP was prepared specifically for the Remington Charleston Corporation property by David Corsaro with POTESTA, the licensed remediation specialist (LRS) for the VRP project, using site assessment data generated from the site.

The key contacts for the facility and regulatory agencies responsible for management of the site are listed below:

Remington:	Jamie Cooper Senior Vice President, Land and Construction Suite 300, 200 Quarry Park Boulevard S.E. Calgary, Alberta T2C 5E3 Telephone: (403) 255-7530 Email: jcooper@remingtoncorp.com
Primary Contractor:	BBL Carlton, LLC Contact to be Determined
POTESTA:	David J. Corsaro Licensed Remediation Specialist No. 192 Potesta & Associates, Inc. 7012 MacCorkle Avenue, S.E. Charleston, West Virginia 25304 Telephone: (304) 342-1400 Fax: (304) 343-9031 E-Mail: djcorsaro@potesta.com
WVDEP:	Kevin Richardson Project Manager WVDEP-Office of Environmental Remediation 1159 Nick Rahall Greenway Fayetteville, West Virginia 25840 Telephone: (304) 545-2134 Email: kevin.richardson@wv.gov

2.1 Emergency Contacts

Ambulance 911
Charleston Police Department 911
CAMC General Hospital..(304) 388-5432
Chemical-Oil Spills (National Response Center) .... (800) 424-8802 or (800) 642-3074
Centers for Disease Control ....(404) 639-2888 (24 hour)
Alcohol Tobacco & Firearms (Explosives Information) ....(800) 424-9555
National Poison Control Center...(800) 222-1222
West Virginia Department of Environmental Protection..(304) 926-0499

2.2 Directions to Nearest Hospital

Directions to the **CAMC General Hospital**, including a map, are presented in **Appendix B**.

3.0 SURFACE/NEAR SURFACE SOIL COPC EXPOSURE EVALUATION

Per VRP guidance, surface soil is defined as 0-2 feet below ground surface (bgs) and subsurface soil is defined as soil deeper than 2 feet bgs. Since soil may be excavated to a depth of greater than 2 feet during this project, POTESTA evaluated the results of 18 surface soil samples and 3 subsurface samples that were collected from less than 4 feet bgs. Soil sample results were compared to the WVDEP *de minimis* Risk Based Concentrations (RBCs) for Residential and Industrial sites, which are used by the WVDEP-OER for sites in the VRP. The soil sample locations and summaries of screening results are presented in **Figure 1** in **Appendix A** and **Table 1** in **Appendix C**.

The soil samples were analyzed for polynuclear aromatic hydrocarbons (PAHs) and Resource Conservation and Recovery Act (RCRA) metals. Preliminary sampling also included volatile organic compounds (VOCs), none of which were detected in surface or near-surface soil exceeding Residential RBCs.

Lead was detected in NWGB-06 exceeding its current Industrial RBC of 800 milligrams per kilogram (mg/kg) and also exceeded the WVDEP's reported proposed (but currently unpublished/unofficial) Industrial RBC of 426 mg/kg in HSPB-4. Both of those sample locations are located in the northwestern quadrant of the site, the primary area of contamination identified. No other contaminants exceeded their respective Industrial RBCs. For the purposes of this SMP/HASP, contaminant concentrations less than Industrial RBCs are not considered to be of concern for worker exposure during earthwork activities. However, exceedances of Residential RBCs are presented in the figure and tables and are relevant to restriction of shipment of soil off-site.

3.1 Site-Wide Surface and Near-Surface Soil COPC Evaluation

To evaluate potential exposure point concentrations site-wide during earthwork activities, POTESTA calculated 95 percent upper confidence limits (UCLs) on the mean detected concentrations in surface/near surface soil using USEPA's ProUCL software (95% UCL) for the COPCs that were detected at concentrations exceeding their residential RBCs. 95% UCLs were calculated using the maximum detected concentrations of each COPC in soil borings from which multiple surface/near-surface sample intervals were analyzed.

The 95% UCL values are presented on **Table 1** and the calculation sheets are included as **Appendix D**. The 95% UCLs of the COPCs were less than their respective Industrial RBCs and with the exception of benzo(a) pyrene, were less than their respective Residential RBCs.

3.2 Subsurface Soil and Groundwater Discussion

Surface and near-surface soil are the primary considerations for this document, since the majority of soil handling and potential exposure will be related to that medium. However, some excavation, trenching, and drilling activities may expose workers to subsurface soil and groundwater. Subsurface soil and groundwater assessment has been performed at the site and the results submitted to the WVDEP as part of the VRP process.

As with surface and near-surface soil, the only COPC detections exceeding Industrial RBCs were in the northwest quadrant of the site. COPCs in groundwater at concentrations exceeding Groundwater RBCs were identified in samples collected from the northwest quadrant, and in EMW-03 and EMW-05. The LRS has concluded that exposure to the concentrations of COPCs identified in subsurface soil and groundwater at the site are expected to be addressed by the protocols outlined in this SMP/HASP, especially given the limited anticipated exposure durations to those media.

4.0 SOIL MANAGEMENT

The primary soil management considerations at this site include controlling worker exposure, relocation of soil on-site, movement of soil off-site, and preventing migration of contamination from the site. Controlling worker exposure is addressed in **Section 5**. The remaining considerations are addressed in this section.

The primary area of contamination identified at the site is in the northwest quadrant shown on **Figure 1**. In an effort to contain this contamination and minimize unnecessary future restrictions associated with the remedial measures/controls for the site, this HASP/SMP designates a "Soil Management Area" (SMA), the approximate location of which is shown on **Figure 1**.

The provisions of this SMP/HASP are to remain in effect until the exposed soil in the SMA has been covered with a direct-contact cover consistent with the requirements outlined in Section F.2 of Appendix F of the VRP Guidance Manual (included as **Appendix E** of this SMP/HASP), or if subsequent excavation, drilling, or intrusive activities are performed in the SMA.

Note – measures per the requirements in **Appendix E** must be documented by the contractor to the extent practical to demonstrate compliance.

4.1 Relocation of Soil On-Site

Soil within the SMA is not to be placed outside the SMA, while soil outside the SMA can be moved freely around the site as needed. However, once soil from elsewhere is placed in the SMA it is therefore restricted as such unless it is placed on a marker layer or surface barrier from which it can be readily differentiated from the existing surface.

4.2 Movement of Soil Off-Site

Based on recent site development plans, it is POTESTA's understanding that fill will be needed to develop the site. Therefore, it is not likely that removal of soil will be required to develop the site.

In the event that removal of site soil is required, due to the exceedances of Residential RBCs and the 95% UCL for benzo(a)pyrene in excess of the Residential RBC (**Table 1**), the following conditions must be met:

- Soil can be disposed of off-site at a permitted facility (e.g., landfill) with proper documentation (e.g., manifests, weigh tickets, etc.) to be provided to Remington.
- Other than for disposal at a permitted facility, no soil is to be taken off site without specific prior approval from Remington.

Note – this requirement remains in effect unless otherwise noted and is not conditional based on exposed soil in the SMA.

4.3 Equipment Decontamination

Equipment used to handle site soil will be decontaminated prior to leaving the site. Decontamination will consist of, at a minimum, removal of loose soil followed by cleaning using biodegradable soap followed by a clean water rinse.

4.4 Additional/Typical Earthwork Considerations

These considerations are typically applicable to earthwork/construction projects but are of significant importance to contain site contaminants.

4.4.1 Construction Track-Out

Tracking of soil onto roadways must be prevented. Controls may include stabilization measures such as gravel pad(s), or vehicle wash stations, shaker racks, etc.

4.4.2 Dust Control

Site activities should be monitored for spreading of dust, and water sprinkling or other suitable methods should be used to limit the dust to the lowest practical level. Water should not be used when it may create hazardous or objectionable conditions such as ice, flooding, or pollution. Activities on site should be conducted in such a manner as to prevent nuisance discharges of dust and water from the work areas.

4.4.3 Runoff

It is expected that a construction stormwater permit will be required for the earthwork activities, and compliance with that permit will meet the intent of this SMP/HASP.

5.0 CONTROLLING WORKER EXPOSURE

These health and safety protocols are intended to apply to persons working in direct contact with site soils. The determination of applicability to individuals is at the discretion of the project management. The project-specific personal protective equipment (PPE) requirements (**Section 4.1**) are to remain in effect until the exposed soil in the SMA has been covered with direct-contact cover consistent with the requirements outlined in Section F.2 of Appendix F of the VRP Guidance Manual (included as **Appendix E** of this SMP/HASP).

Ingestion of contaminated soil is the primary risk pathway to construction workers. The exposure risks can be reduced through the use of PPE that will prevent or reduce the ingestion of soil and simple hygiene practices (hand washing) by construction workers.

Based on the available health and safety information, the LRS has concluded the exposure risks to construction workers exposed to site-wide surface and near-surface soil can be adequately mitigated though personal hygiene practices and the use of commonly used PPE. Personnel in direct contact with surface/near-surface soil should take necessary precautions to reduce or eliminate exposure to themselves. Exposure can be controlled by:

- Wearing gloves to reduce exposure to impacted soil.
- Keeping hands away from mouth and face and wash hands before eating, drinking, or smoking.
- The use of a separate protective clothing layer, such as coveralls, which can greatly reduce the potential of direct contact exposure to workers.
- Washing exposed skin at regular intervals during periods of intrusive work activities.

5.1 Project-Specific PPE Requirements

While overall site-wide concentrations of COPCs are within acceptable levels for non-residential receptors, out of an abundance of caution, several factors were considered during development of this SMP/HASP, including:

- Known presence of higher concentrations of COPCs in northwest quadrant of site.
- Interest in development of consistent, easily discernable health and safety requirements.
- Mitigation of exposure to off-site receptors.

To address these considerations, this project will require the contractor to provide dedicated outer garments to site workers involved in direct contact with soil at the site prior to placement of cover in the SMA.

5.1.1 Requirement for Dedicated Outer Garments

The methodology to meet this requirement is at the discretion of the contractor; however, the following will be required:

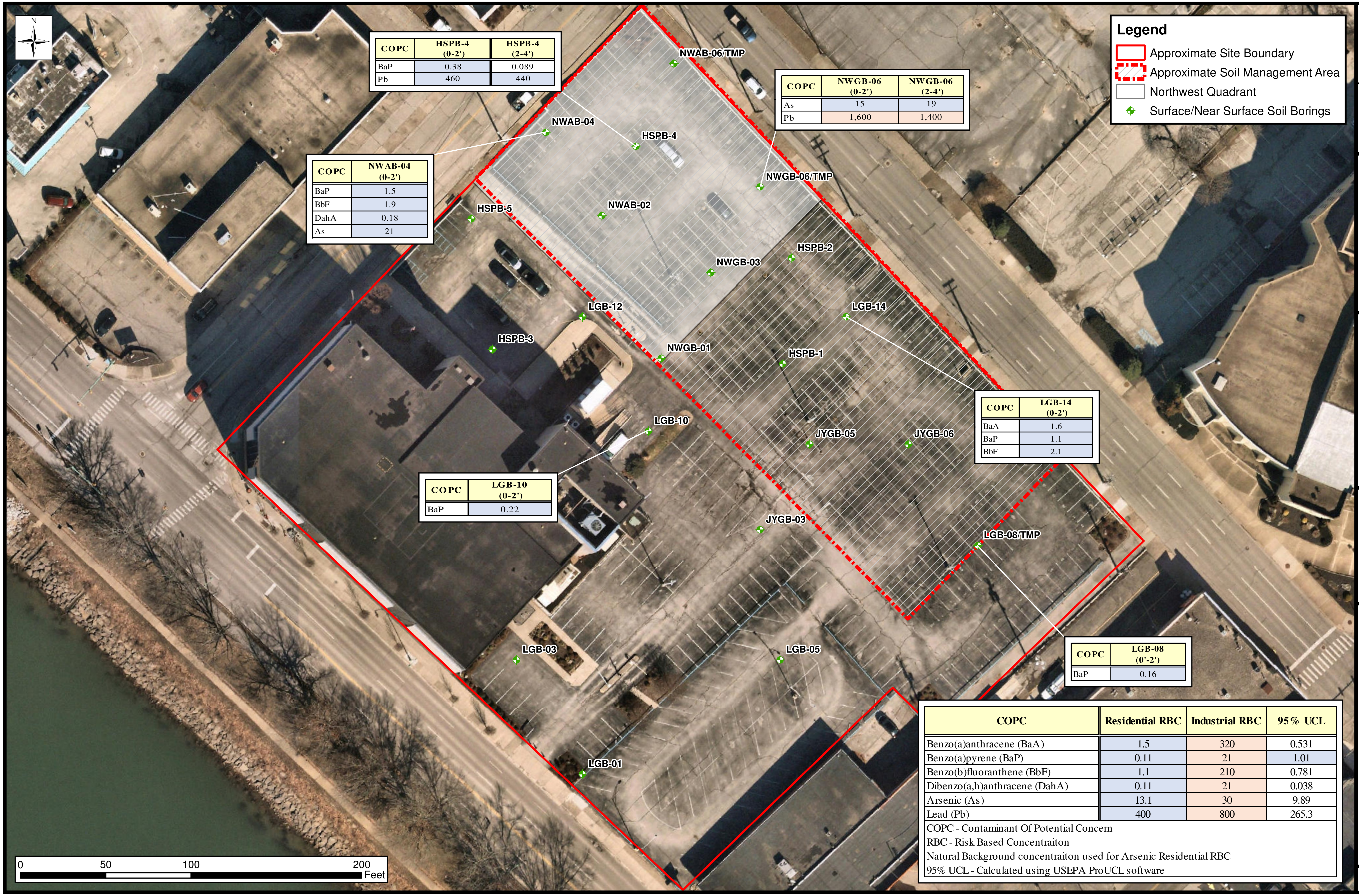
- For the purposes of this document, outer garments include the following items:
  - Shirt/pants/jackets (or coveralls)
  - Boots or boot covers
  - Gloves
  - Hard hats
- Dedicated items are not to be worn off site for any reason. Persons are required to remove the items prior to leaving the site.
- Dedicated items are to be managed (including washing) by contractor on site and provided to workers as needed.
- Following their useful life or at completion of the project, dedicated items are to be either discarded or washed in a manner that ensures removal of soil particles.
- Note – if contractor opts to use a commercial laundry to clean protective work clothes contaminated with lead, the employer is required to inform the laundry in writing of the potentially harmful effects of exposure to lead per Title 29, Code of Federal Regulations (29 CFR) 1910.1025(g)(2)(vi).

6.0 RECORD KEEPING AND REPORTING

Remington will provide this SMP/HASP to the primary site contractor, who will be responsible for implementation and record keeping per their respective health and safety requirements.

Records for off-site soil shipments (*e.g.*, manifests, weight tickets, etc.) are to be retained and provided to Remington upon completion of the project.

APPENDIX A



COPC	HSPB-4 (0-2')	HSPB-4 (2-4')
BaP	0.38	0.089
Pb	460	440

COPC	NWGB-06 (0-2')	NWGB-06 (2-4')
As	15	19
Pb	1,600	1,400

COPC	NWAB-04 (0-2')
BaP	1.5
BbF	1.9
DahA	0.18
As	21

COPC	LGB-14 (0-2')
BaA	1.6
BaP	1.1
BbF	2.1

COPC	LGB-10 (0-2')
BaP	0.22

COPC	LGB-08 (0'-2')
BaP	0.16

COPC	Residential RBC	Industrial RBC	95% UCL
Benzo(a)anthracene (BaA)	1.5	320	0.531
Benzo(a)pyrene (BaP)	0.11	21	1.01
Benzo(b)fluoranthene (BbF)	1.1	210	0.781
Dibenzo(a,h)anthracene (DahA)	0.11	21	0.038
Arsenic (As)	13.1	30	9.89
Lead (Pb)	400	800	265.3

COPC - Contaminant Of Potential Concern
RBC - Risk Based Concentraiton
Natural Background concentraiton used for Arsenic Residential RBC
95% UCL - Calculated using USEPA ProUCL software

DRAWN: CH
CHECKED:
APPROVED:
SCALE: 1" = 50'
DATE: 04/24/2024
PN: 24-0007.100
I:\Projects\2024\24_0007_Remington Development\MapDocuments\04_19_2024\RemingtonDevelopment_SampleResults_FIG_1.mxd

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POTESTA

REMINGTON DEVELOPMENT CORPORATION
200 Quarry Park Boulevard #300
Calgary, Alberta, Canada

MAPPING FOR VISUAL REPRESENTATION ONLY
Health and Safety Plan
Risk-Based Concentration Exceedances in Surface and Near Surface Soil Borings
Remington Development Site
Charleston, Kanawha County, West Virginia
For Informational Purposes Only

FIGURE 1

APPENDIX B

Google Maps

200 Kanawha Blvd E, Charleston, WV 25301 to CAMC General Hospital, 501 Morris St, Charleston, WV 25301

Drive 1.5 miles, 6 min

Map data ©2024 500 ft

200 Kanawha Blvd E
Charleston, WV 25301

1. Head southeast toward Clendenin St

59 ft

2. Turn left toward Clendenin St

128 ft

3. Turn left toward Clendenin St

289 ft

4. Turn left onto Clendenin St

262 ft

5. Turn left onto Kanawha Blvd E

0.9 mi

6. Turn left onto Morris St

0.4 mi

7. Turn left
Destination will be on the right

322 ft

CAMC General Hospital
501 Morris St, Charleston, WV 25301

APPENDIX C

TABLE 1

March 2024 Surface Soil Sampling Analysis Results

COPC[1]	CAS[2] Number	Residential RBC[3]	Industrial RBC[3]	95% UCL[4]	Surface Soil																				Near-Suface Soil		
					LGB-01 (0-2')	LGB-03 (0-2')	LGB-05 (0-2')	LGB-08 (0'-2')	LGB-10 (0-2')	LGB-12 (0-2')	LGB-14 (0-2')	JYGB-03 (0-2')	JYGB-05 (0-2')	JYGB-06 (0-2')	NWGB-03 (0-2')	NWGB-06 (0-2')	NWAB-02 (0-2')	NWAB-04 (0-2')	NWAB-06 (0-2')	HSPB-1 (0-2')	HSPB-2 (0-2')	HSPB-3 (0-2')	HSPB-4 (0-2')	HSPB-5 (0-2')	HSPB-4 (2-4')	NWGB-01 (2-4')	NWGB-06 (2-4')
Sample Date					4/4/2024	4/4/2024	4/4/2024	7/31/2023	4/4/2024	4/4/2024	4/4/2024	4/4/2024	4/4/2024	4/4/2024	4/4/2024	4/4/2024	4/4/2024	7/13/2023	4/4/2024	4/4/2024	4/4/2024	4/4/2024	4/4/2024	4/4/2024	4/4/2024	7/13/2023	4/4/2024
Polynuclear Aromatic Hydrocarbons (mg/kg)[4]																											
1-Methylnaphthalene	90-12-0	24	390		0.0014J	ND	ND	0.0059	0.060	0.052	0.11	ND	ND	ND	ND	0.0098J	ND	0.0049J	0.0025J	ND	0.0054J	ND	0.053	ND	ND	ND	0.056
2-Methylnaphthalene	91-57-6	310	4700		0.0012J	ND	ND	0.0071	0.068	0.085	0.17	ND	ND	ND	ND	ND	ND	0.012	0.0027J	ND	0.0054J	ND	0.14	ND	ND	ND	0.035
Acenaphthene	83-32-9	4100	47000		ND	ND	ND	0.011	0.014	0.019	0.19	ND	ND	ND	ND	ND	ND	0.0069	0.0028J	ND	ND	ND	ND	ND	ND	ND	0.049
Acenaphthylene	208-96-8	4200	51000		0.0013J	ND	ND	0.0077	ND	0.014	0.010J	ND	ND	ND	ND	ND	0.0035J	0.097	0.012	ND	0.0096J	ND	0.070	ND	0.018J	0.0024J	ND
Anthracene	120-12-7	23000	350000		0.0021J	ND	ND	0.089	0.027	0.045	0.34	ND	ND	ND	ND	ND	0.0038J	0.068	0.026	ND	0.017	ND	0.085	ND	0.054	0.0039J	0.035
Benzo(a)anthracene	56-55-3	1.5	320	0.531	0.024	ND	ND	0.19	0.22	0.031	1.6	0.022J	ND	ND	ND	0.034	0.017	1.1	0.16	ND	0.064	0.013	0.32	0.042	0.097	0.026	0.089
Benzo(a)pyrene	50-32-8	0.11	21	1.01	0.020	ND	ND	0.16	0.22	0.018	1.1	0.046	ND	ND	ND	0.028	0.025	1.5	0.15	ND	0.066	0.014	0.38	0.039	0.089	0.029	0.065
Benzo(b)fluoranthene	205-99-2	1.1	210	0.781	0.029	ND	ND	0.23	0.33	0.018	2.1	0.073	ND	ND	ND	0.031	0.031	1.9	0.19	ND	0.074	0.016	0.68	0.042	0.12	0.034	0.099
Benzo(g,h,i)perylene	191-24-2	1800	23000		0.011	ND	ND	0.07	0.13	0.0041J	0.43	0.051	ND	ND	ND	ND	0.0060	0.7	0.053	ND	0.021	0.0033J	0.33	ND	0.085	0.011	0.035
Benzo(k)fluoranthene	207-08-9	11	2100		0.012	ND	ND	0.076	0.14	0.0086	0.75	0.023J	ND	ND	ND	0.0068J	0.011	0.66	0.066	ND	0.024	0.0043J	0.19	0.0081J	0.032	0.014	0.025J
Chrysene	218-01-9	110	21000		0.029	ND	ND	0.21	0.28	0.026	2.1	0.022J	ND	ND	ND	0.020J	0.017	1.2	0.16	ND	0.065	0.012	0.44	0.026	0.10	0.029	0.12
Dibenzo(a,h)anthracene	53-70-3	0.11	21	0.038	ND	ND	ND	0.019	0.023	ND	0.10	ND	ND	ND	ND	ND	ND	0.18	0.016	ND	ND	ND	0.048J	ND	ND	0.0046J	ND
Fluoranthene	206-44-0	2400	30000		0.078	ND	ND	0.44	0.79	0.077	5.9	0.049	ND	ND	ND	0.11	0.025	0.79	0.27	ND	0.11	0.018	0.56	0.047	0.33	0.039	0.34
Fluorene	86-73-7	2900	37000		ND	ND	ND	0.025	0.015	0.070	0.069	ND	ND	ND	ND	ND	0.0039J	0.01	0.0079	ND	0.0092J	ND	ND	ND	ND	ND	0.037
Indeno(1,2,3-cd)pyrene	193-39-5	1.1	210		0.011	ND	ND	0.092	0.17	0.0051	0.67	0.048	ND	ND	ND	ND	0.0087	0.96	0.084	ND	0.028	0.0049J	0.40	ND	0.068	0.012	0.039
Naphthalene	91-20-3	2.4	110		ND	ND	ND	0.0074	0.044	0.24	0.28	ND	ND	ND	ND	0.0065J	ND	0.054	0.0039J	ND	ND	ND	0.072	ND	ND	ND	0.087
Phenanthrene	85-01-8	23000	350000		0.038	ND	ND	0.2	0.34	0.16	4.6	ND	ND	ND	0.0086J	0.043	0.018	0.093	0.099	ND	0.053	0.0015J	0.15	ND	0.076	0.012	0.19
Pyrene	129-00-0	2300	34000		0.061	ND	ND	0.26	0.63	0.055	4.6	0.039	ND	ND	ND	0.085	0.032	0.95	0.26	ND	0.11	0.021	0.91	0.062	0.28	0.034	0.31
Resource Conservation and Recovery Act Metals (mg/kg)																											
Mercury	7439-97-6	3.1	3.1		0.040	0.045	0.020	0.055	ND	0.028	0.028	0.030	0.042	0.078	0.087	0.25	0.037	0.32	0.47	0.019	0.074	0.060	0.056	0.059	0.15	0.22	0.60
Arsenic[6]	7440-38-2	13.1	30	9.89	9.0	7.9	4.1	5.7	10	5.1	4.0	8.3	5.4	12	4.8	15	4.7	21	5.6	6.7	5.2	4.9	7.8	9.4	6.4	11	19
Barium	7440-39-3	15000	220000		71	220	140	130	94	150	41	190	230	260	210	1,600	180	190	210	170	180	190	210	160	290	120	1,000
Cadmium	7440-43-9	37	530		0.062J	0.067J	0.067J	0.064	0.072J	ND	ND	ND	ND	1.7	0.16J	1.6	ND	0.11J	0.099J	ND	0.34J	ND	9.3	0.15J	2.5	0.048J	1.2
Chromium	7440-47-3	120000	1000000		18	20	10	17	21	14	5.4	22	20	10	16	26	15	14	15	22	16	15	15	29	21	13	33
Lead	7439-92-1	400	800	265.3	29	18	9.8	54	5.6	14	5.0	16	9.8	230	23	1,600	13	71	96	14	29	16	460	56	440	20	1,400
Selenium	7782-49-2	390	5800		ND	ND	2.0	0.31	ND	0.28J	ND	ND	ND	0.39J	ND	0.62J	ND	0.76	0.42J	ND	0.26J	0.21	0.96	0.39J	0.34J	ND	0.79
Silver	7440-22-4	390	5800		ND	ND	ND	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.056J	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
1. COPCs - Contaminants of Potential Concern listed were detected above laboratory detection limit
2. CAS - Chemical Abstract Service
3. West Virginia Risk-Based Concentrations obtained from Voluntary Remediation and Redevelopment Rule (VRRR), Table 60-9
4. Calculated for COPCs detected exceeding Residential RBC using USEPA ProUCL and maximum concentration detected at each soil boring
4. mg/kg - milligrams per kilogram
5. J - Estimated concentration greater than detection limit but less than reportable limit
6. Natural background concentration used for arsenic Residential RBC per VRP guidance

Bold - Detected at concentration greater than laboratory detection limit

Exceeds Residential RBC/Value Exceeded

Exceeds Industrial RBC/Value Exceeded

APPENDIX D

BaA	D_BaA	BaP	D_BaA	BbF	D_BbF	DahA	D_DahA	As	D_As	Pb	D_Pb
0.017	0	0.016	0	0.014	0	0.0026	0	**6.7**	1	**14**	1
0.064	1	**0.066**	1	**0.074**	1	0.0082	0	**5.2**	1	**29**	1
0.013	1	**0.014**	1	**0.016**	1	0.0027	0	**4.9**	1	**16**	1
0.32	1	**0.38**	1	**0.68**	1	**0.023**	1	**7.8**	1	**460**	1
0.042	1	**0.039**	1	**0.042**	1	0.0029	0	**9.4**	1	**56**	1
0.022	1	**0.046**	1	**0.073**	1	**0.10**	1	**8.3**	1	**16**	1
0.016	0	0.015	0	0.014	0	0.014	0	**5.4**	1	**9.8**	1
0.017	0	0.016	0	0.014	0	0.013	0	**12**	1	**230**	1
0.024	1	**0.020**	1	**0.029**	1	0.014	0	**9.0**	1	**29**	1
0.01	0	0.0095	0	0.0085	0	0.0087	0	**7.9**	1	**18**	1
0.0034	0	0.0032	0	0.0028	0	0.015	0	**4.1**	1	**9.8**	1
0.22	1	**0.22**	1	**0.33**	1	0.0028	0	**10**	1	**5.6**	1
0.031	1	**0.018**	1	**0.018**	1	**0.016**	1	**5.1**	1	**14**	1
1.6	1	**1.1**	1	**2.1**	1	0.014	0	**4.0**	1	**5.0**	1
0.017	1	**0.025**	1	**0.031**	1	0.0082	0	**4.7**	1	**13**	1
0.16	1	**0.15**	1	**0.19**	1	0.0029	0	**5.6**	1	**96**	1
0.011	0	0.01	0	0.0091	0	**0.048**	1	**4.8**	1	23	1
0.089	1	**0.065**	1	**0.099**	1	0.016	0	**19**	1	**1,600**	1
0.026	1	**0.029**	1	**0.034**	1	**0.0046**	1	**11**	1	**20**	1
0.19	1	**0.16**	1	**0.23**	1	**0.019**	1	**5.7**	1	**54**	1
1.1	1	**1.5**	1	**1.9**	1	**0.18**	1	**21**	1	**71**	1

Note - lower values for NWGB-06 and HSPB-4 have been removed

Bold concentration - analyte detected exceeding method detection limit

Non-bold - analyte not detected at method detection limit

J-qualified results (> detection limit, < quantitation limit) treated as detected concentrations

Row				
1	UCL Statistics for Data Sets with Non-Detects			
2				
3	User Selected Options			
4	Date/Time of Computation	ProUCL 5.2 4/19/2024 12:31:37 PM		
5	From File	WorkSheet_a.xls		
6	Full Precision	OFF		
7	Confidence Coefficient	95%		
8	Number of Bootstrap Operations	2000		
9				
10				
11	Arsenic			
12				
13	General Statistics			
14	Total Number of Observations	21	Number of Distinct Observations	21
15			Number of Missing Observations	0
16	Minimum	4	Mean	8.171
17	Maximum	21	Median	6.7
18	SD	4.578	Std. Error of Mean	0.999
19	Coefficient of Variation	0.56	Skewness	1.786
20				
21	Normal GOF Test			
22	Shapiro Wilk Test Statistic	0.786	Shapiro Wilk GOF Test	
23	1% Shapiro Wilk Critical Value	0.873	Data Not Normal at 1% Significance Level	
24	Lilliefors Test Statistic	0.182	Lilliefors GOF Test	
25	1% Lilliefors Critical Value	0.219	Data appear Normal at 1% Significance Level	
26	Data appear Approximate Normal at 1% Significance Level			
27				
28	Assuming Normal Distribution			
29	95% Normal UCL		95% UCLs (Adjusted for Skewness)	
30	95% Student's-t UCL	9.894	95% Adjusted-CLT UCL (Chen-1995)	10.23
31			95% Modified-t UCL (Johnson-1978)	9.959
32				
33	Gamma GOF Test			
34	A-D Test Statistic	0.815	Anderson-Darling Gamma GOF Test	
35	5% A-D Critical Value	0.746	Data Not Gamma Distributed at 5% Significance Level	
36	K-S Test Statistic	0.187	Kolmogorov-Smirnov Gamma GOF Test	
37	5% K-S Critical Value	0.19	Detected data appear Gamma Distributed at 5% Significance Level	
38	Detected data follow Appr. Gamma Distribution at 5% Significance Level			
39				
40	Gamma Statistics			
41	k hat (MLE)	4.478	k star (bias corrected MLE)	3.87
42	Theta hat (MLE)	1.825	Theta star (bias corrected MLE)	2.111
43	nu hat (MLE)	188.1	nu star (bias corrected)	162.5
44	MLE Mean (bias corrected)	8.171	MLE Sd (bias corrected)	4.154
45			Approximate Chi Square Value (0.05)	134.1
46	Adjusted Level of Significance	0.0383	Adjusted Chi Square Value	132.1
47				
48	Assuming Gamma Distribution			
49	95% Approximate Gamma UCL	9.907	95% Adjusted Gamma UCL	10.06
50				
51	Lognormal GOF Test			
52	Shapiro Wilk Test Statistic	0.919	Shapiro Wilk Lognormal GOF Test	
53	10% Shapiro Wilk Critical Value	0.923	Data Not Lognormal at 10% Significance Level	
54	Lilliefors Test Statistic	0.175	Lilliefors Lognormal GOF Test	
55	10% Lilliefors Critical Value	0.173	Data Not Lognormal at 10% Significance Level	
56	Data Not Lognormal at 10% Significance Level			
57				
58	Lognormal Statistics			
59	Minimum of Logged Data	1.386	Mean of logged Data	1.985
60	Maximum of Logged Data	3.045	SD of logged Data	0.468
61				
62	Assuming Lognormal Distribution			
63	95% H-UCL	9.968	90% Chebyshev (MVUE) UCL	10.63
64	95% Chebyshev (MVUE) UCL	11.79	97.5% Chebyshev (MVUE) UCL	13.39
65	99% Chebyshev (MVUE) UCL	16.55		

	A	B	C	D	E	F	G	H	I	J	K	L
66												
67	**Nonparametric Distribution Free UCL Statistics**											
68	**Data appear to follow a Discernible Distribution**											
69												
70	**Nonparametric Distribution Free UCLs**											
71					95% CLT UCL	9.815					95% BCA Bootstrap UCL	10.29
72					95% Standard Bootstrap UCL	9.782					95% Bootstrap-t UCL	10.97
73					95% Hall's Bootstrap UCL	12.57					95% Percentile Bootstrap UCL	9.881
74					90% Chebyshev(Mean, Sd) UCL	11.17					95% Chebyshev(Mean, Sd) UCL	12.53
75					97.5% Chebyshev(Mean, Sd) UCL	14.41					99% Chebyshev(Mean, Sd) UCL	18.11
76												
77	**Suggested UCL to Use**											
78					95% Student's-t UCL	9.894						
79												
80	When a data set follows an approximate distribution passing only one of the GOF tests,											
81	it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL											
82												
83	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
84	Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.											
85	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
86												

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.2 4/19/2024 12:08:12 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Benzo(a)anthracene

General Statistics

Total Number of Observations	21	Number of Distinct Observations	19
Number of Detects	15	Number of Non-Detects	6
Number of Distinct Detects	15	Number of Distinct Non-Detects	5
Minimum Detect	0.013	Minimum Non-Detect	0.0034
Maximum Detect	1.6	Maximum Non-Detect	0.017
Variance Detects	0.213	Percent Non-Detects	28.57%
Mean Detects	0.261	SD Detects	0.461
Median Detects	0.064	CV Detects	1.765
Skewness Detects	2.424	Kurtosis Detects	5.307
Mean of Logged Detects	-2.467	SD of Logged Detects	1.498

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.587	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.835	Detected Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.336	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.255	Detected Data Not Normal at 1% Significance Level

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.188	KM Standard Error of Mean	0.089
90KM SD	0.394	95% KM (BCA) UCL	0.359
95% KM (t) UCL	0.341	95% KM (Percentile Bootstrap) UCL	0.339
95% KM (z) UCL	0.334	95% KM Bootstrap t UCL	0.829
90% KM Chebyshev UCL	0.455	95% KM Chebyshev UCL	0.576
97.5% KM Chebyshev UCL	0.744	99% KM Chebyshev UCL	1.073

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.991	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.789	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.183	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.233	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.556	k star (bias corrected MLE)	0.489
Theta hat (MLE)	0.47	Theta star (bias corrected MLE)	0.534
nu hat (MLE)	16.67	nu star (bias corrected)	14.67
Mean (detects)	0.261		

	A–E	F	G–K	L
52	**Gamma ROS Statistics using Imputed Non-Detects**			
53	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs			
54	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)			
55	For such situations, GROS method may yield incorrect values of UCLs and BTVs			
56	This is especially true when the sample size is small.			
57	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates			
58	Minimum	0.01	Mean	0.189
59	Maximum	1.6	Median	0.026
60	SD	0.403	CV	2.127
61	k hat (MLE)	0.456	k star (bias corrected MLE)	0.422
62	Theta hat (MLE)	0.416	Theta star (bias corrected MLE)	0.449
63	nu hat (MLE)	19.14	nu star (bias corrected)	17.74
64	Adjusted Level of Significance (β)	0.0383		
65	Approximate Chi Square Value (17.74, α)	9.202	Adjusted Chi Square Value (17.74, β)	8.731
66	95% Gamma Approximate UCL	0.365	95% Gamma Adjusted UCL	0.385
67				
68	**Estimates of Gamma Parameters using KM Estimates**			
69	Mean (KM)	0.188	SD (KM)	0.394
70	Variance (KM)	0.155	SE of Mean (KM)	0.089
71	k hat (KM)	0.228	k star (KM)	0.227
72	nu hat (KM)	9.556	nu star (KM)	9.524
73	theta hat (KM)	0.826	theta star (KM)	0.829
74	80% gamma percentile (KM)	0.263	90% gamma percentile (KM)	0.567
75	95% gamma percentile (KM)	0.936	99% gamma percentile (KM)	1.931
76				
77	**Gamma Kaplan-Meier (KM) Statistics**			
78	Approximate Chi Square Value (9.52, α)	3.646	Adjusted Chi Square Value (9.52, β)	3.371
79	95% KM Approximate Gamma UCL	0.491	95% KM Adjusted Gamma UCL	0.531
80				
81	**Lognormal GOF Test on Detected Observations Only**			
82	Shapiro Wilk Test Statistic	0.924	**Shapiro Wilk GOF Test**	
83	10% Shapiro Wilk Critical Value	0.901	Detected Data appear Lognormal at 10% Significance Level	
84	Lilliefors Test Statistic	0.149	**Lilliefors GOF Test**	
85	10% Lilliefors Critical Value	0.202	Detected Data appear Lognormal at 10% Significance Level	
86	**Detected Data appear Lognormal at 10% Significance Level**			
87				
88	**Lognormal ROS Statistics Using Imputed Non-Detects**			
89	Mean in Original Scale	0.187	Mean in Log Scale	-3.461
90	SD in Original Scale	0.404	SD in Log Scale	2.05
91	95% t UCL (assumes normality of ROS data)	0.339	95% Percentile Bootstrap UCL	0.34
92	95% BCA Bootstrap UCL	0.414	95% Bootstrap t UCL	0.766
93	95% H-UCL (Log ROS)	1.782		
94				
95	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**			
96	KM Mean (logged)	-3.338	KM Geo Mean	0.0355
97	KM SD (logged)	1.857	95% Critical H Value (KM-Log)	3.899
98	KM Standard Error of Mean (logged)	0.425	95% H-UCL (KM -Log)	1.006
99	KM SD (logged)	1.857	95% Critical H Value (KM-Log)	3.899
100	KM Standard Error of Mean (logged)	0.425		
101				
102	**DL/2 Statistics**			

	A	B	C	D	E	F	G	H	I	J	K	L
103	DL/2 Normal						DL/2 Log-Transformed					
104	Mean in Original Scale					0.188	Mean in Log Scale					-3.25
105	SD in Original Scale					0.403	SD in Log Scale					1.81
106	95% t UCL (Assumes normality)					0.34	95% H-Stat UCL					0.935
107	DL/2 is not a recommended method, provided for comparisons and historical reasons											
108												
109	Nonparametric Distribution Free UCL Statistics											
110	Detected Data appear Approximate Gamma Distributed at 5% Significance Level											
111												
112	Suggested UCL to Use											
113	95% KM Adjusted Gamma UCL					0.531						
114												
115	The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.											
116	Please verify the data were collected from random locations.											
117	If the data were collected using judgmental or other non-random methods,											
118	then contact a statistician to correctly calculate UCLs.											
119												
120	When a data set follows an approximate distribution passing only one of the GOF tests,											
121	it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL											
122												
123	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
124	Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.											
125	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
126												

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.2 4/19/2024 12:10:02 PM
From File	WorkSheet_a.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Benzo(a)pyrene

General Statistics

Total Number of Observations	21	Number of Distinct Observations	20
Number of Detects	15	Number of Non-Detects	6
Number of Distinct Detects	15	Number of Distinct Non-Detects	5
Minimum Detect	0.014	Minimum Non-Detect	0.0032
Maximum Detect	1.5	Maximum Non-Detect	0.016
Variance Detects	0.195	Percent Non-Detects	28.57%
Mean Detects	0.255	SD Detects	0.442
Median Detects	0.065	CV Detects	1.731
Skewness Detects	2.32	Kurtosis Detects	4.658
Mean of Logged Detects	-2.461	SD of Logged Detects	1.469

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.597	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.835	Detected Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.332	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.255	Detected Data Not Normal at 1% Significance Level

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.184	KM Standard Error of Mean	0.0855
90KM SD	0.378	95% KM (BCA) UCL	0.347
95% KM (t) UCL	0.331	95% KM (Percentile Bootstrap) UCL	0.329
95% KM (z) UCL	0.324	95% KM Bootstrap t UCL	0.739
90% KM Chebyshev UCL	0.44	95% KM Chebyshev UCL	0.556
97.5% KM Chebyshev UCL	0.718	99% KM Chebyshev UCL	1.034

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.035	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.788	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.242	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.233	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.568	k star (bias corrected MLE)	0.499
Theta hat (MLE)	0.45	Theta star (bias corrected MLE)	0.512
nu hat (MLE)	17.05	nu star (bias corrected)	14.97
Mean (detects)	0.255		

Gamma ROS Statistics using Imputed Non-Detects			
GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs			
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)			
For such situations, GROS method may yield incorrect values of UCLs and BTVs			
This is especially true when the sample size is small.			
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates			
Minimum	0.01	Mean	0.185
Maximum	1.5	Median	0.029
SD	0.387	CV	2.088
k hat (MLE)	0.463	k star (bias corrected MLE)	0.429
Theta hat (MLE)	0.4	Theta star (bias corrected MLE)	0.432
nu hat (MLE)	19.45	nu star (bias corrected)	18.01
Adjusted Level of Significance (β)	0.0383		
Approximate Chi Square Value (18.01, α)	9.396	Adjusted Chi Square Value (18.01, β)	8.92
95% Gamma Approximate UCL	0.355	95% Gamma Adjusted UCL	0.374
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	0.184	SD (KM)	0.378
Variance (KM)	0.143	SE of Mean (KM)	0.0855
k hat (KM)	0.236	k star (KM)	0.234
nu hat (KM)	9.908	nu star (KM)	9.826
theta hat (KM)	0.779	theta star (KM)	0.786
80% gamma percentile (KM)	0.26	90% gamma percentile (KM)	0.554
95% gamma percentile (KM)	0.907	99% gamma percentile (KM)	1.856
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (9.83, α)	3.833	Adjusted Chi Square Value (9.83, β)	3.55
95% KM Approximate Gamma UCL	0.471	95% KM Adjusted Gamma UCL	0.509
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.922	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.901	Detected Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.17	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.202	Detected Data appear Lognormal at 10% Significance Level	
Detected Data appear Lognormal at 10% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	0.183	Mean in Log Scale	-3.435
SD in Original Scale	0.388	SD in Log Scale	2.01
95% t UCL (assumes normality of ROS data)	0.329	95% Percentile Bootstrap UCL	0.33
95% BCA Bootstrap UCL	0.399	95% Bootstrap t UCL	0.698
95% H-UCL (Log ROS)	1.573		
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution			
KM Mean (logged)	-3.346	KM Geo Mean	0.0352
KM SD (logged)	1.862	95% Critical H Value (KM-Log)	3.906
KM Standard Error of Mean (logged)	0.427	95% H-UCL (KM -Log)	1.013
KM SD (logged)	1.862	95% Critical H Value (KM-Log)	3.906
KM Standard Error of Mean (logged)	0.427		
DL/2 Statistics			

	A	B	C	D	E	F	G	H	I	J	K	L
103	**DL/2 Normal**						**DL/2 Log-Transformed**					
104	Mean in Original Scale					0.184	Mean in Log Scale					-3.264
105	SD in Original Scale					0.388	SD in Log Scale					1.816
106	95% t UCL (Assumes normality)					0.33	95% H-Stat UCL					0.942
107	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											
108												
109	**Nonparametric Distribution Free UCL Statistics**											
110	**Detected Data appear Lognormal Distributed at 10% Significance Level**											
111												
112	**Suggested UCL to Use**											
113	KM H-UCL					1.013						
114												
115	**The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.**											
116	**Please verify the data were collected from random locations.**											
117	**If the data were collected using judgmental or other non-random methods,**											
118	**then contact a statistician to correctly calculate UCLs.**											
119												
120	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
121	Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.											
122	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
123												

	A–E	F	G–K	L
1	UCL Statistics for Data Sets with Non-Detects			
2				
3	User Selected Options			
4	Date/Time of Computation	ProUCL 5.2 4/19/2024 12:29:38 PM		
5	From File	WorkSheet.xls		
6	Full Precision	OFF		
7	Confidence Coefficient	95%		
8	Number of Bootstrap Operations	2000		
9				
10	Benzo(b)fluoranthene			
11				
12	General Statistics			
13	Total Number of Observations	21	Number of Distinct Observations	19
14	Number of Detects	15	Number of Non-Detects	6
15	Number of Distinct Detects	15	Number of Distinct Non-Detects	4
16	Minimum Detect	0.016	Minimum Non-Detect	0.0028
17	Maximum Detect	2.1	Maximum Non-Detect	0.014
18	Variance Detects	0.459	Percent Non-Detects	28.57%
19	Mean Detects	0.39	SD Detects	0.678
20	Median Detects	0.074	CV Detects	1.739
21	Skewness Detects	2.143	Kurtosis Detects	3.475
22	Mean of Logged Detects	-2.166	SD of Logged Detects	1.585
23				
24	Normal GOF Test on Detects Only			
25	Shapiro Wilk Test Statistic	0.594	Shapiro Wilk GOF Test	
26	1% Shapiro Wilk Critical Value	0.835	Detected Data Not Normal at 1% Significance Level	
27	Lilliefors Test Statistic	0.335	Lilliefors GOF Test	
28	1% Lilliefors Critical Value	0.255	Detected Data Not Normal at 1% Significance Level	
29	Detected Data Not Normal at 1% Significance Level			
30				
31	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs			
32	KM Mean	0.279	KM Standard Error of Mean	0.131
33	90KM SD	0.58	95% KM (BCA) UCL	0.522
34	95% KM (t) UCL	0.505	95% KM (Percentile Bootstrap) UCL	0.505
35	95% KM (z) UCL	0.495	95% KM Bootstrap t UCL	1.055
36	90% KM Chebyshev UCL	0.672	95% KM Chebyshev UCL	0.85
37	97.5% KM Chebyshev UCL	1.098	99% KM Chebyshev UCL	1.583
38				
39	Gamma GOF Tests on Detected Observations Only			
40	A-D Test Statistic	1.04	Anderson-Darling GOF Test	
41	5% A-D Critical Value	0.792	Detected Data Not Gamma Distributed at 5% Significance Level	
42	K-S Test Statistic	0.222	Kolmogorov-Smirnov GOF	
43	5% K-S Critical Value	0.234	Detected data appear Gamma Distributed at 5% Significance Level	
44	Detected data follow Appr. Gamma Distribution at 5% Significance Level			
45				
46	Gamma Statistics on Detected Data Only			
47	k hat (MLE)	0.516	k star (bias corrected MLE)	0.458
48	Theta hat (MLE)	0.755	Theta star (bias corrected MLE)	0.852
49	nu hat (MLE)	15.49	nu star (bias corrected)	13.73
50	Mean (detects)	0.39		
51				

	A–E	F	G–K	L
52	**Gamma ROS Statistics using Imputed Non-Detects**			
53	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs			
54	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)			
55	For such situations, GROS method may yield incorrect values of UCLs and BTVs			
56	This is especially true when the sample size is small.			
57	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates			
58	Minimum	0.01	Mean	0.281
59	Maximum	2.1	Median	0.034
60	SD	0.594	CV	2.11
61	k hat (MLE)	0.411	k star (bias corrected MLE)	0.384
62	Theta hat (MLE)	0.684	Theta star (bias corrected MLE)	0.732
63	nu hat (MLE)	17.26	nu star (bias corrected)	16.13
64	Adjusted Level of Significance (β)	0.0383		
65	Approximate Chi Square Value (16.13, α)	8.051	Adjusted Chi Square Value (16.13, β)	7.615
66	95% Gamma Approximate UCL	0.563	95% Gamma Adjusted UCL	0.596
67				
68	**Estimates of Gamma Parameters using KM Estimates**			
69	Mean (KM)	0.279	SD (KM)	0.58
70	Variance (KM)	0.337	SE of Mean (KM)	0.131
71	k hat (KM)	0.232	k star (KM)	0.23
72	nu hat (KM)	9.724	nu star (KM)	9.668
73	theta hat (KM)	1.206	theta star (KM)	1.213
74	80% gamma percentile (KM)	0.393	90% gamma percentile (KM)	0.842
75	95% gamma percentile (KM)	1.384	99% gamma percentile (KM)	2.845
76				
77	**Gamma Kaplan-Meier (KM) Statistics**			
78	Approximate Chi Square Value (9.67, α)	3.736	Adjusted Chi Square Value (9.67, β)	3.456
79	95% KM Approximate Gamma UCL	0.723	95% KM Adjusted Gamma UCL	0.781
80				
81	**Lognormal GOF Test on Detected Observations Only**			
82	Shapiro Wilk Test Statistic	0.92	**Shapiro Wilk GOF Test**	
83	10% Shapiro Wilk Critical Value	0.901	Detected Data appear Lognormal at 10% Significance Level	
84	Lilliefors Test Statistic	0.142	**Lilliefors GOF Test**	
85	10% Lilliefors Critical Value	0.202	Detected Data appear Lognormal at 10% Significance Level	
86	**Detected Data appear Lognormal at 10% Significance Level**			
87				
88	**Lognormal ROS Statistics Using Imputed Non-Detects**			
89	Mean in Original Scale	0.279	Mean in Log Scale	-3.255
90	SD in Original Scale	0.595	SD in Log Scale	2.223
91	95% t UCL (assumes normality of ROS data)	0.503	95% Percentile Bootstrap UCL	0.497
92	95% BCA Bootstrap UCL	0.624	95% Bootstrap t UCL	0.986
93	95% H-UCL (Log ROS)	4.325		
94				
95	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**			
96	KM Mean (logged)	-3.227	KM Geo Mean	0.0397
97	KM SD (logged)	2.118	95% Critical H Value (KM-Log)	4.344
98	KM Standard Error of Mean (logged)	0.478	95% H-UCL (KM -Log)	2.928
99	KM SD (logged)	2.118	95% Critical H Value (KM-Log)	4.344
100	KM Standard Error of Mean (logged)	0.478		
101				
102	**DL/2 Statistics**			

	A	B	C	D	E	F	G	H	I	J	K	L
103	**DL/2 Normal**						**DL/2 Log-Transformed**					
104	Mean in Original Scale					0.28	Mean in Log Scale					-3.086
105	SD in Original Scale					0.594	SD in Log Scale					2.019
106	95% t UCL (Assumes normality)					0.504	95% H-Stat UCL					2.308
107	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											
108												
109	**Nonparametric Distribution Free UCL Statistics**											
110	**Detected Data appear Approximate Gamma Distributed at 5% Significance Level**											
111												
112	**Suggested UCL to Use**											
113	95% KM Adjusted Gamma UCL					0.781						
114												
115	**The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.**											
116	**Please verify the data were collected from random locations.**											
117	**If the data were collected using judgmental or other non-random methods,**											
118	**then contact a statistician to correctly calculate UCLs.**											
119												
120	When a data set follows an approximate distribution passing only one of the GOF tests,											
121	it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL											
122												
123	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
124	Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.											
125	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
126												

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Data Sets with Non-Detects											
2												
3	User Selected Options											
4	Date/Time of Computation			ProUCL 5.2 4/19/2024 12:13:56 PM								
5	From File			WorkSheet_c.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Number of Bootstrap Operations			2000								
9												
10	**Dibenzo(a,h)anthracene**											
11												
12	**General Statistics**											
13	Total Number of Observations					21	Number of Distinct Observations					16
14	Number of Detects					7	Number of Non-Detects					14
15	Number of Distinct Detects					7	Number of Distinct Non-Detects					10
16	Minimum Detect					0.0046	Minimum Non-Detect					0.0026
17	Maximum Detect					0.18	Maximum Non-Detect					0.016
18	Variance Detects					0.00401	Percent Non-Detects					66.67%
19	Mean Detects					0.0558	SD Detects					0.0633
20	Median Detects					0.023	CV Detects					1.135
21	Skewness Detects					1.578	Kurtosis Detects					1.966
22	Mean of Logged Detects					-3.472	SD of Logged Detects					1.229
23												
24	**Normal GOF Test on Detects Only**											
25	Shapiro Wilk Test Statistic					0.801	**Shapiro Wilk GOF Test**					
26	1% Shapiro Wilk Critical Value					0.73	Detected Data appear Normal at 1% Significance Level					
27	Lilliefors Test Statistic					0.269	**Lilliefors GOF Test**					
28	1% Lilliefors Critical Value					0.35	Detected Data appear Normal at 1% Significance Level					
29	**Detected Data appear Normal at 1% Significance Level**											
30	**Note GOF tests may be unreliable for small sample sizes**											
31												
32	**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**											
33	KM Mean					0.0205	KM Standard Error of Mean					0.00992
34	90KM SD					0.0421	95% KM (BCA) UCL					0.039
35	95% KM (t) UCL					0.0376	95% KM (Percentile Bootstrap) UCL					0.0373
36	95% KM (z) UCL					0.0368	95% KM Bootstrap t UCL					0.0667
37	90% KM Chebyshev UCL					0.0502	95% KM Chebyshev UCL					0.0637
38	97.5% KM Chebyshev UCL					0.0824	99% KM Chebyshev UCL					0.119
39												
40	**Gamma GOF Tests on Detected Observations Only**											
41	A-D Test Statistic					0.29	**Anderson-Darling GOF Test**					
42	5% A-D Critical Value					0.728	Detected data appear Gamma Distributed at 5% Significance Level					
43	K-S Test Statistic					0.231	**Kolmogorov-Smirnov GOF**					
44	5% K-S Critical Value					0.32	Detected data appear Gamma Distributed at 5% Significance Level					
45	**Detected data appear Gamma Distributed at 5% Significance Level**											
46	**Note GOF tests may be unreliable for small sample sizes**											
47												
48	**Gamma Statistics on Detected Data Only**											
49	k hat (MLE)					0.986	k star (bias corrected MLE)					0.659
50	Theta hat (MLE)					0.0566	Theta star (bias corrected MLE)					0.0847
51	nu hat (MLE)					13.8	nu star (bias corrected)					9.222

	A	B	C	D	E	F	G	H	I	J	K	L
52					Mean (detects)	0.0558						
53												
54	**Gamma ROS Statistics using Imputed Non-Detects**											
55	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
56	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
57	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
58	This is especially true when the sample size is small.											
59	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
60					Minimum	0.0046					Mean	0.0253
61					Maximum	0.18					Median	0.01
62					SD	0.0411					CV	1.629
63					k hat (MLE)	1.045					k star (bias corrected MLE)	0.928
64					Theta hat (MLE)	0.0242					Theta star (bias corrected MLE)	0.0272
65					nu hat (MLE)	43.91					nu star (bias corrected)	38.97
66					Adjusted Level of Significance (β)	0.0383						
67					Approximate Chi Square Value (38.97, α)	25.67					Adjusted Chi Square Value (38.97, β)	24.84
68					95% Gamma Approximate UCL	0.0384					95% Gamma Adjusted UCL	0.0396
69												
70	**Estimates of Gamma Parameters using KM Estimates**											
71					Mean (KM)	0.0205					SD (KM)	0.0421
72					Variance (KM)	0.00177					SE of Mean (KM)	0.00992
73					k hat (KM)	0.237					k star (KM)	0.235
74					nu hat (KM)	9.946					nu star (KM)	9.858
75					theta hat (KM)	0.0865					theta star (KM)	0.0872
76					80% gamma percentile (KM)	0.029					90% gamma percentile (KM)	0.0617
77					95% gamma percentile (KM)	0.101					99% gamma percentile (KM)	0.206
78												
79	**Gamma Kaplan-Meier (KM) Statistics**											
80					Approximate Chi Square Value (9.86, α)	3.853					Adjusted Chi Square Value (9.86, β)	3.569
81					95% KM Approximate Gamma UCL	0.0524					95% KM Adjusted Gamma UCL	0.0566
82												
83	**Lognormal GOF Test on Detected Observations Only**											
84					Shapiro Wilk Test Statistic	0.974	**Shapiro Wilk GOF Test**					
85					10% Shapiro Wilk Critical Value	0.838	Detected Data appear Lognormal at 10% Significance Level					
86					Lilliefors Test Statistic	0.168	**Lilliefors GOF Test**					
87					10% Lilliefors Critical Value	0.28	Detected Data appear Lognormal at 10% Significance Level					
88	**Detected Data appear Lognormal at 10% Significance Level**											
89	**Note GOF tests may be unreliable for small sample sizes**											
90												
91	**Lognormal ROS Statistics Using Imputed Non-Detects**											
92					Mean in Original Scale	0.0191					Mean in Log Scale	-6.113
93					SD in Original Scale	0.0437					SD in Log Scale	2.115
94					95% t UCL (assumes normality of ROS data)	0.0356					95% Percentile Bootstrap UCL	0.0356
95					95% BCA Bootstrap UCL	0.0449					95% Bootstrap t UCL	0.0693
96					95% H-UCL (Log ROS)	0.161						
97												
98	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**											
99					KM Mean (logged)	-5.085					KM Geo Mean	0.00619
100					KM SD (logged)	1.324					95% Critical H Value (KM-Log)	3.035
101					KM Standard Error of Mean (logged)	0.316					95% H-UCL (KM -Log)	0.0365
102					KM SD (logged)	1.324					95% Critical H Value (KM-Log)	3.035

	A	B	C	D	E	F	G	H	I	J	K	L
103			KM Standard Error of Mean (logged)			0.316						
104												
105						**DL/2 Statistics**						
106			**DL/2 Normal**						**DL/2 Log-Transformed**			
107			Mean in Original Scale			0.0216					Mean in Log Scale	-4.918
108			SD in Original Scale			0.0427					SD in Log Scale	1.387
109			95% t UCL (Assumes normality)			0.0376					95% H-Stat UCL	0.0505
110			**DL/2 is not a recommended method, provided for comparisons and historical reasons**									
111												
112						**Nonparametric Distribution Free UCL Statistics**						
113						**Detected Data appear Normal Distributed at 1% Significance Level**						
114												
115						**Suggested UCL to Use**						
116			95% KM (t) UCL			0.0376						
117												
118			**The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.**									
119			**Please verify the data were collected from random locations.**									
120			**If the data were collected using judgmental or other non-random methods,**									
121			**then contact a statistician to correctly calculate UCLs.**									
122												
123			Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.									
124			Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.									
125			However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.									
126												

	A	B	C	D	E	F	G	H	I	J	K	L
1	**UCL Statistics for Data Sets with Non-Detects**											
2												
3	User Selected Options											
4	Date/Time of Computation			ProUCL 5.2 4/19/2024 12:33:28 PM								
5	From File			WorkSheet_b.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Number of Bootstrap Operations			2000								
9												
10												
11	**Lead**											
12												
13	**General Statistics**											
14					Total Number of Observations	21					Number of Distinct Observations	17
15											Number of Missing Observations	0
16					Minimum	5					Mean	132.8
17					Maximum	1600					Median	20
18					SD	352					Std. Error of Mean	76.82
19					Coefficient of Variation	2.651					Skewness	4.016
20												
21	**Normal GOF Test**											
22					Shapiro Wilk Test Statistic	0.389	**Shapiro Wilk GOF Test**					
23					1% Shapiro Wilk Critical Value	0.873	Data Not Normal at 1% Significance Level					
24					Lilliefors Test Statistic	0.399	**Lilliefors GOF Test**					
25					1% Lilliefors Critical Value	0.219	Data Not Normal at 1% Significance Level					
26	**Data Not Normal at 1% Significance Level**											
27												
28	**Assuming Normal Distribution**											
29	**95% Normal UCL**						**95% UCLs (Adjusted for Skewness)**					
30					95% Student's-t UCL	265.3					95% Adjusted-CLT UCL (Chen-1995)	331.1
31											95% Modified-t UCL (Johnson-1978)	276.5
32												
33	**Gamma GOF Test**											
34					A-D Test Statistic	2.441	**Anderson-Darling Gamma GOF Test**					
35					5% A-D Critical Value	0.815	Data Not Gamma Distributed at 5% Significance Level					
36					K-S Test Statistic	0.283	**Kolmogorov-Smirnov Gamma GOF Test**					
37					5% K-S Critical Value	0.202	Data Not Gamma Distributed at 5% Significance Level					
38	**Data Not Gamma Distributed at 5% Significance Level**											
39												
40	**Gamma Statistics**											
41					k hat (MLE)	0.454					k star (bias corrected MLE)	0.421
42					Theta hat (MLE)	292.6					Theta star (bias corrected MLE)	315.7
43					nu hat (MLE)	19.06					nu star (bias corrected)	17.67
44					MLE Mean (bias corrected)	132.8					MLE Sd (bias corrected)	204.8
45											Approximate Chi Square Value (0.05)	9.154
46					Adjusted Level of Significance	0.0383					Adjusted Chi Square Value	8.685
47												
48	**Assuming Gamma Distribution**											
49					95% Approximate Gamma UCL	256.4					95% Adjusted Gamma UCL	270.3
50												
51	**Lognormal GOF Test**											
52					Shapiro Wilk Test Statistic	0.89	**Shapiro Wilk Lognormal GOF Test**					
53					10% Shapiro Wilk Critical Value	0.923	Data Not Lognormal at 10% Significance Level					
54					Lilliefors Test Statistic	0.194	**Lilliefors Lognormal GOF Test**					
55					10% Lilliefors Critical Value	0.173	Data Not Lognormal at 10% Significance Level					
56	**Data Not Lognormal at 10% Significance Level**											
57												
58	**Lognormal Statistics**											
59					Minimum of Logged Data	1.609					Mean of logged Data	3.468
60					Maximum of Logged Data	7.378					SD of logged Data	1.446
61												
62	**Assuming Lognormal Distribution**											
63					95% H-UCL	259					90% Chebyshev (MVUE) UCL	177.9
64					95% Chebyshev (MVUE) UCL	220.7					97.5% Chebyshev (MVUE) UCL	280.1
65					99% Chebyshev (MVUE) UCL	396.7						

	A	B	C	D	E	F	G	H	I	J	K	L
66												
67	Nonparametric Distribution Free UCL Statistics											
68	Data do not follow a Discernible Distribution											
69												
70	Nonparametric Distribution Free UCLs											
71	95% CLT UCL					259.2	95% BCA Bootstrap UCL					373.5
72	95% Standard Bootstrap UCL					255	95% Bootstrap-t UCL					850.1
73	95% Hall's Bootstrap UCL					762.9	95% Percentile Bootstrap UCL					274.8
74	90% Chebyshev(Mean, Sd) UCL					363.3	95% Chebyshev(Mean, Sd) UCL					467.7
75	97.5% Chebyshev(Mean, Sd) UCL					612.6	99% Chebyshev(Mean, Sd) UCL					897.2
76												
77	Suggested UCL to Use											
78	95% Student's-t UCL					265.3						
79												
80	The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.											
81	Please verify the data were collected from random locations.											
82	If the data were collected using judgmental or other non-random methods,											
83	then contact a statistician to correctly calculate UCLs.											
84												
85	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
86	Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.											
87	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
88												

APPENDIX E

APPENDIX F

Appendix F: Cover and Cap Guidance

F.1 INTRODUCTION

This guidance provides fundamental performance standards for cover and cap systems installed at VRP and UECA-LUST Program sites and should be followed to ensure that covers and caps used at these risk-based remediation sites in the future are reasonably consistent between sites and are effective in preventing direct contact exposure or surface water infiltration, as necessary.

The VRP and the UECA-LUST Program use risk-based cleanup standards that consider site-specific conditions and future land use to prevent unacceptable human and ecological risks, while encouraging the remediation and reuse of contaminated sites so that undeveloped land remains pristine. Remediation standards (De Minimis, Uniform, and Site-Specific) are used by the LRS to determine if a site represents an unacceptable risk. Various remedies, ranging from removal or treatment of contaminated media to activity and use limitations (AULs), are used alone or in combination to reduce risk and achieve the selected remediation standard. The UECA-LUST Program is a specific application of the risk-based remediation principles of the VRP, where Applicants remediate leaking underground storage tank sites to risk-based standards.

Based on the results of site characterization and risk assessment, the LRS selects a remedy or combination of remedies. The remedies are proposed and described in a Remedial Action Work Plan (RAWP) that is submitted to OER for review and comment. Where a cover or cap system is proposed to reduce risk or contaminant migration, details regarding the design, construction, and maintenance of these remedies must be submitted in the RAWP. The amount of information and supporting calculations that will be required to support the design of a cap or cover system will vary depending on the function of the system. For example, a simple soil cover that is intended to provide a 2-foot layer of clean soil between receptors and contaminated soil will require much less information than a cover system that will also function as a roadway, or a cap system that is intended to prevent surface water infiltration. The amount of information and design calculations required to support a proposed cap or cover are discussed in the subsequent sections.

After the cover or cap system has been installed, the construction process must be documented in a Remedial Action Completion Report (RACR). As discussed above, the amount of detail to be provided will depend on the complexity of the remedy, but in all cases, adequate information must be submitted to document that the material and installation requirements set forth in the design have been met. Documentation to be provided in the RACR should include as-built drawings that document the horizontal extent of the cover or cap, reports of all construction testing and inspection performed, and a description of any design variance or field modification that occurred.

APPENDIX F

Cap and cover systems are considered to be engineering controls for purposes of meeting a VRP remediation standard and are divided into 2 broad classes:

1. Direct Contact Cover System
   A systematic layering of material(s) that is specifically intended to prevent direct contact exposure to contaminated media that exceed a VRP remediation standard. Covers are commonly composed of soil, gravel, asphalt, concrete, or other similar materials that are suitable to act as a barrier to contact.
2. Low Permeability Cap System
   A systematic layering of materials that is specifically designed to prevent surface water infiltration into contaminated media that may result in leaching and migration of contaminants into an area that has not been previously impacted, or to prevent greater impact to media previously contaminated. Caps will always include a hydraulic barrier layer (natural or synthetic) that is specially designed to prevent water infiltration. Caps will sometimes also serve to prevent direct exposure to contaminated media, but not necessarily.

In general, contaminated media at VRP sites do not meet the definition of a solid or hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA), and, therefore, caps installed at VRP sites are not required to meet the prescriptive requirements of these regulatory programs. However, at VRP sites where another regulatory program has precedent, such as RCRA or the Toxic Substances Control Act (TSCA), the cap system design will be dictated by the requirements of that regulatory program. In these cases, cap systems designed and installed to meet those requirements are deemed to be acceptable to the VRP.

F.2 DIRECT CONTACT COVER SYSTEMS

A cover system must be designed, constructed, and maintained to prevent direct contact exposure to contaminated media for as long as the media remain contaminated above the applicable remediation standard (De Minimis, Uniform, or Site-Specific). Cover system designs should address site-specific factors, including, but not limited to:

- Current and potential future land use
- Surrounding land use and cover location (e.g., sites in or near unrestricted-use residential areas will require a more secure cover)
- Nature of the contaminants (concentration, volatility, toxicity, etc.)
- Quality, durability, and reliability of the cover system materials and construction

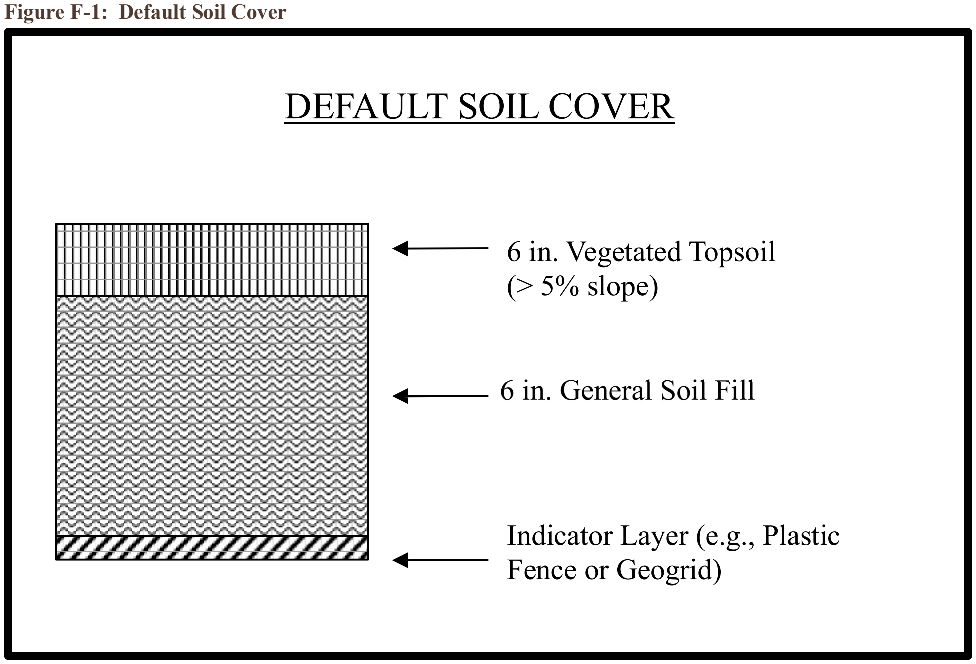
In all cases, where excavation of the soil underlying a cover system is prohibited or regulated, an indicator layer must be installed to notify persons that excavation below the indicator layer is controlled. The horizontal extent of a direct contact cover system must in all cases extend a minimum of 2 feet beyond the extent of the impacted media being protected from infiltration.

F.2.1 Soil Covers

A soil cover is typically the least expensive and simplest method of preventing direct contact exposure to underlying contaminated media. At a minimum, a 1-foot thickness of clean soil must be used to prevent direct contact. Soil covers must also be vegetated and maintained to prevent growth of deep-rooted vegetation, erosion, and deterioration over time. Therefore, the upper 6 inches of material must consist of soil that is capable of supporting vegetation, and an appropriate seeding mixture must be provided to establish a healthy stand of grass. The lower layer should not be over-compacted such that the water-retaining capability of the subsoil is significantly reduced.

The slope of a soil cover must not be steeper than 2:1 (H:V), and preferably no steeper than 3:1 to minimize the potential for slope instability. Soil covers placed on relatively steep slopes must be designed with adequate erosion control measures to prevent damage to the cover. This may include erosion control mats (jute, straw, coconut fiber, etc.) or may require rigid armor products (e.g., Armor Flex) on long or particularly steep slopes with a high potential for damage from run-off. Conversely, soil covers must be graded to be free-draining and prevent ponding. Therefore, a minimum slope of 5% should be maintained for vegetated soil surfaces. Figure F-1 depicts a default soil cover that meets the minimum performance standards.

Figure F-1: Default Soil Cover



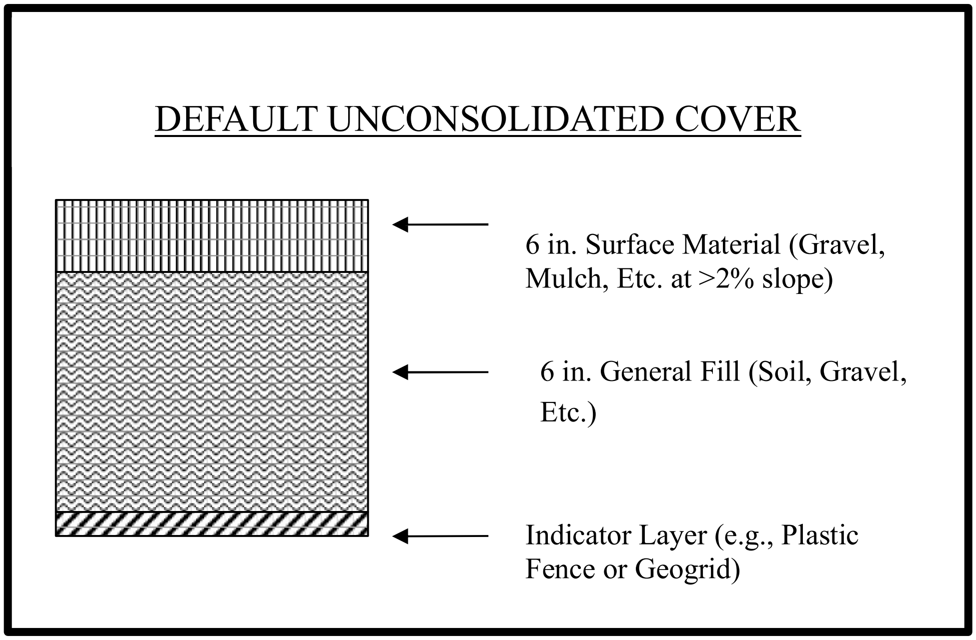
The LRS must ensure that all material used in cover and cap systems does not contain contaminants from the site or an off-site source. Borrow material should always be obtained from undeveloped areas that have not been previously used for commercial, agricultural, or industrial purposes. If it is necessary to use material from an area that may contain contamination, the materials must be tested for potential contaminants prior to being used. Analytical parameters will depend on the soil source and previous use, but will likely include VOCs, SVOCs, and RCRA 8 metals, at a minimum. The LRS must consult with the OER Project Manager to determine the number of samples and analytical parameters necessary to properly evaluate potentially impacted materials, and this information must be included in the RAWP. All materials used for covers must meet De Minimis Standards appropriate for the site use or natural background levels.

F.2.2 Other Unconsolidated Covers

As an alternative to using soil to prevent direct contact with contaminated media, other materials may be used to partially or completely replace the soil. For example, a layer of aggregate (crushed stone or gravel) may be specified as the surface layer where limited vehicle traffic is anticipated to occur on the cover. Another possible scenario might be the use of rubber chips, wood chips, bark chips, or other organic mulch in situations where the final use includes landscaping, such as in a park or commercial development. Where alternate surface materials are proposed, vegetation is not required. However, a plan for inspection and maintenance will be required to ensure that the surface materials are not damaged by pedestrian or vehicular traffic or erosion. In each case, it is the responsibility of the LRS to demonstrate that the proposed cover material will prevent direct contact with the underlying contaminants and will continue to function effectively in the post-remediation scenario.

Where materials of differing particle sizes are proposed to be placed in layers, an appropriately designed separation layer (e.g., geotextile fabric) must be installed to prevent materials of differing particle size from mixing or disintegrating into each other. In all cases where unconsolidated materials are proposed to prevent direct contact exposure, the thickness of the material must be adequate to reliably prevent exposure and to minimize long-term maintenance. If a thinner direct contact exposure cover is necessary or desired, the LRS must propose another material type (e.g., pavement cover). Covers comprised of unconsolidated materials must be graded to be free-draining. A minimum slope of 2% should be maintained for gravel surfaces. Minimum slope for other surfaces should be designed on a case-by-case basis. Figure F-2 depicts an alternate unconsolidated cover that meets the minimum performance standards.

Figure F-2: Default Unconsolidated Cover



F.2.3 Pavement Covers

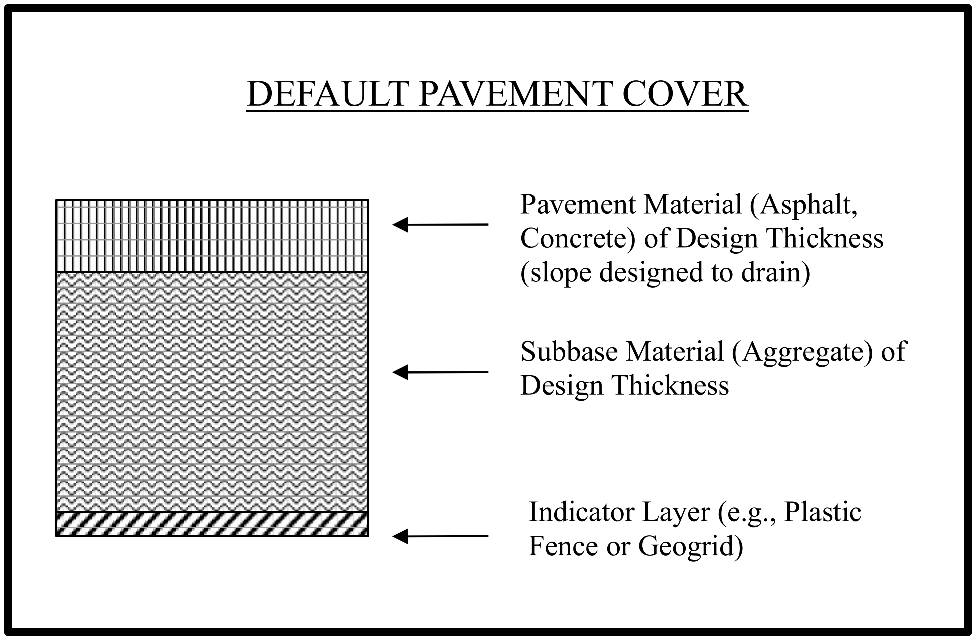
Pavement cover systems (concrete and asphalt) can prevent direct contact exposure to contaminated media while also providing site-related infrastructure, and, therefore, can often be an efficient remedy in commercial/industrial or recreational settings. However, damaged pavement systems can allow contaminated media to become exposed at the surface through settlement, cracking, freeze/thaw cycles, weathering, and other types of deterioration, unless these factors are adequately addressed through design, construction, and maintenance.

Pavement covers must be constructed over an appropriately prepared granular base course (generally compacted aggregate) to minimize freeze/thaw and provide the necessary support for the anticipated loads. Designs that minimize long-term maintenance should be used whenever possible. Pavement covers must be designed and constructed to ensure positive draining away from the cover and eliminate ponding. In all cases, the intended use of the covered area must be accounted for in the design. For example, traffic volume and vehicle loads must be considered, and the pavement design must meet commonly accepted requirements (e.g., WVDOT-DOH specification). These designs must be performed under the supervision of a Professional Engineer licensed in WV and must bear their professional seal.

Existing pavement covers in good condition which overlie contaminated media can be used in this application at sites where the impacted area is relatively small and exposure risks are relatively low, if information regarding the design and construction of the pavement system is provided in the RAWP. In all cases, an adequate inspection, maintenance, and repair program must be proposed and implemented to ensure that the pavement system continues to function as originally designed.

Granular layers (aggregates) used in pavement subbase systems must be separated from the underlying contaminated media with a geotextile layer to prevent migration of contaminated soil or water into the subbase. The geotextile must be designed to withstand anticipated loads and maintain its effectiveness over a long period of time to minimize the need for maintenance. Consideration should also be given in the design of granular subbase material potentially acting as a preferential flow path for infiltrating surface water or groundwater. In general, the use of a well-graded aggregate (i.e., "crusher run") is adequate to prevent infiltration and migration of surface water. Figure F-3 depicts a default pavement cover that meets the minimum performance standards.

Figure F-3: Default Pavement Cover



F.2.4 Buildings and Structures

An existing or new building or other concrete structure (e.g., pad, slab, sidewalk, etc.) may be used to prevent direct contact exposure to contaminated soils, provided the building slab or basement floor is adequate to meet the remediation standard and all structural design requirements. Additionally, roof runoff must be managed to minimize infiltration into contaminated soils.

Buildings and structures are typically used in concert with other cover systems such as pavement or soil to prevent exposure in commercial and industrial settings. Existing buildings with cracked slabs or basement floors, or walls in contact with contaminated soil, will generally not be acceptable covers unless the cracks can be reliably repaired and maintained. Buildings located on soils that are subject to settlement that could cause cracking in slab, floors, or walls do not meet the criteria for longevity and low-maintenance and are also unacceptable. If vapor migration may result in exposures above a remediation standard, this exposure must be addressed separately from the cover design through the use of a vapor barrier or sub-slab ventilation system.

F.2.5 Rail Trails

Rail trails are typically a special type of direct contact cover system. Rail trail covers are typically comprised of unconsolidated or pavement covers, but, in all cases, must be designed and constructed to withstand the permitted recreational use. For example, if a rail trail allows use by bicycles or horses, these surfaces must be more resilient than the surface installed at a rail trail that permits only foot traffic. In the latter case, a vegetated soil cover may be acceptable, whereas, in the former case, a gravel or pavement surface may be required along the trail alignment where traffic occurs. Rail trails that allow regular vehicles traffic (beyond inspection/maintenance by the trail manager) may require a pavement cover to prevent frequent maintenance.

Rail trail covers may include a combination of covers, because railroad corridors are often contaminated along the adjacent slopes and drainage features, as well as along the former railbed. For example, the high-traffic alignment along the former railbed may receive a more resistant cover while adjacent portions of the corridor would be covered by soil and vegetation.

F.3 LOW PERMEABILITY CAP SYSTEMS

Low permeability cover systems are required when the RAWP proposes to leave the source of groundwater contamination in place. The WV Groundwater Protection Act (W. Va. Code § 22-12, et seq.) requires that every reasonable effort be made to remove or mitigate the source of contamination that causes an exceedance of a groundwater standard. Therefore, to meet the requirements of the WV Groundwater Protection Act, it is necessary to install a low permeability cap system to mitigate the source by minimizing infiltration through the source. For purposes of the VRP, contaminated soils that are the result of typical site operations are not considered to be a source as defined by the WV Groundwater Protection Act. However, production/operation waste materials, such as spent foundry sand, wood treatment sludges, and other wastes that would typically be transported off-site for treatment or disposal are considered a source for purposes of the WV Groundwater Protection Act.

The design of a low permeability cap system must minimize the infiltration of surface water, precipitation, or snow melt through contaminated media to the maximum extent practicable. Therefore, a cap system must include a hydraulic barrier layer or multiple layers that reduce such infiltration. The design of these types of cover systems should address site-specific factors, including, but not limited to:

- Nature of contaminants (concentrations, solubility, mobility, toxicity, etc.).
- Depth of contamination. The deeper the contamination is, the less effective a hydraulic barrier may be, or the horizontal extent of the barrier may need to be expanded.
- Quality, durability, and reliability of the cover system materials and construction.

A cover system that meets the requirements for prevention of infiltration will likely be acceptable for prevention of direct contact. It should be evaluated under the guidelines in this guidance for the pathways being addressed.

APPENDIX C

Soil Map—Kanawha County, West Virginia
(Former CASCI Property)

Map Scale: 1:1,450 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0, 20, 40, 80, 120

Feet: 0, 50, 100, 200, 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Kanawha County, West Virginia
Survey Area Data: Version 17, Sep 4, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

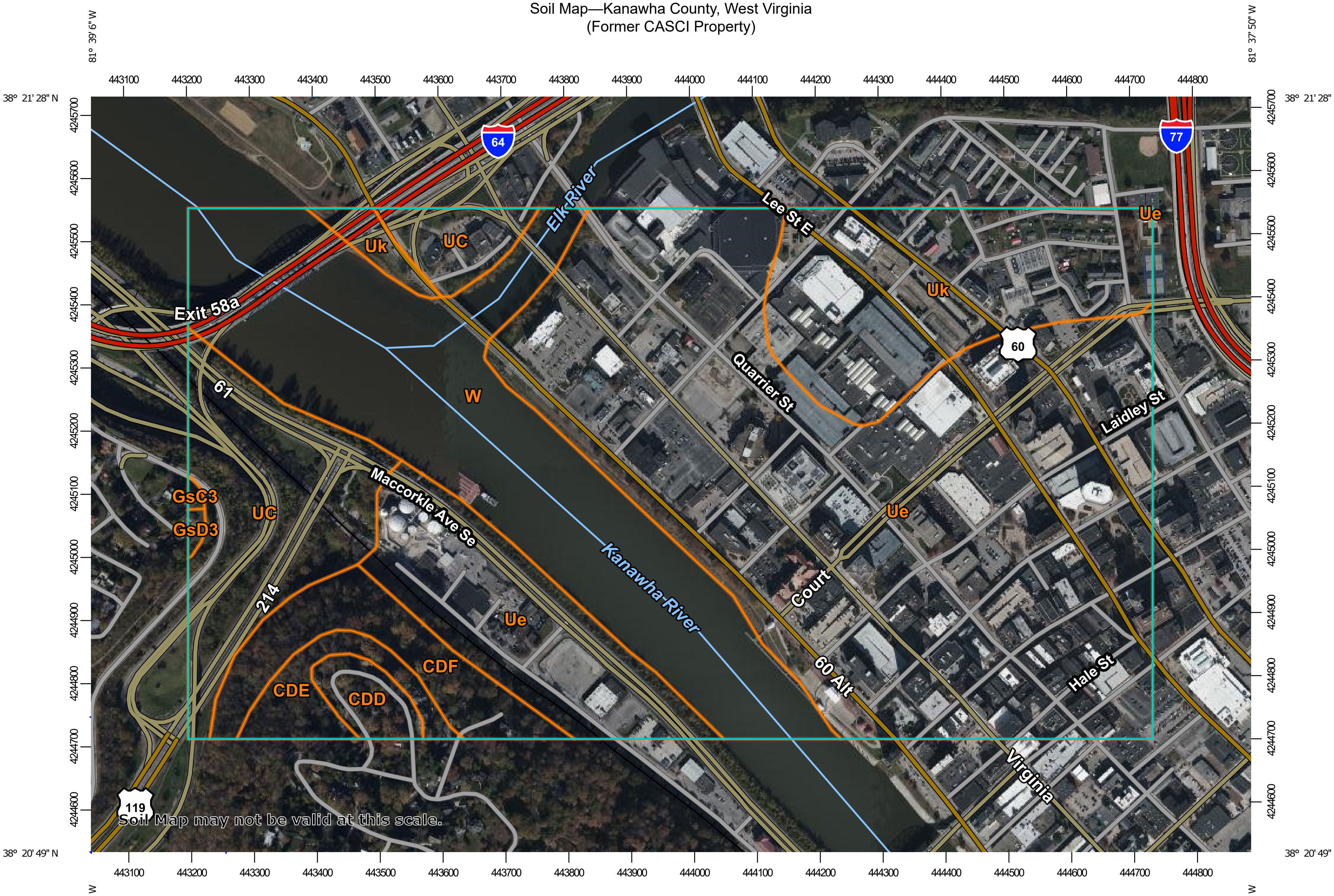
Date(s) aerial images were photographed: Apr 1, 2020—Aug 1, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
k6p3	Urban land	3.9	100.0%
Totals for Area of Interest		**3.9**	**100.0%**

Soil Map—Kanawha County, West Virginia
(Former CASCI Property)



Map Scale: 1:8,440 if printed on A landscape (11" x 8.5") sheet.

Meters: 0, 100, 200, 400, 600

Feet: 0, 400, 800, 1600, 2400

N

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

> Warning: Soil Map may not be valid at this scale.
>
> Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Kanawha County, West Virginia
Survey Area Data: Version 17, Sep 4, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 1, 2020—Aug 1, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CDD	Clymer-Dekalb complex, moderately steep	3.9	1.2%
CDE	Clymer-Dekalb complex, steep	6.0	1.9%
CDF	Clymer-Dekalb complex, very steep	12.8	4.0%
GsC3	Gilpin-Upshur complex, 10 to 20 percent slopes, severely eroded	0.2	0.1%
GsD3	Gilpin-Upshur complex,20 to 30 percent slopes, severely eroded	0.4	0.1%
UC	Udorthents, smoothed-Urban land complex	32.0	10.0%
Ue	Urban land	160.4	50.1%
Uk	Urban land-Kanawha complex	38.5	12.0%
W	Water	65.8	20.6%
Totals for Area of Interest		**320.2**	**100.0%**

APPENDIX D

Table 1 - Soil Sample Results
Remington Development Charleston WV Properties
200 Kanawha Boulevard East
Charleston, Kanawha County, West Virginia

Constituent[1]	CAS[2] Number	WVDEP CAGD Tier 1[3]	Residential RBCs[4]	Industrial RBCs[4]	RCRA Hazardous Waste Threshold[5]	Natural Background[6]	JYGB-01 (5'-6')	JYGB-01 (10'-12')	JYGB-02 (6'-7')	JYGB-03 (6'-7')	JYGB-03 (16'-18')	JYGB-04 (10'-12')	JYGB-05 (5'-7')	JYGB-07 (7'-8')	LGB-01 (7'-9')	LGB-02 (11'-12')	LGB-03 (7'-8')	LGB-03 (14'-16')
Sample Date							7/17/2023	7/17/2023	7/17/2023	7/17/2023	7/17/2023	7/17/2023	7/13/2023	7/14/2023	7/13/2023	7/13/2023	7/17/2023	7/17/2023
Field PID Reading							0	0	0	0	0	0.7	0	1	0.1	0	0	0
Volatile Organic Compounds (mg/kg-dry[7])																		
1,2,4-Trimethylbenzene	95-63-6	NE[8]	220	220	NE	NE	< 0.035	NA[9]	< 0.018	< 0.017	NA	NA	NA	**0.15**	NA	**0.1**	< 0.024	NA
1,3,5-Trimethylbenzene	108-67-8	NE	180	180	NE	NE	< 0.022	NA	< 0.017	< 0.016	NA	NA	NA	**0.029** J[10]	NA	< 0.027	< 0.023	NA
Acetone	67-64-1	NE	61000	110000	NE	NE	< 0.092	NA	< 0.072	< 0.069	NA	NA	NA	**0.2**	NA	< 0.11	< 0.099	NA
Benzene	71-43-2	0.13	1.2	540	NE	NE	< 0.015	NA	< 0.012	< 0.011	NA	NA	NA	< 0.014	NA	< 0.018	< 0.016	NA
Cyclohexane	110-82-7	NE	120	120	NE	NE	< 0.024	NA	< 0.019	< 0.018	NA	NA	NA	**0.082** J	NA	< 0.029	< 0.025	NA
Ethylbenzene	100-41-4	2	6.2	270	NE	NE	< 0.022	NA	< 0.017	< 0.017	NA	NA	NA	**0.038**	NA	**0.032**	< 0.024	NA
Isopropylbenzene	98-82-8	NE	270	270	NE	NE	< 0.02	NA	< 0.015	< 0.015	NA	NA	NA	< 0.018	NA	< 0.024	< 0.021	NA
Methyl acetate	79-20-9	NE	23000	29000	NE	NE	**0.1** J	NA	**0.079** J	< 0.028	NA	NA	NA	**0.26**	NA	< 0.045	< 0.04	NA
Methylcyclohexane	108-87-2	NE	NE	NE	NE	NE	**0.086**	NA	< 0.0092	< 0.0089	NA	NA	NA	**0.34**	NA	< 0.014	< 0.013	NA
m,p-Xylene	1330-20-7	NE	260	260	NE	NE	**0.15**	NA	< 0.032	< 0.031	NA	NA	NA	**0.21**	NA	< 0.051	< 0.044	NA
o-Xylene	95-47-6	NE	NE	NE	NE	NE	**0.072**	NA	**0.014** J	< 0.009	NA	NA	NA	**0.17**	NA	< 0.015	< 0.013	NA
Toluene	108-88-3	44	820	820	NE	NE	**0.23**	NA	< 0.02	< 0.019	NA	NA	NA	**0.14**	NA	< 0.031	< 0.027	NA
Xylene, Total	1330-20-7	5.2	260	260	NE	NE	**0.22**	NA	< 0.032	< 0.031	NA	NA	NA	**0.38**	NA	< 0.051	< 0.044	NA
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg-dry)																		
1-Methylnaphthalene	90-12-0	NE	24	390	NE	NE	NA	< 0.001	NA	NA	< 0.0011	< 0.0011	**0.002** J	NA	< 0.001	NA	NA	NA
2-Chloronapthalene	91-58-7	NE	5000	50000	NE	NE	NA	< 0.00071	NA	NA	< 0.00072	< 0.00078	< 0.00072	NA	< 0.0007	NA	NA	NA
2-Methylnaphthalene	91-57-6	NE	310	4700	NE	NE	NA	< 0.0012	NA	NA	< 0.0012	< 0.0013	< 0.0012	NA	< 0.0012	NA	NA	NA
Acenaphthene	83-32-9	4100	4100	47000	NE	NE	NA	< 0.002	NA	NA	< 0.002	< 0.0022	**0.0074**	NA	< 0.0019	NA	NA	NA
Acenaphthylene	208-96-8	4200	4200	51000	NE	NE	NA	< 0.0014	NA	NA	< 0.0014	**0.0019** J	**0.0031** J	NA	< 0.0013	NA	NA	NA
Anthracene	120-12-7	23000	23000	350000	NE	NE	NA	< 0.00093	NA	NA	< 0.00094	**0.0056** J	**0.023**	NA	< 0.00091	NA	NA	NA
Benzo(a)anthracene	56-55-3	1	1.5	320	NE	NE	NA	< 0.0037	NA	NA	< 0.0037	**0.014**	**0.084**	NA	< 0.0036	NA	NA	NA
Benzo(a)pyrene	50-32-8	1	0.11	21	NE	NE	NA	< 0.0035	NA	NA	< 0.0035	**0.01**	**0.08**	NA	< 0.0034	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	1	1.1	210	NE	NE	NA	< 0.0031	NA	NA	< 0.0031	**0.0047** J	**0.14**	NA	< 0.00075	NA	NA	NA
Benzo(g,h,i)perylene	191-24-2	1800	1800	23000	NE	NE	NA	< 0.0023	NA	NA	< 0.0023	**0.0059**	**0.041**	NA	< 0.0023	NA	NA	NA
Benzo(k)fluoranthene	207-08-9	1	11	2100	NE	NE	NA	< 0.00077	NA	NA	< 0.00078	**0.013**	**0.13**	NA	< 0.00075	NA	NA	NA
Chrysene	218-01-9	1	110	21000	NE	NE	NA	< 0.0034	NA	NA	< 0.0034	**0.015**	**0.098**	NA	< 0.0033	NA	NA	NA
Dibenzo(a,h)anthracene	53-70-3	1	0.11	21	NE	NE	NA	< 0.003	NA	NA	< 0.003	< 0.0032	**0.0094**	NA	< 0.0029	NA	NA	NA
Fluoranthene	206-44-0	2400	2400	30000	NE	NE	NA	< 0.0026	NA	NA	< 0.0026	**0.035**	**0.18**	NA	< 0.0025	NA	NA	NA
Fluorene	86-73-7	2900	2900	37000	NE	NE	NA	< 0.0013	NA	NA	< 0.0013	**0.0015** J	**0.0054**	NA	< 0.0012	NA	NA	NA
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.1	210	NE	NE	NA	< 0.0035	NA	NA	< 0.0036	**0.0057**	**0.045**	NA	< 0.0035	NA	NA	NA
Naphthalene	91-20-3	4.1	2.4	110	NE	NE	NA	< 0.00097	NA	NA	< 0.00098	**0.0037** J	**0.0019** J	NA	< 0.00095	NA	NA	NA
Phenanthrene	85-01-8	23000	23000	350000	NE	NE	NA	< 0.0011	NA	NA	< 0.0011	**0.021**	**0.1**	NA	< 0.0011	NA	NA	NA
Pyrene	129-00-0	2300	2300	34000	NE	NE	NA	< 0.0033	NA	NA	< 0.0033	**0.023**	**0.15**	NA	< 0.0032	NA	NA	NA
Metals (mg/kg-dry)																		
Arsenic	7440-38-2	18	0.68	30	NE	8.3	NA	**4.5**	NA	NA	**4.4**	**7.8**	**5.9**	NA	**4.7**	NA	NA	NA
Barium	7440-39-3	15000	15000	220000	NE	380	NA	**67**	NA	NA	**510**	**270**	**150**	NA	**300**	NA	NA	NA
Cadmium	7440-43-9	37	NE	NE	NE	0.3	NA	**0.14**	NA	NA	**0.16**	**0.66**	**0.14**	NA	**0.15**	NA	NA	NA
Chromium	7440-47-3	120000	NE	NE	NE	40.5	NA	**13**	NA	NA	**12**	**18**	**13**	NA	**13**	NA	NA	NA
Lead	7439-92-1	400	400	800	NE	24.8	NA	**21**	NA	NA	**16**	**120**	**56**	NA	**16**	NA	NA	NA
Mercury	7439-97-6	3.1	3.1	3.1	NE	0.06	NA	**0.18**	NA	NA	**0.038**	< 0.16	**1.9**	NA	**0.06**	NA	NA	NA
Selenium	7782-49-2	390	390	5800	NE	0.5	NA	**0.34**	NA	NA	< 0.3	**0.98**	< 0.32	NA	0.34	NA	NA	NA
Silver	7440-22-4	390	390	5800	NE	1	NA	< 0.045	NA	NA	< 0.043	**0.19** J	**0.047** J	NA	< 0.045	NA	NA	NA
Toxicity Characteristic Leaching Procedure (TCLP) Lead (mg/L[11])																		
TCLP Lead		NE	NE	NE	5	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon (% by wt-dry)																		
Total Organic Carbon		NE	NE	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.22**

Constituent[1]	CAS[2] Number	WVDEP CAGD Tier 1[3]	Residential RBCs[4]	Industrial RBCs[4]	RCRA Hazardous Waste Threshold[5]	Natural Background[6]	LGB-04 (6'-8')	LGB-05 (2'-3')	LGB-06 (5'-7')	LGB-07 (5'-7')	LGB-08 (0'-2')	LGB-09 (1'-2')	LGB-10 (5'-6')	LGB-11 (5'-7')	LGB-12 (2'-4')	LGB-12 (6'-7')	LGB-13 (1'-2')	LGB-13 (5'-7')	LGB-13 (6'-7')	LGB-14 (5'-7')
Sample Date							7/17/2023	7/13/2023	7/13/2023	7/13/2023	7/13/2023	7/13/2023	7/13/2023	7/14/2023	7/14/2023	7/14/2023	7/13/2023	7/13/2023	7/13/2023	7/14/2023
Field PID Reading							0	0	0.1	0	0.1	0.1	0.3	0	0	0	2.2	0.9	0.9	0.7
Volatile Organic Compounds (mg/kg-dry[7])																				
1,2,4-Trimethylbenzene	95-63-6	NE[8]	220	220	NE	NE	NA	< 0.022	NA	NA	NA	< 0.043	< 0.027	NA	NA	**0.059**	< 0.025	NA	< 0.029	NA
1,3,5-Trimethylbenzene	108-67-8	NE	180	180	NE	NE	NA	< 0.021	NA	NA	NA	< 0.041	< 0.026	NA	NA	< 0.027	< 0.024	NA	< 0.028	NA
Acetone	67-64-1	NE	61000	110000	NE	NE	NA	< 0.09	NA	NA	NA	< 0.17	< 0.11	NA	NA	< 0.11	< 0.1	NA	< 0.12	NA
Benzene	71-43-2	0.13	1.2	540	NE	NE	NA	< 0.015	NA	NA	NA	< 0.028	< 0.018	NA	NA	< 0.019	< 0.016	NA	< 0.019	NA
Cyclohexane	110-82-7	NE	120	120	NE	NE	NA	< 0.023	NA	NA	NA	< 0.045	< 0.028	NA	NA	< 0.029	< 0.026	NA	< 0.03	NA
Ethylbenzene	100-41-4	2	6.2	270	NE	NE	NA	< 0.022	NA	NA	NA	< 0.041	< 0.026	NA	NA	< 0.027	< 0.024	NA	< 0.028	NA
Isopropylbenzene	98-82-8	NE	270	270	NE	NE	NA	< 0.019	NA	NA	NA	< 0.37	< 0.023	NA	NA	< 0.024	< 0.021	NA	< 0.025	NA
Methyl acetate	79-20-9	NE	23000	29000	NE	NE	NA	**0.11**	NA	NA	NA	**0.2**	< 0.044	NA	NA	**0.1** J	< 0.041	NA	< 0.048	NA
Methylcyclohexane	108-87-2	NE	NE	NE	NE	NE	NA	< 0.012	NA	NA	NA	< 0.022	< 0.014	NA	NA	**0.12**	< 0.013	NA	< 0.015	NA
m,p-Xylene	1330-20-7	NE	260	260	NE	NE	NA	< 0.04	NA	NA	NA	< 0.078	< 0.049	NA	NA	**0.1**	< 0.045	NA	< 0.053	NA
o-Xylene	95-47-6	NE	NE	NE	NE	NE	NA	< 0.012	NA	NA	NA	< 0.023	< 0.014	NA	NA	**0.075**	< 0.013	NA	< 0.015	NA
Toluene	108-88-3	44	820	820	NE	NE	NA	< 0.025	NA	NA	NA	< 0.048	< 0.03	NA	NA	**0.1**	< 0.028	NA	**0.036**	NA
Xylene, Total	1330-20-7	5.2	260	260	NE	NE	NA	< 0.04	NA	NA	NA	< 0.078	< 0.049	NA	NA	**0.18**	< 0.045	NA	< 0.053	NA
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg-dry)																				
1-Methylnaphthalene	90-12-0	NE	24	390	NE	NE	< 0.001	NA	< 0.001	< 0.001	**0.0059**	NA	NA	**0.0068**	NA	NA	NA	NA	NA	**0.0032** J
2-Chloronapthalene	91-58-7	NE	5000	50000	NE	NE	< 0.0007	NA	< 0.00071	**0.0029** J	< 0.0007	NA	NA	< 0.00069	NA	NA	NA	NA	NA	< 0.00073
2-Methylnaphthalene	91-57-6	NE	310	4700	NE	NE	< 0.0012	NA	< 0.0012	< 0.0012	**0.0071**	NA	NA	**0.0033** J	NA	NA	NA	NA	NA	**0.0016** J
Acenaphthene	83-32-9	4100	4100	47000	NE	NE	< 0.0019	NA	< 0.002	< 0.0019	**0.011**	NA	NA	**0.0094**	NA	NA	NA	NA	NA	**0.0068**
Acenaphthylene	208-96-8	4200	4200	51000	NE	NE	< 0.0013	NA	< 0.0014	< 0.0013	**0.0077**	NA	NA	**0.017**	NA	NA	NA	NA	NA	**0.0089**
Anthracene	120-12-7	23000	23000	350000	NE	NE	< 0.00092	NA	< 0.0093	< 0.00092	**0.089**	NA	NA	**0.038**	NA	NA	NA	NA	NA	**0.023**
Benzo(a)anthracene	56-55-3	1	1.5	320	NE	NE	< 0.0036	NA	< 0.0037	< 0.0036	**0.19**	NA	NA	**0.21**	NA	NA	NA	NA	NA	**0.075**
Benzo(a)pyrene	50-32-8	1	0.11	21	NE	NE	< 0.0034	NA	< 0.0035	< 0.0034	**0.16**	NA	NA	**0.18**	NA	NA	NA	NA	NA	**0.073**
Benzo(b)fluoranthene	205-99-2	1	1.1	210	NE	NE	< 0.003	NA	< 0.0031	< 0.003	**0.23**	NA	NA	**0.26**	NA	NA	NA	NA	NA	**0.087**
Benzo(g,h,i)perylene	191-24-2	1800	1800	23000	NE	NE	< 0.0023	NA	< 0.0023	< 0.0023	**0.07**	NA	NA	**0.086**	NA	NA	NA	NA	NA	**0.042**
Benzo(k)fluoranthene	207-08-9	1	11	2100	NE	NE	< 0.00076	NA	< 0.00077	< 0.00076	**0.076**	NA	NA	**0.098**	NA	NA	NA	NA	NA	**0.034**
Chrysene	218-01-9	1	110	21000	NE	NE	< 0.0033	NA	< 0.0034	< 0.0033	**0.21**	NA	NA	**0.21**	NA	NA	NA	NA	NA	**0.085**
Dibenzo(a,h)anthracene	53-70-3	1	0.11	21	NE	NE	< 0.0029	NA	< 0.003	< 0.0029	**0.019**	NA	NA	**0.02**	NA	NA	NA	NA	NA	**0.0088**
Fluoranthene	206-44-0	2400	2400	30000	NE	NE	< 0.0025	NA	< 0.0026	< 0.0025	**0.44**	NA	NA	**0.3**	NA	NA	NA	NA	NA	**0.2**
Fluorene	86-73-7	2900	2900	37000	NE	NE	< 0.0012	NA	< 0.0013	< 0.0012	**0.025**	NA	NA	**0.019**	NA	NA	NA	NA	NA	**0.011**
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.1	210	NE	NE	< 0.0035	NA	< 0.0035	< 0.0035	**0.092**	NA	NA	**0.11**	NA	NA	NA	NA	NA	**0.048**
Naphthalene	91-20-3	4.1	2.4	110	NE	NE	< 0.00095	NA	< 0.00097	< 0.00096	**0.0074**	NA	NA	**0.0043** J	NA	NA	NA	NA	NA	**0.0057**
Phenanthrene	85-01-8	23000	23000	350000	NE	NE	< 0.0011	NA	< 0.0011	< 0.0011	**0.2**	NA	NA	**0.13**	NA	NA	NA	NA	NA	**0.11**
Pyrene	129-00-0	2300	2300	34000	NE	NE	< 0.0032	NA	< 0.0033	< 0.0032	**0.26**	NA	NA	**0.27**	NA	NA	NA	NA	NA	**0.17**
Metals (mg/kg-dry)																				
Arsenic	7440-38-2	18	0.68	30	NE	8.3	**4.6**	NA	**4.8**	**5**	**5.7**	NA	NA	**5.9**	NA	NA	NA	NA	NA	**3.5**
Barium	7440-39-3	15000	15000	220000	NE	380	**210**	NA	**90**	**120**	**130**	NA	NA	**110**	NA	NA	NA	NA	NA	**170**
Cadmium	7440-43-9	37	NE	NE	NE	0.3	**0.31**	NA	**0.041**	**0.18**	**0.064**	NA	NA	**0.029**	NA	NA	NA	NA	NA	**0.35**
Chromium	7440-47-3	120000	NE	NE	NE	40.5	**15**	NA	**13**	**13**	**17**	NA	NA	**12**	NA	NA	NA	NA	NA	**12**
Lead	7439-92-1	400	400	800	NE	24.8	**18**	NA	**18**	**52**	**54**	NA	NA	**23**	NA	NA	NA	NA	NA	**130**
Mercury	7439-97-6	3.1	3.1	3.1	NE	0.06	**0.044**	NA	**0.057**	**0.062**	**0.055**	NA	NA	**0.22**	NA	NA	NA	NA	NA	**0.33**
Selenium	7782-49-2	390	390	5800	NE	0.5	< 0.33	NA	< 0.33	< 0.33	**0.31**	NA	NA	< 0.29	NA	NA	NA	NA	NA	< 0.3
Silver	7440-22-4	390	390	5800	NE	1	< 0.048	NA	< 0.047	< 0.047	**0.05**	NA	NA	< 0.042	NA	NA	NA	NA	NA	**0.11** J
Toxicity Characteristic Leaching Procedure (TCLP) Lead (mg/L[11])																				
TCLP Lead		NE	NE	NE	5	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon (% by wt-dry)																				
Total Organic Carbon		NE	NE	NE	NE	NE	NA	NA	**1.1**	NA	NA	NA	NA	NA	**0.46**	NA	NA	**2.9**	NA	**1.4**

Constituent[1]	CAS[2] Number	WVDEP CAGD Tier 1[3]	Residential RBCs[4]	Industrial RBCs[4]	RCRA Hazardous Waste Threshold[5]	Natural Background[6]	NWGB-01 (2'-4')	NWGB-01 (5'-7')	NWGB-02 (6'-8')	NWGB-02 (10'-12') (11'-12')	NWGB-03 (2'-3')	NWGB-03 (10'-12')	NWGB-04 (5'-7') (6'-7')	NWGB-05 (5'-7')	NWGB-05 (7'-8')	NWGB-06 (5'-6')	NWGB-06 (6'-8')	NWGB-07 (10'-11')	NWGB-08 (5'-7')	NWAB-01 (0'-2')
Sample Date							7/13/2023	7/13/2023	7/14/2023	7/14/2023	7/14/2023	7/14/2023	7/14/2023	7/14/2023	7/14/2023	7/14/2023	7/14/2023	7/18/2023	7/14/2023	7/14/2023
Field PID Reading							0.1	0.4	0.3	0.3	0	0	0.3	0	0	357	347	583	0.1	1.4
Volatile Organic Compounds (mg/kg-dry[7])																				
1,2,4-Trimethylbenzene	95-63-6	NE[8]	220	220	NE	NE	NA	NA	NA	< 0.026	< 0.028	NA	< 0.025	NA	< 0.024	**17**	NA	**0.47**	NA	NA
1,3,5-Trimethylbenzene	108-67-8	NE	180	180	NE	NE	NA	NA	NA	< 0.025	< 0.027	NA	< 0.024	NA	< 0.023	**7.4**	NA	**0.21**	NA	NA
Acetone	67-64-1	NE	61000	110000	NE	NE	NA	NA	NA	< 0.11	< 0.12	NA	< 0.1	NA	< 0.098	**2**	NA	< 0.15	NA	NA
Benzene	71-43-2	0.13	1.2	540	NE	NE	NA	NA	NA	< 0.017	< 0.019	NA	< 0.016	NA	< 0.016	< 0.26	NA	< 0.024	NA	NA
Cyclohexane	110-82-7	NE	120	120	NE	NE	NA	NA	NA	< 0.028	< 0.03	NA	< 0.026	NA	< 0.025	< 0.41	NA	< 0.038	NA	NA
Ethylbenzene	100-41-4	2	6.2	270	NE	NE	NA	NA	NA	< 0.026	< 0.028	NA	< 0.024	NA	< 0.023	**0.41 J**	NA	**0.079**	NA	NA
Isopropylbenzene	98-82-8	NE	270	270	NE	NE	NA	NA	NA	< 0.023	< 0.025	NA	< 0.021	NA	< 0.021	**1**	NA	**0.045 J**	NA	NA
Methyl acetate	79-20-9	NE	23000	29000	NE	NE	NA	NA	NA	**0.087 J**	**0.05 J**	NA	< 0.041	NA	< 0.039	**0.92 J**	NA	**0.16 J**	NA	NA
Methylcyclohexane	108-87-2	NE	NE	NE	NE	NE	NA	NA	NA	< 0.014	< 0.015	NA	< 0.013	NA	< 0.013	< 0.21	NA	< 0.019	NA	NA
m,p-Xylene	1330-20-7	NE	260	260	NE	NE	NA	NA	NA	< 0.048	< 0.052	NA	< 0.045	NA	< 0.044	**1.8**	NA	**0.78**	NA	NA
o-Xylene	95-47-6	NE	NE	NE	NE	NE	NA	NA	NA	< 0.014	< 0.015	NA	< 0.013	NA	< 0.013	< 0.21	NA	**0.12**	NA	NA
Toluene	108-88-3	44	820	820	NE	NE	NA	NA	NA	< 0.03	< 0.032	NA	< 0.028	NA	< 0.027	< 0.44	NA	**0.15**	NA	NA
Xylene, Total	1330-20-7	5.2	260	260	NE	NE	NA	NA	NA	< 0.048	< 0.052	NA	< 0.045	NA	< 0.044	**0.39 J**	NA	**0.9**	NA	NA
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg-dry)																				
1-Methylnaphthalene	90-12-0	NE	24	390	NE	NE	< 0.001	NA	NA	**0.0041 J**	NA	< 0.0011	NA	< 0.001	NA	NA	**160**	< 0.0011	< 0.001	NA
2-Chloronapthalene	91-58-7	NE	5000	50000	NE	NE	< 0.0007	NA	NA	< 0.00072	NA	< 0.00072	NA	< 0.0007	NA	NA	< 0.017	< 0.00075	< 0.0007	NA
2-Methylnaphthalene	91-57-6	NE	310	4700	NE	NE	< 0.0012	NA	NA	< 0.0012	NA	< 0.0012	NA	< 0.0012	NA	NA	**210**	< 0.0013	**0.4**	NA
Acenaphthene	83-32-9	4100	4100	47000	NE	NE	< 0.0019	NA	NA	**0.015**	NA	< 0.002	NA	< 0.0019	NA	NA	**72**	< 0.0021	**0.14**	NA
Acenaphthylene	208-96-8	4200	4200	51000	NE	NE	**0.0024 J**	NA	NA	**0.0064 J**	NA	< 0.0014	NA	< 0.0013	NA	NA	**6.4**	< 0.0014	**0.12**	NA
Anthracene	120-12-7	23000	23000	350000	NE	NE	**0.0039 J**	NA	NA	**0.029**	NA	< 0.00094	NA	< 0.00092	NA	NA	**48**	**0.0024 J**	**0.096**	NA
Benzo(a)anthracene	56-55-3	1	1.5	320	NE	NE	**0.026**	NA	NA	**0.1**	NA	< 0.0037	NA	< 0.0036	NA	NA	**52**	**0.0093**	**0.15**	NA
Benzo(a)pyrene	50-32-8	1	0.11	21	NE	NE	**0.029**	NA	NA	**0.068**	NA	< 0.0035	NA	< 0.0034	NA	NA	**24**	**0.0074**	**0.072**	NA
Benzo(b)fluoranthene	205-99-2	1	1.1	210	NE	NE	**0.034**	NA	NA	**0.11**	NA	< 0.0031	NA	< 0.003	NA	NA	**37**	**0.013**	**0.12**	NA
Benzo(g,h,i)perylene	191-24-2	1800	1800	23000	NE	NE	**0.011**	NA	NA	**0.035**	NA	**0.0026 J**	NA	< 0.0023	NA	NA	**4**	**0.0044 J**	**0.019**	NA
Benzo(k)fluoranthene	207-08-9	1	11	2100	NE	NE	**0.014**	NA	NA	**0.044**	NA	< 0.00077	NA	< 0.0029	NA	NA	**13**	**0.011**	**0.04**	NA
Chrysene	218-01-9	1	110	21000	NE	NE	**0.029**	NA	NA	**0.12**	NA	< 0.0034	NA	< 0.0033	NA	NA	**33**	**0.011**	**0.12**	NA
Dibenzo(a,h)anthracene	53-70-3	1	0.11	21	NE	NE	**0.0046 J**	NA	NA	**0.01**	NA	< 0.003	NA	< 0.0029	NA	NA	**1.8**	< 0.0031	**0.0081**	NA
Fluoranthene	206-44-0	2400	2400	30000	NE	NE	**0.039**	NA	NA	**0.22**	NA	**0.0044 J**	NA	< 0.0025	NA	NA	**200**	**0.021**	**0.42**	NA
Fluorene	86-73-7	2900	2900	37000	NE	NE	< 0.0012	NA	NA	**0.011**	NA	< 0.0013	NA	< 0.0012	NA	NA	**120**	**0.0015 J**	**0.22**	NA
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.1	210	NE	NE	**0.012**	NA	NA	**0.045**	NA	< 0.0036	NA	< 0.0035	NA	NA	**6.5**	**0.004 J**	**0.025**	NA
Naphthalene	91-20-3	4.1	2.4	110	NE	NE	< 0.00095	NA	NA	**0.0092**	NA	< 0.00097	NA	< 0.00095	NA	NA	**230**	**0.016**	**0.32**	NA
Phenanthrene	85-01-8	23000	23000	350000	NE	NE	**0.012**	NA	NA	**0.11**	NA	< 0.0011	NA	< 0.0011	NA	NA	**380**	**0.0092**	**0.73**	NA
Pyrene	129-00-0	2300	2300	34000	NE	NE	**0.034**	NA	NA	**0.19**	NA	**0.0041 J**	NA	< 0.0032	NA	NA	**88**	**0.017**	**0.34**	NA
Metals (mg/kg-dry)																				
Arsenic	7440-38-2	18	0.68	30	NE	8.3	**11**	NA	NA	**6.3**	NA	**4.3**	NA	**4.7**	NA	NA	**40**	**6.9**	**6.3**	NA
Barium	7440-39-3	15000	15000	220000	NE	380	**120**	NA	NA	**110**	NA	**160**	NA	**150**	NA	NA	**1100**	**150**	**120**	NA
Cadmium	7440-43-9	37	NE	NE	NE	0.3	**0.048 J**	NA	NA	**0.13**	NA	**0.049 J**	NA	**0.14**	NA	NA	**5.8**	**0.14 J**	**0.04 J**	NA
Chromium	7440-47-3	120000	NE	NE	NE	40.5	**13**	NA	NA	**12**	NA	**19**	NA	**13**	NA	NA	**34**	**13**	**13**	NA
Lead	7439-92-1	400	400	800	NE	24.8	**20**	NA	NA	**40**	**63**	**180**	**120**	**26**	**77**	**76000**	**5500**	**69**	**36**	NA
Mercury	7439-97-6	3.1	3.1	3.1	NE	0.06	**0.017 J**	NA	NA	**1.9**	NA	**0.38**	NA	**0.074**	NA	NA	**1.1**	**0.91**	**0.093**	NA
Selenium	7782-49-2	390	390	5800	NE	0.5	< 0.32	NA	NA	**0.38**	NA	**0.43**	NA	< 0.31	NA	NA	**1.2**	**0.79**	**0.53**	NA
Silver	7440-22-4	390	390	5800	NE	1	< 0.046	NA	NA	< 0.044	NA	**0.23 J**	NA	< 0.044	NA	NA	**0.23 J**	**0.065 J**	< 0.046	NA
Toxicity Characteristic Leaching Procedure (TCLP) Lead (mg/L[11])																				
TCLP Lead		NE	NE	NE	5	NE	NA	NA	NA	NA	**0.03 J**	**0.19**	**0.15**	NA	**0.025 J**	**11**	**63**	NA	NA	NA
Total Organic Carbon (% by wt-dry)																				
Total Organic Carbon		NE	NE	NE	NE	NE	NA	**0.29**	**0.66**	NA	NA	NA	**0.94**	NA	NA	NA	NA	NA	**0.36**	**0.28**

Constituent[1]	CAS[2] Number	WVDEP CAGD Tier 1[3]	Residential RBCs[4]	Industrial RBCs[4]	RCRA Hazardous Waste Threshold[5]	Natural Background[6]	NWAB-01 (6'-8')	NWAB-01 (20'-22') (21'-22')	NWAB-02 (1'-3')	NWAB-02 (6'-8')	NWAB-03 (5'-7')	NWAB-03 (7'-9') (7'-8')	NWAB-04 (0'-2') (0'-1')	NWAB-05 (15'-17') (16'-17')	NWAB-06 (15'-17') (16'-17')	NWAB-07 (16'-18')	NWAB-07 (20'-21')
Sample Date							7/14/2023	7/17/2023	7/14/2023	7/14/2023	7/14/2023	7/14/2023	7/18/2023	7/18/2023	7/18/2023	7/18/2023	7/18/2023
Field PID Reading							0.1	53.6	0	0	0.2	0.1	63	1391	64	0.6	17.5
Volatile Organic Compounds (mg/kg-dry[7])																	
1,2,4-Trimethylbenzene	95-63-6	NE[8]	220	220	NE	NE	NA	< 0.075	NA	NA	NA	**0.064**	**0.033**	**0.033**	**0.062**	NA	**0.36**
1,3,5-Trimethylbenzene	108-67-8	NE	180	180	NE	NE	NA	< 0.073	NA	NA	NA	< 0.026	< 0.018	< 0.018	**0.027 J**	NA	**0.2**
Acetone	67-64-1	NE	61000	110000	NE	NE	NA	< 0.3	NA	NA	NA	< 0.11	< 0.075	< 0.074	< 0.074	NA	< 0.077
Benzene	71-43-2	0.13	1.2	540	NE	NE	NA	< 0.05	NA	NA	NA	< 0.018	< 0.012	< 0.012	< 0.012	NA	**0.026 J**
Cyclohexane	110-82-7	NE	120	120	NE	NE	NA	< 0.079	NA	NA	NA	**0.052 J**	< 0.019	**0.56**	< 0.019	NA	**0.15**
Ethylbenzene	100-41-4	2	6.2	270	NE	NE	NA	< 0.073	NA	NA	NA	< 0.027	**0.019 J**	< 0.018	< 0.018	NA	**0.075**
Isopropylbenzene	98-82-8	NE	270	270	NE	NE	NA	< 0.065	NA	NA	NA	< 0.024	< 0.016	**0.7**	**0.025 J**	NA	**0.032**
Methyl acetate	79-20-9	NE	23000	29000	NE	NE	NA	< 0.12	NA	NA	NA	**0.22 J**	< 0.3	< 0.03	**0.086 J**	NA	**0.14 J**
Methylcyclohexane	108-87-2	NE	NE	NE	NE	NE	NA	**0.18 J**	NA	NA	NA	**0.3**	< 0.0097	**63**	< 0.0095	NA	**0.84**
m,p-Xylene	1330-20-7	NE	260	260	NE	NE	NA	< 0.14	NA	NA	NA	**0.091**	**0.093**	< 0.033	**0.081**	NA	**0.68**
o-Xylene	95-47-6	NE	NE	NE	NE	NE	NA	< 0.04	NA	NA	NA	< **0.073**	< **0.043**	< 0.0097	**0.025**	NA	**0.14**
Toluene	108-88-3	44	820	820	NE	NE	NA	< 0.085	NA	NA	NA	< **0.082**	< **0.074**	< 0.021	< 0.021	NA	**0.15**
Xylene, Total	1330-20-7	5.2	260	260	NE	NE	NA	< 0.14	NA	NA	NA	< **0.16**	< **0.14**	< 0.033	**0.11**	NA	**0.82**
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg-dry)																	
1-Methylnaphthalene	90-12-0	NE	24	390	NE	NE	**0.018**	**0.05**	NA	**0.006 J**	NA	**0.012**	**0.0049 J**	**0.13**	< 0.0011	**0.0035 J**	NA
2-Chloronapthalene	91-58-7	NE	5000	50000	NE	NE	< 0.00067	< 0.00076	NA	< 0.0012	NA	< 0.00069	< 0.00072	< 0.0007	< 0.00078	< 0.00074	NA
2-Methylnaphthalene	91-57-6	NE	310	4700	NE	NE	**0.024**	**0.04**	NA	**0.0073 J**	NA	**0.0078**	**0.012**	< 0.0012	< 0.0013	**0.003 J**	NA
Acenaphthene	83-32-9	4100	4100	47000	NE	NE	**0.01**	**0.019**	NA	**0.0073 J**	NA	**0.0061**	**0.0069**	**0.0025 J**	< 0.0021	< 0.002	NA
Acenaphthylene	208-96-8	4200	4200	51000	NE	NE	**0.0091**	**0.0097**	NA	< 0.0034	NA	< 0.0013	**0.097**	< 0.0013	< 0.0015	< 0.0014	NA
Anthracene	120-12-7	23000	23000	350000	NE	NE	< 0.00087	**0.032**	NA	**0.0075 J**	NA	**0.0078**	**0.068**	**0.0023 J**	< 0.001	< 0.00097	NA
Benzo(a)anthracene	56-55-3	1	1.5	320	NE	NE	**0.015**	**0.097**	NA	**0.014**	NA	**0.013**	**1.1**	**0.0075**	< 0.004	< 0.0038	NA
Benzo(a)pyrene	50-32-8	1	0.11	21	NE	NE	**0.011**	**0.084**	NA	**0.011**	NA	**0.0085**	**1.5**	< 0.0034	< 0.0038	< 0.0036	NA
Benzo(b)fluoranthene	205-99-2	1	1.1	210	NE	NE	**0.021**	**0.11**	NA	**0.013**	NA	**0.0097**	**1.9**	**0.0052**	< 0.0033	< 0.0032	NA
Benzo(g,h,i)perylene	191-24-2	1800	1800	23000	NE	NE	**0.012**	**0.037**	NA	**0.0061 J**	NA	**0.0036 J**	**0.7**	< 0.0023	< 0.0025	**0.0024 J**	NA
Benzo(k)fluoranthene	207-08-9	1	11	2100	NE	NE	**0.0052**	**0.048**	NA	**0.0059 J**	NA	**0.0044 J**	**0.66**	< 0.00076	< 0.00084	< 0.0008	NA
Chrysene	218-01-9	1	110	21000	NE	NE	**0.018**	**0.12**	NA	**0.015**	NA	**0.013**	**1.2**	**0.0086**	< 0.0037	< 0.0035	NA
Dibenzo(a,h)anthracene	53-70-3	1	0.11	21	NE	NE	**0.0036 J**	**0.0052 J**	NA	< 0.0052	NA	< 0.0029	**0.18**	< 0.0029	< 0.0032	< 0.0031	NA
Fluoranthene	206-44-0	2400	2400	30000	NE	NE	**0.04**	**0.23**	NA	**0.033**	NA	**0.025**	**0.79**	**0.012**	< 0.0028	< 0.0027	NA
Fluorene	86-73-7	2900	2900	37000	NE	NE	**0.017**	**0.023**	NA	**0.0092**	NA	**0.013**	**0.01**	**0.0048 J**	< 0.0014	< 0.0013	NA
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.1	210	NE	NE	**0.011**	**0.036**	NA	**0.0071 J**	NA	**0.0039 J**	**0.96**	< 0.0035	< 0.0038	< 0.0037	NA
Naphthalene	91-20-3	4.1	2.4	110	NE	NE	**0.02**	**0.03**	NA	**0.011**	NA	**0.0068**	**0.054**	**0.014**	**0.022**	**0.0038 J**	NA
Phenanthrene	85-01-8	23000	23000	350000	NE	NE	**0.057**	**0.13**	NA	**0.038**	NA	**0.032**	**0.093**	**0.013**	< 0.0012	< 0.001	NA
Pyrene	129-00-0	2300	2300	34000	NE	NE	**0.034**	**0.19**	NA	**0.029**	NA	**0.023**	**0.95**	**0.012**	< 0.0035	< 0.0034	NA
Metals (mg/kg-dry)																	
Arsenic	7440-38-2	18	0.68	30	NE	8.3	**3.1**	**22**	NA	**4.8**	NA	**4.5**	**21**	**6.1**	**8.9**	**6.6**	NA
Barium	7440-39-3	15000	15000	220000	NE	380	**170**	**470**	NA	**230**	NA	**180**	**190**	**130**	**350**	**200**	NA
Cadmium	7440-43-9	37	NE	NE	NE	0.3	**0.26**	**2.1**	NA	**0.24**	NA	**0.19**	**0.11 J**	**0.024 J**	**0.15 J**	**0.2**	NA
Chromium	7440-47-3	120000	NE	NE	NE	40.5	**13**	**130**	NA	**12**	NA	**13**	**14**	**14**	**16**	**13**	NA
Lead	7439-92-1	400	400	800	NE	24.8	**120**	**9000**	NA	**62**	NA	**39**	**71**	**17**	**350**	**60**	**52**
Mercury	7439-97-6	3.1	3.1	3.1	NE	0.06	**0.13**	**0.13**	NA	**0.38**	NA	**0.15**	**0.32**	**0.047**	**0.4**	**0.22**	NA
Selenium	7782-49-2	390	390	5800	NE	0.5	< 0.3	**0.59**	NA	**0.45**	NA	< 0.0032	**0.76**	**0.34**	**0.83**	**0.93**	NA
Silver	7440-22-4	390	390	5800	NE	1	**0.072 J**	**0.16 J**	NA	**0.096 J**	NA	**0.057 J**	**0.056 J**	< 0.045	**0.12 J**	**0.078 J**	NA
Toxicity Characteristic Leaching Procedure (TCLP) Lead (mg/L[11])																	
TCLP Lead		NE	NE	NE	5	NE	NA	**17**	NA	NA	NA	NA	NA	NA	NA	NA	**0.27**
Total Organic Carbon (% by wt-dry)																	
Total Organic Carbon		NE	NE	NE	NE	NE	NA	NA	**0.32**	NA	**0.3**	NA	NA	NA	NA	NA	NA

Notes:
1. Includes only those detected above laboratory detection limits in at least one sample
2. CAS - Chemical Abstract Service
3. WVDEP Corrective Action Guidance Document, July 2018 Tier 1 Soil Action Levels for Common Contaminants of Concern
4. West Virginia Risk-Based Concentrations obtained from Voluntary Remediation and Redevelopment Rule (VRRR), Table 60-9, revised July 2024.
5. 40 CFR 261.24 Table 1 - Maximum Toxicity Concentration for the Toxicity Characteristic
6. Natural background levels of inorganics in soil in West Virginia from Table 3-3, WVDEP VRP Guidance Manual, October 2023
7. mg/kg-dry - milligrams per kilogram - dry weight basis
8. NE - Not Established
9. NA - Not Analyzed
10. J - Analyte is present at an estimated concentration between the Minimum Detection Limit and Report Limit
11. mg/L - milligrams per liter

Bold - Analyte detected above laboratory detection limit

(shaded) Concentration exceeds standard or screening value

Screening Value: Constituents not screened against these values - see text for discussion

Table 2 - Groundwater Sample Results

Remington Development Charleston WV Properties
200 Kanawha Boulevard East
Charleston, Kanawha County, West Virginia

Constituent[1]	CAS[2] Number	WVDEP CAGD[3]	WV Groundwater RBC[4]	VISL Residential Target Groundwater Concentration[5]	VISL Commercial Target Groundwater Concentration[6]	EMW-02	EMW-03/EMW-33 (EMW-33 is EMW-03 replicate sample)			EMW-04	EMW-05		LGB-08	JYGB-01	NWGB-06	NWAB-05/NWAB-55 (NWAB-55 is NWAB-05 replicate sample)			NWAB-06		NWAB-07
Units		µg/L[7]	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Date						7/21/2023	7/21/2023	9/8/2023	9/8/2023	7/21/2023	7/21/2023	9/11/2023	7/21/23	7/21/2023	7/21/2023	7/21/2023	9/8/2023	9/8/2023	7/21/2023	9/11/2023	7/21/2023
Volatile Organic Compounds (VOCs)																					
1,2,4-Trimethylbenzene	95-63-6	NE[8]	56	544	2290	< 0.45	< 0.45	NA	NA	< 0.45	< 0.45	NA	< 0.45	< 0.45	**15**	< 2.2	NA	NA	< 0.45	NA	< 0.45
1,3,5-Trimethylbenzene	108-67-8	NE	60	382	1600	< 0.65	< 0.65	NA	NA	< 0.65	< 0.65	NA	< 0.65	< 0.65	**3.9**	< 3.2	NA	NA	< 0.65	NA	< 0.65
2-Butanone	78-93-3	NE	5600	3890000	16400000	< 0.52	< 0.52	NA	NA	< 0.52	< 0.52	NA	< 0.52	< 0.52	< 0.52	< 2.6	NA	NA	< 0.52	NA	**1.3 J**
Acetone	67-64-1	NE	14000	NE	NE	**3.6 J**[9]	**2.8 J**	NA	NA	< 1.1	**1.3 J**	NA	**2.3 J**	**1.2**	< 1.1	**32 J**	NA	NA	**1.3 J**	NA	**3.0 J**
Benzene	71-43-2	**5**	**5**	2.7	11.8	< 0.46	< 0.46	NA	NA	< 0.46	< 0.46	NA	< 0.46	< 0.46	**2.7**	< 2.3	NA	NA	< 0.46	NA	< 0.46
Cyclohexane	110-82-7	NE	13000	1720	7220	< 0.63	< 0.63	NA	NA	< 0.63	< 0.63	NA	< 0.63	< 0.63	< 0.63	**5.6 J**	NA	NA	< 0.63	NA	< 0.63
Ethylbenzene	100-41-4	**700**	**700**	6.85	299	< 0.34	< 0.34	NA	NA	< 0.3	< 0.34	NA	< 0.34	< 0.34	**0.94 J**	< 1.7	NA	NA	< 0.34	NA	< 0.34
Isopropylbenzene	98-82-8	NE	450	2080	8730	< 0.35	< 0.35	NA	NA	< 0.35	< 0.35	NA	< 0.35	< 0.35	**1.4**	< 1.8	NA	NA	< 0.35	NA	< 0.35
m,p-Xylene[10]	179601-23-1	**10000**	**10000**	985	4140	< 0.81	< 0.81	NA	NA	< 0.81	< 0.81	NA	< 0.81	< 0.81	**3.7**	< 4.0	NA	NA	< 0.81	NA	< 0.81
Methylcyclohexane	108-87-2	NE	NE	NE	NE	< 0.35	< 0.35	NA	NA	< 0.35	< 0.35	NA	< 0.35	< 0.35	< 0.35	**73**	NA	NA	< 0.35	NA	< 0.35
o-Xylene[10]	95-47-6	**10000**	**10000**	985	4140	< 0.31	< 0.31	NA	NA	< 0.31	< 0.31	NA	< 0.31	< 0.31	**1.6**	< 1.6	NA	NA	< 0.31	NA	< 0.31
Toluene	108-88-3	**1000**	**1000**	35200	148000	< 0.45	< 0.45	NA	NA	< 0.45	< 0.45	NA	< 0.45	< 0.45	**0.71 J**	< 2.2	NA	NA	< 0.45	NA	< 0.45
Xylenes, Total	1330-20-7	**10000**	**10000**	985	4140	< 0.81	< 0.81	NA	NA	< 0.81	< 0.81	NA	< 0.81	< 0.81	**5.3**	< 4.0	NA	NA	< 0.810	NA	< 0.81
Polynuclear Aromatic Hydrocarbons (PAHs)																					
1-Methylnaphthalene	90-12-0	NE	1.1	0.383	1.61	**0.015 J**	**0.0097**	NA	NA	**0.024 J**	**0.012 J**	NA	< 0.0082	**0.0088**	**81**	**1.8**	**1.3**	**1.3**	**0.13**	NA	**0.017 J**
2-Methylnaphthalene	91-57-6	NE	36	NE	NE	< 0.11	< 0.012	NA	NA	**0.021 J**	**0.012 J**	NA	< 0.012	**0.012**	**73**	**0.98**	NA	NA	**0.12**	NA	**0.016 J**
Acenaphthene	83-32-9	NE	240	NE	NE	**0.032**	< 0.013	NA	NA	< 0.014	< 0.013	NA	< 0.013	< 0.013	**15**	**0.13**	NA	NA	**0.025**	NA	**0.017 J**
Acenaphthylene	208-96-8	NE	240	NE	NE	< 0.10	< 0.011	NA	NA	< 0.011	< 0.011	NA	< 0.011	< 0.01	**0.99**	**0.11**	NA	NA	**0.10**	NA	**0.012 J**
Anthracene	120-12-7	NE	1800	NE	NE	**0.018 J**	< 0.017	NA	NA	< 0.017	< 0.017	NA	< 0.017	< 0.016	**2.4**	**0.39**	NA	NA	**0.098**	NA	< 0.018
Benzo(a)anthracene	56-55-3	NE	0.03	176	NE	**0.028**	**0.025**	NA	NA	< 0.0099	**0.034**	**0.039**	**0.013 J**	**0.013**	**0.81**	**0.70**	**0.16**	**0.23**	**0.45**	**0.029**	**0.025 J**
Benzo(a)pyrene	50-32-8	**0.2**	**0.2**	NE	NE	**0.063**	**0.052**	NA	NA	**0.013 J**	**0.069**	NA	**0.014 J**	< 0.01	**0.51**	**0.41**	**0.17**	**0.15**	**0.52**	**0.029**	**0.023 J**
Benzo(b)fluoranthene	205-99-2	NE	0.25	NE	NE	**0.098**	**0.11**	NA	NA	**0.0099 J**	**0.13**	NA	**0.017 J**	**0.011**	**0.46**	**0.70**	**0.18**	**0.22**	**0.62**	**0.033**	**0.026 J**
Benzo(g,h,i)perylene	191-24-2	NE	600	NE	NE	**0.088**	**0.061**	NA	NA	< 0.025	**0.069**	NA	< 0.024	< 0.0081	**0.20**	**0.17**	NA	NA	**0.42**	NA	< 0.026
Benzo(k)fluoranthene	207-08-9	NE	2.5	NE	NE	**0.051**	**0.043**	NA	NA	< 0.0061	**0.06**	NA	**0.016 J**	**0.016**	**0.21**	**0.13**	NA	NA	**0.22**	NA	**0.022 J**
Chrysene	218-01-9	NE	25	NE	NE	**0.039**	**0.04**	NA	NA	< 0.017	**0.063**	NA	< 0.017	< 0.016	**0.62**	**1.9**	NA	NA	**0.31**	NA	**0.023 J**
Dibenzo(a,h)anthracene	53-70-3	NE	0.025	NE	NE	< 0.013	< 0.013	NA	NA	< 0.014	< 0.013	NA	< 0.013	< 0.013	**0.054**	< 0.013	NA	NA	**0.098**	< 0.014	**0.015 J**
Fluoranthene	206-44-0	NE	800	NE	NE	**0.069**	**0.077**	NA	NA	< 0.019	**0.13**	NA	**0.020 J**	**0.033**	**1.8**	**1.2**	NA	NA	**0.70**	NA	**0.024 J**
Fluorene	86-73-7	NE	150	NE	NE	< 0.010	< 0.010	NA	NA	< 0.011	< 0.011	NA	< 0.01	**0.013**	**14**	**0.19**	NA	NA	**0.029**	NA	< 0.011
Indeno(1,2,3-cd)pyrene	193-39-5	NE	0.25	NE	NE	**0.11**	**0.074**	NA	NA	< 0.013	**0.085**	NA	< 0.013	< 0.012	**0.32**	**0.26**	**0.14**	**0.1**	**0.56**	< 0.013	**0.022 J**
Naphthalene	91-20-3	NE	0.12	10.9	477	**0.045**	< 0.023	NA	NA	**0.047**	**0.027 J**	NA	< 0.023	< 0.022	**31**	**1.1**	**0.27**	**0.63**	**0.24**	**0.025 J**	< 0.026
Phenanthrene	85-01-8	NE	1700	NE	NE	< 0.022	< 0.023	NA	NA	< 0.043	**0.027 J**	NA	< 0.023	**0.078**	**14**	**2.5**	NA	NA	**0.21**	NA	< 0.025
Pyrene	129-00-0	NE	79	NE	NE	**0.10**	**0.065**	NA	NA	< 0.027	**0.081**	NA	< 0.023	**0.025**	**1.8**	**1.0**	NA	NA	**0.62**	NA	< 0.025
Dissolved Resource Conservation and Recovery Act (RCRA) Metals																					
Arsenic	7440-38-2	**10**	**10**	NE	NE	**0.53 J**	**50**	**43**	**48**	**4.5 J**	**3.2 J**	NA	**2.3 J**	**2.9**	**6.1**	**9.8**	NA	NA	**1.2 J**	NA	**5.1**
Barium	7440-39-3	**2000**	**2000**	NE	NE	**440**	**420**	NA	NA	**160**	**660**	NA	**420**	**99**	**590**	**120**	NA	NA	**96**	NA	**490**
Cadmium	7440-43-9	**5**	**5**	NE	NE	< 0.14	< 0.14	NA	NA	**1.1 J**	< 0.14	NA	< 0.14	**1.6**	< 0.14	< 0.14	NA	NA	< 0.14	NA	< 0.14
Chromium	7440-47-3	**100**	**NE**	NE	NE	< 0.61	**0.64 J**	NA	NA	**0.67 J**	**1.7 J**	NA	< 0.61	< 0.61	**2.3 J**	**2.1 J**	NA	NA	< 0.61	NA	< 0.61
Lead	7439-92-1	**15**	**15**	NE	NE	**0.53 J**	**0.57 J**	NA	NA	**0.25 J**	**1.5 J**	NA	< 0.22	< 0.22	**4.4 J**	**18**	< 5	**0.25 J**	**1.8 J**	NA	**0.36 J**
Selenium	7782-49-2	**50**	**50**	NE	NE	**0.90 J**	< 0.48	NA	NA	< 5.0	**0.55 J**	NA	**0.50 J**	**0.57**	< 0.48	**2.3**	NA	NA	**5.5**	NA	**0.54 J**
Total Resource Conservation and Recovery Act (RCRA) Metals (Note - analyzed for information purposes only, WV Groundwater Standards specify dissolved metals)																					
Arsenic	7440-38-2	10	10	NE	NE	NA	NA	**55**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	15	15	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**150**	NA	NA	NA	NA

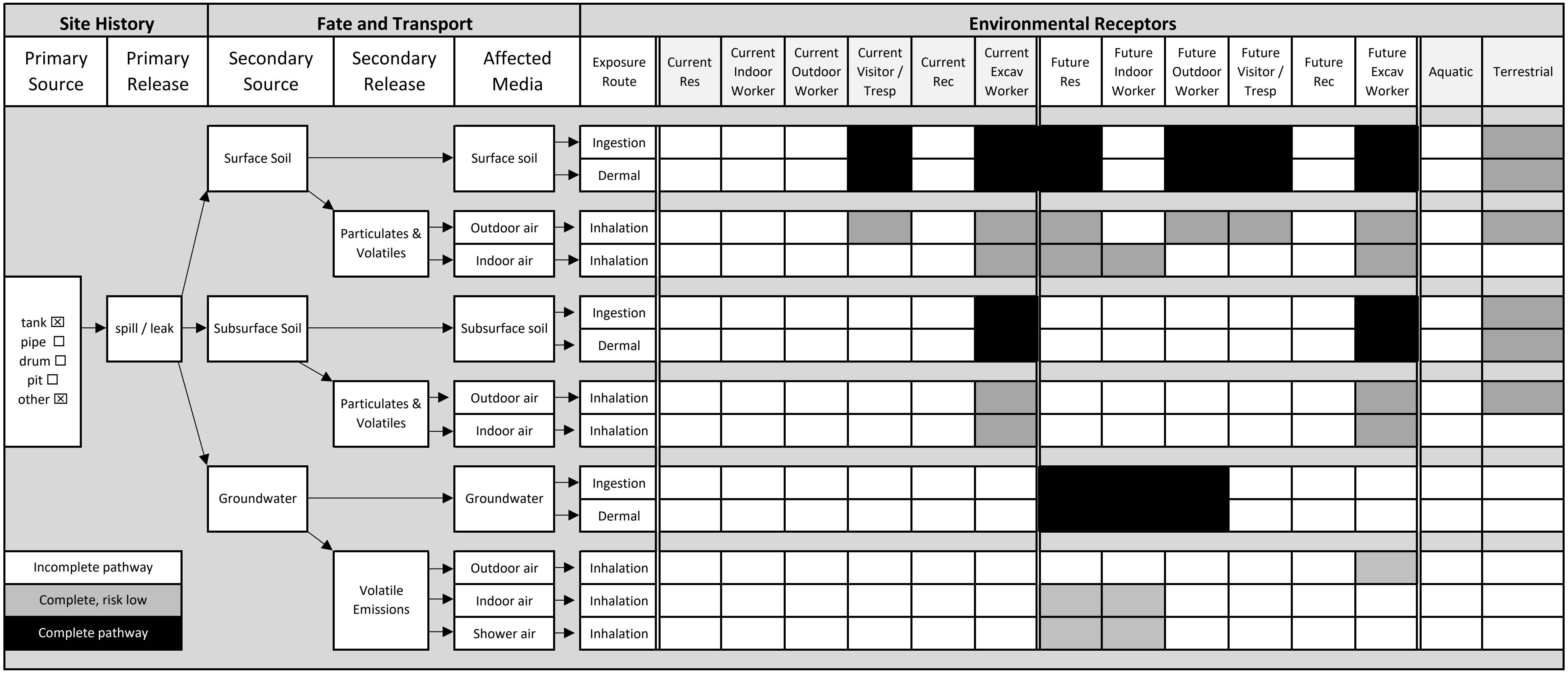
Notes:
1. Includes only those detected above laboratory detection limits in at least one sample
2. CAS - Chemical Abstract Service
3. Groundwater Standards/Action Levels - WVDEP Corrective Action Guidance Document, July 2018, **Bold** values are also WV Groundwater Protection Standards per 47CSR12
4. WV Groundwater RBC - West Virginia Risk-Based Concentration obtained from WV Voluntary Remediation and Redevelopment Rule (VRRR) - **Bold** values are also WV Groundwater Protection Standards per 47CSR12
5. United States Environmental Protection Agency Residential Vapor Intrusion Screening Levels (VISL) - Target Groundwater Concentration - Calculated using Hazard Quotient of 1.0, Target Risk of 1.0E-06, and default parameters.
6. United States Environmental Protection Agency Commercial VISL - Target Groundwater Concentration - Calculated using Hazard Quotient of 1.0, Target Risk of 1.0E-05, and default parameters
7. µg/L - micrograms per liter
8. NE - Not Established
9. J - Analyte is present at an estimated concentration between the Minimum Detection Limit and Report Limit
10. Total xylene screening values used for o-xylene and m,p-xylene

Bold Result - Analyte detected above laboratory detection limit

(shaded)	Concentration exceeds standard or screening value
Screening Value	Constituents not screened against these values - see text for discussion
NA	Constituent not analyzed

APPENDIX E

Conceptual Site Model (Preliminary): Receptor Pathway Analysis



Notes:

APPENDIX F

BORING NO. ____________
PAGE ______ OF ______

BORING LOG RECORD

Client : ______________________ **Project No. :** ______________________
Project Name : ______________________ **Boring Method :** ______________________
Location : ______________________ **Weather/ Temp. :** ______________________
Start Date : ______________________ **Field Engineer/ Geologist :** ______________________
Completion Date : ______________________ **Driller :** ______________________

Surface Elevation : ______________________ **Benchmark/Elev. :** ______________________
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station/Northing : ______________________ **Offset/Easting :** ______________________ **Boring Depth:** ____________

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (ft.)	RQD (ft.)	Unconf. Comp., Tsf

POTESTA
2300 MacCorkle Avenue, SE
Charleston, WV 25304
Telephone: (304) 342-1400

BORING METHOD	SAMPLE TYPE
HSA - Hollow Stem Auger	SS - Split Spoon Sample
SFA - Solid Flight Auger	ST - Shelby Tube Sample
CC - Concrete Coring	RC - Rock Core Sample
MD - Mud Drilling	BS - Bag Sample
HA - Hand Auger	
RC - Rock Coring	

BORING LOG RECORD BLANK FORM.GPJ POTESTA.GDT 9/17/04

FIELD WELL DEVELOPMENT LOG

Well ID: ____________________

Project No.:		**Field Rep:**	
Client:		**Date:**	
Location:		**Time:**	

GROUNDWATER ELEVATION DATA:		
DEPTH TO BOTTOM OF WELL FROM REFERENCE POINT		FEET
DEPTH TO WATER FROM REFERENCE POINT		FEET
HEIGHT OF WATER COLUMN (h) IN FEET		FEET
REFERENCE POINT: TOP OF CASING (TOC), GROUND SURFACE (GS)		
WELL DEVELOPMENT, PURGING, SAMPLING DATA:		
VOLUME OF WATER IN WELL		GALLONS
1-inch well (Vol. = 0.04 x h) 2-inch well (Vol. = 0.16 x h)		
4-inch well (Vol. = 0.65 x h) 6-inch well (Vol. = 1.47 x h)		
__-inch well (Vol. = 7.48 x 3.14 x r^2 x h)		
where r = radius of well in feet and h = height of water column in feet		
PUMP TYPE: BAILER, DC PURGE PUMP, ETC.		
VOLUME OF WATER REMOVED		GALLONS

Comments:

Potesta & Associates, Inc.
7012 MacCorkle Avenue, SE, Charleston, West Virginia 25304
Phone: (304) 342-1400 Fax: (304) 343-9031

FIELD WELL SAMPLING LOG
Well ID: ________________

Project No.: ______________________________ **Sampler(s):** ____________________
Client: ______________________________ **Date:** ____________________
Location: ______________________________ **Sample Time** ____________________

GROUNDWATER ELEVATION DATA:		
DEPTH TO BOTTOM OF WELL FROM REFERENCE POINT	________	FEET
DEPTH TO WATER FROM REFERENCE POINT	________	FEET
HEIGHT OF WATER COLUMN (h) IN FEET	________	FEET
REFERENCE POINT: TOP OF CASING (TOC), GROUND SURFACE (GS)		
WELL DEVELOPMENT, PURGING, SAMPLING DATA:		
VOLUME OF WATER IN WELL	________	LITERS
1-inch well (Vol. = 0.15 x h) 2-inch well (Vol. = 0.62 x h)		
4-inch well (Vol. = 2.46 x h) 6-inch well (Vol. = 5.56 x h)		
__-inch well (Vol. = 28.32 x 3.14 x r^2 x h)		
where r = radius of well in feet and h = height of water column in feet		
PUMP TYPE: BAILER, DC PURGE PUMP, ETC.		
PUMPING TIME START: ________ FINISH: ________	________	MINUTES
VOLUME OF WATER REMOVED		LITERS

FIELD ANALYSIS:

Time	Liters	Temp. (°C)	pH, SU	Conductivity	DTW (ft)	Appearance/Odor

Field Measurement Stabilization:

Temperature: +/- 1.0°C   pH: +/- 0.1 SU   Conductivity: +/-3% of readings

Comments:

Potesta & Associates, Inc.
7012 MacCorkle Avenue, SE, Charleston, West Virginia 25304
Phone: (304) 342-1400 Fax: (304) 343-9031

POTESTA
ENGINEERS AND ENVIRONMENTAL CONSULTANTS

CHARLESTON OFFICE
7012 MacCorkle Avenue, SE
Charleston, WV 25304
Phone: (304) 342-1400
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MORGANTOWN OFFICE
125 Lakeview Drive
Morgantown, WV 26508
Phone: (304) 225-2245
Fax: (304) 225-2246

WINCHESTER OFFICE
15 South Braddock Street
Winchester, VA 22601
Phone: (540) 450-0180
Fax: (540) 450-0182

CHAIN OF CUSTODY RECORD

CLIENT/SAMPLING SITE: ______________________________

POTESTA PROJECT NO.: ______________ BILL TO: ______________

DELIVERABLE: ______________ (e.g., Email, Hard Copy, EDD (Excel), Other)

LAB USED: ______________ HOW SHIPPED: ______________

CONTACT PERSON(S): ______________________________

OFFICE LOCATION(S): ______________________________

EMAIL(S): ______________________________

SAMPLER(S): ______________________________

SAMPLE LOG AND ANALYSIS REQUESTED

PRESERVATIVE CODES (See Note 1)
0 No Preservative
1 Hydrochloric Acid
2 Nitric Acid
3 Sulfuric Acid
4 Sodium Thiosulfate
5 Sodium Hydroxide
6 Zinc Acetate
7 EDTA
8 Other - See Comments

TURNAROUND TIME

Regular ☐

Rush ☐

(Indicate Date Needed) ______________

NOTES:

1) Sample(s) cooled upon collection unless otherwise noted.

2) % Solids analysis required to generate dry-weight basis analytical results for solid and semi-solid samples.

SAMPLE ID	NO. & TYPE OF CONTAINERS (Note Preservative Code)	DATE	TIME	MATRIX	COMP/ GRAB	ANALYSIS REQUESTED and METHOD								% Solids (See Note 2)	REMARKS

RELINQUISHED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	DATE	TIME
RELINQUISHED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	DATE	TIME
RELINQUISHED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	DATE	TIME

COMMENTS:

(LAB USE ONLY) Temp. (°C) | Note Issues with Sample Condition in Remarks or Comments Section

Cooling Method (Circle One) Ice Refrigerated NA (see Notes)

APPENDIX G

POTESTA

TABLE 1
Proposed Sampling List
Former CASCI Property
Charleston, Kanawha County, West Virginia

Sample Type	Number of Planned Borings	Planned Boring Depth (feet bbfg[1])	Planned Soil Samples[2]		Groundwater Sample[3]	Analyte List
			1st Interval[4]	Subsurface		
Soil Boring Locations						
Footprint of Site's Structure	3	15	3	Up to 3	NA	VOCs[5],SVOCs[6], PAHs by SIM[7], RCRA Metals[8]
Monitoring Wells						
New and Selected Existing Moniroting Wells	NA[9]	NA	NA	NA	Up to 20	**All** -VOCs, SVOCs, PAHs by SIM, Dissolved RCRA Metals
Quality Assurance/Quality Control Samples						
Trip Blanks (one per shipment containing samples for VOC analysis)	NA[9]	NA	NA	NA	NA	Corresponding Samples
Soil Sampling Equipment Rinsate Blank (one)	NA	NA	NA	NA	NA	
Groundwater Sampling Equipment Rinsate Blank (one)	NA	NA	NA	NA	NA	
Soil Replicate (one per 20 samples)	NA	NA	X	X	NA	
One Groundwater Replicate (one per 20 samples)	NA	NA	NA	NA	X	
Soil Matrix Spike/Matrix Spike Duplicates (3X sample quantity) - (one per 10 samples)	NA	NA	X	X	NA	
Groundwater Matrix Spike/Matrix Spike Duplicates (3X sample quantity) - (one per 10 samples)	NA	NA	NA	NA	X	

Notes:
1. bbfg - below basement floor grade for bassement samples
2. A total of three soil borings are proposed wihtin the footprint of the site strucutre, to be evenly spaced with one bore located within the identifeid print shop. Soil boring locations may be relocated based on site conditions and field observations.
3. Groundwater samples will be collected from up to five soil borings based on field screening and observations.
4. The soil boring will be advanced through the basement floor with a soil sample collected from the first 2-foot interval. This sample is not considered a surface sample since the basement floor is sub-grade.
5. VOCs - Volatile Organic Compounds by EPA Method 8260
6. SVOCs - Semi Volatile Organic Compounds by EPA Method 8270
7. PAH analysis by EPA 8270 SIM
8. RCRA Metals - Resource Conservation and Recovery Actt Metals by EPA Method 6020
9. NA - Not Applicable

APPENDIX H

ALS Environmental
3352 128th Avenue
Holland, MI 49424
(616) 399-6070

Test Code	Test Method	Test Name	Matrix	Analyte	CAS#	MDL*	PQL*	Units	LCS Low (%)	LCS High (%)	MS/MSD Low (%)	MS/MSD High (%)	RPD (%)
SIEVE_D422_S	D422	Particle-Size Analysis of Soils	Soil	% Gravel	GRAVEL	n/a	n/a	% Passing	n/a	n/a	n/a	n/a	n/a
SIEVE_D422_S	D422	Particle-Size Analysis of Soils	Soil	% Sand	SAND	n/a	n/a	% Passing	n/a	n/a	n/a	n/a	n/a
SIEVE_D422_S	D422	Particle-Size Analysis of Soils	Soil	% Silt, Clay, Colloids	SILT	n/a	n/a	% Passing	n/a	n/a	n/a	n/a	n/a
SIEVE_D422_S	D422	Particle-Size Analysis of Soils	Soil	0.0015 mm (Hydrometer)	GS1.5U	n/a	n/a	% Passing	n/a	n/a	n/a	n/a	n/a
SIEVE_D422_S	D422	Particle-Size Analysis of Soils	Soil	0.005 mm (Hydrometer)	GS5.0U	n/a	n/a	% Passing	n/a	n/a	n/a	n/a	n/a
SIEVE_D422_S	D422	Particle-Size Analysis of Soils	Soil	0.030 mm (Hydrometer)	GS35.0U	n/a	n/a	% Passing	n/a	n/a	n/a	n/a	n/a
SIEVE_D422_S	D422	Particle-Size Analysis of Soils	Soil	0.375 Inch Sieve	SIEVE9.5KU	n/a	n/a	% Passing	n/a	n/a	n/a	n/a	n/a
SIEVE_D422_S	D422	Particle-Size Analysis of Soils	Soil	0.75 Inch Sieve	SIEVE19KU	n/a	n/a	% Passing	n/a	n/a	n/a	n/a	n/a
SIEVE_D422_S	D422	Particle-Size Analysis of Soils	Soil	1.5 Inch Sieve	SIEVE37.5KU	n/a	n/a	% Passing	n/a	n/a	n/a	n/a	n/a
SIEVE_D422_S	D422	Particle-Size Analysis of Soils	Soil	3 Inch Sieve	SIEVE75KU	n/a	n/a	% Passing	n/a	n/a	n/a	n/a	n/a
SIEVE_D422_S	D422	Particle-Size Analysis of Soils	Soil	No. 10 Sieve (2.00 mm)	SIEVE10	n/a	n/a	% Passing	n/a	n/a	n/a	n/a	n/a
SIEVE_D422_S	D422	Particle-Size Analysis of Soils	Soil	No. 100 Sieve (0.15 mm)	SIEVE100	n/a	n/a	% Passing	n/a	n/a	n/a	n/a	n/a
SIEVE_D422_S	D422	Particle-Size Analysis of Soils	Soil	No. 16 Sieve (1.18 mm)	SIEVE16	n/a	n/a	% Passing	n/a	n/a	n/a	n/a	n/a
SIEVE_D422_S	D422	Particle-Size Analysis of Soils	Soil	No. 200 Sieve (0.075 mm)	SIEVE200	n/a	n/a	% Passing	n/a	n/a	n/a	n/a	n/a
SIEVE_D422_S	D422	Particle-Size Analysis of Soils	Soil	No. 30 Sieve (0.60 mm)	SIEVE30	n/a	n/a	% Passing	n/a	n/a	n/a	n/a	n/a
SIEVE_D422_S	D422	Particle-Size Analysis of Soils	Soil	No. 4 Sieve (4.75 mm)	SIEVE4	n/a	n/a	% Passing	n/a	n/a	n/a	n/a	n/a
SIEVE_D422_S	D422	Particle-Size Analysis of Soils	Soil	No. 50 Sieve (0.30 mm)	SIEVE50	n/a	n/a	% Passing	n/a	n/a	n/a	n/a	n/a
SIEVE_D422_S	D422	Particle-Size Analysis of Soils	Soil	No. 60 Sieve (0.25 mm)	SIEVE60	n/a	n/a	% Passing	n/a	n/a	n/a	n/a	n/a
HG_1631E_W	E1631E	Low Level Mercury	Water	Mercury	7439-97-6	0.2	0.5	ng/L	77	123	77	123	21
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Aluminum	7429-90-5	0.0100	0.010	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Antimony	7440-36-0	0.0018	0.005	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Arsenic	7440-38-2	0.0016	0.005	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Barium	7440-39-3	0.0043	0.005	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Beryllium	7440-41-7	0.0002	0.002	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Boron	7440-42-8	0.0175	0.020	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Cadmium	7440-43-9	0.0008	0.010	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Calcium	7440-70-2	0.3900	0.500	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Chromium	7440-47-3	0.0009	0.005	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Cobalt	7440-48-4	0.0004	0.005	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Copper	7440-50-8	0.0046	0.010	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Hardness (Calculation)	0000-110-29	1.3400	2.070	mg/L	0	0	0	0	0
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Iron	7439-89-6	0.0790	0.080	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Lead	7439-92-1	0.0013	0.005	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Lithium	7439-93-2	0.0047	0.010	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Magnesium	7439-95-4	0.0900	0.200	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Manganese	7439-96-5	0.0023	0.005	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Molybdenum	7439-98-7	0.0009	0.005	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Nickel	7440-02-0	0.0006	0.005	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Potassium	7440-09-7	0.1600	0.200	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Selenium	7782-49-2	0.0032	0.010	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Silicon	7440-21-3	0.1000	0.200	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Silver	7440-22-4	0.0025	0.005	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Sodium	7440-23-5	0.2600	0.500	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Strontium	7440-24-6	0.0012	0.005	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Thallium	7440-28-0	0.0026	0.010	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Tin	7440-31-5	0.0032	0.010	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Titanium	7440-32-6	0.0029	0.005	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Vanadium	7440-62-2	0.0009	0.005	mg/L	85	115	85	115	20
ICP_200.7_WW	E200.7	Metals Analysis by ICP	Water	Zinc	7440-66-6	0.0062	0.010	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Aluminum	7429-90-5	0.0057	0.010	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Antimony	7440-36-0	0.0004	0.005	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Arsenic	7440-38-2	0.0002	0.005	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Barium	7440-39-3	0.0006	0.005	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Beryllium	7440-41-7	0.0001	0.002	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Boron	7440-42-8	0.0154	0.020	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Cadmium	7440-43-9	0.0001	0.0002	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Calcium	7440-70-2	0.2210	0.500	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Chromium	7440-47-3	0.0006	0.005	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Cobalt	7440-48-4	0.0003	0.005	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Copper	7440-50-8	0.0010	0.005	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Hardness (Calculation)	0000-110-29	0.7040	2.000	mg/L	85	115	85	115	0
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Iron	7439-89-6	0.0470	0.080	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Lead	7439-92-1	0.0002	0.005	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Lithium	7439-93-2	0.0017	0.010	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Magnesium	7439-95-4	0.0370	0.200	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Manganese	7439-96-5	0.0017	0.005	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Molybdenum	7439-98-7	0.0003	0.005	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Nickel	7440-02-0	0.0009	0.005	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Potassium	7440-09-7	0.0340	0.200	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Selenium	7782-49-2	0.0005	0.005	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Silicon	7440-21-3	0.0675	1.000	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Silver	7440-22-4	0.0003	0.005	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Sodium	7440-23-5	0.1286	0.200	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Strontium	7440-24-6	0.0004	0.005	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Thallium	7440-28-0	0.0003	0.005	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Thorium	7440-29-1	0.0006	0.005	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Tin	7440-31-5	0.0013	0.005	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Titanium	7440-32-6	0.0003	0.005	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Uranium	7440-61-1	0.0002	0.005	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Vanadium	7440-62-2	0.0007	0.005	mg/L	85	115	85	115	20
ICP_200.8_WW	E200.8	Metals by ICP-MS	Water	Zinc	7440-66-6	0.0022	0.010	mg/L	85	115	85	115	20
HG_245.1_WW	E245.1	Mercury by CVAA	Water	Mercury	7439-97-6	0.00016	0.00020	mg/L	85	115	85	115	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Aluminum	7429-90-5	0.88	1	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Antimony	7440-36-0	0.16	0.25	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Arsenic	7440-38-2	0.163	0.25	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Barium	7440-39-3	0.31	0.5	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Beryllium	7440-41-7	0.026	0.1	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Boron	7440-42-8	0.6	1	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Cadmium	7440-43-9	0.041	0.5	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Calcium	7440-70-2	13	25	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Chromium	7440-47-3	0.15	0.25	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Cobalt	7440-48-4	0.02	0.25	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Copper	7440-50-8	0.37	0.5	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Iron	7439-89-6	9.229	10	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Lead	7439-92-1	0.2	0.25	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Lithium	7439-93-2	0.23	0.5	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Magnesium	7439-95-4	7.6	10	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Manganese	7439-96-5	0.23	0.25	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Molybdenum	7439-98-7	0.09	0.25	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Nickel	7440-02-0	0.1	0.25	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Potassium	7440-09-7	8.5	10	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Selenium	7782-49-2	0.14	0.5	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Silicon	7440-21-3	7.4	10	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Silver	7440-22-4	0.12	0.25	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Sodium	7440-23-5	8.3	10	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Strontium	7440-24-6	0.06	0.25	mg/Kg	80	120	80	120	20

ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Thallium	7440-28-0	0.15	0.5	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Tin	7440-31-5	0.72	0.75	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Titanium	7440-32-6	0.11	0.25	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Vanadium	7440-62-2	0.04	0.25	mg/Kg	80	120	80	120	20
ICP_6010_S	SW6010D	Metals Analysis by ICP	Soil	Zinc	7440-66-6	0.48	0.5	mg/Kg	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Aluminum	7429-90-5	0.0100	0.010	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Antimony	7440-36-0	0.0018	0.005	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Arsenic	7440-38-2	0.0016	0.005	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Barium	7440-39-3	0.0043	0.005	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Beryllium	7440-41-7	0.00022	0.002	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Boron	7440-42-8	0.0175	0.020	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Cadmium	7440-43-9	0.00078	0.010	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Calcium	7440-70-2	0.3900	0.500	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Chromium	7440-47-3	0.00093	0.005	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Cobalt	7440-48-4	0.00042	0.005	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Copper	7440-50-8	0.0046	0.010	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Hardness (Calculation)	0000-110-29	1.3400	2.070	mg/L	0	0	0	0	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Iron	7439-89-6	0.0790	0.080	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Lead	7439-92-1	0.0013	0.005	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Lithium	7439-93-2	0.0047	0.010	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Magnesium	7439-95-4	0.0900	0.200	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Manganese	7439-96-5	0.0023	0.005	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Molybdenum	7439-98-7	0.00086	0.005	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Nickel	7440-02-0	0.00059	0.005	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Potassium	7440-09-7	0.1600	0.200	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Selenium	7782-49-2	0.0032	0.010	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Silicon	7440-21-3	0.1000	0.200	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Silver	7440-22-4	0.0025	0.005	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Sodium	7440-23-5	0.2600	0.500	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Strontium	7440-24-6	0.0012	0.005	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Thallium	7440-28-0	0.0026	0.010	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Tin	7440-31-5	0.0032	0.010	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Titanium	7440-32-6	0.0029	0.005	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Vanadium	7440-62-2	0.00094	0.005	mg/L	80	120	80	120	20
ICP_6010_W	SW6010D	Metals Analysis by ICP	Water	Zinc	7440-66-6	0.0062	0.010	mg/L	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Aluminum	7429-90-5	1.600	2	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Antimony	7440-36-0	0.067	0.25	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Arsenic	7440-38-2	0.030	0.25	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Barium	7440-39-3	0.230	0.25	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Beryllium	7440-41-7	0.017	0.1	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Boron	7440-42-8	0.940	1	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Cadmium	7440-43-9	0.015	0.1	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Calcium	7440-70-2	12.000	25	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Chromium	7440-47-3	0.110	0.25	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Cobalt	7440-48-4	0.041	0.25	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Copper	7440-50-8	0.250	0.25	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Hardness (Calculation)	0000-110-29	59.000	103	mg/Kg					
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Iron	7439-89-6	8.000	10	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Lead	7439-92-1	0.120	0.25	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Lithium	7439-93-2	0.095	0.5	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Magnesium	7439-95-4	7.000	10	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Manganese	7439-96-5	0.210	0.25	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Molybdenum	7439-98-7	0.049	0.25	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Nickel	7440-02-0	0.130	0.25	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Potassium	7440-09-7	4.200	10	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Selenium	7782-49-2	0.230	0.25	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Silicon	7440-21-3	11.000	50	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Silver	7440-22-4	0.033	0.25	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Sodium	7440-23-5	13.410	15	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Strontium	7440-24-6	0.110	0.25	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Thallium	7440-28-0	0.039	0.25	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Thorium	7440-29-1	0.025	0.25	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Tin	7440-31-5	0.303	0.75	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Titanium	7440-32-6	0.140	0.25	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Uranium	7440-61-1	0.035	0.25	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Vanadium	7440-62-2	0.064	0.25	mg/Kg	80	120	80	120	20
ICP_6020_S	SW6020B	Metals by ICP-MS	Soil	Zinc	7440-66-6	0.490	0.5	mg/Kg	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Aluminum	7429-90-5	0.006	0.010	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Antimony	7440-36-0	0.000	0.005	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Arsenic	7440-38-2	0.00019	0.005	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Barium	7440-39-3	0.001	0.005	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Beryllium	7440-41-7	0.00013	0.002	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Boron	7440-42-8	0.015	0.020	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Cadmium	7440-43-9	0.00014	0.002	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Calcium	7440-70-2	0.221	0.500	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Chromium	7440-47-3	0.00061	0.005	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Cobalt	7440-48-4	0.00027	0.005	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Copper	7440-50-8	0.001	0.005	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Hardness (Calculation)	0000-110-29	0.205	2.000	mg/L	80	120	80	120	0
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Iron	7439-89-6	0.047	0.080	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Lead	7439-92-1	0.00022	0.005	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Lithium	7439-93-2	0.0017	0.010	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Magnesium	7439-95-4	0.037	0.200	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Manganese	7439-96-5	0.0017	0.005	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Molybdenum	7439-98-7	0.00033	0.005	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Nickel	7440-02-0	0.0009	0.005	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Potassium	7440-09-7	0.034	0.200	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Selenium	7782-49-2	0.00048	0.005	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Silicon	7440-21-3	0.068	1.000	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Silver	7440-22-4	0.00026	0.005	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Sodium	7440-23-5	0.1286	0.200	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Strontium	7440-24-6	0.0004	0.005	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Thallium	7440-28-0	0.00015	0.005	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Thorium	7440-29-1	0.00062	0.005	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Tin	7440-31-5	0.00127	0.002	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Titanium	7440-32-6	0.0003	0.005	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Uranium	7440-61-1	0.00018	0.005	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Vanadium	7440-62-2	0.0007	0.005	mg/L	80	120	80	120	20
ICP_6020_W	SW6020B	Metals by ICP-MS	Water	Zinc	7440-66-6	0.0022	0.010	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Aluminum	7429-90-5	0.00769	0.010	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Antimony	7440-36-0	0.00020	0.001	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Arsenic	7440-38-2	0.00017	0.001	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Barium	7440-39-3	0.00040	0.002	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Beryllium	7440-41-7	0.00006	0.001	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Boron	7440-42-8	0.00965	0.010	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Cadmium	7440-43-9	0.00007	0.0002	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Calcium	7440-70-2	0.06860	0.200	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Chromium	7440-47-3	0.00081	0.001	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Cobalt	7440-48-4	0.00012	0.001	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Copper	7440-50-8	0.00056	0.001	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Hardness (Calculation)	0000-110-29	0.23100	2.000	mg/L	80	120	80	120	0
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Iron	7439-89-6	0.01411	0.020	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Lead	7439-92-1	0.00025	0.001	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Lithium	7439-93-2	0.00120	0.010	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Magnesium	7439-95-4	0.01450	0.200	mg/L	80	120	80	120	20

ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Manganese	7439-96-5	0.00110	0.002	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Molybdenum	7439-98-7	0.00021	0.002	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Nickel	7440-02-0	0.00100	0.002	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Potassium	7440-09-7	0.03440	0.100	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Selenium	7782-49-2	0.00067	0.001	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Silicon	7440-21-3	0.11430	1.000	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Silver	7440-22-4	0.00004	0.0002	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Sodium	7440-23-5	0.04680	0.200	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Strontium	7440-24-6	0.00018	0.002	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Thallium	7440-28-0	0.00005	0.002	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Thorium	7440-29-1	0.00021	0.002	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Tin	7440-31-5	0.00066	0.002	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Titanium	7440-32-6	0.00088	0.002	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Uranium	7440-61-1	0.00006	0.002	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Vanadium	7440-62-2	0.00083	0.002	mg/L	80	120	80	120	20
ICP_6020LL_W	SW6020B-Low Level	Metals by ICP-MS	Water	Zinc	7440-66-6	0.00494	0.010	mg/L	80	120	80	120	20
HG_7470_GW	SW7470A	Mercury by CVAA	Water	Mercury	7439-97-6	0.00016	0.00020	mg/L	80	120	80	120	20
HG_7471_S	SW7471B	Mercury by CVAA	Soil	Mercury	7439-97-6	0.0136	0.02	mg/Kg	80	120	80	120	35
SAR_USDA20B	USDA H60 Method 20B	Sodium Adsorption Ratio	Soil	Exchangeable Sodium Percentage	ARC-ESP	0.01	0.01	none					50
SAR_USDA20B	USDA H60 Method 20B	Sodium Adsorption Ratio	Soil	Sodium Adsorption Ratio	ARC-SAR	0.01	0.01	none					50
OM2_PB_6020_CRS	SW6020B	Lead Fractionation - MDEQ 213	Soil	Lead (Coarse Fraction)	PB_COARSE	0.12	0.75	mg/Kg	80	120	80	120	25
OM2_PB_6020_FN	SW6020B	Lead Fractionation - MDEQ 213	Soil	Lead (Fine Fraction)	PB_FINE	0.12	0.75	mg/Kg	80	120	75	125	25
OM2_PB_6020_TOT	SW6020B	Lead Fractionation - MDEQ 213	Soil	Lead (total - calculated)	7439-92-1_CAL	0.12	0.75	mg/Kg					

*Laboratory limits subject to change as new MDL studies are performed and/or improvements in sensitivity are demonstrated.

Data Quality Objectives - 2024

ALS Environmental
3352 128th Avenue
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Test Code	Test Method	Test Name	Matrix	Analyte	CAS#	MDL*	PQL*	Units	LCS Low (%)	LCS High (%)	MS/MSD Low (%)	MS/MSD High (%)	RPD (%)
GRO_WISCONSIN_S	PUBL-SW-140	Gasoline Range Organics by GC-FID	Soil	1,2,4-Trimethylbenzene	95-63-6	19.1	50	µg/Kg-dry	80	120	80	120	20
GRO_WISCONSIN_S	PUBL-SW-140	Gasoline Range Organics by GC-FID	Soil	1,3,5-Trimethylbenzene	108-67-8	9.1	50	µg/Kg-dry	80	120	80	120	20
GRO_WISCONSIN_S	PUBL-SW-140	Gasoline Range Organics by GC-FID	Soil	Benzene	71-43-2	14.8	50	µg/Kg-dry	80	120	80	120	20
GRO_WISCONSIN_S	PUBL-SW-140	Gasoline Range Organics by GC-FID	Soil	Ethylbenzene	100-41-4	12.6	50	µg/Kg-dry	80	120	80	120	20
GRO_WISCONSIN_S	PUBL-SW-140	Gasoline Range Organics by GC-FID	Soil	GRO (C6-C10)	TPHC6C10	1015	2500	µg/Kg-dry	80	120	80	120	20
GRO_WISCONSIN_S	PUBL-SW-140	Gasoline Range Organics by GC-FID	Soil	m,p-Xylene	179601-23-1	10.7	100	µg/Kg-dry	80	120	80	120	20
GRO_WISCONSIN_S	PUBL-SW-140	Gasoline Range Organics by GC-FID	Soil	Methyl tert-butyl ether	1634-04-4	37.2	50	µg/Kg-dry	80	120	80	120	20
GRO_WISCONSIN_S	PUBL-SW-140	Gasoline Range Organics by GC-FID	Soil	Naphthalene	91-20-3	18	50	µg/Kg-dry	80	120	80	120	20
GRO_WISCONSIN_S	PUBL-SW-140	Gasoline Range Organics by GC-FID	Soil	o-Xylene	95-47-6	12.6	50	µg/Kg-dry	80	120	80	120	20
GRO_WISCONSIN_S	PUBL-SW-140	Gasoline Range Organics by GC-FID	Soil	Toluene	108-88-3	12.3	50	µg/Kg-dry	80	120	80	120	20
GRO_WISCONSIN_S	PUBL-SW-140	Gasoline Range Organics by GC-FID	Soil	Xylenes, Total	1330-20-7	23.3	150	µg/Kg-dry					
GRO_WISCONSIN_S	PUBL-SW-140	Gasoline Range Organics by GC-FID	Soil	a,a,a-Trifluorotoluene	98-08-8	0	0	µg/Kg-dry	80	120	80	120	20
GRO_WISCONSIN_W	PUBL-SW-140	Gasoline Range Organics by GC-FID/PID	Water	1,2,4-Trimethylbenzene	95-63-6	0.93	5	µg/L	80	120	80	120	20
GRO_WISCONSIN_W	PUBL-SW-140	Gasoline Range Organics by GC-FID/PID	Water	1,3,5-Trimethylbenzene	108-67-8	0.79	5	µg/L	80	120	80	120	20
GRO_WISCONSIN_W	PUBL-SW-140	Gasoline Range Organics by GC-FID/PID	Water	Benzene	71-43-2	1.07	5	µg/L	80	120	80	120	20
GRO_WISCONSIN_W	PUBL-SW-140	Gasoline Range Organics by GC-FID/PID	Water	Ethylbenzene	100-41-4	2.18	5	µg/L	80	120	80	120	20
GRO_WISCONSIN_W	PUBL-SW-140	Gasoline Range Organics by GC-FID/PID	Water	GRO (C6-C10)	TPHC6C10	26.38	100	µg/L	80	120	80	120	20
GRO_WISCONSIN_W	PUBL-SW-140	Gasoline Range Organics by GC-FID/PID	Water	m,p-Xylene	179601-23-1	1.66	10	µg/L	80	120	80	120	20
GRO_WISCONSIN_W	PUBL-SW-140	Gasoline Range Organics by GC-FID/PID	Water	Methyl tert-butyl ether	1634-04-4	2.03	5	µg/L	80	120	80	120	20
GRO_WISCONSIN_W	PUBL-SW-140	Gasoline Range Organics by GC-FID/PID	Water	Naphthalene	91-20-3	1.54	5	µg/L	80	120	80	120	20
GRO_WISCONSIN_W	PUBL-SW-140	Gasoline Range Organics by GC-FID/PID	Water	o-Xylene	95-47-6	1.32	5	µg/L	80	120	80	120	20
GRO_WISCONSIN_W	PUBL-SW-140	Gasoline Range Organics by GC-FID/PID	Water	Toluene	108-88-3	2.69	5	µg/L	80	120	80	120	20
GRO_WISCONSIN_W	PUBL-SW-140	Gasoline Range Organics by GC-FID/PID	Water	Xylenes, Total	1330-20-7	2.67	15	µg/L					
GRO_WISCONSIN_W	PUBL-SW-140	Gasoline Range Organics by GC-FID/PID	Water	a,a,a-Trifluorotoluene	98-08-8	0	0	µg/L	80	120	80	120	20
DRO_Wisconsin_S	PUBL-SW-141	Diesel Range Organics by GC-FID	Soil	DRO (C10-C28)	TPHC10C28	0.497	5	mg/Kg	70	120	70	120	20
DRO_WISCONSIN_W	PUBL-SW-141	Diesel Range Organics by GC-FID	Water	DRO (C10-C28)	TPHC10C28	0.0479	0.1	mg/L	75	115	75	115	20
DRLVI_8015_W	SW8015C	Diesel Range Organics by GC-FID LVI	Water	DRO (C10-C16)	DROC10C16	0.0809	0.1	mg/L	72	126	72	126	20
DRLVI_8015_W	SW8015C	Diesel Range Organics by GC-FID LVI	Water	DRO (C10-C20)	DROC10C20	0.0809	0.1	mg/L	72	126	72	126	20
DRLVI_8015_W	SW8015C	Diesel Range Organics by GC-FID LVI	Water	DRO (C10-C21)	DROC10C21	0.0809	0.1	mg/L	72	126	72	126	20
DRLVI_8015_W	SW8015C	Diesel Range Organics by GC-FID LVI	Water	DRO (C10-C28)	DROC10C28	0.0809	0.1	mg/L	72	126	72	126	20
DRLVI_8015_W	SW8015C	Diesel Range Organics by GC-FID LVI	Water	DRO (C10-C28) Non-Polar	DROC10C28NP	0.0809	0.1	mg/L	72	126	72	126	20
DRLVI_8015_W	SW8015C	Diesel Range Organics by GC-FID LVI	Water	DRO (C10-C28) Polar	DROC10C28P	0.0809	0.1	mg/L	72	126	72	126	20
DRLVI_8015_W	SW8015C	Diesel Range Organics by GC-FID LVI	Water	DRO (C10-C38)	DROC10C38	0.0809	0.2	mg/L	72	126	72	126	20
DRLVI_8015_W	SW8015C	Diesel Range Organics by GC-FID LVI	Water	ERO (C10-C36)	EROC10C36	0.0809	0.2	mg/L	72	126	72	126	20
DRLVI_8015_W	SW8015C	Diesel Range Organics by GC-FID LVI	Water	ERO (C10-C40)	EROC10C40	0.0809	0.2	mg/L	72	126	72	126	20
DRLVI_8015_W	SW8015C	Diesel Range Organics by GC-FID LVI	Water	ERO (C9-C40)	EROC9C40	0.0809	0.2	mg/L	72	126	72	126	20
DRLVI_8015_W	SW8015C	Diesel Range Organics by GC-FID LVI	Water	ORO (C20-C34)	OROC20C34	0.051	0.1	mg/L	68	125	68	125	20
DRLVI_8015_W	SW8015C	Diesel Range Organics by GC-FID LVI	Water	ORO (C20-C36)	OROC20C36	0.051	0.1	mg/L	68	125	68	125	20
DRLVI_8015_W	SW8015C	Diesel Range Organics by GC-FID LVI	Water	ORO (C20-C40)	OROC20C40	0.051	0.1	mg/L	68	125	68	125	20
DRLVI_8015_W	SW8015C	Diesel Range Organics by GC-FID LVI	Water	ORO (C21-C35)	OROC21C35	0.051	0.1	mg/L	68	125	68	125	20
DRLVI_8015_W	SW8015C	Diesel Range Organics by GC-FID LVI	Water	ORO (C21-C36)	OROC21C36	0.051	0.1	mg/L	68	125	68	125	20
DRLVI_8015_W	SW8015C	Diesel Range Organics by GC-FID LVI	Water	ORO (C28-C35)	OROC28C35	0.051	0.1	mg/L	68	125	68	125	20
DRLVI_8015_W	SW8015C	Diesel Range Organics by GC-FID LVI	Water	ORO (C28-C40)	OROC28C40	0.051	0.1	mg/L	68	125	68	125	20
DRLVI_8015_W	SW8015C	Diesel Range Organics by GC-FID LVI	Water	4-Terphenyl-d14	1718-51-0	0	0	mg/L	44	111	44	111	20
GRO_8015_S	SW8015C	Gasoline Range Organics by GC-FID	Soil	GRO (C6-C10)	GROC6C10	4670	5000	µg/Kg-dry	63	126	63	126	30
GRO_8015_S	SW8015C	Gasoline Range Organics by GC-FID	Soil	GRO (C6-C12)	GRO	4670	5000	µg/Kg-dry	63	126	63	126	30
GRO_8015_S	SW8015C	Gasoline Range Organics by GC-FID	Soil	GRO (C6-C9)	GROC6C9	4670	5000	µg/Kg-dry	63	126	63	126	30
GRO_8015_S	SW8015C	Gasoline Range Organics by GC-FID	Soil	Total Purgeable Hydrocarbons	TPH	4670	5000	µg/Kg-dry	63	126	63	126	30
GRO_8015_S	SW8015C	Gasoline Range Organics by GC-FID	Soil	Toluene-d8	2037-26-5	0	0	µg/Kg-dry	75	120	75	120	30
GRO_8015_W	SW8015C	Gasoline Range Organics by GC-FID	Water	GRO (C5-C10)	GROC5C10	76.1	200	µg/L	71	130	71	130	30
GRO_8015_W	SW8015C	Gasoline Range Organics by GC-FID	Water	GRO (C5-C12)	GROC5C12	76.1	200	µg/L	71	130	71	130	30
GRO_8015_W	SW8015C	Gasoline Range Organics by GC-FID	Water	GRO (C6-C10)	GROC6C10	76.1	200	µg/L	71	130	71	130	30
GRO_8015_W	SW8015C	Gasoline Range Organics by GC-FID	Water	GRO (C6-C12)	GRO	76.1	200	µg/L	71	130	71	130	30
GRO_8015_W	SW8015C	Gasoline Range Organics by GC-FID	Water	Toluene-d8	2037-26-5	0	0	µg/L	77	116	77	116	30
DRO_8015_S	SW8015C	Diesel Range Organics by GC-FID	Soil	DRO (C10-C16)	DROC10C16	7.18	10	mg/Kg	59	126	59	126	30
DRO_8015_S	SW8015C	Diesel Range Organics by GC-FID	Soil	DRO (C10-C20)	DROC10C20	7.18	10	mg/Kg	59	126	59	126	30
DRO_8015_S	SW8015C	Diesel Range Organics by GC-FID	Soil	DRO (C10-C28)	DROC10C28	7.18	10	mg/Kg	59	126	59	126	30
DRO_8015_S	SW8015C	Diesel Range Organics by GC-FID	Soil	DRO (C10-C38)	DROC10C38	7.18	10	mg/Kg	59	126	59	126	30
DRO_8015_S	SW8015C	Diesel Range Organics by GC-FID	Soil	DRO (C8-C28)	DROC8C28	7.18	10	mg/Kg	59	126	59	126	30
DRO_8015_S	SW8015C	Diesel Range Organics by GC-FID	Soil	DRO (C9-C20)	DROC9C20	7.18	10	mg/Kg	59	126	59	126	30
DRO_8015_S	SW8015C	Diesel Range Organics by GC-FID	Soil	ERO (C10-C36)	EROC10C36	7.18	20	mg/Kg	59	101	59	101	30
DRO_8015_S	SW8015C	Diesel Range Organics by GC-FID	Soil	ERO (C10-C40)	EROC10C40	7.18	20	mg/Kg	59	101	59	101	30
DRO_8015_S	SW8015C	Diesel Range Organics by GC-FID	Soil	ERO (C8-C34)	EROC8C34	7.18	20	mg/Kg	59	101	59	101	30
DRO_8015_S	SW8015C	Diesel Range Organics by GC-FID	Soil	ERO (C8-C36)	EROC8C36	7.18	20	mg/Kg	59	101	59	101	30
DRO_8015_S	SW8015C	Diesel Range Organics by GC-FID	Soil	ERO (C8-C40)	EROC8C40	7.18	20	mg/Kg	59	101	59	101	30
DRO_8015_S	SW8015C	Diesel Range Organics by GC-FID	Soil	ERO (C9-C40)	EROC9C40	7.18	20	mg/Kg	59	101	59	101	30
DRO_8015_S	SW8015C	Diesel Range Organics by GC-FID	Soil	KRO (C10-C18)	KROC10C18	7.18	10	mg/Kg	59	101	59	101	30
DRO_8015_S	SW8015C	Diesel Range Organics by GC-FID	Soil	ORO (C20-C34)	OROC20C34	4.79	10	mg/Kg	59	101	59	101	30
DRO_8015_S	SW8015C	Diesel Range Organics by GC-FID	Soil	ORO (C20-C36)	OROC20C36	4.79	10	mg/Kg	59	101	59	101	30
DRO_8015_S	SW8015C	Diesel Range Organics by GC-FID	Soil	ORO (C20-C40)	OROC20C40	4.79	10	mg/Kg	59	101	59	101	30
DRO_8015_S	SW8015C	Diesel Range Organics by GC-FID	Soil	ORO (C28-C35)	OROC28C35	4.79	10	mg/Kg	59	101	59	101	30
DRO_8015_S	SW8015C	Diesel Range Organics by GC-FID	Soil	ORO (C28-C40)	OROC28C40	4.79	10	mg/Kg	59	101	59	101	30
DRO_8015_S	SW8015C	Diesel Range Organics by GC-FID	Soil	Total Extractable Hydrocarbons	THE	7.18	20	mg/Kg	59	101	59	101	30
DRO_8015_S	SW8015C	Diesel Range Organics by GC-FID	Soil	4-Terphenyl-d14	1718-51-0	0	0	mg/Kg	41	102	41	102	30

*Laboratory limits subject to change as new MDL studies are performed and/or improvements in sensitivity are demonstrated.

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Test Code	Test Method	Test Name	Matrix	Analyte	CAS#	MDL*	PQL*	Units	LCS Low (%)	LCS High (%)	MS/MSD Low (%)	MS/MSD High (%)	RPD (%)
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	1,2,4,5-Tetrachlorobenzene	95-94-3	0.344	10	µg/L	11	107	11	107	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	1,2,4-Trichlorobenzene	120-82-1	0.41	5	µg/L	44	108	44	108	50
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	1,2-Dichlorobenzene	95-50-1	0.39	5	µg/L	11	105	11	105	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	1,2-Diphenylhydrazine	122-66-7	0.14	5	µg/L	44	104	44	104	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	1,3-Dichlorobenzene	541-73-1	0.65	5	µg/L	7	105	7	105	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	1,4-Dichlorobenzene	106-46-7	0.32	5	µg/L	9	104	9	104	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	2,2`-Oxybis(1-chloropropane)	108-60-1	0.23	5	µg/L	36	99	36	99	76
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	2,4,5-Trichlorophenol	95-95-4	0.17	5	µg/L	45	101	45	101	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	2,4,6-Trichlorophenol	88-06-2	0.25	5	µg/L	43	101	43	101	58
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	2,4-Dichlorophenol	120-83-2	0.35	5	µg/L	41	99	41	99	50
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	2,4-Dimethylphenol	105-67-9	0.36	5	µg/L	38	97	38	97	58
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	2,4-Dinitrophenol	51-28-5	2.61	5	µg/L	16	108	16	108	132
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	2,4-Dinitrotoluene	121-14-2	0.42	5	µg/L	49	105	49	105	42
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	2,6-Dichlorophenol	87-65-0	0.27	5	µg/L	41	96	41	96	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	2,6-Dinitrotoluene	606-20-2	0.11	5	µg/L	50	104	50	104	48
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	2-Chloronaphthalene	91-58-7	0.075	0.1	µg/L	60	108	60	108	24
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	2-Chlorophenol	95-57-8	0.23	5	µg/L	41	96	41	96	61
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	2-Methylnaphthalene	91-57-6	0.065	0.1	µg/L	15	109	15	109	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	2-Nitrophenol	88-75-5	0.34	5	µg/L	37	100	37	100	55
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	3,3´-Dichlorobenzidine	91-94-1	0.46	5	µg/L	46	100	46	100	108
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	4,6-Dinitro-2-methylphenol	534-52-1	0.27	5	µg/L	37	113	37	113	203
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	4-Bromophenyl phenyl ether	101-55-3	0.33	5	µg/L	53	107	53	107	43
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	4-Chloro-3-methylphenol	59-50-7	0.26	5	µg/L	41	102	41	102	73
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	4-Chloroaniline	106-47-8	0.34	5	µg/L	45	100	45	100	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	4-Chlorophenyl phenyl ether	7005-72-3	0.31	5	µg/L	36	107	36	107	61
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	4-Nitrophenol	100-02-7	0.24	5	µg/L	13	56	13	56	131
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Acenaphthene	83-32-9	0.081	0.1	µg/L	47	106	47	106	48
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Acenaphthylene	208-96-8	0.075	0.1	µg/L	33	104	33	104	74
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Acetophenone	98-86-2	0.37	1	µg/L	41	99	41	99	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Aniline	62-53-3	0.49	5	µg/L	39	94	39	94	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Anthracene	120-12-7	0.028	0.1	µg/L	52	103	52	103	66
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Benzidine	92-87-5	1.99	10	µg/L	0	0	0	0	
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Benzo(a)anthracene	56-55-3	0.099	0.1	µg/L	56	106	56	106	53
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Benzo(a)pyrene	50-32-8	0.044	0.1	µg/L	53	107	53	107	72
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Benzo(b)fluoranthene	205-99-2	0.051	0.1	µg/L	53	108	53	108	71
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Benzo(g,h,i)perylene	191-24-2	0.089	0.1	µg/L	50	112	50	112	97
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Benzo(k)fluoranthene	207-08-9	0.048	0.1	µg/L	54	107	54	107	63
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Benzoic acid	65-85-0	6.24	20	µg/L					
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Bis(2-chloroethoxy)methane	111-91-1	0.29	5	µg/L	42	97	42	97	54
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Bis(2-chloroethyl)ether	111-44-4	0.37	5	µg/L	39	96	39	96	108
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Bis(2-ethylhexyl)phthalate	117-81-7	0.4	5	µg/L	53	115	53	115	82
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Butyl benzyl phthalate	85-68-7	0.3	5	µg/L	48	109	48	109	60
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Carbazole	86-74-8	0.24	5	µg/L	53	104	53	104	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Chrysene	218-01-9	0.048	0.1	µg/L	55	107	55	107	87
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Dibenzo(a,h)anthracene	53-70-3	0.073	0.1	µg/L	50	111	50	111	126
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Dibenzofuran	132-64-9	0.23	5	µg/L	34	105	34	105	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Diethyl phthalate	84-66-2	0.17	5	µg/L	49	107	49	107	100
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Dimethyl phthalate	131-11-3	0.18	5	µg/L	50	104	50	104	183
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Di-n-butyl phthalate	84-74-2	0.21	5	µg/L	53	110	53	110	47
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Di-n-octyl phthalate	117-84-0	0.53	5	µg/L	49	117	49	117	69
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Fluoranthene	206-44-0	0.038	0.1	µg/L	53	106	53	106	66
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Fluorene	86-73-7	0.051	0.1	µg/L	59	105	59	105	38
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Hexachlorobenzene	118-74-1	0.44	5	µg/L	49	102	49	102	55
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Hexachlorobutadiene	87-68-3	0.63	5	µg/L	24	112	24	112	62
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Hexachlorocyclopentadiene	77-47-4	1.09	5	µg/L	1	91	1	91	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Hexachloroethane	67-72-1	0.62	5	µg/L	40	109	40	109	52
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Indeno(1,2,3-cd)pyrene	193-39-5	0.067	0.1	µg/L	48	112	48	112	99
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Isophorone	78-59-1	0.34	5	µg/L	42	99	42	99	93
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	m,p-Cresol	65794-96-9	0.21	5	µg/L	35	84	35	84	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Naphthalene	91-20-3	0.067	0.1	µg/L	21	104	21	104	65
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Nitrobenzene	98-95-3	0.26	5	µg/L	38	97	38	97	62
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	N-Nitrosodimethylamine	62-75-9	0.35	5	µg/L	41	100	41	100	87
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	N-Nitrosodi-n-propylamine	621-64-7	0.48	5	µg/L	25	72	25	72	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	N-Nitrosodiphenylamine	55-18-5	0.49	5	µg/L	50	101	50	101	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	o-Cresol	95-48-7	0.25	5	µg/L	38	89	38	89	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Pentachlorobenzene	608-93-5	0.26	20	µg/L					
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Pentachloronitrobenzene	82-68-8	0.25	10	µg/L					
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Pentachlorophenol	87-86-5	0.97	5	µg/L	30	100	30	100	86
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Phenanthrene	85-01-8	0.081	0.1	µg/L	54	103	54	103	39
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Phenol	108-95-2	0.21	5	µg/L	14	54	14	54	64
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Pyrene	129-00-0	0.036	0.1	µg/L	53	107	53	107	49
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Pyridine	110-86-1	0.57	10	µg/L	16	69	16	69	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Cresols, Total	1319-77-3	0.46	10	µg/L	38	84	38	84	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	2,4,6-Tribromophenol	118-79-6	0	0	µg/L	49	97	49	97	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	2-Fluorobiphenyl	321-60-8	0	0	µg/L	34	97	34	97	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	2-Fluorophenol	367-12-4	0	0	µg/L	22	66	22	66	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	4-Terphenyl-d14	1718-51-0	0	0	µg/L	51	106	51	106	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Nitrobenzene-d5	4165-60-0	0	0	µg/L	34	96	34	96	40
SVO_625.1_WW	E625.1	Semi-Volatile Organic Compounds	Water	Phenol-d6	13127-88-3	0	0	µg/L	15	44	15	44	40
DRO_8270_W	SW8270	Diesel Range Organics by LVI	Water	DRO (C10-C20)	DROC10C20	0.01298	1	mg/L	44	116	44	116	30
DRO_8270_W	SW8270	Diesel Range Organics by LVI	Water	DRO (C10-C28)	DROC10C28	0.01298	1	mg/L	44	116	44	116	30
DRO_8270_W	SW8270	Diesel Range Organics by LVI	Water	ORO (C21-C35)	DROC21C35	0.02677	1	mg/L	44	116	44	116	30
DRO_8270_W	SW8270	Diesel Range Organics by LVI	Water	4-Terphenyl-d14	1718-51-0	0	0	mg/L	23	120	23	120	
PN_8270_WSIM	SW8270E SIM	Polynuclear Aromatic Hydrocarbons - SIM	Water	1-Methylnaphthalene	90-12-0	0.0079	0.025	µg/L	45	105	45	105	30
PN_8270_WSIM	SW8270E SIM	Polynuclear Aromatic Hydrocarbons - SIM	Water	2-Methylnaphthalene	91-57-6	0.0113	0.04	µg/L	45	105	45	105	30
PN_8270_WSIM	SW8270E SIM	Polynuclear Aromatic Hydrocarbons - SIM	Water	Acenaphthene	83-32-9	0.0127	0.025	µg/L	45	110	45	110	30
PN_8270_WSIM	SW8270E SIM	Polynuclear Aromatic Hydrocarbons - SIM	Water	Acenaphthylene	208-96-8	0.0105	0.025	µg/L	50	105	50	105	30
PN_8270_WSIM	SW8270E SIM	Polynuclear Aromatic Hydrocarbons - SIM	Water	Anthracene	120-12-7	0.0163	0.025	µg/L	55	110	55	110	30
PN_8270_WSIM	SW8270E SIM	Polynuclear Aromatic Hydrocarbons - SIM	Water	Benzo(a)anthracene	56-55-3	0.0093	0.025	µg/L	55	110	55	110	30
PN_8270_WSIM	SW8270E SIM	Polynuclear Aromatic Hydrocarbons - SIM	Water	Benzo(a)pyrene	50-32-8	0.0081	0.025	µg/L	55	110	55	110	30
PN_8270_WSIM	SW8270E SIM	Polynuclear Aromatic Hydrocarbons - SIM	Water	Benzo(b)fluoranthene	205-99-2	0.0081	0.025	µg/L	45	120	45	120	30
PN_8270_WSIM	SW8270E SIM	Polynuclear Aromatic Hydrocarbons - SIM	Water	Benzo(g,h,i)perylene	191-24-2	0.0233	0.04	µg/L	40	125	40	125	30
PN_8270_WSIM	SW8270E SIM	Polynuclear Aromatic Hydrocarbons - SIM	Water	Benzo(k)fluoranthene	207-08-9	0.0057	0.025	µg/L	45	120	45	120	30
PN_8270_WSIM	SW8270E SIM	Polynuclear Aromatic Hydrocarbons - SIM	Water	Chrysene	218-01-9	0.0161	0.025	µg/L	55	110	55	110	30
PN_8270_WSIM	SW8270E SIM	Polynuclear Aromatic Hydrocarbons - SIM	Water	Dibenzo(a,h)anthracene	53-70-3	0.0127	0.025	µg/L	40	125	40	125	30
PN_8270_WSIM	SW8270E SIM	Polynuclear Aromatic Hydrocarbons - SIM	Water	Fluoranthene	206-44-0	0.0175	0.025	µg/L	55	115	55	115	30
PN_8270_WSIM	SW8270E SIM	Polynuclear Aromatic Hydrocarbons - SIM	Water	Fluorene	86-73-7	0.0101	0.025	µg/L	50	110	50	110	30
PN_8270_WSIM	SW8270E SIM	Polynuclear Aromatic Hydrocarbons - SIM	Water	Indeno(1,2,3-cd)pyrene	193-39-5	0.0122	0.025	µg/L	45	125	45	125	30
PN_8270_WSIM	SW8270E SIM	Polynuclear Aromatic Hydrocarbons - SIM	Water	Naphthalene	91-20-3	0.0226	0.025	µg/L	40	100	40	100	30
PN_8270_WSIM	SW8270E SIM	Polynuclear Aromatic Hydrocarbons - SIM	Water	Phenanthrene	85-01-8	0.0223	0.04	µg/L	50	115	50	115	30
PN_8270_WSIM	SW8270E SIM	Polynuclear Aromatic Hydrocarbons - SIM	Water	Pyrene	129-00-0	0.0220	0.025	µg/L	50	130	50	130	30
PN_8270_WSIM	SW8270E SIM	Polynuclear Aromatic Hydrocarbons - SIM	Water	2-Fluorobiphenyl	321-60-8	0	0	µg/L	10	112	10	112	
PN_8270_WSIM	SW8270E SIM	Polynuclear Aromatic Hydrocarbons - SIM	Water	4-Terphenyl-d14	1718-51-0	0	0	µg/L	10	132	10	132	
PN_8270_WSIM	SW8270E SIM	Polynuclear Aromatic Hydrocarbons - SIM	Water	Nitrobenzene-d5	4165-60-0	0	0	µg/L	15	110	15	110	

PNLVI_8270_S	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Soil	1-Methylnaphthalene	90-12-0	0.8553	4.17	µg/Kg	40	140	40	140	30
PNLVI_8270_S	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Soil	2-Chloronaphthalene	90-13-1	0.5848	4.17	µg/Kg	40	140	40	140	30
PNLVI_8270_S	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Soil	2-Methylnaphthalene	91-57-6	0.9846	4.17	µg/Kg	40	140	40	140	30
PNLVI_8270_S	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Soil	Acenaphthene	83-32-9	1.608	4.17	µg/Kg	40	140	40	140	30
PNLVI_8270_S	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Soil	Acenaphthylene	208-96-8	1.114	4.17	µg/Kg	40	140	40	140	30
PNLVI_8270_S	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Soil	Anthracene	120-12-7	0.7644	4.17	µg/Kg	40	140	40	140	30
PNLVI_8270_S	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Soil	Benzo(a)anthracene	56-55-3	3.02	4.17	µg/Kg	40	140	40	140	30
PNLVI_8270_S	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Soil	Benzo(a)pyrene	50-32-8	2.83	4.17	µg/Kg	40	140	40	140	30
PNLVI_8270_S	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Soil	Benzo(b)fluoranthene	205-99-2	2.52	4.17	µg/Kg	40	140	40	140	30
PNLVI_8270_S	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Soil	Benzo(g,h,i)perylene	191-24-2	1.9	4.17	µg/Kg	40	140	40	140	30
PNLVI_8270_S	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Soil	Benzo(k)fluoranthene	207-08-9	0.629	4.17	µg/Kg	40	140	40	140	30
PNLVI_8270_S	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Soil	Chrysene	218-01-9	2.77	4.17	µg/Kg	40	140	40	140	30
PNLVI_8270_S	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Soil	Dibenzo(a,h)anthracene	53-70-3	2.43	4.17	µg/Kg	40	140	40	140	30
PNLVI_8270_S	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Soil	Fluoranthene	206-44-0	2.1	4.17	µg/Kg	40	140	40	140	30
PNLVI_8270_S	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Soil	Fluorene	86-73-7	1.033	4.17	µg/Kg	40	140	40	140	30
PNLVI_8270_S	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Soil	Indeno(1,2,3-cd)pyrene	193-39-5	2.9	4.17	µg/Kg	40	140	40	140	30
PNLVI_8270_S	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Soil	Naphthalene	91-20-3	0.7917	4.17	µg/Kg	40	140	40	140	30
PNLVI_8270_S	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Soil	Phenanthrene	85-01-8	0.8852	4.17	µg/Kg	40	140	40	140	30
PNLVI_8270_S	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Soil	Pyrene	129-00-0	2.67	4.17	µg/Kg	40	140	40	140	30
PNLVI_8270_S	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Soil	2-Fluorobiphenyl	321-60-8	0	0	µg/Kg	20	140	20	140	30
PNLVI_8270_S	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Soil	4-Terphenyl-d14	1718-51-0	0	0	µg/Kg	22	172	22	172	30
PNLVI_8270_S	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Soil	Nitrobenzene-d5	4165-60-0	0	0	µg/Kg	28	140	28	140	30
PNLVI_8270_W	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Water	1-Methylnaphthalene	90-12-0	0.041	0.17	µg/L	40	140	40	140	30
PNLVI_8270_W	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Water	2-Chloronaphthalene	91-58-7	0.028	0.17	µg/L	40	140	40	140	30
PNLVI_8270_W	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Water	2-Methylnaphthalene	91-57-6	0.041	0.17	µg/L	40	140	40	140	30
PNLVI_8270_W	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Water	Acenaphthene	83-32-9	0.04	0.17	µg/L	40	140	40	140	30
PNLVI_8270_W	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Water	Acenaphthylene	208-96-8	0.026	0.17	µg/L	40	140	40	140	30
PNLVI_8270_W	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Water	Anthracene	120-12-7	0.04	0.17	µg/L	40	140	40	140	30
PNLVI_8270_W	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Water	Benzo(a)anthracene	56-55-3	0.042	0.17	µg/L	40	140	40	140	30
PNLVI_8270_W	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Water	Benzo(a)pyrene	50-32-8	0.071	0.17	µg/L	40	140	40	140	30
PNLVI_8270_W	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Water	Benzo(b)fluoranthene	205-99-2	0.034	0.17	µg/L	40	140	40	140	30
PNLVI_8270_W	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Water	Benzo(g,h,i)perylene	191-24-2	0.12	0.17	µg/L	40	140	40	140	30
PNLVI_8270_W	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Water	Benzo(k)fluoranthene	207-08-9	0.087	0.17	µg/L	40	140	40	140	30
PNLVI_8270_W	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Water	Chrysene	218-01-9	0.06	0.17	µg/L	40	140	40	140	30
PNLVI_8270_W	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Water	Dibenzo(a,h)anthracene	53-70-3	0.14	0.17	µg/L	40	140	40	140	30
PNLVI_8270_W	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Water	Fluoranthene	206-44-0	0.022	0.17	µg/L	40	140	40	140	30
PNLVI_8270_W	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Water	Fluorene	86-73-7	0.039	0.17	µg/L	40	140	40	140	30
PNLVI_8270_W	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Water	Indeno(1,2,3-cd)pyrene	193-39-5	0.14	0.17	µg/L	40	140	40	140	30
PNLVI_8270_W	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Water	Naphthalene	91-20-3	0.035	0.17	µg/L	40	140	40	140	30
PNLVI_8270_W	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Water	Phenanthrene	85-01-8	0.024	0.17	µg/L	40	140	40	140	30
PNLVI_8270_W	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Water	Pyrene	129-00-0	0.034	0.17	µg/L	40	140	40	140	30
PNLVI_8270_W	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Water	2-Fluorobiphenyl	321-60-8	0	0	µg/L	20	140	20	140	30
PNLVI_8270_W	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Water	4-Terphenyl-d14	1718-51-0	0	0	µg/L	20	172	20	172	30
PNLVI_8270_W	SW846 8270E	Semi-Volatile Organic Compounds by LVI	Water	Nitrobenzene-d5	4165-60-0	0	0	µg/L	10	140	10	140	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	1,1`-Biphenyl	92-52-4	5.41	33	µg/Kg	57	101	57	101	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	1,2,3,4-Tetrachlorobenzene	634-66-2	5.43	33	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	1,2,4,5-Tetrachlorobenzene	95-94-3	7.687	167	µg/Kg	54	98	54	98	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	1,2,4-Trichlorobenzene	120-82-1	5.77	33	µg/Kg	53	98	53	98	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	1,2-Dichlorobenzene	95-50-1	3.714	33	µg/Kg	55	97	55	97	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	1,2-Dinitrobenzene	528-29-0	16.42	33	µg/Kg	57	107	57	107	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	1,2-Diphenylhydrazine	122-66-7	15.83	33	µg/Kg	57	107	57	107	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	1,3,5-Trinitrobenzene	99-35-4	57	667	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	1,3-Dichlorobenzene	541-73-1	4.144	33	µg/Kg	53	96	53	96	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	1,3-Dinitrobenzene	99-65-0	22.72	67	µg/Kg	56	110	56	110	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	1,4-Dichlorobenzene	106-46-7	8.76	33	µg/Kg	54	96	54	96	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	1,4-Dinitrobenzene	106-46-7	58.27	167	µg/Kg	54	110	54	110	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	1,4-Dioxane	123-91-1	23.9	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	1,4-Napthoquinone	130-15-4	119.5	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	1-Methylnaphthalene	90-12-0	4.8	6.67	µg/Kg	56	100	56	100	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	1-Naphthylamine	134-32-7	118	667	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2,2`-Oxybis(1-chloropropane)	108-60-1	7.81	33	µg/Kg	50	101	50	101	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2,3,4,6-Tetrachlorophenol	58-90-2	24.41	67	µg/Kg	48	103	48	103	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2,3,5,6-Tetrachlorophenol	935-95-5	50.1	67	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2,4,5-Trichlorophenol	95-95-4	19.75	33	µg/Kg	54	98	54	98	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2,4,6-Trichlorophenol	88-06-2	8.87	33	µg/Kg	56	97	56	97	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2,4-Diaminotoluene	95-80-7	323	667	µg/Kg	30	105	30	105	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2,4-Dichlorophenol	120-83-2	17.94	33	µg/Kg	54	99	54	99	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2,4-Dimethylphenol	105-67-9	17.14	33	µg/Kg	47	102	47	102	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2,4-Dinitrophenol	51-28-5	243.7	667	µg/Kg	10	100	10	100	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2,4-Dinitrotoluene	121-14-2	21.65	33	µg/Kg	62	105	62	105	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2,6-Dichlorophenol	87-65-0	8.51	33	µg/Kg	48	94	48	94	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2,6-Dinitrotoluene	606-20-2	21.81	33	µg/Kg	62	103	62	103	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2-Acetylaminofluorene	53-96-3	15.8	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2-Chloronaphthalene	91-58-7	4.66	6.67	µg/Kg	57	101	57	101	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2-Chlorophenol	95-57-8	10.5	33	µg/Kg	52	102	52	102	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2-Methylnaphthalene	91-57-6	3.39	6.67	µg/Kg	55	102	55	102	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2-Methylphenol	95-48-7	9.01	33	µg/Kg	54	103	54	103	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2-Naphthylamine	91-59-8	89.76	667	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2-Nitroaniline	88-74-4	18.51	33	µg/Kg	57	103	57	103	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2-Nitrophenol	88-75-5	9.5	33	µg/Kg	52	102	52	102	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2-Picoline	109-06-8	100.7	330	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	3&4-Methylphenol	84989-04-8	18.17	33	µg/Kg	56	103	56	103	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	3,3´-Dichlorobenzidine	91-94-1	15.56	167	µg/Kg	41	91	41	91	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	3,3´-Dimethylbenzidine	119-93-7	213	667	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	3-Methylcholanthrene	56-49-5	57.33	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	3-Nitroaniline	99-09-2	19.34	33	µg/Kg	35	107	35	107	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	4,6-Dinitro-2-methylphenol	534-52-1	27.84	33	µg/Kg	42	104	42	104	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	4-Aminobiphenyl	92-67-1	113.8	667	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	4-Bromophenyl phenyl ether	101-55-3	18.26	33	µg/Kg	63	104	63	104	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	4-Chloro-3-methylphenol	59-50-7	9.5	33	µg/Kg	57	103	57	103	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	4-Chloroaniline	106-47-8	16.94	67	µg/Kg	32	99	32	99	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	4-Chlorophenyl phenyl ether	7005-72-3	9.21	33	µg/Kg	62	100	62	100	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	4-Nitroaniline	100-01-6	51.7	167	µg/Kg	19	124	19	124	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	4-Nitrophenol	100-02-7	78.07	167	µg/Kg	44	106	44	106	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	4-Nitroquinoline 1-oxide	56-57-5	64.8	333	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	5-Nitro-o-toluidine	99-55-8	73.47	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	7,12-Dimethylbenz(a)anthracene	57-97-6	129	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	a,a-Dimethylphenethylamine	122-09-8	269.1	333	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Acenaphthene	83-32-9	4.82	6.67	µg/Kg	60	101	60	101	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Acenaphthylene	208-96-8	5.78	6.67	µg/Kg	59	101	59	101	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Acetophenone	83-32-9	5.22	33	µg/Kg	54	102	54	102	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Aniline	62-53-3	14.14	33	µg/Kg	41	96	41	96	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Anthracene	120-12-7	4.7	6.67	µg/Kg	63	103	63	103	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Aramite	140-57-8	41	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Atrazine	1912-24-9	19.53	33	µg/Kg	60	110	60	110	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Benzaldehyde	100-52-7	51.2	67	µg/Kg	10	143	10	143	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Benzidine	92-87-5	100.4	667	µg/Kg	0	0	0	0	0
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Benzo(a)anthracene	56-55-3	5.76	6.67	µg/Kg	66	102	66	102	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Benzo(a)pyrene	50-32-8	4.09	6.67	µg/Kg	66	105	66	105	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Benzo(b)fluoranthene	205-99-2	4.97	6.67	µg/Kg	67	105	67	105	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Benzo(g,h,i)perylene	191-24-2	5.11	6.67	µg/Kg	59	110	59	110	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Benzo(k)fluoranthene	207-08-9	5.05	6.67	µg/Kg	68	106	68	106	30

SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Benzoic acid	65-85-0	80.5	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Benzyl alcohol	100-51-6	17.26	33	µg/Kg	53	103	53	103	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Bis(2-chloroethoxy)methane	111-91-1	21.11	33	µg/Kg	54	102	54	102	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Bis(2-chloroethyl)ether	111-44-4	9.44	33	µg/Kg	51	101	51	101	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Bis(2-chloroisopropyl)ether	108-60-1	7.81	33	µg/Kg	50	101	50	101	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Bis(2-ethylhexyl)phthalate	117-81-7	27.57	33	µg/Kg	63	114	63	114	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Butyl benzyl phthalate	85-68-7	41.73	67	µg/Kg	59	107	59	107	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Caprolactam	105-60-2	51.26	67	µg/Kg	49	103	49	103	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Carbazole	86-74-8	9.823	33	µg/Kg	63	103	63	103	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Chlorobenzilate	510-15-6	87.48	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Chrysene	218-01-9	5.39	6.67	µg/Kg	66	105	66	105	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Di-n-butyl phthalate	84-74-2	20.45	33	µg/Kg	66	108	66	108	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Di-n-octyl phthalate	117-84-0	28.83	33	µg/Kg	53	126	53	126	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Diallate	2303-16-4	100.2	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Dibenzo(a,h)acridine	226-36-8	32.85	67	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Dibenzo(a,h)anthracene	53-70-3	3.6	6.67	µg/Kg	61	109	61	109	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Dibenzofuran	132-64-9	4.9	33	µg/Kg	61	101	61	101	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Diethyl phthalate	84-66-2	11.34	33	µg/Kg	63	105	63	105	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Dimethoate	60-51-5	33.06	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Dimethyl phthalate	131-11-3	6.5	33	µg/Kg	64	104	64	104	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Dinoseb	88-85-7	30	167	µg/Kg	0	0	0	0	0
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Diphenylamine	122-39-4	37.88	67	µg/Kg	0	0	0	0	0
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Disulfoton	298-04-4	27.98	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Ethyl methanesulfonate	62-50-0	120.8	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Famphur	52-85-7	44.57	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Fluoranthene	206-44-0	3.2	6.67	µg/Kg	66	105	66	105	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Fluorene	86-73-7	4.84	6.67	µg/Kg	62	101	62	101	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Hexachloro-1,3-butadiene	87-68-3	8.123	33	µg/Kg	52	99	52	99	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Hexachlorobenzene	118-74-1	9.7	33	µg/Kg	61	104	61	104	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Hexachlorobutadiene	87-68-3	7.852	33	µg/Kg	52	99	52	99	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Hexachlorocyclopentadiene	77-47-4	31.6	33	µg/Kg	39	106	39	106	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Hexachloroethane	67-72-1	13.8	33	µg/Kg	59	99	59	99	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Hexachlorophene	70-30-4	1670	1670	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Hexachloropropene	1888-71-7	24	167	µg/Kg	0	0	0	0	0
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Indeno(1,2,3-cd)pyrene	193-39-5	4.64	6.67	µg/Kg	57	114	57	114	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Isodrin	465-73-6	102.2	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Isophorone	78-59-1	6.51	167	µg/Kg	55	101	55	101	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Isosafrole	120-58-1	112.6	333	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Kepone	143-50-0	405	667	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Methapyrilene	91-80-5	133.7	667	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Methyl methanesulfonate	66-27-3	136.1	333	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Methyl parathion	298-00-0	48.47	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Naphthalene	91-20-3	4.26	6.67	µg/Kg	54	99	54	99	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Nitrobenzene	98-95-3	11.2	167	µg/Kg	53	100	53	100	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	N-Nitrosodiethylamine	55-18-5	118.6	333	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	N-Nitrosodimethylamine	62-75-9	69.44	167	µg/Kg	45	100	45	100	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	N-Nitroso-di-n-butylamine	924-16-3	109.7	333	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	N-Nitrosodi-n-propylamine	621-64-7	5.5	33	µg/Kg	52	104	52	104	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	N-Nitrosodiphenylamine	55-18-5	19.03	33	µg/Kg	61	104	61	104	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	N-Nitrosomethylethylamine	10595-95-6	134.7	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	N-Nitrosomorpholine	59-89-2	126.6	333	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	N-Nitrosopiperidine	100-75-4	135.2	167	µg/Kg	0	0	0	0	0
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	N-Nitrosopyrrolidine	930-55-2	117.5	333	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	O,O,O-Triethylphosphorothioate	126-68-1	33.61	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	o-Toluidine	95-53-4	109.3	333	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	p-Dimethylaminoazobenzene	60-11-7	62.89	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Parathion	56-38-2	84.76	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Pentachlorobenzene	608-93-5	105.4	667	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Pentachloroethane	76-01-7	127.7	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Pentachloronitrobenzene	82-68-8	101.4	667	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Pentachlorophenol	87-86-5	26.48	33	µg/Kg	35	100	35	100	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Phenacetin	62-44-2	113	133	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Phenanthrene	85-01-8	3.1	6.67	µg/Kg	64	101	64	101	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Phenol	108-95-2	16.74	33	µg/Kg	51	107	51	107	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Phorate	298-02-2	31.77	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	p-Phenylenediamine	106-50-3	80	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Pronamide	23950-58-5	129.2	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Pyrene	129-00-0	6.326	6.67	µg/Kg	62	114	62	114	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Pyridine	110-86-1	65.61	167	µg/Kg	40	84	40	84	30
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Quinoline	91-22-5	263.7	333	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Safrole	94-59-7	116.9	333	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Sulfotepp	3689-24-5	74.49	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Thionazin	297-97-2	42.32	167	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Methylphenol, Total	1319-77-3	9.01	67	µg/Kg					
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2,4,6-Tribromophenol	118-79-6	0	0	µg/Kg	48	94	48	94	40
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2-Fluorobiphenyl	321-60-8	0	0	µg/Kg	50	103	50	103	40
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	2-Fluorophenol	367-12-4	0	0	µg/Kg	43	105	43	105	40
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	4-Terphenyl-d14	1718-51-0	0	0	µg/Kg	55	111	55	111	40
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Nitrobenzene-d5	4165-60-0	0	0	µg/Kg	47	100	47	100	40
SVO_8270E_S	SW846 8270E	Semi-Volatile Organic Compounds	Soil	Phenol-d6	13127-88-3	0	0	µg/Kg	49	110	49	110	40
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	1,1`-Biphenyl	92-52-4	0.42	1	µg/L	24	111	24	111	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	1,2,4,5-Tetrachlorobenzene	95-94-3	0.34	5	µg/L	14	110	14	110	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	1,2,4-Trichlorobenzene	120-82-1	0.41	1	µg/L	10	111	10	111	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	1,2-Dichlorobenzene	95-50-1	0.39	1	µg/L	12	110	12	110	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	1,2-Dinitrobenzene	528-29-0	0.38	1	µg/L	47	108	47	108	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	1,2-Diphenylhydrazine	122-66-7	0.22	1	µg/L	46	108	46	108	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	1,3,5-Trinitrobenzene	99-35-4	0.43	10	µg/L					
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	1,3-Dichlorobenzene	541-73-1	0.65	1	µg/L	10	110	10	110	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	1,3-Dinitrobenzene	99-65-0	0.22	1	µg/L	47	111	47	111	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	1,4-Dichlorobenzene	106-46-7	0.32	1	µg/L	10	109	10	109	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	1,4-Dinitrobenzene	100-25-4	0.18	1	µg/L	43	112	43	112	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	1,4-Dioxane	123-91-1	0.72	5	µg/L					
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	1,4-Napthoquinone	130-15-4	0.14	5	µg/L					
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	1-Methylnaphthalene	90-12-0	0.083	0.1	µg/L	17	114	17	114	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	1-Naphthylamine	134-32-7	0.45	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	2,2`-Oxybis(1-chloropropane)	108-60-1	0.23	1	µg/L	31	104	31	104	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	2,3,4,6-Tetrachlorophenol	58-90-2	0.45	1	µg/L	38	110	38	110	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	2,3,5,6-Tetrachlorophenol	935-95-5	0.27	1	µg/L	33	107	33	107	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	2,4,5-Trichlorophenol	95-95-4	0.17	1	µg/L	33	114	33	114	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	2,4,6-Trichlorophenol	88-06-2	0.25	1	µg/L	36	113	36	113	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	2,4-Dichlorophenol	120-83-2	0.35	1	µg/L	30	111	30	111	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	2,4-Dimethylphenol	105-67-9	0.36	1	µg/L	36	109	36	109	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	2,4-Dinitrophenol	51-28-5	2.61	5	µg/L	12	113	12	113	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	2,4-Dinitrotoluene	121-14-2	0.42	1	µg/L	51	107	51	107	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	2,6-Dichlorophenol	87-65-0	0.27	1	µg/L	35	110	35	110	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	2,6-Dinitrotoluene	606-20-2	0.33	1	µg/L	51	105	51	105	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	2-Acetylaminofluorene	53-96-3	0.35	5	µg/L					
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	2-Chloronaphthalene	91-58-7	0.075	0.1	µg/L	22	112	22	112	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	2-Chlorophenol	95-57-8	0.23	1	µg/L	35	108	35	108	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	2-Methylnaphthalene	91-57-6	0.065	0.1	µg/L	12	119	12	119	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	2-Methylphenol	95-48-7	0.25	1	µg/L	31	100	31	100	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	2-Naphthylamine	91-59-8	0.27	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	2-Nitroaniline	88-74-4	0.21	1	µg/L	46	106	46	106	30

SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	2-Nitrophenol	88-75-5	0.34	1	µg/L	26	111	26	111	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	2-Picoline	109-06-8	0.3	5	µg/L					
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	3&4-Methylphenol	84989-04-8	0.21	1	µg/L	24	95	24	95	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	3,3´-Dichlorobenzidine	91-94-1	0.46	5	µg/L	48	101	48	101	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	3,3´-Dimethylbenzidine	119-93-7	7.32	25	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	3-Methylcholanthrene	56-49-5	0.56	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	3-Nitroaniline	99-09-2	0.64	1	µg/L	52	105	52	105	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	4,6-Dinitro-2-methylphenol	534-52-1	0.27	1	µg/L	28	121	28	121	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	4-Aminobiphenyl	92-67-1	0.19	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	4-Bromophenyl phenyl ether	101-55-3	0.33	1	µg/L	49	107	49	107	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	4-Chloro-3-methylphenol	59-50-7	0.26	1	µg/L	35	105	35	105	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	4-Chloroaniline	106-47-8	0.34	1	µg/L	46	101	46	101	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	4-Chlorophenyl phenyl ether	7005-72-3	0.31	1	µg/L	40	107	40	107	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	4-Nitroaniline	100-01-6	0.57	1	µg/L	49	110	49	110	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	4-Nitrophenol	100-02-7	0.24	5	µg/L	10	64	10	64	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	4-Nitroquinoline 1-oxide	56-57-5	1.48	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	5-Nitro-o-toluidine	99-55-8	0.16	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	7,12-Dimethylbenz(a)anthracene	57-97-6	0.16	1	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	a,a-Dimethylphenethylamine	122-09-8	1.64	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Acenaphthene	83-32-9	0.081	0.1	µg/L	32	108	32	108	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Acenaphthylene	208-96-8	0.075	0.1	µg/L	34	107	34	107	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Acetophenone	98-86-2	0.37	1	µg/L	41	102	41	102	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Aniline	62-53-3	0.49	1	µg/L	40	96	40	96	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Anthracene	120-12-7	0.028	0.1	µg/L	53	105	53	105	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Aramite	140-57-8	0.73	1	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Atrazine	1912-24-9	0.35	1	µg/L	53	112	53	112	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Benzaldehyde	100-52-7	0.52	1	µg/L	32	111	32	111	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Benzidine	92-87-5	1.99	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Benzo(a)anthracene	56-55-3	0.099	0.1	µg/L	57	106	57	106	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Benzo(a)pyrene	50-32-8	0.044	0.1	µg/L	54	107	54	107	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Benzo(b)fluoranthene	205-99-2	0.051	0.1	µg/L	53	109	53	109	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Benzo(g,h,i)perylene	191-24-2	0.089	0.1	µg/L	50	114	50	114	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Benzo(k)fluoranthene	207-08-9	0.048	0.1	µg/L	53	110	53	110	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Benzoic acid	65-85-0	6.24	20	µg/L					
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Benzyl alcohol	100-51-6	0.17	1	µg/L	39	95	39	95	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Bis(2-chloroethoxy)methane	111-91-1	0.29	1	µg/L	42	101	42	101	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Bis(2-chloroethyl)ether	111-44-4	0.37	1	µg/L	39	100	39	100	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Bis(2-chloroisopropyl)ether	108-60-1	0.23	1	µg/L	31	104	31	104	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Bis(2-ethylhexyl)phthalate	117-81-7	0.4	1	µg/L	53	116	53	116	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Butyl benzyl phthalate	85-68-7	0.3	1	µg/L	45	112	45	112	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Caprolactam	105-60-2	0.96	5	µg/L	0	0	0	0	
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Carbazole	86-74-8	0.24	1	µg/L	55	106	55	106	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Chlorobenzilate	510-15-6	0.93	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Chrysene	218-01-9	0.048	0.1	µg/L	57	108	57	108	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Diallate	2303-16-4	0.28	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Dibenzo(a,h)acridine	226-36-8	0.19	5	µg/L					
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Dibenzo(a,h)anthracene	53-70-3	0.073	0.1	µg/L	51	112	51	112	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Dibenzofuran	132-64-9	0.23	1	µg/L	37	107	37	107	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Diethyl phthalate	84-66-2	0.17	1	µg/L	44	114	44	114	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Dimethyl phthalate	131-11-3	0.18	1	µg/L	40	115	40	115	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Di-n-butyl phthalate	84-74-2			µg/L					
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Di-n-octyl phthalate	117-84-0			µg/L					
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Dinoseb	88-85-7	0.9	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Diphenylamine	122-39-4	0.23	1	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Ethyl methanesulfonate	62-50-0	0.69	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Fluoranthene	206-44-0	0.038	0.1	µg/L	54	107	54	107	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Fluorene	86-73-7	0.051	0.1	µg/L	42	107	42	107	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Hexachloro-1,3-butadiene	87-68-3	0.63	1	µg/L	10	112	10	112	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Hexachlorobenzene	118-74-1	0.44	1	µg/L	50	105	50	105	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Hexachlorobutadiene	87-68-3	0.63	1	µg/L	10	112	10	112	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Hexachlorocyclopentadiene	77-47-4	1.09	5	µg/L	10	102	10	102	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Hexachloroethane	67-72-1	0.62	1	µg/L	10	115	10	115	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Hexachlorophene	70-30-4	80	80	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Hexachloropropene	1888-71-7	2.83	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Indeno(1,2,3-cd)pyrene	193-39-5	0.067	0.1	µg/L	49	113	49	113	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Isodrin	465-73-6	0.41	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Isophorone	78-59-1	0.34	5	µg/L	42	103	42	103	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Isosafrole	120-58-1	0.29	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Kepone	143-50-0	0.34	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Methapyrilene	91-80-5	1.55	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Methyl methanesulfonate	66-27-3	0.32	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Naphthalene	91-20-3	0.067	0.1	µg/L	18	109	18	109	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Nitrobenzene	98-95-3	0.26	1	µg/L	38	101	38	101	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	N-Nitrosodiethylamine	55-18-5	0.37	1	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	N-Nitrosodimethylamine	62-75-9	0.48	1	µg/L	22	77	22	77	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	N-Nitroso-di-n-butylamine	924-16-3	0.45	1	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	N-Nitrosodi-n-propylamine	621-64-7	0.35	1	µg/L	40	104	40	104	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	N-Nitrosodiphenylamine	86-30-6	0.49	1	µg/L	49	105	49	105	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	N-Nitrosomethylethylamine	10595-95-6	1.35	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	N-Nitrosomorpholine	59-89-2	0.32	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	N-Nitrosopiperidine	100-75-4	0.33	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	N-Nitrosopyrrolidine	930-55-2	0.33	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	o-Toluidine	95-53-4	0.74	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	p-Dimethylaminoazobenzene	60-11-7	0.85	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Pentachlorobenzene	608-93-5	0.26	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Pentachloroethane	76-01-7	0.27	1	µg/L					
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Pentachloronitrobenzene	82-68-8	0.25	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Pentachlorophenol	87-86-5	0.97	5	µg/L	22	109	22	109	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Phenacetin	62-44-2	0.39	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Phenanthrene	85-01-8	0.081	0.1	µg/L	51	103	51	103	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Phenol	108-95-2	0.21	1	µg/L	10	63	10	63	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Pronamide	23950-58-5	0.3	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Pyrene	129-00-0	0.036	0.1	µg/L	50	105	50	105	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Pyridine	110-86-1	0.57	10	µg/L	11	77	11	77	30
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Quinoline	91-22-5	0.43	5	µg/L					
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Safrole	94-59-7	0.58	5	µg/L	0	0	0	0	0
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Methylphenol, Total	1319-77-3	0.46	2	µg/L					
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	2,4,6-Tribromophenol	118-79-6	0	0	µg/L	38	103	38	103	40
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	2-Fluorobiphenyl	321-60-8	0	0	µg/L	36	96	36	96	40
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	2-Fluorophenol	367-12-4	0	0	µg/L	20	73	20	73	40
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	4-Terphenyl-d14	1718-51-0	0	0	µg/L	44	114	44	114	40
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Nitrobenzene-d5	4165-60-0	0	0	µg/L	33	100	33	100	40
SVO_8270E_W	SW846 8270E	Semi-Volatile Organic Compounds	Water	Phenol-d6	13127-88-3	0	0	µg/L	10	48	10	48	40
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	1,1`-Biphenyl	92-52-4	1.01	4	µg/L	34	87	34	87	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	1,2,4,5-Tetrachlorobenzene	95-94-3	1.519	4	µg/L	19	71	19	71	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	1,2,4-Trichlorobenzene	120-82-1	0.906	4	µg/L	10	69	10	69	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	1,2-Dichlorobenzene	95-50-1	1	4	µg/L	10	70	10	70	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	1,2-Dinitrobenzene	528-29-0	0.961	4	µg/L	43	88	43	88	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	1,2-Diphenylhydrazine	122-66-7	0.697	4	µg/L	34	87	34	87	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	1,3,5-Trinitrobenzene	99-35-4	12.68	20	µg/L					
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	1,3-Dichlorobenzene	541-73-1	1.47	4	µg/L	10	68	10	68	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	1,3-Dinitrobenzene	99-65-0	1.08	4	µg/L	44	91	44	91	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	1,4-Dichlorobenzene	106-46-7	0.889	4	µg/L	10	69	10	69	30

SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	1,4-Dinitrobenzene	100-25-4	1.19	4	µg/L	37	99	37	99	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	1,4-Dioxane	123-91-1	3.86	4	µg/L					
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	1,4-Napthoquinone	130-15-4	9.564	20	µg/L					
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	1-Methylnaphthalene	90-12-0	0.641	1	µg/L	21	74	21	74	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	1-Naphthylamine	134-32-7	2.776	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	2,2`-Oxybis(1-chloropropane)	108-60-1	1.503	4	µg/L	14	78	14	78	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	2,3,4,6-Tetrachlorophenol	58-90-2	1.27	4	µg/L	44	83	44	83	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	2,3,5,6-Tetrachlorophenol	935-95-5	1.21	4	µg/L	38	82	38	82	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	2,4,5-Trichlorophenol	95-95-4	1.34	4	µg/L	39	79	39	79	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	2,4,6-Trichlorophenol	88-06-2	1.62	4	µg/L	35	80	35	80	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	2,4-Dichlorophenol	120-83-2	1.834	4	µg/L	29	79	29	79	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	2,4-Dimethylphenol	105-67-9	1.28	4	µg/L	27	81	27	81	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	2,4-Dinitrophenol	51-28-5	14.7	20	µg/L	10	122	10	122	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	2,4-Dinitrotoluene	121-14-2	1.803	4	µg/L	45	88	45	88	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	2,6-Dichlorophenol	87-65-0	0.981	4	µg/L	28	78	28	78	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	2,6-Dinitrotoluene	606-20-2	0.776	4	µg/L	43	84	43	84	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	2-Acetylaminofluorene	53-96-3	8.012	20	µg/L					
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	2-Chloronaphthalene	91-58-7	0.5939	1	µg/L	23	76	23	76	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	2-Chlorophenol	95-57-8	1.513	4	µg/L	12	84	12	84	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	2-Methylnaphthalene	91-57-6	0.452	1	µg/L	20	74	20	74	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	2-Methylphenol	95-48-7	0.877	4	µg/L	21	74	21	74	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	2-Naphthylamine	91-59-8	2.502	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	2-Nitroaniline	88-74-4	1.33	4	µg/L	40	87	40	87	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	2-Nitrophenol	88-75-5	2.482	4	µg/L	25	81	25	81	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	2-Picoline	109-06-8	6.718	20	µg/L					
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	3&4-Methylphenol	84989-04-8	1.32	4	µg/L	24	70	24	70	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	3,3′-Dichlorobenzidine	91-94-1	1.566	4	µg/L	46	81	46	81	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	3,3′-Dimethylbenzidine	119-93-7	2.54	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	3-Methylcholanthrene	56-49-5	6.206	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	3-Nitroaniline	99-09-2	1.32	4	µg/L	44	87	44	87	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	4,6-Dinitro-2-methylphenol	534-52-1	1.969	4	µg/L	20	119	20	119	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	4-Aminobiphenyl	92-67-1	5.177	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	4-Bromophenyl phenyl ether	101-55-3	0.453	4	µg/L	40	86	40	86	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	4-Chloro-3-methylphenol	59-50-7	0.84	4	µg/L	37	84	37	84	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	4-Chloroaniline	106-47-8	0.833	4	µg/L	36	84	36	84	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	4-Chlorophenyl phenyl ether	7005-72-3	0.474	4	µg/L	37	81	37	81	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	4-Nitroaniline	100-01-6	1.29	4	µg/L	49	83	49	83	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	4-Nitrophenol	100-02-7	2.604	4	µg/L	21	49	21	49	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	4-Nitroquinoline 1-oxide	56-57-5	7.031	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	5-Nitro-o-toluidine	99-55-8	6.595	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	7,12-Dimethylbenz(a)anthracene	57-97-6	6.607	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	a,a-Dimethylphenethylamine	122-09-8	2.147	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Acenaphthene	83-32-9	0.424	1	µg/L	30	79	30	79	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Acenaphthylene	208-96-8	0.675	1	µg/L	30	78	30	78	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Acetophenone	98-86-2	1.162	4	µg/L	24	77	24	77	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Aniline	62-53-3	1.859	4	µg/L	13	88	13	88	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Anthracene	120-12-7	0.4391	1	µg/L	45	84	45	84	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Aramite	140-57-8	8.862	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Atrazine	1912-24-9	1.68	4	µg/L	49	82	49	82	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Benzaldehyde	100-52-7	1.673	4	µg/L	10	88	10	88	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Benzidine	92-87-5	1.62	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Benzo(a)anthracene	56-55-3	0.4227	1	µg/L	49	89	49	89	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Benzo(a)pyrene	50-32-8	0.58	1	µg/L	52	86	52	86	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Benzo(b)fluoranthene	205-99-2	0.54	1	µg/L	52	90	52	90	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Benzo(g,h,i)perylene	191-24-2	0.902	1	µg/L	48	91	48	91	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Benzo(k)fluoranthene	207-08-9	0.4702	1	µg/L	49	90	49	90	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Benzoic acid	65-85-0	8.47	20	µg/L					
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Benzyl alcohol	100-51-6	1.487	4	µg/L	27	78	27	78	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Bis(2-chloroethoxy)methane	111-91-1	1.309	4	µg/L	25	82	25	82	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Bis(2-chloroethyl)ether	111-44-4	1	4	µg/L	13	81	13	81	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Bis(2-chloroisopropyl)ether	108-60-1	1.503	4	µg/L	14	78	14	78	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Bis(2-ethylhexyl)phthalate	117-81-7	2.91	4	µg/L	52	90	52	90	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Butyl benzyl phthalate	85-68-7	2.34	4	µg/L	49	89	49	89	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Caprolactam	105-60-2	1.066	4	µg/L	0	0	0	0	
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Carbazole	86-74-8	0.776	4	µg/L	49	85	49	85	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Chlorobenzilate	510-15-6	8.479	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Chrysene	218-01-9	0.7849	1	µg/L	49	89	49	89	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Diallate	2303-16-4	6.193	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Dibenzo(a,h)acridine	226-36-8	5.537	20	µg/L					
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Dibenzo(a,h)anthracene	53-70-3	1.133	2	µg/L	48	91	48	91	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Dibenzofuran	132-64-9	1.154	4	µg/L	33	82	33	82	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Diethyl phthalate	84-66-2	1.08	4	µg/L	47	90	47	90	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Dimethyl phthalate	131-11-3	0.899	4	µg/L	44	88	44	88	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Di-n-butyl phthalate	84-74-2	3.63	4	µg/L	51	87	51	87	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Di-n-octyl phthalate	117-84-0	2.4	4	µg/L	55	91	55	91	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Dinoseb	88-85-7	5.086	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Diphenylamine	122-39-4	5.177	10	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Ethyl methanesulfonate	62-50-0	7.331	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Fluoranthene	206-44-0	0.7127	1	µg/L	50	85	50	85	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Fluorene	86-73-7	0.5086	1	µg/L	38	81	38	81	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Hexachloro-1,3-butadiene	87-68-3	1.985	4	µg/L	10	67	10	67	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Hexachlorobenzene	118-74-1	0.816	4	µg/L	42	85	42	85	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Hexachlorobutadiene	87-68-3	1.985	4	µg/L	10	67	10	67	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Hexachlorocyclopentadiene	77-47-4	5.565	10	µg/L	10	74	10	74	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Hexachloroethane	67-72-1	1.23	4	µg/L	10	66	10	66	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Hexachlorophene	70-30-4	80	80	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Hexachloropropene	1888-71-7	3.315	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Indeno(1,2,3-cd)pyrene	193-39-5	1.069	2	µg/L	49	89	49	89	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Isodrin	465-73-6	8.056	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Isophorone	78-59-1	1.424	4	µg/L	33	80	33	80	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Isosafrole	120-58-1	7.297	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Kepone	143-50-0	4.1	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Methapyrilene	91-80-5	4.96	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Methyl methanesulfonate	66-27-3	5.858	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Naphthalene	91-20-3	0.63	1	µg/L	15	72	15	72	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Nitrobenzene	98-95-3	2.212	4	µg/L	20	76	20	76	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	N-Nitrosodiethylamine	55-18-5	7.77	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	N-Nitrosodimethylamine	62-75-9	3.79	4	µg/L	10	71	10	71	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	N-Nitroso-di-n-butylamine	924-16-3	6.922	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	N-Nitrosodi-n-propylamine	621-64-7	1.171	4	µg/L	28	80	28	80	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	N-Nitrosodiphenylamine	86-30-6	0.49	4	µg/L	42	86	42	86	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	N-Nitrosomethylethylamine	10595-95-6	8.294	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	N-Nitrosomorpholine	59-89-2	8.308	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	N-Nitrosopiperidine	100-75-4	9.4	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	N-Nitrosopyrrolidine	930-55-2	7.579	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	o-Toluidine	95-53-4	6.154	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	p-Dimethylaminoazobenzene	60-11-7	5.651	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Pentachlorobenzene	608-93-5	7.804	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Pentachloroethane	76-01-7	3.808	20	µg/L					
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Pentachloronitrobenzene	82-68-8	5.996	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Pentachlorophenol	87-86-5	1.439	4	µg/L	23	89	23	89	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Phenacetin	62-44-2	7.3	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Phenanthrene	85-01-8	0.422	1	µg/L	45	83	45	83	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Phenol	108-95-2	0.783	4	µg/L	10	42	10	42	30

SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	p-Phenylenediamine	106-50-3	5.862	20	µg/L					
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Pronamide	23950-58-5	6.41	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Pyrene	129-00-0	0.884	1	µg/L	43	95	43	95	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Pyridine	110-86-1	1.653	4	µg/L	10	64	10	64	30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Quinoline	91-22-5	6.397	20	µg/L					
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Safrole	94-59-7	6.36	20	µg/L	0	0	0	0	0
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Methylphenol, Total	1319-77-3	1.32	4	µg/L					30
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	2,4,6-Tribromophenol	118-79-6	0	0	µg/L	43	83	43	83	40
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	2-Fluorobiphenyl	321-60-8	0	0	µg/L	31	73	31	73	40
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	2-Fluorophenol	367-12-4	0	0	µg/L	10	62	10	62	40
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	4-Terphenyl-d14	1718-51-0	0	0	µg/L	42	80	42	80	40
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Nitrobenzene-d5	4165-60-0	0	0	µg/L	22	73	22	73	40
SVO_8270ELV_W	SW846 8270E	Semi-Volatile Organic Compounds - LV	Water	Phenol-d6	13127-88-3	0	0	µg/L	10	41	10	41	40

*Laboratory limits subject to change as new MDL studies are performed and/or improvements in sensitivity are demonstrated.

Test Code	Test Method	Test Name	Matrix	Analyte	CAS#	MDL*
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,1,1,2-Tetrachloroethane	630-20-6	0.38
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,1,1-Trichloroethane	71-55-6	0.46
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,1,2,2-Tetrachloroethane	79-34-5	0.4
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,1,2-Trichloroethane	79-00-5	0.46
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,1-Dichloroethane	75-34-3	0.44
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,1-Dichloroethene	75-35-4	0.4
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,1-Dichloropropene	563-58-6	0.37
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,2,3-Trichlorobenzene	87-61-6	0.42
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,2,3-Trichloropropane	96-18-4	0.4
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,2,4-Trichlorobenzene	120-82-1	0.45
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,2,4-Trimethylbenzene	95-63-6	0.45
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,2-Dibromo-3-chloropropane	96-12-8	0.43
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,2-Dibromoethane	106-93-4	0.41
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,2-Dichlorobenzene	95-50-1	0.32
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,2-Dichloroethane	107-06-2	0.44
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,2-Dichloropropane	78-87-5	0.48
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,3,5-Trimethylbenzene	108-67-8	0.65
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,3-Dichlorobenzene	541-73-1	0.33
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,3-Dichloropropane	142-28-9	0.4
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,4-Dichlorobenzene	106-46-7	0.35
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,4-Dioxane	123-91-1	77.68
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	2,2-Dichloropropane	590-20-7	0.52
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	2-Butanone	78-93-3	0.52
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	2-Chloroethyl vinyl ether	110-75-8	0.82
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	2-Chlorotoluene	95-49-8	0.36
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	2-Hexanone	591-78-6	0.59
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	2-Methylnaphthalene	91-57-6	0.66
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	4-Chlorotoluene	106-43-4	0.31
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	4-Methyl-2-pentanone	108-10-1	0.52
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Acetone	67-64-1	6.2
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Acrolein	107-02-8	7.34
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Acrylonitrile	107-13-1	0.5
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Benzene	71-43-2	0.46
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Bromobenzene	108-86-1	0.38
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Bromochloromethane	74-97-5	0.45
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Bromodichloromethane	75-27-4	0.49
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Bromoform	75-25-2	0.56
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Bromomethane	74-83-9	0.9
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Butyl acetate	123-86-4	0.42
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Carbon disulfide	75-15-0	0.49
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Carbon tetrachloride	56-23-5	0.4
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Chlorobenzene	108-90-7	0.4
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Chloroethane	75-00-3	0.68
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Chloroform	67-66-3	0.46
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Chloromethane	74-87-3	0.83
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	cis-1,2-Dichloroethene	156-59-2	0.42
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	cis-1,3-Dichloropropene	10061-01-5	0.57
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Dibromochloromethane	124-48-1	0.4
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Dibromomethane	74-95-3	0.65
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Dichlorodifluoromethane	75-71-8	0.68
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Diethyl ether	60-29-7	0.51
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Diisopropyl ether	108-20-3	0.41
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Ethylbenzene	100-41-4	0.34
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Hexachlorobutadiene	87-68-3	0.56
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Hexachloroethane	67-72-1	0.45
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Hexane	110-54-3	0.4
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Isopropylbenzene	98-82-8	0.35
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	m,p-Xylene	179601-23-1	0.81
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Methyl tert-butyl ether	1634-04-4	0.45
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Methylene chloride	75-09-2	0.86
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Naphthalene	91-20-3	0.77
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	n-Butylbenzene	104-51-8	0.34
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	n-Propylbenzene	103-65-1	0.48
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	o-Xylene	95-47-6	0.31
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	p-Isopropyltoluene	99-87-6	0.26
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	sec-Butylbenzene	135-98-8	0.3
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Styrene	100-42-5	0.33
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	tert-Butyl alcohol	75-65-0	9.3
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	tert-Butylbenzene	98-06-6	0.39
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Tetrachloroethene	127-18-4	0.39
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Tetrahydrofuran	109-99-9	0.73
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Toluene	108-88-3	0.45
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	trans-1,2-Dichloroethene	156-60-5	0.48
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	trans-1,3-Dichloropropene	10061-02-6	0.38
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Trichloroethene	79-01-6	0.43
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Trichlorofluoromethane	75-69-4	0.52
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Vinyl acetate	108-05-4	0.83
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Vinyl chloride	75-01-4	0.53
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,2-Dichloroethene, Total	540-59-0	0.48
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,3-Dichloropropene, Total	542-75-6	0.57
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Xylenes, Total	1330-20-7	0.81
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	1,2-Dichloroethane-d4	17060-07-0	0
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	4-Bromofluorobenzene	460-00-4	0
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Dibromofluoromethane	1868-53-7	0
VOC_624.1_WW	E624.1	Volatile Organic Compounds	Water	Toluene-d8	2037-26-5	0
VOC_14DIOX_S	SW8260D	1,4-Dioxane by SIM	Soil	1,4-Dioxane	123-91-1	32.08
VOC_14DIOX_S	SW8260D	1,4-Dioxane by SIM	Soil	Toluene-d8	2037-26-5	0
VOC_14DIOX_W	SW8260D	1,4-Dioxane by SIM	Water	1,4-Dioxane	123-91-1	0.44
VOC_14DIOX_W	SW8260D	1,4-Dioxane by SIM	Water	Toluene-d8	2037-26-5	0
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,1,1,2-Tetrachloroethane	630-20-6	15.88

VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,1,1-Trichloroethane	71-55-6	13.61
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,1,2,2-Tetrachloroethane	79-34-5	13.24
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,1,2-Trichloroethane	79-00-5	12.75
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,1,2-Trichlorotrifluoroethane	76-13-1	19
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,1-Dichloroethane	75-34-3	10.94
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,1-Dichloroethene	75-35-4	9.72
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,1-Dichloropropene	563-58-6	20.46
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,2,3-Trichlorobenzene	87-61-6	36
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,2,3-Trichloropropane	96-18-4	12.56
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,2,3-Trimethylbenzene	526-73-8	11.39
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,2,4-Trichlorobenzene	120-82-1	34
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,2,4-Trimethylbenzene	95-63-6	22
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,2-Dibromo-3-chloropropane	96-12-8	27.62
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,2-Dibromoethane	106-93-4	17.64
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,2-Dichlorobenzene	95-50-1	11.38
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,2-Dichloroethane	107-06-2	26.32
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,2-Dichloropropane	78-87-5	22.11
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,3,5-Trichlorobenzene	108-70-3	16.06
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,3,5-Trimethylbenzene	108-67-8	21.19
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,3-Dichlorobenzene	541-73-1	20.72
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,3-Dichloropropane	142-28-9	17.98
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,4-Dichlorobenzene	141-93-5	24.38
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,4-Dioxane	123-91-1	7509
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1-Methylnaphthalene	90-12-0	40
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	2,2-Dichloropropane	594-20-7	25.3
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	2-Butanone	78-93-3	71.41
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	2-Chlorotoluene	95-49-8	10.99
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	2-Hexanone	591-78-6	14.88
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	2-Methylnaphthalene	91-57-6	44
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	4-Chlorotoluene	106-43-4	45.86
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	4-Isopropyltoluene	99-87-6	21.38
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	4-Methyl-2-pentanone	108-10-1	27.96
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Acetone	67-64-1	89.03
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Acetonitrile	75-05-8	25.35
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Acrolein	107-02-8	361.7
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Acrylonitrile	107-13-1	35.26
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Allyl chloride	107-05-1	20.92
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Benzene	71-43-2	14.53
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Benzyl chloride	100-44-7	14.76
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Bromobenzene	108-86-1	23.86
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Bromochloromethane	74-97-5	15.26
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Bromodichloromethane	75-27-4	16.8
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Bromoform	75-25-2	12.63
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Bromomethane	74-83-9	57.38
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Butyl acetate	123-86-4	19.18
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Carbon disulfide	75-15-0	15.53
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Carbon tetrachloride	56-23-5	11.74
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Chlorobenzene	108-90-7	9.96
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Chloroethane	75-00-3	84.01
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Chloroform	67-66-3	10.99
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Chloromethane	74-87-3	82
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Chloroprene	126-99-8	9.68
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	cis-1,2-Dichloroethene	156-59-2	19.29
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	cis-1,3-Dichloropropene	10061-01-5	22.6
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Cyclohexane	110-82-7	22.97
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Cyclohexanone	108-94-1	135.4
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Dibromochloromethane	124-48-1	16.85
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Dibromomethane	74-95-3	29
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Dichlorodifluoromethane	75-71-8	36.31
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Diethyl ether	60-29-7	14.99
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Diisopropyl ether	108-20-3	15.01
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Ethyl acetate	141-78-6	23.45
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Ethyl methacrylate	97-63-2	24.17
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Ethyl tert butyl ether	637-92-3	21.92
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Ethylbenzene	100-41-4	21.28
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Heptane	142-82-5	24.76
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Hexachlorobutadiene	87-68-3	26.99
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Hexachloroethane	67-72-1	17.82
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Hexane	110-54-3	17.88
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Iodomethane	74-88-4	150
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Isobutyl alcohol	78-83-1	24.9
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Isopropylbenzene	98-82-8	18.95
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	m,p-Xylene	179601-23-1	40
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Methacrylonitrile	126-98-7	17.57
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Methyl acetate	79-20-9	35.92
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Methyl iodide	74-88-4	150
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Methyl methacrylate	80-62-6	21.64
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Methyl tert-butyl ether	1634-04-4	21.88
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Methylcyclohexane	108-87-2	11.44
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Methylene chloride	75-09-2	79.61
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Naphthalene	91-20-3	22
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	n-Butylbenzene	104-51-8	23
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	n-Propylbenzene	103-65-1	72
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	o-Xylene	95-47-6	11.6
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	p-Isopropyltoluene	99-87-6	25.3
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Propionitrile	107-12-0	46.34
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	sec-Butylbenzene	135-98-8	11.82
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Styrene	100-42-5	11.89
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	tert-Amyl methyl ether	994-05-8	16.69
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	tert-Butyl alcohol	75-65-0	138.22
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	tert-Butylbenzene	98-06-6	22.42
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Tetrachloroethene	127-18-4	18.07
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Tetrahydrofuran	109-99-9	60
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Toluene	108-88-3	24.73
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	trans-1,2-Dichloroethene	156-60-5	24.75
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	trans-1,3-Dichloropropene	10061-02-6	16.75
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	trans-1,4-Dichloro-2-butene	110-57-6	25.77
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Trichloroethene	79-01-6	13.45
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Trichlorofluoromethane	75-69-4	15.34
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Vinyl acetate	108-05-4	20.72
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Vinyl chloride	75-01-4	19.94
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,2-Dichloroethene, Total	540-59-0	24.75

VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,3-Dichloropropene, Total	542-75-6	22.6
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Xylenes, Total	1330-20-7	40
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	1,2-Dichloroethane-d4	17060-07-0	0
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	4-Bromofluorobenzene	460-00-4	0
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Dibromofluoromethane	1868-53-7	0
VOC_8260D_S	SW8260D	Volatile Organic Compounds	Soil-MeOH	Toluene-d8	2037-26-5	0
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,1,1,2-Tetrachloroethane	630-20-6	0.76
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,1,1-Trichloroethane	71-55-6	0.79
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,1,2,2-Tetrachloroethane	79-34-5	3.152
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,1,2-Trichloroethane	79-00-5	0.67
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,1,2-Trichlorotrifluoroethane	76-13-1	1.1
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,1-Dichloroethane	75-34-3	0.62
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,1-Dichloroethene	75-35-4	0.98
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,1-Dichloropropene	563-58-6	0.87
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,2,3-Trichlorobenzene	87-61-6	1.8
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,2,3-Trichloropropane	96-18-4	0.83
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,2,4-Trichlorobenzene	120-82-1	1.1
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,2,4-Trimethylbenzene	95-63-6	1.8
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,2-Dibromo-3-chloropropane	95-63-6	2.057
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,2-Dibromoethane	106-93-4	1.108
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,2-Dichlorobenzene	95-50-1	0.7
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,2-Dichloroethane	107-06-2	0.56
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,2-Dichloropropane	78-87-5	0.9039
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,3,5-Trimethylbenzene	108-67-8	1.6
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,3-Dichlorobenzene	541-73-1	0.61
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,3-Dichloropropane	142-28-9	0.41
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,4-Dichlorobenzene	141-93-5	0.64
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,4-Dioxane	123-91-1	98
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1-Methylnaphthalene	90-12-0	1.9
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	2,2-Dichloropropane	594-20-7	0.59
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	2-Butanone	78-93-3	5.1
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	2-Chlorotoluene	95-49-8	0.77
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	2-Hexanone	591-78-6	1.8
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	2-Methylnaphthalene	91-57-6	2.3
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	2-Nitropropane	76-46-9	6.327
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	4-Chlorotoluene	106-43-4	1.2
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	4-Isopropyltoluene	99-87-6	1.4
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	4-Methyl-2-pentanone	108-10-1	3.706
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Acetone	67-64-1	4.6
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Acetonitrile	75-05-8	2.2
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Acrolein	107-02-8	64
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Acrylonitrile	107-13-1	1.1
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Allyl chloride	107-05-1	0.79
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Benzene	71-43-2	0.52
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Benzyl chloride	100-44-7	0.86
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Bromobenzene	108-86-1	0.56
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Bromochloromethane	74-97-5	0.54
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Bromodichloromethane	75-27-4	0.6
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Bromoform	75-25-2	1.104
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Bromomethane	75-25-2	2.5
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Carbon disulfide	75-15-0	0.59
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Carbon tetrachloride	56-23-5	1
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Chlorobenzene	108-90-7	0.63
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Chloroethane	75-00-3	1.9
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Chloroform	67-66-3	0.82
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Chloromethane	74-87-3	1
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Chloroprene	126-99-8	0.85
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	cis-1,2-Dichloroethene	156-59-2	0.54
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	cis-1,3-Dichloropropene	10061-01-5	1.424
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Cyclohexane	110-82-7	1.7
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Cyclohexanone	108-94-1	15
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Dibromochloromethane	124-48-1	0.51
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Dibromomethane	74-95-3	1.512
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Dichlorodifluoromethane	75-71-8	2.5
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Diethyl ether	60-29-7	0.53
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Diisopropyl ether	108-20-3	0.81
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Ethyl acetate	141-78-6	1
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Ethyl methacrylate	97-63-2	1
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Ethylbenzene	100-41-4	0.87
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Hexachlorobutadiene	87-68-3	3.135
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Hexachloroethane	67-72-1	0.6
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Hexane	110-54-3	4.925
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Isobutyl alcohol	78-83-1	1.4
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Isopropylbenzene	98-82-8	0.85
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	m,p-Xylene	179601-23-1	2.2
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Methacrylonitrile	126-98-7	1.3
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Methyl acetate	79-20-9	2.451
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Methyl iodide	74-88-4	1.622
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Methyl methacrylate	80-62-6	1.6
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Methyl tert-butyl ether	1634-04-4	0.61
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Methylcyclohexane	108-87-2	1.49
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Methylene chloride	75-09-2	6.2
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Naphthalene	91-20-3	2.1
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	n-Butylbenzene	104-51-8	1.5
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	n-Hexane	110-54-3	4.925
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	n-Propylbenzene	103-65-1	1.7
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	o-Xylene	95-47-6	1.2
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	p-Isopropyltoluene	99-87-6	1.4
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Propionitrile	107-12-0	3.19
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	sec-Butylbenzene	135-98-8	1.6
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Styrene	100-42-5	0.75
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	tert-Butyl alcohol	75-65-0	15.97
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	tert-Butylbenzene	98-06-6	1.6
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Tetrachloroethene	127-18-4	0.3843
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Tetrahydrofuran	109-99-9	3.86
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Toluene	108-88-3	1.739
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	trans-1,2-Dichloroethene	156-60-5	0.5
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	trans-1,3-Dichloropropene	10061-02-6	1.142
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	trans-1,4-Dichloro-2-butene	110-57-6	1.1
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Trichloroethene	79-01-6	0.72
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Trichlorofluoromethane	75-69-4	0.71

VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Vinyl acetate	108-05-4	3.4
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Vinyl chloride	75-01-4	0.7
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,2-Dichloroethene, Total	540-59-0	0.54
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,3-Dichloropropene, Total	542-75-6	0.6
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Xylenes, Total	1330-20-7	2.2
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	1,2-Dichloroethane-d4	17060-07-0	
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	4-Bromofluorobenzene	460-00-4	
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Dibromofluoromethane	1868-53-7	
VOC_8260D_SLL	SW8260D	Volatile Organic Compounds - Low	Soil	Toluene-d8	2037-26-5	
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,1,1,2-Tetrachloroethane	630-20-6	0.38
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,1,1-Trichloroethane	71-55-6	0.46
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,1,2,2-Tetrachloroethane	79-34-5	0.4
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,1,2-Trichloroethane	79-00-5	0.46
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,1,2-Trichlorotrifluoroethane	76-13-1	0.52
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,1-Dichloroethane	75-34-3	0.44
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,1-Dichloroethene	75-35-4	0.4
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,1-Dichloropropene	563-58-6	0.37
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,2,3-Trichlorobenzene	87-61-6	0.42
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,2,3-Trichloropropane	96-18-4	0.4
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,2,3-Trimethylbenzene	526-73-8	0.32
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,2,4-Trichlorobenzene	120-82-1	0.45
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,2,4-Trimethylbenzene	95-63-6	0.45
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,2-Dibromo-3-chloropropane	96-12-8	0.43
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,2-Dibromoethane	106-93-4	0.41
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,2-Dichlorobenzene	95-50-1	0.32
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,2-Dichloroethane	107-06-2	0.44
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,2-Dichloropropane	78-87-5	0.48
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,3,5-Trichlorobenzene	108-70-3	0.31
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,3,5-Trimethylbenzene	108-67-8	0.65
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,3-Dichlorobenzene	541-73-1	0.33
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,3-Dichloropropane	142-28-9	0.4
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,4-Dichlorobenzene	106-46-7	0.35
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,4-Dioxane	123-91-1	77.68
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1-Methylnaphthalene	90-12-0	0.56
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	2,2-Dichloropropane	594-20-7	0.52
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	2-Butanone	78-93-3	0.52
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	2-Chloro-1,3-butadiene	126-99-8	0.46
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	2-Chloroethyl vinyl ether	110-75-8	0.82
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	2-Chlorotoluene	95-49-8	0.36
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	2-Hexanone	591-78-6	0.59
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	2-Methylnaphthalene	91-57-6	0.66
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	4-Chlorotoluene	106-43-4	0.31
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	4-Isopropyltoluene	99-87-6	0.26
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	4-Methyl-2-pentanone	108-10-1	0.52
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Acetone	67-64-1	1.09
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Acetonitrile	75-05-8	0.6
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Acrolein	107-02-8	7.34
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Acrylonitrile	107-13-1	0.5
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Allyl chloride	107-05-1	0.62
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Benzene	71-43-2	0.46
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Benzyl chloride	100-44-7	0.34
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Bromobenzene	108-86-1	0.38
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Bromochloromethane	74-97-5	0.45
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Bromodichloromethane	75-27-4	0.49
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Bromoform	75-25-2	0.56
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Bromomethane	74-83-9	0.9
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Butyl acetate	123-86-4	0.42
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Carbon disulfide	75-15-0	0.49
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Carbon tetrachloride	56-23-5	0.4
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Chlorobenzene	108-90-7	0.4
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Chloroethane	75-00-3	0.68
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Chloroform	67-66-3	0.46
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Chloromethane	74-87-3	0.83
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Chloroprene	126-99-8	0.46
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	cis-1,2-Dichloroethene	156-59-2	0.42
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	cis-1,3-Dichloropropene	10061-01-5	0.57
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Cyclohexane	110-82-7	0.63
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Cyclohexanone	108-94-1	9.37
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Dibromochloromethane	124-48-1	0.4
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Dibromomethane	74-95-3	0.65
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Dibromodifluoromethane	75-61-6	0.46
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Dichlorodifluoromethane	75-71-8	0.68
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Diethyl ether	60-29-7	0.51
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Diisopropyl ether	108-20-3	0.41
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Ethyl acetate	141-78-6	0.44
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Ethyl methacrylate	97-63-2	0.28
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Ethyl tert butyl ether	637-92-3	0.4
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Ethylbenzene	100-41-4	0.34
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Hexachlorobutadiene	87-68-3	0.56
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Hexachloroethane	67-72-1	0.45
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Hexane	110-54-3	0.4
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Iodomethane	74-88-4	2.02
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Isobutyl alcohol	78-83-1	0.88
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Isopropylbenzene	98-82-8	0.35
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	m,p-Xylene	179601-23-1	0.81
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Methacrylonitrile	126-98-7	0.59
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Methyl acetate	126-98-7	0.59
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Methyl iodide	74-88-4	2.02
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Methyl methacrylate	80-62-6	0.55
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Methyl tert-butyl ether	1634-04-4	0.45
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Methylcyclohexane	108-87-2	0.35
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Methylene chloride	75-09-2	0.86
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Naphthalene	91-20-3	0.77
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	n-Butyl alcohol	71-36-3	0
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	n-Butylbenzene	104-51-8	0.34
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	n-Heptane	142-82-5	0.66
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	n-Propylbenzene	103-65-1	0.48
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	o-Xylene	95-47-6	0.31
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	p-Isopropyltoluene	99-87-6	0.26
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Propionitrile	107-12-0	0.8
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	sec-Butylbenzene	135-98-8	0.3

VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Styrene	100-42-5	0.33
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	t-Butanol	75-65-0	2.35
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	t-Butyl ethyl ether	637-92-3	0.4
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	tert-Butyl alcohol	75-65-0	2.35
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	tert-Butylbenzene	75-65-0	0.39
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Tertiaryamylmethylether	994-05-8	0.4
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Tetrachloroethene	127-18-4	0.39
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Tetrahydrofuran	109-99-9	0.73
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Toluene	108-88-3	0.45
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	trans-1,2-Dichloroethene	156-60-5	0.48
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	trans-1,3-Dichloropropene	10061-02-6	0.38
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	trans-1,4-Dichloro-2-butene	110-57-6	0.58
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Trichloroethene	79-01-6	0.43
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Trichlorofluoromethane	75-69-4	0.52
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Vinyl acetate	75-69-4	0.83
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Vinyl chloride	75-01-4	0.53
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,2-Dichloroethene, Total	540-59-0	0.48
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,3-Dichloropropene, Total	542-75-6	0.57
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Xylenes, Total	1330-20-7	0.81
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	1,2-Dichloroethane-d4	17060-07-0	0
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	4-Bromofluorobenzene	460-00-4	0
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Dibromofluoromethane	1868-53-7	0
VOC_8260D_W	SW8260D	Volatile Organic Compounds	Water	Toluene-d8	2037-26-5	0
GRO_8260_S	SW8260GRO	Gasoline Range Organics by GC-MS	Soil	GRO (C6-C10)	GROC6C10	1250
GRO_8260_S	SW8260GRO	Gasoline Range Organics by GC-MS	Soil	Toluene-d8	2037-26-5	0
GRO_8260_W	SW8260GRO	Gasoline Range Organics by GC-MS	Water	GRO (C6-C10)	GROC6C10	25
GRO_8260_W	SW8260GRO	Gasoline Range Organics by GC-MS	Water	Toluene-d8	2037-26-5	0

*Laboratory limits subject to change as new MDL studies are performed and/or improvements in sensitivity are demonstrated.

Department of Administration Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130	**State of West Virginia** **Centralized Expression of Interest** **Architect/Engr**

Proc Folder: 1736767

Doc Description: OER- EOI SEMS Evaluations

Proc Type: Central Purchase Order

Reason for Modification:

Date Issued	Solicitation Closes	Solicitation No	Version
2025-08-19	2025-09-10 13:30	CEOI 0313 DEP2600000002	1

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Customer Code: 000000173443

Vendor Name : Potesta & Associates, Inc.

Address : 7012

Street : MacCorkle Avenue, SE

City : Charleston

State : WV **Country :** United States **Zip :** 25304

Principal Contact : Ronald Potesta, CEO

Vendor Contact Phone: 304-342-1400 **Extension:**

FOR INFORMATION CONTACT THE BUYER
Joseph (Josh) E Hager III
(304) 558-2306
joseph.e.hageriii@wv.gov

Vendor Signature X [signature] **FEIN#** 31-1509066 **DATE** 09/04/2025

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION

The Acquisitions and Contract Administration Section of the Purchasing Division is soliciting Expression(s) of Interest for the West Virginia Department of Environmental Protection Office of Environmental Remediation , from qualified firms to provide environmental work including, but not limited to: file reviews, executive summaries, Preliminary Assessments, environmental media sampling, sampling reports, Hazard Ranking System ("HRS") QuickScore score generation, data validation, document and/or figure generation, site visits, investigation-derived waste ("IDW") characterization and disposal, oversight activities, or any other necessary activity per the attached specifications and terms and conditions.

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION OFFICE OF ENVIRONMENTAL REMEDIATION 601 57TH ST SE CHARLESTON WV 25304 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue
1	EOI - Professional engineering services		

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description:

EOI- Professional engineering services

SCHEDULE OF EVENTS

Line	Event	Event Date

ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

(Printed Name and Title) Ronald R. Potesta, CEO

(Address) 7012 MacCokle Avenue, SE, Charleston, WV 25304

(Phone Number) / (Fax Number) (304) 342-1400 / (304) 343-9031

(email address) rrpotesta@potesta.com

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through *wv*OASIS, I certify that: I have reviewed this Solicitation/Contract in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation/Contract for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that this bid or offer was made without prior understanding, agreement, or connection with any entity submitting a bid or offer for the same material, supplies, equipment or services; that this bid or offer is in all respects fair and without collusion or fraud; that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; that I am authorized by the Vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on Vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

By signing below, I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law; and that pursuant to W. Va. Code 5A-3-63, the entity entering into this contract is prohibited from engaging in a boycott against Israel.

Potesta & Associates, Inc.

(Company)

[signature]

(Signature of Authorized Representative)

Ronald R. Potesta, CEO

(Printed Name and Title of Authorized Representative) (Date)

(304) 342-1400 / (304) 343-9031

(Phone Number) (Fax Number)

rrpotesta@potesta.com

(Email Address)

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: DEP2600000002

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:
(Check the box next to each addendum received)

☐ Addendum No. 1	☐ Addendum No. 6
☐ Addendum No. 2	☐ Addendum No. 7
☐ Addendum No. 3	☐ Addendum No. 8
☐ Addendum No. 4	☐ Addendum No. 9
☐ Addendum No. 5	☐ Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Potesta & Associates, Inc.
Company

[signature]
Authorized Signature

09/08/2025
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

West Virginia Ethics Commission

Disclosure of Interested Parties to Contracts

(Required by *W. Va. Code* § 6D-1-2)

Name of Contracting Business Entity: Potesta & Associates, Inc. **Address:** 7012 MacCokle Avenue, SE, Charleston, WV 25304

Name of Authorized Agent: Ronald R. Potesta **Address:** 7012 MacCokle Avenue, SE, Charleston, WV 25304

Contract Number: DEP2600000002 **Contract Description:** SEMS Evaluations

Governmental agency awarding contract: WVDEP OER

☐ **Check here if this is a Supplemental Disclosure**

List the Names of Interested Parties to the contract which are known or reasonably anticipated by the contracting business entity for each category below *(attach additional pages if necessary)*:

1. **Subcontractors or other entities performing work or service under the Contract**
   ☑ Check here if none, otherwise list entity/individual names below.

2. **Any person or entity who owns 25% or more of contracting entity (not applicable to publicly traded entities)**
   ☐ Check here if none, otherwise list entity/individual names below.
   Ronald R. Potesta, CEO

3. **Any person or entity that facilitated, or negotiated the terms of, the applicable contract (excluding legal services related to the negotiation or drafting of the applicable contract)**
   ☑ Check here if none, otherwise list entity/individual names below.

Signature: [signature] Date Signed: 09/04/2025

Notary Verification

State of West Virginia, County of Kanawha:

I, Ronald Potesta, the authorized agent of the contracting business entity listed above, being duly sworn, acknowledge that the Disclosure herein is being made under oath and under the penalty of perjury.

Taken, sworn to and subscribed before me this 4th day of September, 2025.

OFFICIAL SEAL
Charlene L. Armstead
Notary Public
State of West Virginia
My Commission Expires
September 09, 2028
[illegible] ROAD
SCOTT DEPOT, WV 25560

Charlene L. Armstead
Notary Public's Signature

To be completed by State Agency:

Date Received by State Agency: ____________

Date submitted to Ethics Commission: ____________

Governmental agency submitting Disclosure: ____________

Statement of QUALIFICATIONS

OFFICE OF ENVIRONMENTAL REMEDIATION
601 57th Street, SE
Charleston, West Virginia 25304

SEMS EVALUATIONS

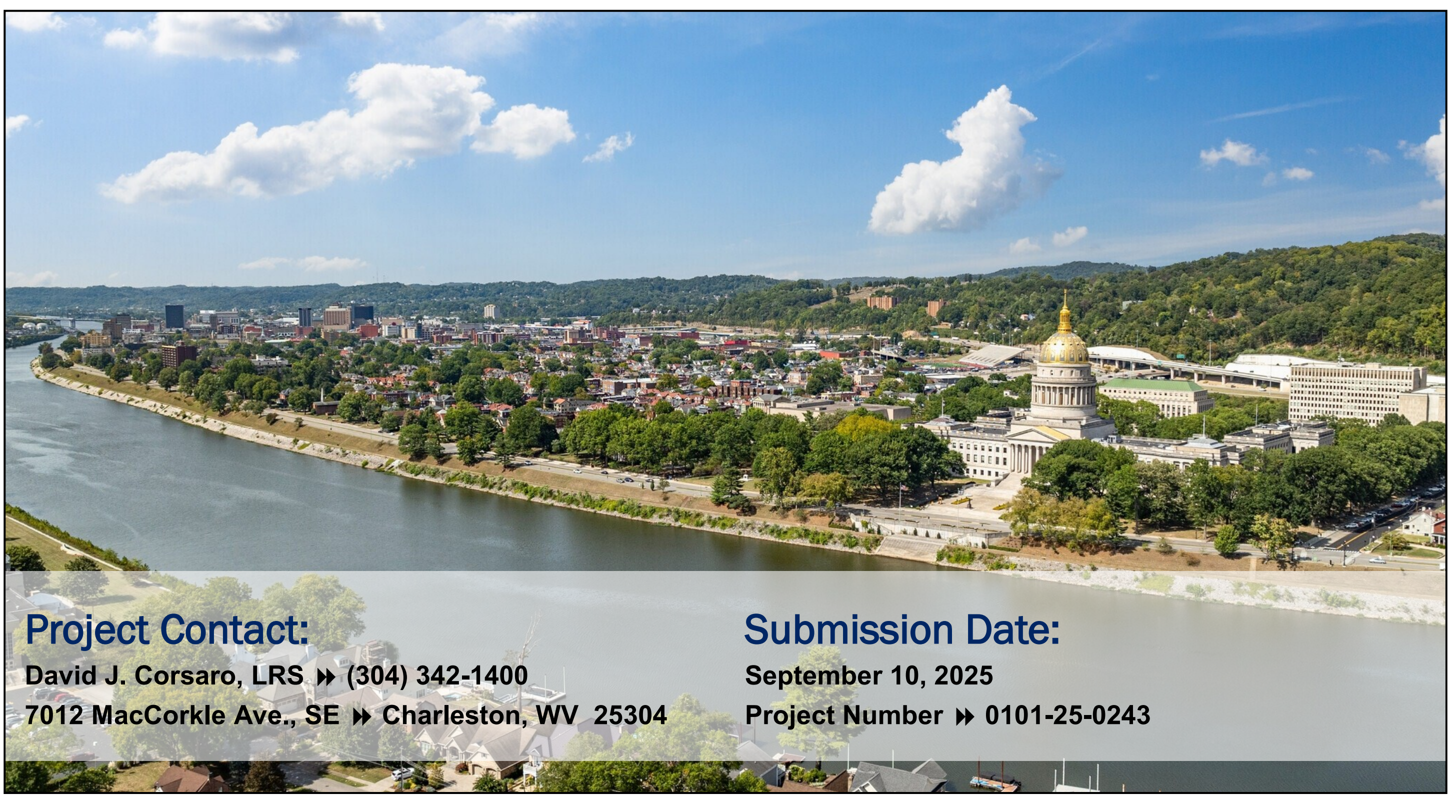
PREPARED BY:

POTESTA
Engineers and Environmental Consultants

CHARLESTON
7012 MacCorkle Ave., SE
Charleston, WV 25304
(304) 342-1400

MORGANTOWN
125 Lakeview Dr.
Morgantown, WV 26508
(304) 225-2245

WINCHESTER
15 South Braddock St.
Winchester, VA 22601
(540) 450-0180



Project Contact:

David J. Corsaro, LRS ⏩ (304) 342-1400
7012 MacCorkle Ave., SE ⏩ Charleston, WV 25304

Submission Date:

September 10, 2025
Project Number ⏩ 0101-25-0243

TABLE OF CONTENTS

APPENDIX

CORPORATE SUMMARY

POTESTA
Engineers and Environmental Consultants

EXECUTIVE SUMMARY

POTESTA has practical experience guiding Brownfield projects from assessment through redevelopment. We identify and manage environmental risks, coordinate with regulatory agencies, and apply proven, sustainable practices. Our goal is to make properties safe for reuse while supporting community growth and economic development. POTESTA's expertise in navigating Brownfield regulatory frameworks allows us to provide clients with comprehensive site assessment, remediation, and redevelopment services that align with federal and state program requirements. We work closely with property owners, developers, and communities to ensure that each project delivers both environmental protection and long-term value.

In addition to our work with the U.S. Environmental Protection Agency (USEPA) Brownfields Program, POTESTA has successfully completed projects under the West Virginia Department of Environmental Protection's (WVDEP) Voluntary Remediation Program (VRP). Our team is well-versed in the procedures and protocols of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), ASTM standards, and the Toxic Substances Control Act (TSCA). With this experience, we have supported clients on similar projects and are fully prepared to meet the requirements of this engagement.

POTESTA performed a review of 893 Comprehensive Environmental Response and Liability Act Information System (CERCLIS) files for the WVDEP-OER office. Following the reviews, each site was placed into one of six categories based on the information in the file. The categories included: (1) sites recommended for USEPA removal, (2) sites recommended for addition to the National Priority List (NPL), (3) sites where no further action is recommended at this time, (4) sites requiring USEPA assessment, and (5) sites requiring further WVDEP investigation.

Cleanup standards are set by the USEPA and state regulations, often using risk-based assessment methods. POTESTA has collaborated with state agencies and served on regulatory committees to integrate human health and environmental evaluations into site assessments. This approach streamlines data collection, supports efficient risk-based decision-making, and guides clients through cleanup levels and monitoring requirements in coordination with regulators.

POTESTA is experienced with the USEPA's ACRES platform and helps clients prepare and submit Brownfields Assessment Cooperative Agreement Quarterly Progress Reports. To streamline the process, we provide a User Questionnaire and request a designated site contact to share information and access. We also use a Transaction Screen Questionnaire (TSQ) to gather historical site and operational information from current and past owners and neighbors.

POTESTA can assist the WVDEP Office of Environmental Remediation (OER) to evaluate, document, track, and manage information for contaminated sites identified by the OER. Our team guides projects through every phase, from preliminary assessments and site investigations to remediation and redevelopment. This integrated approach enables clients to achieve efficient cleanups, support redevelopment goals, and create lasting environmental and economic benefits.

COMPANY PROFILE

Incorporated in 1997 in Charleston, West Virginia by Mr. Ronald R. Potesta, POTESTA is a full-service engineering and environmental consulting firm that has been delivering exceptional services across the Mid-Atlantic region since its inception. Our team is composed of skilled engineers, scientists, and support staff, with branch offices in Winchester, Virginia, and Morgantown, West Virginia. We serve a diverse range of clients, including local, state, and federal agencies, as well as industries such as mining, manufacturing, utilities, waste management, land development, legal, finance, insurance, education, construction, and architecture.

MAIN POINT OF CONTACT

Ronald R. Potesta
CEO
rrpotesta@potesta.com
(304) 342-1400

With over 28 years of proven success, we've delivered countless projects marked by quality, reliability, and lasting client relationships.

OFFICE LOCATIONS

90+ EMPLOYEES

- 27 Engineers
- 39 Technical Support
- 14 Environmental
- 11 Administrative

SERVICES

ENGINEERING SERVICES

- Civil Engineering
- Geotechnical Engineering
- Water Resources Engineering
- Environmental Engineering
- Site Design
- Stormwater Management
- Water & Wastewater Design
- Transportation Engineering
- Mining Engineering
- Construction Monitoring
- Surveying & CADD

ENVIRONMENTAL SERVICES

- Wetlands & Ecological Studies
- Remediation & Contaminated Site Cleanup
- Air Quality & Emissions Monitoring
- Waste Management & Recycling
- Environmental Site Assessments
- Water & Wastewater Management
- Hazardous Materials Management

REGULATORY SERVICES

- Permitting
- Environmental Impact Assessments (NEPA)
- Regulatory Liaison
- Health & Safety Plans
- Risk Management & Due Diligence

SPECIALIZED SERVICES

- Geographic Information Systems
- Renewable Energy Consulting
- Oil & Gas Consulting
- Coal Supply & Procurement
- Land Management Services
- Litigation Support

POTESTA
Engineers and Environmental Consultants

ENVIRONMENTAL SITE ASSESSMENTS

POTESTA professionals have conducted numerous Phase I and Phase II environmental site assessments (ESA) to support clients with property evaluations. We are experienced in a wide range of remediation technologies and ensure that all activities comply with relevant environmental regulations, ASTM guidelines, and other industry best practices. Data generated during the Phase I and Phase II assessment processes are utilized to establish the nature and extent of environmental liabilities. Phase I and Phase II activities may be combined to increase efficiency and reduce overall cost.

PHASE I ESA—INITIAL SITE EVALUATION

POTESTA recognizes the importance of conducting Phase I ESAs that comply with the All Appropriate Inquiries (AAI) rule to qualify as a bona fide prospective purchaser and to establish an innocent landowner defense under the CERCLA. Our project team includes several members who meet the Environmental Professional requirements of the AAI rule. Phase I ESAs typically involve non-intrusive methods, such as site visits, review of historical records, examination of regulatory files for the site and surrounding properties, and interviews with individuals knowledgeable about the site's history and activities. The report includes:

- **Incorporation of procedures, findings, and opinions into Phase I ESA reports.**
- **Statement of qualifications and the experience of POTESTA's environmental professionals conducting the Phase I ESAs.**
- **Describe "recognized environmental conditions" that may be identified.**
- **POTESTA uses the Phase I ESA findings to assist the client and stakeholders prioritize potentially impacted sites.**

PHASE II ESA—SITE INVESTIGATION & SAMPLING

Sites with recognized environmental conditions, along with other factors identified by the client and stakeholders, are subject to Phase II ESAs. Phase II assessments involve sampling and are typically conducted when potential contaminants or sources of contamination are identified during the Phase I process. POTESTA prepares and/or utilizes approved Quality Assurance Project Plans (QAPPs), Sampling and Analysis Plans (SAPs), and Health and Safety Plans (HASPs) for these assessments.

Samples collected from SAPs conform to the general requirements of the USEPA and WVDEP VRP Guidance Manual.

PHASE II ESA—SITE INVESTIGATION & SAMPLING

Established sampling methods, along with proper preservation and decontamination procedures, are followed during sampling events. Samples are sent to a qualified laboratory for analysis of potential contaminants identified during the Phase I process or based on field observations. POTESTA professionals review the analytical results to assess whether further site evaluation is required. The process includes:

- **Collection of soil samples using one or more methods including hand auger, rotary drill rig with a split spoon sampler, or direct-push sampling unit.**
- **Collection of groundwater samples and possible installation of groundwater monitoring wells.**
- **Development and sampling of the monitoring wells.**
- **Surveying the elevation of the monitoring wells and other site features in relation to mean sea level to assess groundwater flow.**
- **Surface water and sediment sampling.**
- **Delineation of media-specific (i.e., surface soil, subsurface soil, and groundwater) contaminant plume.**
- **Soil gas sampling, if necessary.**
- **Fate and transport modeling of contaminant plumes.**

POTESTA prepares Phase II ESA reports that include procedures, findings, and recommendations, which can be submitted in hard copy or electronically. The reports compare the analytical data from the assessment to federal and state regulatory cleanup standards to determine contamination levels. Additionally, the reports provide a statement on the completeness of the assessment and offer conclusions and recommendations for further sampling, if needed.

SITE REUSE & REMEDIAL PLANNING

If regulated contaminants exceed regulatory limits, a remedial action plan may be required. Our staff uses data from the Phase I and Phase II assessments to develop cost-effective remedial alternatives tailored to the site-specific conditions. POTESTA personnel have successfully completed remedial projects at sites impacted by petroleum hydrocarbons, heavy metals, pesticides and herbicides, and chlorinated solvents. Our staff is experienced with the USEPA's Focused Remediation Feasibility Evaluations, which are used to identify, screen, and evaluate potential remedies for a site. The remedy evaluation process includes:

- **Developing preliminary remedial action objectives (RAOs).**
- **Identifying applicable, relevant, and/or appropriate federal, state, and local requirements (ARARs).**
- **Applying risk-based corrective action (RBCA) methods that are accepted by federal and state agencies.**
- **Identifying and evaluating remedial alternatives, including cost-benefit analysis.**
- **Proposing appropriate alternatives that will alleviate the risk.**
- **Providing a draft timeline and cost estimates for proposed remedial activities at the site.**

Depending on the site, various remediation technologies may be applied. The work plans developed and implemented by POTESTA include both conventional and innovative solutions, such as excavation and off-site disposal, as well as in-situ fixation and stabilization with capping of the treated area. RBCA cleanup decisions consider current and future land use, toxicity reduction, elimination of high-risk exposure pathways, engineering controls, and institutional controls (e.g., land use covenants) to minimize risks to potential receptors, including human and ecological health.

OUTREACH & EDUCATION

POTESTA works with our clients and project stakeholders to determine the appropriate level of resources for community outreach efforts. Leveraging our experience in numerous community outreach projects, POTESTA will be a valuable asset in increasing public awareness of this project. We have developed and participated in Public Involvement/Community Relations Programs that provided opportunities for the public, clients, property owners, USEPA, WVDEP, and other stakeholders to communicate and exchange information. POTESTA is experienced in various public communication methods, including meetings, websites, brochures, and articles. We understand that the effectiveness of these updates depends on addressing the interests and needs of the community and stakeholders.

Based on our experience, we have found that community members want to be informed both before and after project activities are completed. POTESTA will attend public meetings and prepare presentations to explain the project's background and provide updates throughout its progress. Whether during regular public meetings or other forums, we will outline the Phase I and II ESA processes, explain the reasons for conducting the assessments, and address any questions the community may have about potentially contaminated sites. Once the Phase I and II ESAs are complete, POTESTA is ready to attend follow-up meetings to share the results, discuss the data collected, and explain the associated risks.

POTESTA
Engineers and Environmental Consultants

ASBESTOS INSPECTION SERVICES

POTESTA has a proven track record in performing comprehensive asbestos inspection services. Our team includes certified asbestos professionals who are experienced in identifying, assessing, and managing asbestos-containing materials in a wide range of facilities. We can assist you with:

- **Building Inspections for Asbestos-Containing Building Materials**
- **Liaison with Regulatory Agencies**
- **Completion and Submittal of Notification of Abatement, Demolition and Renovation Forms to the Appropriate Regulatory Agencies**
- **Selection of Qualified Asbestos Abatement Contractors**
- **Preparation of Bidding and Contract Documents**
- **Participation in Pre-Bid and Pre-Abatement Meetings**
- **Monitoring of Contractor Work Procedures During Completion of Asbestos Abatement Activities**

BUILDING INSPECTIONS

State and federal regulations mandate that a licensed asbestos inspector perform an inspection prior to any abatement, demolition, or renovation activities. POTESTA employs licensed asbestos inspectors in both West Virginia and Virginia who have completed hundreds of inspections and provided detailed reports documenting their findings.

ENGINEERING AND PROJECT MONITORING ASSISTANCE

POTESTA's asbestos inspection services also extend to project support and oversight, including the preparation of specifications, cost estimates, and bid documents; soliciting and evaluating bids from qualified abatement contractors; assisting with contractor selection; and providing project management throughout the abatement process. Our team monitors contractor compliance with project specifications, verifies quantities for payment, and assists in resolving any disputes that may arise during the course of the work.

QUALIFYING EXAMPLES

POTESTA
Engineers and Environmental Consultants

BROWNFIELDS ASSESSMENT GRANT

Region IV Planning & Development Council
Fayette, Greenbrier, Nicholas, Pocahontas, and Webster Counties, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by the Region IV Planning & Development Council to identify, inventory, evaluate, and prioritize properties as part of a Community-Wide Brownfields Assessment Grant within the counties of Fayette, Greenbrier, Nicholas, Pocahontas, and Webster (target counties). The purpose of the grant was to stimulate the redevelopment of properties needing rehabilitation for industrial/commercial, residential, or recreational use.

POTESTA prepared a Site Inventory and Ranking Report of 63 properties including site inventory, site ranking results, site ranking methodology, maps, individual site ranking forms, and site photographs. Based on the report, POTESTA was retained to perform Phase I Environmental Site Assessments, asbestos inspection, sampling, Phase II Environmental Site Assessments, and additional assessments and tasks for 14 selected sites.

BROWNFIELDS CLEANUP GRANT/ VOLUNTARY REMEDIATION PROGRAM

Boone County Community & Economic Development Corporation
Boone County, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by the Boone County Community & Economic Development Corporation (BCCDC) to provide environmental services related to the United States Environmental Protection Agency (USEPA) Brownfield Cleanup Grant for the 2.19-acre former Lyon Oil Property in Madison, Boone County, West Virginia. The site was originally used as an ice storage facility in the early 1900s. A fire occurred at the site, resulting in the release of contaminants to the site and the adjacent Little Coal River.

Since that time, the BCCDC has worked with the West Virginia Department of Environmental Protection (WVDEP) and USEPA to address the environmental conditions at the site. POTESTA assisted the BCCDC Grant in obtaining a Certificate of Completion for the site by submitting a Voluntary Remediation Program (VRP) Application and entering the site into a West Virginia Voluntary Remediation Agreement for Investigation and Remediation Activities.

- Performed surveying services including courthouse research and boundary/topographic survey.
- Conducted asbestos inspection and sampling of the remaining structure and rubble of the former Lyon Oil facility.
- Preparation and submittal of a VRP application on behalf of the BCCDC to remediate the property to standards established for commercial/industrial facilities.
- Served as Licensed Remediation Specialist for the Voluntary Remediation Agreement.
- Performed site-wide environmental site assessment activities including groundwater and soil sampling and review of previous environmental assessments on the property.

This project is ongoing and POTESTA is currently preparing a Site Assessment Report to summarize the site assessment activities and the laboratory analysis results.

USEPA BROWNFIELD ASSESSMENT GRANT

Wyoming County Economic Development Authority
Wyoming County, West Virginia

Potesta & Associates, Inc. (POTESTA) served as the environmental consultant to the Wyoming County Economic Development Authority (EDA) to facilitate their USEPA Brownfield Assessment Grant. POTESTA completed site selection and Phase I ESA portions of the project and prepared a Phase II ESA work plan for one site selected for further assessment. POTESTA assisted the Wyoming County EDA with the following tasks:

- Identification, inventory, and prioritization of potential Brownfield sites in the Upper Guyandotte River Watershed.
- Ranking of selected sites, based on the strategy and goals of the Wyoming County EDA and SAB, for additional assessment.
- Performance of Phase I ESAs on selected sites.
- Coordination with USEPA to redirect grant resources to include additional, more developable sites.
- Re-prioritization of selected sites based on results of Phase I ESAs and recommendation of selected sites for Phase II ESAs.
- Coordination with private landowner to perform Phase I ESAs for potential inclusion of sites into Brownfield Assessment Grant program.
- Preparation and filing of required reports to USEPA.

POTESTA and the Wyoming County EDA have worked with the USEPA, WVDEP, Marshall University Brownfield Assistance Center, and SAB to resolve issues that have been encountered during the course of the project. One significant project scope change, which significantly improved the potential for success of the project, was the expansion of the project to include industrial sites as opposed to only mine-scarred sites. Upon completion of the site inventory and ranking, POTESTA and the Wyoming County EDA provided the USEPA with justification to modify the Grant, citing the lack of available sites meeting the criteria for effective use of grant resources. With that modification, the likelihood of success (i.e., assessment leading to the redevelopment of an unused site or sites) has been significantly increased.

Additionally, POTESTA has worked with the Wyoming County EDA and the SAB to assess sites with reasonable cost-to-benefit potential. Such sites are those for which cleanup can likely be performed without the use of resources that outweigh the property's development potential. For other sites, remediation and development may be incorporated into the site development. POTESTA has significant experience in site remediation and is familiar with the remediation techniques for different types of sites/contaminants. This is an important consideration in avoiding exhausting resources unnecessarily without completing a project and building on that success to secure cleanup grants for future development.

STATEWIDE ASSESSMENT AND REMEDIATION CONTRACT

West Virginia Division of Highways
Various Counties, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by the West Virginia Division of Highways (WVDOH) to provide environmental assessment, drilling, and remediation services at locations designated by the WVDOH throughout West Virginia. POTESTA evaluated suspect-contaminated environmental areas to determine the limits of contamination, recommended remediation measures, and performed other environmental consulting services. The following projects were completed under this contract:

Kanawha County Maintenance Facility

- Former WVDOH Wyoming County Maintenance Headquarters – Site assessment, quarterly sampling/reporting, field survey, and site mapping for an underground storage tank (UST) release in Pineville, West Virginia.
- Grade Road Overpass Bridge/Railroad Crossing – Phase I Environmental Site Assessment (ESA) and Limited Phase II ESA for an undeveloped property, a roadbed, an active railroad, and a residence in Martinsburg, West Virginia.
- Former WVDOH Hampshire County Maintenance Headquarters – Oversaw the permanent closure of two 6,000-gallon USTs in Romney, West Virginia.
- WVDOH Kanawha County Maintenance Facility – Waste soil characterization sampling and profiling for disposal, removal of 4,000-gallon UST and associated piping, and UST closure report for Elkview Substation in Elkview, West Virginia.

Grade Road Overpass Bridge/Railroad Crossing

WVDOH Hampshire County Maintenance Headquarters

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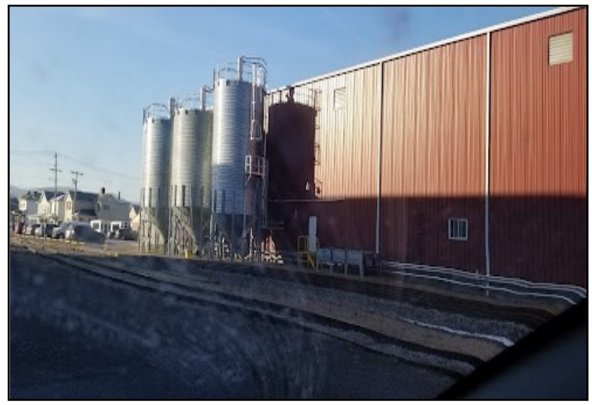
VOLUNTARY REMEDIATION AND REDEVELOPMENT

Heritage Holdings, LLC
Wellsburg, Brooke County, West Virginia



Potesta & Associates, Inc. (POTESTA) was retained by Heritage Holdings, LLC to perform West Virginia Voluntary Remediation Program (VRP) activities on four separate parcels owned by Heritage Holdings, LLC (Heritage) and operated by Eagle Manufacturing (Eagle) in Wellsburg, West Virginia. The four sites consisted of the main manufacturing plant, 19th Street fabrication plant, distribution center, and cabinet plant. POTESTA previously performed services associated with this project on behalf of Spilman Thomas & Battle PLLC (Spilman).

POTESTA served as the Licensed Remediation Specialist for the project and assisted with the following tasks:

- Initial meetings, conference calls, and further coordination with Heritage, Eagle, Spilman, and other stakeholders.
- Review of available environmental assessment information and development of anticipated assessment and remediation costs and timeframes.
- Site visits, including a site visit with the West Virginia Department of Environmental Protection VRP Project Manager.
- Development and submittal of a VRP application.
- Development of draft VRP initial public notice and VRP agreement.
- Initiation of compilation and reduction of existing site assessment data and development of assessment and remediation plans.

The 19th Street fabrication plant, distribution center, and cabinet plant each have received a Certificate of Completion and were remediated via institutional controls (land use covenants) that do not impact the usability of the parcels under current conditions.

The remaining parcel, main manufacturing plant, has one primary area being actively remediated. Soil and groundwater in the active remediation area were impacted by chlorinated solvents used in vapor degreasing equipment. Two enhanced bioremediation events have decreased contaminants significantly and Heritage will likely apply for a Certificate of Completion in 2023.

This project remains well under the initial budget, primarily due to the effectiveness of the enhanced bioremediation.

PHASE I ESA FOR ACQUISITION OF PROPERTY

Monongalia County Schools
Morgantown, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by Monongalia County Schools (MCS) to perform a Phase I Environmental Site Assessment (ESA) of a property located at 1751 Earl L. Core Road in Morgantown, West Virginia. MCS was interested in purchasing the subject property. The site consists of a single tax parcel containing a one-story building in a commercial/urban environment, previously operated as a MedExpress corporate office. The purpose of the Phase I ESA is to provide MCS with one of the requirements to qualify for limitations on Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) liability.

POTESTA's scope of services consisted of a records review, site visit, interview, and report preparation. Based on the material evaluated in the Phase I ESA, POTESTA presented significant findings, opinions, and conclusions regarding the subject properties.

PHASE I ENVIRONMENTAL SITE ASSESSMENT AND ENVIRONMENTAL REPORT

Mental Health Association in Fayette County
Uniontown, Fayette County, Pennsylvania

Potesta & Associates, Inc. (POTESTA) was retained by the Mental Health Association in Fayette County to provide environmental services to perform a Phase I Environmental Site Assessment (ESA) for the acquisition of an approximately 2.56-acre parcel, with a former funeral home on the lot, in Fayette County, Pennsylvania. POTESTA performed the Phase I ESA per POTESTA's interpretation of procedures described in the American Society for Testing Materials (ASTM) Standard Number E 1527-21, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process,* and E 1528-14, *Standard Practice for Limited Environmental Due Diligence: Transaction Screen*. POTESTA's scope of services consisted of a records review, site visit, interview, and report preparation. The findings, opinions, and conclusions of the environmental professional were presented in a Phase I ESA Report supported by appropriate documentation.

The United States Department of Agriculture (USDA) was funding a portion of the proposed project; therefore, an Environmental Assessment (EA) was required to evaluate the environmental impacts of the acquisition with a change in use to a headquarters for mental health services and community recreational activities. The building will be utilized as is with no improvements to the exterior of the building except for changes in signage. The building will require minor remodeling within the interior of the building. POTESTA evaluated the land use, cultural resources and historic properties, biological resources, wetlands, floodplains, coastal resources, important farmland, and other resources.

PHASE I ENVIRONMENTAL SITE ASSESSMENT

Monongalia General Hospital
Morgantown, West Virginia

Potesta & Associates, Inc. (POTESTA) performed two Phase I Environmental Site Assessments (ESA) for Monongalia General Hospital in conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Standard Number E1527. The project site included the Monongalia General Hospital property, encompassing the 214,000 square-foot hospital and the 48,000 square-foot Health Care Center and the Village at Heritage Point retirement community. The hospital property encompassed approximately 38 acres, while the retirement village property included 11.5 acres and three and four-story buildings.

The project included a site reconnaissance, review and documentation of facility operations, file and records review, interviews with facility personnel and inventory of potential site liabilities. The property was evaluated for: (1) storage, handling and disposal of hazardous materials; (2) storage tanks; (3) polychlorinated biphenyls; (4) solid waste disposal; (5) water and wastewater; and (6) areas of visual concern and historical areas of spills or releases.

POTESTA prepared Phase I ESA reports describing the property and its historical usage, the site reconnaissance, the state and federal regulatory file review, environmental database and records review, identified environmental concerns, and recommendations pertaining to the same.

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VOLUNTARY REMEDIATION AND REDEVELOPMENT FOR COPENHAVER PARK SITE

Charleston Sanitary Board
Charleston, West Virginia

The approximately 80-acre Copenhaver Park property was acquired by the Charleston Sanitary Board (CSB) in 1954. From approximately 1969 to 1994, the CSB disposed of sewage sludge in two impoundments located on the property. A Consent Order was issued to the CSB by the West Virginia Department of Environmental Protection (WVDEP) citing the Water Pollution Control Act and the Solid Waste Management Act. The requirements of that Consent Order, as it pertained to the existing impoundments, included a requirement to monitor the groundwater, analyze the sludge, and propose a sludge removal and disposal plan.

Potesta & Associates, Inc. (POTESTA) was retained by the CSB to evaluate the sludge impoundments and perform semi-annual groundwater monitoring. Site assessment data identified the presence of several contaminants of potential concern (COPCs) in the soil and groundwater at the site. Based in part on that information, CSB decided to enter two areas of the property into the West Virginia Voluntary Remediation and Redevelopment Act (VRRA) program which was enacted to allow cleanup of contaminated properties or properties perceived as contaminated and underutilized. The two areas to be entered in the program have been designated as Area 1 and Area 2, and are approximately 18.40 and 1.23 acres in size, respectively. Two sludge impoundments are located in Area 1. The northeast (upper) and southeast (lower) impoundments encompass approximately 1.25 and 1.18 acres, respectively. Area 2 was used by the CSB as a Class B compost stockpile area.

On behalf of the CSB, POTESTA submitted an Application to Participate in Voluntary Remediation and Redevelopment Act Program and entered the CSB into a Voluntary Remediation Agreement with the WVDEP to assess and remediate the site. It was the goal of the CSB to obtain a Certificate of Completion establishing that the site meets regulatory requirements and, in doing so, resolve issues from the Consent Order related to the impoundments.

POTESTA conducted an assessment of the site to comply with the requirements of the VRRA program. POTESTA developed a conceptual site model (CSM) and prepared a Site Assessment Work Plan (SAWP) to assess conditions at the site with respect to the target analytes and media of concern as part of an environmental site assessment (ESA). POTESTA prepared and submitted a report titled *Environmental Site Assessment Report*.

POTESTA collected and analyzed surface soil, subsurface soil, and groundwater samples for organic and inorganic chemicals at the site. The data were evaluated for the exposure media identified at the site against applicable screening criteria as established by the Voluntary Remediation Redevelopment Rule (VRRR). Using the site assessment data POTESTA submitted a Baseline Human Health Risk Assessment and Ecological Evaluation that evaluated the risks to potential human and ecological receptors from the media impacted by site-related contaminants.

Pentachlorophenol and arsenic were designated as contaminants of concern (COC) in the groundwater. Three target analytes, lead, toluene, and Aroclor 1260 were designated as COCs in the subsurface soil in the upper impoundment. No target analytes were designated as COCs in the surface soil. POTESTA's Licensed Remediation Specialist (LRS) concluded that no further assessment or remediation of COCs for potential risk to ecological receptors was required as a result of the ecological evaluation.

POTESTA concluded the COCs identified as part of the risk assessment could be remediated to a level that satisfactorily reduces the risks to potential receptors through the successful implementation of engineering and institutional controls. The recording of a land use covenant (LUC) restricts the use of groundwater and placed institutional controls on future uses of the site. The LUC also requires engineered vapor intrusion abatement over areas of contamination in the upper impoundment.

VOLUNTARY REMEDIATION AND REDEVELOPMENT FORMER CSX SITE

City of Parkersburg
Parkersburg, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by the City of Parkersburg (City) to complete an environmental site assessment (ESA), risk assessment, remediation feasibility study, and to develop a remediation work plan in accordance with the Voluntary Remediation Program guidelines. The City requested an aggressive schedule to coincide with redevelopment of the property. POTESTA worked with the West Virginia Department of Environmental Protection (WVDEP), Office of Environmental Remediation (OER) to get verbal approval to commence with the site assessment prior to submitting the Voluntary Remediation Application, Agreement, and Site Assessment Work Plan.

Pre-Remediation

Remedial Activities

POTESTA performed the ESA, assisted with an archaeological assessment, submitted the Application, the Agreement, and the SAWP in less than 30 days. The ESA and supplemental ESA consisted of establishing the contaminants and media of concern by performing a Geoprobe® survey of ten soil borings to an average depth of 16 feet below ground surface, installing monitoring wells, performing groundwater monitoring, performing groundwater modeling, and preparation of a Site Assessment Report.

POTESTA also presented results of the Site Assessment and Risk Assessment at a public meeting attended by concerned community members, the City, and the WVDEP. POTESTA performed an Ecological and Human Health Risk Assessment to evaluate the impact to potential receptors. Based on the Risk Assessment and the contaminants of concern for this site, POTESTA successfully remediated the site on schedule. The property is now the new Parkersburg home for the Bureau of Public Debt.

Redeveloped Site

VOLUNTARY REMEDIATION AND REDEVELOPMENT, WETLAND DELINEATION, AND PERMITTING FOR UNIVERSITY COMMONS (FORMER STAR CITY PENNZOIL TERMINAL)

Collegiate Homes, Inc.
Monongalia County, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by Collegiate Homes, Inc. to perform remediation and complete the project to obtain a West Virginia Voluntary Remediation Program (VRP) Certificate of Completion for the former Star City Pennzoil Terminal. The property was being developed into an upscale student housing condominium complex. Both POTESTA's Morgantown and Charleston branch offices were involved in the project.

POTESTA implemented a previously developed work plan and identified several issues with the remedial approach. POTESTA was able to coordinate with the West Virginia Department of Environmental Protection (WVDEP), site developers, and contractors to resolve the issues and complete the required remediation.

POTESTA also performed a jurisdictional wetland delineation on the property and received verification from the U.S. Army Corps of Engineers (USACE), Pittsburgh District. POTESTA determined the amount of impacts the project would have on jurisdictional wetlands and a Section 404 permit was granted for the project. POTESTA also consulted with the USACE and WVDEP for suitable mitigation to offset the impacts to the wetlands. Additionally, POTESTA performed a Section 106 (of the National Historic Preservation Act) consultation with the West Virginia State Historic Preservation Office regarding properties eligible for the National Register, and Section 7 (of the Endangered Species Act) consultation with the U. S. Fish & Wildlife Service regarding threatened and endangered species.

The WVDEP touted the project as a significant success story and held a ribbon-cutting ceremony to signify the end of remedial activity, ahead of the deadline, and start of construction. Approximately six months from POTESTA's initial involvement, the project received a Certificate of Completion.

VOLUNTARY REMEDIATION PROJECT

E. I. du Pont de Nemours and Company
Spelter, Harrison County, West Virginia

Potesta & Associates, Inc. (POTESTA) provided Licensed Remediation Specialist (LRS) services to E. I. du Pont de Nemours and Company (DuPont) to process the site through the West Virginia Voluntary Remediation Program (VRP) and obtain a Certificate of Completion.

The former Spelter Smelter facility occupied approximately 111.61 acres along a bend in the West Fork River, 7 miles north of Clarksburg, West Virginia, and to date is the largest site to re remediated in the VRP.

It was the location of a zinc smelter, which was operated at the site between 1911 and 1970 by several owners. Later, the site was used until 2001 for the production of zinc dust and other zinc products using secondary materials purchased chiefly from steel mills and galvanizing plants.

POTESTA performed environmental assessments of potentially impacted media under the VRP. Field activities included the installation and sampling of soil borings and groundwater monitoring wells. The laboratory results from the site media were evaluated for the exposure risks to current and future human and ecological receptors.

Remedial activities at the site included the demolition and removal of the former structures and manufacturing facilities, abandonment of residential monitoring wells in the area of the site, and consolidation of soils impacted by zinc and other metals and the installation of an engineered cap covering an area approximately 42.6 acres in size.

The remediated site was issued a Certificate of Completion by the West Virginia Department of Environmental Protection allowing the site to be marketed for future redevelopment as a commercial/industrial activities. The successful remediation also allowed a portion of the property along the West Fork River to be given to Harrison County for the community to use as a recreational biking and hiking trail.

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PHASE I AND LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT

Kanawha River Terminals, Cyrus Dock Facility
Cyrus, Wayne County, West Virginia

Potesta & Associates, Inc. (POTESTA) was hired by Kanawha River Terminals (KRT), a subsidiary of Progress Energy Services Company, to perform a Phase I and Limited Phase II Environmental Site Assessment (ESA) at Cyrus Dock Facility (site) located in Cyrus, Wayne County, West Virginia. POTESTA completed the ESA as an inquiry designed to identify recognizable environmental conditions that may pose a threat to the character of the property, facilities, and individuals.

Onsite Synfuel Operations

The site is operated as a synthetic coal production and transloading (truck to barge) facility. The site is owned by CC Coal Company, a subsidiary of Horizon Natural Resources Company. The site is leased to, and operated by, Sandy River Synfuel LLC.

POTESTA s scope of services consisted of the following components: 1) records review, 2) site reconnaissance, 3) interviews, 4) surface soil sampling and analyses, and 5) evaluation and report.

The Phase I ESA was performed in general accordance with the scope and limitations of ASTM Standards E 1527 and E 1528. The Limited Phase II ESA was not intended to define the extent and degree of potential contamination but was designed to perform a preliminary assessment of the surface soil at the site and is limited to those target analytes selected for laboratory analyses.

Soil Sampling - Hand Auger

POTESTA used a hand auger to advance soil borings and collected surface soil samples at five locations on the site as part of the Limited Phase II ESA. The Limited Phase II ESA was not intended to serve as an assessment of the entire site. It was designed to evaluate several areas based on available information and site observations, including potential impact from ASTs, NPDES outfalls, and a former transformer that had released oil into the environment.

POTESTA field screened the samples using a photo ionization detector (PID) as part of the Limited Phase II ESA. The samples were then submitted to a West Virginia certified laboratory. Samples were then analyzed for one or more of the following parameters: VOCs, TPH-GRO, TPH-DRO, TPH-ORO, RCRA 8 Metals, and PCBs.

Aboveground Storage Tanks and Drums in Containment Area

Settlement Pond Used to Control Storm Water Runoff

VOLUNTARY REMEDIATION PROJECT

Pack Lumber
Marmet, Kanawha County, West Virginia

The former West Virginia Wood Preserving Company was located in Marmet, Kanawha County, West Virginia. The facility operated as a creosote pressure treatment plant and lumber mill. The lumber mill operated from 1968 until it was destroyed by fire in 1981. The creosote plant operated from 1975 through October 1984.

Laboratory analytical results for soil and groundwater samples collected during site assessment activities identified the presence of environmental contaminants associated with creosote at the site. The site owner retained Potesta & Associates, Inc. (POTESTA) to enter the site into the West Virginia Voluntary Remediation Program (VRP).

POTESTA performed environmental assessments of potentially impacted media. Field activities included the installation and sampling of soil borings and groundwater monitoring wells. The laboratory data generated from the sampled media were evaluated against applicable screening criteria as established by the Voluntary Remediation and Redevelopment Rule (VRRR).

Several compounds were designated as contaminants of concern in onsite surface soil, subsurface soil, and groundwater at the site requiring remediation.

Remediation of the site included:

- Closure in place of a former storm water runoff impoundment that was stabilized and solidified through the addition of lime kiln dust.
- Installation of an engineered cap over the former industrial area of the site.

Following remedial activities and recording of a Land Use Covenant, the site was issued a Certificate of Completion by the West Virginia Department of Environmental Protection and is available for commercial/industrial redevelopment.

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VOLUNTARY REMEDIATION AND REDEVELOPMENT FOR TERRACE SITE

Philips Electronics North America Corporation
Fairmont, West Virginia

The Philips Electronics North America Corporation (Philips) was the operator of a glass lighting fixture manufacturing plant located on approximately 73.8 acres of property in Fairmont, West Virginia. Philips decided to conduct an environmental assessment of an inactive area of the property, the Terrace site, under the auspices of the West Virginia Voluntary Remediation and Redevelopment Program (VRRP). Philips selected Potesta & Associates, Inc. (POTESTA) to enter the site into the VRRP and to design and report on environmental assessments conducted under the terms of the VRRP Agreement entered into between Philips and the West Virginia Department of Environmental Protection (WVDEP).

POTESTA identified volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and eight Resource Conservation and Recovery Act (RCRA 8) metals as the target analytes at the site. A Site Assessment Work Plan (SAWP) was developed and implemented to gather information to further assess the conditions at the site. Assessment activities included the installation of soil borings and monitoring wells, collection of soil and groundwater samples, and establishment of groundwater elevations.

A Remedial Action Plan (RAP) for this site was prepared by POTESTA and submitted to the WVDEP. Surface soil in an area approximately 70,000 square feet (1.6 acres) in size was excavated to a depth of approximately 1 foot below ground surface. The soil excavation included both surface and subsurface soils. Once the upper 1 foot of soil had been removed, post-excavation samples were collected from the nodes of a 50-foot grid superimposed over the site.

The excavated soil was manifested and transported as hazardous waste and disposed at a licensed Subtitle D facility. Clean fill was placed into the excavation to return the site to the approximate pre-excavation grade. A vegetative cover of short grasses was established over the site following the completion of the field activities.

POTESTA performed a Residual Risk Assessment for the site based on the post-remediation site conditions and evaluating the effectiveness of the engineering and institutional controls and concluded the site met the requirements for Industrial use.

VOLUNTARY REMEDIATION AND REDEVELOPMENT FOR RALEIGH JUNK CAMPBELL'S CREEK FACILITY

Poor Charlie & Company, Inc.
Charleston, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained to perform a Phase I and II Environmental Site Assessment (ESA) of the 6-acre site as part of the West Virginia Voluntary Remediation Program (VRP) with supervision by POTESTA's Licensed Remediation Specialists (LRS). The Phase II ESA consisted of determining the contaminants and media of concern, performing a Geoprobe® survey of over 100 soil borings to an average depth of 20 feet below ground surface, monitoring well installation, groundwater monitoring, groundwater modeling, and preparation of a Site Characterization Report. POTESTA also performed ecological and human health risk assessments for potential receptors.

The contaminants of concern for this site were lead, copper, petroleum hydrocarbons, PAHs, and PCBs. POTESTA developed and implemented a remediation work plan in accordance with VRP regulations. Remediation included excavation and disposal of contaminated soil and capping of hot spots. Additionally, POTESTA negotiated with the United States Environmental Protection Agency, Region III to determine the appropriate remedy for the PCBs under 40 CFR § 264.

The remediation of the site included capping areas of the site with a combination of geotextile material and asphalt. Hazardous wastes were taken to an approved landfill for disposal. The site was redeveloped by a local firm that needed to expand their operations.

Pre-Remediation

Remedial Activities

Post-Remediation

POTESTA

POTESTA & ASSOCIATES, INC.
Charleston, WV • Morgantown, WV • Winchester, VA
Phone: (304) 342-1400 • Fax: (304) 343-9031 • www.potesta.com

PROJECT MANAGEMENT

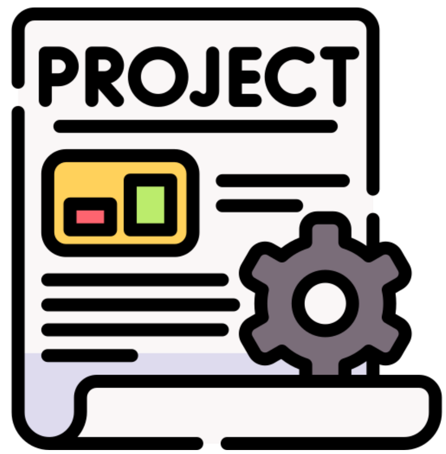
POTESTA
Engineers and Environmental Consultants

POTESTA
Engineers and Environmental Consultants

PERFORMANCE & CAPACITY

A remarkable 85% of our projects are derived from repeat clients, underscoring our commitment to delivering exceptional results. At POTESTA, we take pride in our capacity to deliver innovative and succinct engineering design packages, allowing for a greater proportion of the client's funds directed toward actual construction rather than engineering design fees.

CRITICAL FACTORS FOR SUCCESS



POTESTA follows critical success factors for each new project:

- **Establishing clear, mutually agreed-upon goals with the client.**
- **Development of a concise and actionable project plan.**
- **Implementation of proactive risk management throughout the project lifecycle.**
- **Scope management is a continuous process, making sure work remains within defined boundaries while accommodating necessary adjustments.**

WORKLOAD CAPACITY

Our current workload capacity is moderate, allowing us to maintain a strong focus on quality and timely delivery. We have sufficient staff and support personnel in place to take on new projects immediately without impacting our existing commitments. This ensures flexibility and responsiveness to client needs.

We are highly responsive to the immediate needs of the WVDEP OER, with the ability to mobilize resources quickly and efficiently. Our team is structured to adapt to evolving priorities, ensuring timely support and seamless progress throughout all phases of the work.

At POTESTA, we keep communication straightforward and consistent. We work with you to define the scope, start with a site visit and kickoff meeting, provide weekly updates, and act as part of your team to meet your goals the way you want them met.

POTESTA has designated an experienced Project Manager to lead and coordinate all aspects of this project. Supporting the Project Manager is a multidisciplinary team of qualified engineers, surveyors, CADD designers, scientists, and technicians who will collaborate closely to assist the WVDEP OER at every stage of this project.

PROJECT APPROACH

This approach outlines how POTESTA will carry out SEMS evaluations to verify sites are reviewed thoroughly, decisions are well-supported, and the next steps are clear.

COLLECT AND REVIEW SITE RECORDS

- **Gather Remedial Site Assessment Decision documents and confirm "No Further Remedial Action Planned (NFRAP)" determinations when available.**
- **Review SEMS files, USEPA records, and WVDEP information for consistency and completeness.**

EVALUATE SITE AND OFF-SITE CONDITIONS

- **Review available environmental data for soil, groundwater, surface water, and air.**
- **Look at potential migration pathways and risks to nearby properties or resources.**
- **Compare findings against state and federal screening criteria.**

DECIDE IF MORE ACTION IS NEEDED

- **Use risk-based screening tools and historical cleanup data to determine whether additional work is necessary.**
- **Identify sites where data gaps or unresolved risks may require further assessment.**

CONSIDER PROGRAM REFERRALS

- **For sites not needing additional SEMS remedial action, determine if they fit better under other programs:**
  - ⇒ **USEPA Removal Program — short-term or urgent cleanup needs.**
  - ⇒ **WVDEP VRP — sites suitable for voluntary cleanup under flexible standards.**
  - ⇒ **Brownfields Program — properties with redevelopment potential and liability concerns.**
  - ⇒ **RCRA Program — operating facilities with hazardous waste management issues.**

DOCUMENT FINDINGS AND RECOMMENDATIONS

- **Use a consistent reporting format to capture site status and decisions.**
- **Provide clear recommendations — confirm NFRAP, identify next steps, or refer to another program.**
- **Maintain a record of site reviews and outcomes for tracking and follow-up.**

KEY PERSONNEL AVAILABLE

STAFFING PLAN

Critical on-site personnel have completed the 40-hour OSHA HAZWOPER (29 CFR 1910.120) course and have current 8-hour annual refresher training.

Office of Environmental Remediation

RONALD R. POTESTA
Principal-in-Charge — 42 Yrs.

Directs day-to-day operations and management of technical and support staff.

DAVID J. CORSARO, LRS
Project Manager — 25 Yrs.

Project activities perform under his direction and maintains schedule and budget.

ESA/REMEDIATION/ GROUNDWATER

Andrew Kirsch, LRS – 19 Yrs.
Karri Wills – 22 Yrs.
Jonathon O'Brien – 4 Yrs.
Rylee Armstrong – 1 Yrs.

CIVIL ENGINEERING/ STORMWATER/SITE DESIGN

Mark Kiser, PE, LRS – 41 Yrs.
Kyle Stollings, PE – 44 Yrs.
Jarrett Smith, PE – 22 Yrs.
Matt McLane – 29 Yrs.
Tim Rice, EIT – 42 Yrs.
Chad Griffith, PE – 20 Yrs.
Paul Maggard, PE – 25 Yrs.
Daniel Boyles, PE – 5 Yrs.
Alex Keenan, EIT – 6 Yrs.
Claire McDonald, EIT – 2 Yr.

SOILS/GEOTECHNICAL/ HYDROLOGICAL EVALUATIONS

Chris Grose, LRS – 33 Yrs.
David Sharp, PE – 29 Yrs.
Peter Potesta – 12 Yrs.

PERMITTING, STREAM/ WETLAND, AND NEPA COMPLIANCE

Jessica Yeager – 29 Yrs.
Timothy Ferguson – 17 Yrs.
Christina Parsons – 25 Yrs.
Leah Creathers – 18 Yrs.
Rylee Armstrong – 1 Yr.
Justin Collins – 3 Yrs.
Cole Davis – 3 Yrs.
Dan Miller, PhD – 46 Yrs.

CONSTRUCTION MONITORING

Robert Lamm – 23 Yrs.
Paul Kinzer – 26 Yrs.
Charles Shaffer – 22 Yrs.
Russ Harper – 16 Yrs.
Carl Hickman – 45 Yrs.
Anthony Fragale – 46 Yrs.
Francis Hyre – 42 Yrs.
Gabe Sankoff – 2 Yrs.

SURVEYING

Victor Dawson, PS – 41 Yrs.
Ryan Bennett, PS – 10 Yrs.
Rusty Hunter – 42 Yrs.
Tyler Aboytes – 9 Yrs.
Ryan Pettry – 2 Yrs.
Stephan Sayles – 2 Yrs.
Shymeik Leftwich – 1 Yr.

MAPPING/CADD

Michael Sankoff – 34 Yrs.
Brian Leedy – 23 Yrs.
Russ Lester – 34 Yrs.
Joe Martin – 30 Yrs.
Chuck Bird – 31 Yrs.
David Foster – 11 Yrs.
Austin Davis – 3 Yrs.
Charles Mosholder – 44 Yrs.
Scott Bolyard – 33 Yrs.
Anthony Friend – 27 Yrs.

GEOGRAPHIC INFORMATION SYSTEMS (GIS)

Charles Haden – 14 Yrs.

KEY PERSONNEL

***Appendix A** contains resumes of key personnel.*

Principal-in-Charge — Ronald R. Potesta, Chief Executive Officer

Brings extensive experience with federal environmental regulations, statutory frameworks, and environmental guidance. His expertise includes managing agency interactions and reviewing regulatory requirements and recommendations. Mr. Potesta is a former Director and Deputy Director of the West Virginia Department of Natural Resources, where he oversaw environmental regulatory programs, wildlife management, and law enforcement. He currently serves as Chairman of the Ohio River Valley Water Sanitation Commission and a member of the Board of Directors for the West Virginia Land and Mineral Owners Association. Additionally, he is the Immediate Past Chairman of the Board of Trustees for the West Virginia Nature Conservancy.

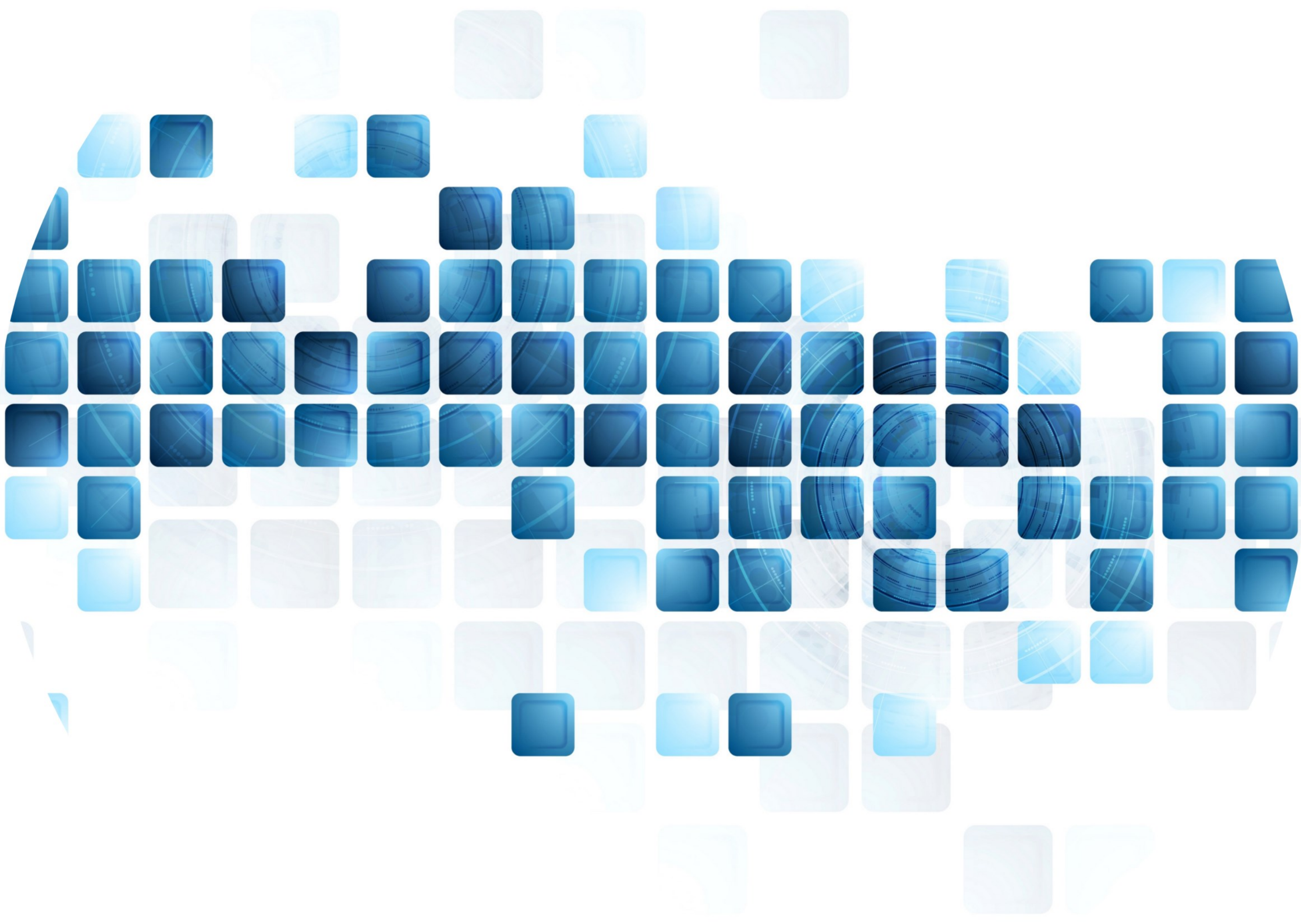
Project Manager — David J. Corsaro, LRS, Senior Scientist

Mr. Corsaro, Manager of Characterization and Remediation, is a highly skilled professional with extensive experience in the WVDEP VRP, USEPA Brownfields Program, RCRA, Superfund, Phase I and II ESAs, Leaking Underground Storage Tanks (LUST), and a wide range of remediation projects. He has served as the designated LRS (Licensed Remediation Specialist) for multiple VRP projects and the Wyoming County EDA Brownfields Project. With over 25 years of experience, Mr. Corsaro has a deep understanding of the regulatory requirements and compliance standards. His expertise is vital in navigating complex environmental regulations and ensuring the successful management and completion of remediation efforts. ***Mr. Corsaro is an Environmental Professional (EP) as defined by ASTM E1527-21.***

Andrew A. Kirsch, LRS, Senior Scientist

With over 19 years of comprehensive environmental consulting experience, Mr. Kirsch has developed expertise in a wide range of areas, including environmental site assessments, biological assessments, remediation of commercial, industrial, and residential properties, environmental emergency response, and hazardous waste management. He is particularly skilled in the principles and application of phytoremediation to address contaminated sites, leveraging natural processes to reduce environmental hazards. In addition, Mr. Kirsch is a Certified Asbestos Inspector in West Virginia, Kentucky, and Virginia, further enhancing his qualifications in managing environmental health and safety concerns. His broad experience makes him well-equipped to handle diverse environmental challenges and deliver effective solutions across various sectors. ***Mr. Kirsch is an EP as defined by ASTM E1527-21.***

QUALITY & COST CONTROL



POTESTA
Engineers and Environmental Consultants

POTESTA
Engineers and Environmental Consultants

QUALITY STANDARDS & COST CONTROL

PRODUCT QUALITY CONTROL

POTESTA places a strong emphasis on coordination and quality control throughout the SEMS evaluation process. Results are shared with USEPA, WVDEP, and other partners as needed to maintain transparency and alignment with regulatory expectations. Internally, each evaluation is subject to a structured review process that verifies the accuracy of data, the consistency of methods, and the clarity of documentation. Standardized templates and checklists are used to promote uniformity and reduce the risk of errors across multiple projects. A review process allows us to refine methods, strengthen efficiency, and uphold high technical standards for all SEMS evaluations and related activities.

PROJECT COST CONTROL

Cost control plays a key role in how SEMS evaluations are carried out and in how value is delivered to the client. POTESTA begins each project with a clear scope and schedule to avoid unnecessary work and added expense. Using established procedures and efficient review methods, we minimize duplication and keep projects moving forward. Regular communication, including weekly updates, helps identify potential issues early before they affect budgets or timelines. This approach maintains predictable costs, providing the client with a sense of security that resources are being used wisely.

EXPERIENCE

POTESTA
Engineers and Environmental Consultants

PROVEN CAPABILITIES

HUMAN HEALTH RISK ASSESSMENT ANALYSES

With over 25 years of experience, POTESTA has successfully managed 27 VRP and Brownfields sites across West Virginia. Our work consistently integrates thorough health and human risk assessment analyses to evaluate potential exposures and guide safe, effective site management. This experience demonstrates our ability to balance environmental remediation with protecting public health and supporting sustainable redevelopment.

HRS QUICKSCORE DETERMINATIONS

POTESTA brings 12 years of experience coordinating with the WVDEP OER for two Health and Risk Screening (HRS) projects. Our team is experienced in coordinating directly with regulatory agencies to support the accurate collection, review, and scoring of data. This experience allows us to deliver reliable HRS determinations while maintaining strong collaboration with oversight authorities.

POTESTA performed ESAs for the WVDEP OER at the Anmoore Zinc site in Harrison County and the Moundsville Zinc site in Marshall County. These activities were conducted by POTESTA under the USEPA CERCLA HRS Program and the WVDEP OER CERCLA Program. POTESTA completed sampling and analysis plans, conducted site assessments, and prepared final reports for both sites.

WVDEP STANDARD OPERATING PROCEDURES

POTESTA has over 20 years of experience on more than 30 projects following WVDEP Standard Operating Procedures (SOPs). We apply these procedures consistently to conduct site assessments, sampling, and reporting. This hands-on experience allows us to meet regulatory requirements while delivering accurate and practical results.

WVDEP QUALITY ASSURANCE PROGRAM PLAN

POTESTA has three years of experience completing five projects under the WVDEP Quality Assurance Program Plan (QAPP). Our team follows the plan's protocols to maintain data quality, consistency, and reliability throughout sampling and analysis. This experience demonstrates our commitment to producing defensible, high-quality environmental data.

POTESTA is currently providing environmental services related to a USEPA Brownfield Cleanup Grant for the 2.19-acre former Lyon Oil Property in Madison, Boone County, West Virginia. The site was initially used as an ice storage facility in the early 1900s. A fire occurred at the site, resulting in the release of contaminants to the site and the adjacent Little Coal River. POTESTA is assisting the Boone County Community & Economic Development Corporation in obtaining a Certificate of Completion for the site by submitting a WVDEP VRP Application and entering the site into a WVDEP Voluntary Remediation Agreement for Investigation and remediation Activities. Additionally, these services include surveying, asbestos inspections, and site-wide environmental assessments.

WVDEP REMEDIATION PROGRAMS

Since its inception in 1997, POTESTA has been actively involved with WVDEP remediation programs, including CERCLA, RCRA, VRP, UECA-LUST, and Brownfields. Over the years, we have managed hundreds of projects, providing technical oversight, site assessments, and remediation support. Our long-term involvement has given us a deep understanding of regulatory requirements and program procedures. This experience allows us to deliver effective, compliant solutions across a wide range of environmental projects.

APPENDIX A

RONALD R. POTESTA
President

EDUCATION

M.S. Economics – Mineral Economics, Econometrics, and Microeconomics
West Virginia University

B.S. Business Administration
West Virginia University

EMPLOYMENT HISTORY

1997-present	Potesta & Associates, Inc.
1989-1997	Environmental and Engineering Consulting Company
1984-1988	West Virginia Department of Natural Resources
1981-1984	West Virginia Coal Development Authority

SERVICE ON BOARDS AND COMMISSIONS

- Past Chairman and current Commissioner, Ohio River Valley Water Sanitation Commission
- Past Chairman and current Member, Board of Trustees, The West Virginia Nature Conservancy
- Member of the West Virginia Land & Mineral Owners Board of Directors
- Past Chairman, The Greater Kanawha Valley Foundation

AREAS OF SPECIALIZATION

Federal and environmental regulations, statutory schemes, and environmental guidance. Directs environmental compliance and environmental remediation departments including the day-to-day operation of three branch offices concerning staffing, coordination, training, business development, and overall management of technical and support staff.

PROFESSIONAL EXPERIENCE

Prior to Forming Potesta & Associates, Inc.

President of an Environmental and Engineering Consulting Company – Formed in 1989 and under his guidance, the company grew into a full-service environmental consulting, design, and construction company with a staff of over 50 professional and support personnel.
Director of the West Virginia Department of Natural Resources – Supervision of Water Resource and Waste Management Division, Land and Real Estate Office, Office of Regulatory Affairs, Conservation, Education, Litter Control, Public Information Office, and Wonderful West Virginia Magazine. He also served as Chairman of the State Emergency Response Commission and the Title III organization mandated by the federal Superfund Amendments and Reauthorization Act.

Deputy Director of the West Virginia Department of Natural Resources – Responsible for overseeing environmental regulatory programs described under the Director's position and supervising programs associated with the West Virginia Surface Coal Mining and Reclamation Act.

Marketing Director of the West Virginia Coal Development Authority – Responsible for promoting West Virginia coal in domestic and export markets requiring expertise in coal reserves, coal quality, transportation networks, and market demands.

Environmental Remediation

Principal-in-Charge and technical advisor for various types of environmental remediation projects:

- Asbestos inspections
- Environmental emergency response

- Environmental site assessment and remediation
- Groundwater

Environmental Compliance

Principal-in-Charge and technical advisor for various types of environmental compliance projects:

- Permitting
- Wetland delineation and remediation
- Biological surveys
- Risk assessments
- Habitat assessments
- Surface water modeling
- Water quality
- Endangered species consultation
- Oil and natural gas consulting
- Solar development consulting
- Stream restoration

DAVID J. CORSARO, L.R.S.

Senior Scientist

EDUCATION

M.S. Environmental Science, 2008
Marshall University

B.S. Safety Technology, 1999
Marshall University

EMPLOYMENT HISTORY

2000-Present Potesta & Associates, Inc.
1997-2000 Clearon Corporation

PROFESSIONAL REGISTRATIONS

- Licensed Remediation Specialist – West Virginia
- Certified Monitoring Well Driller – West Virginia

PROFESSIONAL CERTIFICATIONS

Hazardous Waste Operations and Emergency Response – 40-hour

AREAS OF SPECIALIZATION

Educational background in industrial health/safety and environmental science. Experienced with West Virginia Voluntary Remediation and LUST Programs, RCRA, and CERCLA/USEPA Brownfields. Project management and field experience include site assessment and remediation of commercial, industrial, and residential sites; environmental emergency response; and hazardous waste management.

PROFESSIONAL EXPERIENCE

Hazardous Waste/RCRA/Corrective Action

RCRA compliance assistance regarding waste analysis, recordkeeping, storage areas, applicable exemptions, and point of generation issues. Managed large amounts of hazardous and non-hazardous wastes as part of remediation projects.

ESAs (Phase I and II)

Numerous Phase I Environmental Site Assessments (ESAs) on various types of sites, including:

- Large land transaction totaling over 145,000 acres.
- Former industrial sites as part of a USEPA Brownfields Assessment Grant.
- Numerous active and former industrial and commercial facilities.
- Undeveloped and residential properties.

Meets the definition of environmental professional as defined in ASTM Standard E 1527-21 and §312.40 of 40 CFR 312.

Phase II/Sampling ESAs, including soil boring advancement and sampling, monitoring well installation and sampling, surface water sampling, and soil gas sampling:

- West Virginia Voluntary Remediation Program (VRP).
- West Virginia Leaking Underground Storage Tank (LUST) Program.
- Ohio Bureau of Underground Storage Tank Regulation (BUSTR).
- Resource Conservation and Recovery Act (RCRA) Corrective Action.
- Comprehensive Emergency Response, Compensation, and Liability Act (CERCLA) Site Assessment and United States Environmental Protection Agency (USEPA) Brownfields.
- Environmental emergency response (petroleum and chemical spills related to transportation incidents), typically performed under state environmental response or enforcement programs.
- Property transaction-related (*i.e.*, due diligence or baseline ESAs).

djcorsaro@potesta.com

Remediation

Experienced with remediation of sites impacted by petroleum, volatile and semi-volatile organics (including chlorinated solvents), metals, dioxin, and polychlorinated biphenyls (PCBs). Experience with bioremediation (aerobic and anaerobic), excavation, slurry walls, solidification/stabilization, pump and treat, soil vapor extraction, dual phase extraction, capping, and institutional controls.

Environmental Emergency Response

Performed and/or managed environmental response, assessment, and/or remediation on over 40 transportation-related incidents in West Virginia, Kentucky, Ohio, Pennsylvania, and Virginia. These have included a response to and assessment and remediation of releases from chemical and petroleum tankers and fuel tanks, transfer and/or removal of cargo, and coordination with regulatory agencies and affected property owners.

- Gasoline tanker release of over 3,500 gallons in northern Kentucky onto private property and railroad right of way (ROW). Remediation included excavation of soil and subsurface injection of a bioremedial compound on both sides of railroad ROW.
- Formaldehyde tanker release of 4,500 gallons in western Virginia. The project included initial containment, sampling, and monitoring of groundwater contamination, soil remediation, hazardous waste characterization and disposal, US Army Corps of Engineers permitting access roads, and ambient air sampling.
- Gasoline tanker release of over 3,000 gallons to frozen stream in central Ohio. Remediation included excavation of impacted streambed areas (with United States Army Corps of Engineers approval), additional soil, and subsurface injection of a bioremedial compound.
- A trailer load of white paint spilled adjacent to an interstate highway in West Virginia. Remediation included onsite solidification and removal of free liquids.
- Acid and caustic releases require stabilization of the remaining load and on-site neutralization and removal of spilled material.
- Errant product deliveries result in spills or damage to the facility and/or inventory.
- Chemical lime spill to stream in western Virginia requiring long-term biological monitoring.

Groundwater

Groundwater sampling for numerous environmental assessment remediation projects at various sites including current and former industrial facilities, commercial and residential properties, and waste disposal facilities:

- Due diligence/property transactions
- Voluntary Remediation Program
- RCRA Corrective Action
- Leaking underground and aboveground storage tank releases
- Highway incidents

Groundwater monitoring and reporting for site permitted by RCRA and NPDES/Solid Waste:

- Solutia Inc. – Plant Site and Armour Creek Landfill
- BASF – 31st Street Landfill
- Cytec Industries – Closed RCRA Hazardous Waste Impoundments
- Monsanto – Heizer and Manilla Creek Landfills
- Pocahontas Solid Waste Authority – County Landfill

Additional Experience

Storage Tanks:

- Oversight of removal of USTs in West Virginia, Ohio, and Michigan, and management of UST components from over 30 sites in support of litigation.
- Compliance assistance and management of UST removals.

Biological Studies and Sampling:

- Performed surface water and sediment sampling and benthic invertebrate collection as part of an evaluation of the environmental impact of a coal slurry spill.
- Performed baseline water quality sampling for several projects as part of mixing zone and metals translator studies.

Industrial Health and Safety:

- Served as Health and Safety Officer for several WV VRP RCRA and Corrective Action projects.
- Developed Health and Safety Plans for sampling activities for numerous types of projects.

File Review/Environmental Audits:

- Participated in the review of more than 1,000 state CERCLIS files as an audit for the West Virginia Department of Environmental Protection file system.
- Managed compliance audit field team for clients with numerous facilities throughout West Virginia.

 djcorsaro@potesta.com

ANDREW A. KIRSCH, L.R.S.

Staff Scientist and Safety Director

EDUCATION

M.S. Environmental Sciences, 2003
Marshall University

B.S. Horticulture, 1997
West Virginia University

EMPLOYMENT HISTORY

2003-Present	Potesta & Associates, Inc.
1998-2003	Terracare, Inc.
1997-1998	Greenscape, Inc.

PROFESSIONAL REGISTRATIONS

- Licensed Remediation Specialist – West Virginia
- Certified Monitoring Well Driller – West Virginia

PROFESSIONAL CERTIFICATIONS

- Certified Asbestos Inspector – Kentucky, West Virginia, and Virginia
- OSHA 40-Hour HAZWOPER Training
- West Virginia Office of Miners' Health, Safety & Training

TRAINING/RELEVANT COURSE WORK

- 2018 – HAZWOPER/HAZMAT Train the Trainer
- 2014 – SWAMP School Wetland Delineation
- 2009 – River Assessment and Monitoring (Rosgen Level III)
- 2006 – River Morphology and Applications (Rosgen Level II)
- 2006 – Applied Fluvial Geomorphology (Rosgen Level I)

AREAS OF SPECIALIZATION

Experience in conducting and reporting environmental site assessments, biological assessments, and remediation of commercial, industrial, and residential sites, environmental emergency response, and hazardous waste management. Conducting asbestos inspections and report writing.

Stream and wetland delineation assessments and mitigation design. Plant physiology and identification. Principles and implementation of phytoremediation for sites of contamination. Conducted and evaluated habitat and biological surveys. Knowledgeable of mining-related activities and issues, including mountaintop mining and valley fills.

PROFESSIONAL EXPERIENCE

Asbestos

Region 4 Planning and Development Council – Asbestos inspections for 14 properties part of a Brownfields Assessment Grant Project in Fayette, Greenbrier, Nicholas, Pocahontas, and Webster Counties West Virginia.

Performed numerous asbestos inspections and report writing for industrial, commercial, and residential entities:

- West Virginia Department of Highways Contract
- Kilns – Winchester, Virginia
- Wastewater Treatment Plant – Morgantown, West Virginia
- Charleston Civic Center – Charleston, West Virginia
- Residential properties

Construction monitoring for asbestos abatement of several large buildings located within a chemical plant in Willow Island, West Virginia.

Hazardous Waste/RCRA/Corrective Action

Performed site investigations and report writing hazardous material surveys at the following locations:

- Charleston Civic Center – Charleston, West Virginia
- Morgantown Utility Board – Morgantown, West Virginia
- Weatherford – Elkview, West Virginia

Remediation

Experienced with remediation of sites impacted by petroleum, volatile and semi-volatile organics (including chlorinated solvents), metals, dioxin, and polychlorinated biphenyls (PCBs). Experience with bioremediation (aerobic and anaerobic), excavation, slurry walls, solidification/stabilization, pump and treat, soil vapor extraction, dual phase extraction, capping, and institutional controls.

Assisted in the design for the upgrade of a phytoremediation project on a 7-acre biological sludge pond.

Performed monthly site inspections and reporting for multiple industrial sites including:

- A 110-acre zinc smelter site that has been capped and reclaimed as part of a remediation plan.
- Industrial landfills that have been sealed with a geotextile liner and capped.

ESAs (Phase I and II)

Phase I Environmental Site Assessments (ESAs) on various types of sites:

- Large land transaction totaling over 145,000 acres
- Numerous active and former industrial and commercial facilities
- Undeveloped and residential properties

Phase II/Sampling ESAs, including soil boring advancement and sampling, monitoring well installation and sampling, surface water sampling, and soil gas sampling:

- West Virginia Voluntary Remediation Program (VRP)
- West Virginia Leaking Underground Storage Tank (LUST) Program
- Ohio Bureau of Underground Storage Tank Regulation (BUSTR)
- Resource Conservation and Recovery Act (RCRA) Corrective Action
- Comprehensive Emergency Response, Compensation, and Liability Act (CERCLA) Site Assessment and United States Environmental Protection Agency (USEPA) Brownfields
- Environmental emergency response (petroleum and chemical spills related to transportation incidents), typically performed under state environmental response or enforcement programs
- Property transaction-related (i.e., due diligence or baseline ESAs)

Environmental Emergency Response

Environmental response, assessment, and remediation of numerous transportation-related incidents in West Virginia, Ohio, and Virginia. These have included response to and assessment and remediation of releases from chemical and petroleum tankers and fuel tanks, transfer and/or removal of cargo, and coordination with regulatory agencies and affected property owners.

Examples include:

- Formaldehyde tanker release of over 3,800 gallons in western Virginia. Remediation included soil aeration (unable to excavate due to geotechnical considerations). Obtained No Further Action status from the Virginia Department of Environmental Quality (DEQ).
- Gasoline tanker release of over 3,500 gallons in northern Kentucky onto private property and railroad right of way (ROW). Remediation included excavation of soil and subsurface injection of a bioremedial compound on both sides of railroad ROW.
- Gasoline tanker release of over 3,000 gallons to frozen stream in central Ohio. Remediation included excavation of impacted areas of streambed (with United States Army Corps of Engineers approval) and additional soil and subsurface injection of a bioremedial compound.
- A trailer load of white paint spilled adjacent to an interstate highway in West Virginia. Remediation included onsite solidification and removal of free liquids.
- Release of construction drilling mud into an unnamed tributary in the Opequon Creek Watershed in Bunker Hill, West Virginia. Remediation included flushing/manual agitation and pumping techniques to move the material as a slurry to numerous collection points and ultimately to tanker trucks for off-site disposal.

Stream/Wetland Delineation, Permitting, and Mitigation

Implemented mitigation designs complete with stream restoration and riparian layout, material requirements, and cost analysis for several projects.

Construction and post-construction monitoring of large-scale stream and wetland mitigation projects.

Completed field assessments and biomonitoring for the establishment of a mitigation banking program within the state of West Virginia.
Supervised numerous wetland/stream characterization and delineations.

 aakirsch@potesta.com

Preparation of environmental permits and associated documents, (i.e., environmental information documents, compensatory mitigation plans, jurisdictional determination reports, and benthic macroinvertebrate reports) for highway construction and individual 404 permits for large-scale disturbances.

 aakirsch@potesta.com